REFORM

LOOKING OUTWARD

International lessons for health system reform

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After a decade of disruption, the country faces a moment of national reflection. For too long, Britain has been papering over the cracks in an outdated social and economic model, but while this may bring temporary respite, it doesn't fix the foundations. In 1942 Beveridge stated: "a revolutionary moment in the world's history is a time for revolutions, not for patching." 80 years on, and in the wake of a devastating national crisis, that statement once again rings true. Now is the time to fix Britain's foundations.

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The arguments and any errors that remain are the authors' and the authors' alone.

Table of contents

1. Introduction

On its founding in 1948, the Health Secretary Aneurin Bevan argued that the National Health Service would "make Great Britain the envy of all other nations".[1] For a long time that was the case. Inspired by the British example, other countries built comprehensive national health services, learnt from pioneering British clinical achievements, and adopted similar approaches to workforce development, performance evaluation, and care delivery.

But a belief in the merits of Britain's approach to health has inadvertently led to closed-mindedness. Britain's approach to health is no longer "the envy of the world" – population health is in decline, outcomes from and access to healthcare are deteriorating, and successive waves of system reform have failed to deliver real benefits for patients and citizens. It is for this reason that *Reform* called for a transformational new approach in *Reimagining Health: a framing paper*.[2]

Realising this vision requires thinking differently about the underpinnings of health reform. Attempts to shift our system often start by looking inward – considering the supposedly unique challenges our health system faces, evaluating past attempts at transformation, and identifying pockets of excellence within the system to learn from and scale. But policy makers too often overlook the benefits of considering the experience of other health systems in dealing with common challenges. *Looking Outward* focuses on the potential of cross-system learning to inform England's approach to health.

1.1 The benefits of cross-system learning

Health systems are the product of specific national histories, politics, and culture. But high-performing systems learn from comparators, adopt what works and tailor new ideas and practices effectively to their own circumstances. Cross-system learning offers distinct advantages to policy makers:

- **Discrete policy transfer:** most directly, where approaches to health system organisation, financing, or delivery have worked in other settings, policy makers can adapt and apply them to their own circumstances.[3] The international spread

[1] Elias Mossialos et al., 'The Future of the NHS: No Longer the Envy of the World?', *The Lancet* 391, no. 10125 (2018): 1001–3.
[2] Sebastian Rees, Patrick King, and Charlotte Pickles, *Reimagining Health: A Framing Paper* (Reform, 2022).
[3] Ellen Nolte and Peter Groenwegen, *How Can We Transfer Service and Policy Innovations between Health Systems* (World Health Organization, 2021).

of diagnosis-related payment groups and the dispersal of health technology assessment approaches would be examples of discrete policy transfer.

- **Learning from system reform efforts:** despite the challenges of reforming complex, multi-faceted systems, health systems are in a constant state of evolution.[4] Drawing on overseas experiences of reform, particularly in systems that share common features can help policymakers identify broad approaches that have worked elsewhere to inform their own transformation strategies. Past examples of this type of learning include the spread of competition-driven reform efforts in the late 1990s and early 2000s and international convergence on integrated care over the last decade.[5]

- **Enhanced system understanding:** international comparison can help reformers better understand what differentiates their own health system from others. For instance, examining the English health system in comparative perspective exposes the unusually high degree of centralism that it exhibits as well as its above average reliance on revenue from public sources.

1.2 Where can we learn from?

International comparisons of health systems tend to focus on the experience, and potential, of policy learning between high-income countries.[6] This is logically sound – the resources available for healthcare in high-income countries, their similar social and economic histories, and their demographic profiles make them obvious comparators.

Other high-income countries face similar challenges to our own: coping with ageing populations and a disease burden characterised by complex, co-morbid conditions; comparatively wealthy citizens with high expectations of what healthcare can deliver; and economic forecasts that mean bold thinking will be required if health budget increases are not to significantly outstrip growth. Learning from 'most similar cases' is therefore a promising avenue for identifying reform options for our health and care system.

However, in recent years, policymakers have increasingly turned their attention to what can be learnt from low- and middle-income countries (LMICs). LMICs face very different obstacles to those identified above: scarce medical resources, major health workforce challenges exacerbated by the 'brain drain' of professionals to high-income countries, poor basic infrastructure and limited public services.

[4] Federico Toth, *Comparative Health Systems: A New Framework*, 2021.
[5] Matthias Brunn, 'Policy Transfer in the Health Sector', in *Handbook of Policy Transfer, Diffusion and Circulation*, ed. Osmany Porto de Oliveira, 2021.
[6] See for instance: Mark Dayan et al., *How Good Is the NHS?* (The Health Foundation, The Institute for Fiscal Studies, The King's Fund, and The Nuffield Trust, 2018).

However, the absence of a long-established, hospital-centric model means that there is no 'tanker' to turn, and, as is often the case, necessity has been the mother of innovation. Many LMICs have made substantial headway in boosting health and providing care in challenging circumstances. In particular, they have tended to orient their health systems around comprehensive primary care and public health, as opposed to developing more expensive, hospital-based models that characterise the approach of high-income countries. Learning from novel approaches to workforce development, care delivery and public health pioneered in LMICs can generate new ideas to maximise value in our system by focusing on low-cost, high-impact innovation.[7]

1.3 The structure of this paper

This paper does not aim to be a comprehensive account of how other nations approach the myriad challenges that managing a complex health system entails. Nor does it suggest that 'lifting and shifting' is possible or, indeed, desirable in health systems. Ideas that work well in one system do not *necessarily* translate into others and key to successful policy implementation is local appropriateness. Nevertheless, by identifying alternative possibilities, this paper hopes to widen the debate on how to improve our approach to health and care.

This paper begins with a general overview of England's health system in comparative perspective. It offers an honest appraisal of the performance of England/the UK compared with similar health systems.[8] It also helps illuminate the features that differentiate England from its comparators. This allows us to identify how specific health system features such as funding models, levels of administrative decentralisation, and expenditure by setting may be associated with performance.

Following this high-level comparison, the paper considers what specific lessons system reformers can draw from international experience when attempting to transform our health system. In *Reimagining Health: A framing paper*, *Reform* identified a number of core challenges faced by England's health system.[9] These are outlined in Figure 1.

[7] Yasser Bhatti et al., 'The Search for the Holy Grail: Frugal Innovation in Healthcare from Low-Income or Middle-Income Countries for Reverse Innovation to Developed Countries', *BMJ Innovations* 3, no. 4 (2017): 212–20.

[8] Almost all international organisations and academic studies treat the UK as a single unit, making this the most feasible unit for analysis.

[9] Rees, King, and Pickles, *Reimagining Health: A Framing Paper*.

Figure 1: The four core challenges

1. **The health creation challenge:** a sustainable health system must be built on the premise that 'prevention is better than cure' and prioritise health creation over reactive treatment. However, power and resources in our health system sit with the latter rather than the former.

2. **The centralism challenge:** health is created in our homes, communities, and local areas. However, our current approach is top-down and driven from central government, reducing the flexibility of systems to adapt to local need.

3. **The healthcare delivery challenge:** our healthcare delivery model, based on acute, episodic, hospital-based treatment is out of step with our dominant health challenge, namely the rise of long-term, chronic, and comorbid conditions. Despite this, an increasing share of healthcare resources continue to flow into the acute sector.

4. **The fiscal challenge:** health expenditure has increased substantially in recent decades. More than 40 per cent of day-to-day Whitehall-controlled expenditure sits with the Department of Health and Social Care. Increased health spending risks crowding out investment in services that keep us healthy.

These challenges co-exist, but also overlap with, and reinforce, one another. For instance, the failure to develop a preventive, health creation approach may exacerbate the fiscal challenge by increasing demand for expensive healthcare; and changing our approach to delivery is made more difficult by a high degree of centralism which inhibits the development of locally tailored solutions to care provision. Shifting the dial on health outcomes will require tackling these challenges individually and systemically.

This paper takes these challenges as its point of departure and asks: what can we learn from other health systems to overcome them? What levers are available to policy makers to move towards a different model of health and care, and what does international evidence tell us about the impact of utilising them?

Chapters 3 to 6 briefly outline the rationale for change across the four challenge areas, consider the barriers to making that change and the levers available to overcome those barriers. Indicative case studies give a more in-depth insight into how other health systems have approached and, in some instances, overcome these challenges.

2. The British health system in comparative perspective

2.1 The challenge of comparison

Comparing our approach to health with those of similar countries is a useful way of measuring performance, identifying areas for improvement, and understanding potential mechanisms to drive positive change. However, effective comparison between health systems is difficult.

In the first instance, health outcomes are influenced by a vast range of factors that are not always well understood. Cultural norms, underlying social and economic structures, and specific institutional histories all shape population health and healthcare delivery but are difficult to measure and compare.

Efforts to more specifically compare 'health system' performance are often hindered by limitations of existing data. Despite the efforts of international bodies such as the Organisation for Economic Co-operation and Development and the World Health Organisation to collect and standardise data between systems, significant knowledge gaps remain.[10]

Data on core health indicators such as life expectancy and infant mortality; healthcare spending; and healthcare resource commitment (total staff numbers, health equipment, and pharmaceutical expenditure) are comprehensive and provide broadly useful metrics for comparison.[11] However, data on healthcare processes and care quality are more contested and difficult to compare. Care quality is difficult to measure in the first place and the way that information is defined and collected differs markedly between countries.[12] Indicators such as 'amenable mortality' (deaths that are preventable given timely access to care) give a broad sense of healthcare performance, but data on specific care processes or patient experience of care is less comprehensive.

Further, as is the case domestically, comparative health analysis has tended to focus more on what happens in healthcare settings than in the wider health system. Reliable and comparable estimates of spending on public health are difficult to come by and

[10] Dayan et al., *How Good Is the NHS?*

[11] Though even in this regard, different national approaches to data collection and the way in which international organisations classify data may complicate comparison efforts; see OECD, *A System of Health Accounts 2011: Revised Addition*, 2017.

[12] Irene Papanicolas and Peter C. Smith, *Health System Performance Comparison: An Agenda for Policy, Information and Research* (European Observatory on Health Systems and Policies, 2013).

consistent methods for measuring health inequalities have not been adopted. Similarly, data on non-hospital health settings, social care and mental health is far less developed than that on acute, hospital provided care.[13] As this paper makes clear, almost all health systems are attempting to shift resources to primary and community care, but measuring relative performance in this space remains challenging.

2.2 How do we stack up?

Several well-known international studies attempt to offer rankings of health system performance. Figure 2 presents rankings from three major global studies on health system performance.

Figure 2: UK ranking in selected health surveys

Commonwealth Fund (2021)	Legatum Prosperity Index: Health (2023)	Healthcare Access and Quality Index (2018)
1. Norway	1. Singapore	1. Iceland
2. Netherlands	2. Japan	2. Norway
3. Austria	3. South Korea	3. Netherlands
4. United Kingdom	4. Taiwan	4. Luxembourg
5. Germany	5. China	5. Australia
6. New Zealand	6. Israel	6. Finland
7. Sweden	7. Norway	7. Switzerland
8. France	8. Iceland	8. Sweden
9. Switzerland	9. Sweden	9. Italy
10. Canada	34. United Kingdom	23. United Kingdom
…	…	…
11. United States	167. C. African Republic	60. Turkey

Source: Commonwealth, 'Mirror, Mirror 2021: Reflecting Poorly – Health Care in the US Compared to Other High-Income Countries', 2021; Legatum Centre for Global Prosperity, 'Legatum Prosperity Index', 2023; GBD 2016 Healthcare Access and Quality Collaborators, 'Measuring performance on the Healthcare Access and Quality Index for 195 countries and territories and selected subnational locations', 2018

[13] Dayan et al., *How Good Is the NHS?*

Healthcare providers and health systems more broadly produce vast quantities of data relating to inputs, outputs, and outcomes, and those compiling international rankings must therefore be selective when choosing performance indicators. The substantial variation between rankings points to the complexity of making these choices – and, in this context, political considerations often inform which indicators in particular are selected and assigned the greatest weight. It is therefore crucial to pay close attention to what is measured when considering cross-cutting indicators of performance.

For example, the commonly cited Commonwealth Fund places significant emphasis on equitable access to care and the direct costs of care to patients. According to these metrics, universal, single-payer healthcare systems such as our own tend to perform well.[14] On its measure of 'Health Care Outcomes', however, the UK performs third to last, behind only Canada and the United States, which – in addition to sharply declining scores for 'Care Process' and 'Equity' – has caused our position to fall from first in 2017 to fourth (of eleven) in 2021.

The Legatum Prosperity Index, which covers a range of development measures – for example, education, social capital and living conditions – includes a relatively broad measure dedicated to health. Metrics of *healthcare* performance are placed alongside metrics of population health (such as the percentage of the adult population who are obese, or have raised blood pressure).[15] On this index, the UK ranks far lower (31st) than other high-income countries.

Finally, the Healthcare Access and Quality (HAQ) index ranks countries according to their mortality from causes that are "amenable to health care" – i.e. those that could be avoided if effective and timely healthcare were in place.[16] In this index, the UK also has a lower score than many of our high-income peers, ranking 23rd globally – level with Greece, South Korea, Cyprus and Malta (which all have a lower health spend per capita).[17] The HAQ index, however, places less emphasis on other indicators that policymakers may consider valuable such as overall costs of care and wider population health indicators.

Despite the limitations of existing approaches to health system comparison, attempting to categorise and compare performance still has significant value.

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[14] Eric Schneider et al., *Mirror, Mirror 2017: International Comparison Reflects Flaws and Opportunities for Better U.S. Health Care*, 2017.

[15] For a full breakdown of indicators used by Legatum for health, see Legatum Institute, *Methodology Report*, 2019.

[16] GBD 2016 Healthcare Access and Quality Collaborators, 'Measuring Performance on the Healthcare Access and Quality Index for 195 Countries and Territories and Selected Subnational Locations: A Systematic Analysis from the Global Burden of Disease Study 2016', *The Lancet* 391, no. 10136 (May 2018): 2236–71.

[17] Ibid.

In the first instance, examining systems that perform well across multiple rankings – for instance, Sweden, the Netherlands, and Singapore – provides useful evidence that no single 'type' of health system tends to be better performing than others. Sweden, a decentralised, general tax funded system, is a top performer in many comparative studies, but so too are the Netherlands, a compulsory private insurance system where national government sets the direction of travel, and Singapore, a system largely reliant on out-of-pocket spending and state-managed provider competition.

Secondly, rankings can help us more effectively identify areas of poor performance in our own system. Despite the UK's strong performance in rankings that place emphasis on reducing financial barriers to access or healthcare related equity, it is clear that we systemically underperform when it comes to healthcare-related outcomes (such as amenable mortality and major condition survival rates) and population health indicators (such as obesity and excessive alcohol consumption). These are the areas that therefore require most focus if we want to draw closer to comparable systems in terms of performance.

Finally, rankings provide a useful sifting tool for identifying case studies on health performance. Developing a sense of which systems perform better than our own on cross-cutting performance indicators, even when key inputs such as staffing levels and spending per capita are taken into account, opens up opportunities for digging deeper into comparative data to understand the drivers of improvement.

2.3 Digging deeper: what does the data tell us?

In *Reimagining Health: A framing paper*, *Reform* presented data on England's comparatively poor outcomes on a range of care quality (avoidable mortality, infant mortality, breast cancer survival and ischaemic stroke survival) and population health (obesity) indicators.[18]

Existing justifications for these phenomena – from lower total expenditure to lower staff numbers – do not adequately explain relatively poor performance. According to the latest comprehensive data (2019), the UK spends above the OECD average on healthcare (per capita, adjusted for purchasing power), and exceeds that of countries with better performance on the majority of the indicators outlined above (for example Finland, Spain, Korea, and Israel).[19]

Using Appendix A, we can dig deeper into the available data to establish areas in which the UK is similar to comparable nations and those in which it may diverge. Doing so allows us to challenge some of the frequently cited reasons for the UK's poor performance.

[18] Rees, King, and Pickles, *Reimagining Health: A Framing Paper*.
[19] OECD, *Health Spending*, 2021.

It is clear that public expenditure as a percentage of total health spending is higher in the UK (79.5%) than the OECD average (70.6%).[20] However, there are some OECD countries, notably Scandinavian countries and Japan, where public expenditure makes a greater contribution to total health spending (constituting more than 83% of the total in Denmark, Norway, Sweden and Japan). The UK also has a lower number of hospital beds per 1,000 population than other comparable nations – though, notably, more than high-performing Sweden.[21]

Though the number of practicing doctors and nurses in the UK is slightly lower than the OECD average, many countries achieve better performance on key healthcare indicators with a lower, or similar level of doctors (for instance, Japan, Korea and Israel) and nurses (for instance, Spain, Italy, Korea) per capita.[22] Where the UK remains something of an outlier is in its comparatively low expenditure on healthcare related capital, (relatedly) its low levels of available healthcare equipment (MRI and CT units) and its high levels of spending on the hospital sector.

On other metrics, the UK is more similar to other high-income health systems than is sometimes imagined – roughly half of OECD countries fund healthcare mainly through general taxation (rather than private or compulsory insurance contributions) and the majority of systems are centrally administered rather than devolved to regional or local government (though the UK exhibits an unusually high degree of centralism – see Chapter 4).

This brief examination of comparative health system data complicates conventional explanations of overall system performance and reveals the limitations of tracing the impact of individual inputs (such as overall staffing levels or total expenditure) on outcomes. We must develop a more granular approach which considers the processes and mechanisms that can help us improve our approach. It is this method, based on analysing case studies, that holds the greatest potential for developing useable insights.

Data can help us hone in on the systems that may provide the most valuable policy lessons. Figure 3 presents a top-line comparison of case studies used in this paper on a range of measures related to healthcare inputs (total health expenditure, hospital expenditure, and specialist practitioners) and outcomes (treatable mortality and stroke mortality rates), and wider population health indicators (life expectancy and healthy life expectancy, infant mortality, preventable mortality, and obesity rates). These offer useful comparison points to help understand areas where health systems excel and a starting point for identifying what mechanisms lie behind this improved performance.

[20] The World Bank, *Domestic General Government Health Expenditure (% of Current Health Expenditure)*, 2019.
[21] OECD, *Hospital Beds (Total, Per 1,000 Inhabitants)*, 2019.
[22] OECD, *Health Care Resources: Total Health and Social Employment*, 2022.

Figure 3: Comparison of case study systems

Country	Health expenditure (% of GDP)	Hospital expenditure (% of total health spending)	Specialist practitioners (% of total)	Life expectancy (Healthy life expectancy)	Infant mortality (per 1000 live births)	Preventable mortality (per 100,000)	Treatable mortality (per 100,000)	Ischemic stroke mortality rate (%)	Obesity rate (%)
United Kingdom	10.15	40.55	73.87	81.40 (70.13)	3.8	123	71	12.0	26.9
Finland	9.15	37.24	-	81.61 (71.00)	1.9	125	56	9.2	24.8
Israel	7.46	35.90	67.08	82.62 (72.38)	2.8	72	61	8.3	17.8
Singapore	4.08	-	-	83.22 (72.55)	2.0	-	-	5.9	8.6
Spain	9.13	44.18	54.34	83.22 (72.09)	2.7	92	52	10.1	16.7
Sweden	10.87	38.95	51.82	82.40 (71.91)	2.1	97*	53*	9.8	12.3

Source: OECD, *Health expenditure and financing, Specialist medical practitioners (% of physicians)*, *Preventable mortality*, *Treatable mortality*, *Ischemic stroke 30 day mortality using linked data*, 2019; OECD, *Obesity Update*, 2017; World Bank, *Current health expenditure (% of GDP)*, *Mortality rate, infant*, 2019; World Health Organization, *Healthy life expectancy at birth (years)*, *Life expectancy at birth (years)*, 2019; Singapore Ministry of Health, *National Population Health Survey*, 2017; *Most recent available data from 2018

3. The health creation challenge

3.1 Background

Policy debate on health system reform tends to focus on improving access to and the quality of *healthcare* services. As this paper will make clear, reorienting the delivery of healthcare is a vital tool for policy makers in improving outcomes and reducing costs.

However, most of the factors that contribute to our health have little to do with what happens in hospitals and GP practices. Some studies estimate that as little as 20 per cent of health outcomes are directly attributable to healthcare.[23] The remaining 80 per cent result from the social determinants of health, and the choices that we, as individuals, make.[24] For this reason, almost all health systems are attempting to move 'upstream' – to understand and target the determinants of poor health, prevent illness and reduce the use of healthcare resources. This requires a fundamental reorientation of health systems away from a curative approach and towards a preventive one.

Health creation in most countries is partly the responsibility of public health agencies who oversee and/or deliver discrete interventions such as surveillance of infectious diseases, vaccination campaigns and health promotion activities. However, reducing health risks and keeping people in good health requires taking a much broader view of public health and tackling the social and economic drivers of ill health.[25]

Shifting towards a more preventive approach has long been a policy priority in England.[26] In recent years, this commitment has deepened. In 2019, the Government set out its 'vision' to put prevention at "the centre of our decision-making", the NHS Long Term Plan seeks to "reduce the growth in demand for care through better integration and prevention", and 'population health management' is a core duty of Integrated Care Systems.[27]

However, turning ambition into strategy has proven challenging. Specific initiatives, such as the anchor institution agenda, which seek to use the NHS's significant

[23] Jamo Rubin, 'Social Determinants of Health: Moving the Needle on Value-Based Care', Oliver Wyman, 2023.
[24] Carlyn M. Hood et al., 'County Health Rankings: Relationships between Determinant Factors and Health Outcomes', *American Journal of Preventive Medicine* 50, no. 2 (October 2015): 129–35.
[25] World Health Organization, *Closing the Gap in a Generation: Health Equity through Action on the Social Determinants of Health*, 2008.
[26] For a detailed summary see Paul Cairney and Emily St Denny, *Why Isn't Government Policy More Preventive?*, 2020., Chapter 5: Prevention Policy in the UK.
[27] Department of Health and Social Care, *Advancing Our Health: Prevention in the 2020s*, 2019, 202., NHS England, *NHS Long Term Plan*, 2019.

purchasing power and status as the country's largest employer to create social and economic value in communities, have shown some early signs of success.[28] Yet cross-cutting, whole of government and intersectoral approaches have failed to materialise.

3.2 Barriers to change

A number of structural barriers stand in the way of shifting health systems toward prevention and health creation. These include:

Reactivity

Investment in health creation competes for priority with more immediate pressures facing health systems (such as hospital waiting times and care backlogs). This makes it difficult to invest in services and pursue systemic reforms which, in the long run, could have a greater impact on health outcomes. Health spending is often said to follow a 'rule of rescue': the highest value services lose out to lower value reactive services in funding allocations due to the long-term time horizons over which their impact is felt.[29]

Visibility

Success stories in healthcare are far more visible and personal than those in public health/prevention. Individuals and their families *know* when they have benefited from a new life-saving medical treatment such as a new class of medication (PrEP for HIV patients, for instance) or a new surgical technique (organ transplantation, for instance) but are less aware of the benefits of prevention/health creation initiatives which avoid the need for treatment in the first place.

Siloing

Public health challenges require buy-in and collaboration across government and between sectors. Complex health policy challenges such as obesity and mental health require a joined-up response between a large range of actors. Traditional approaches to governance focused on single departmental or organisational responsibility are ill-suited to preventative policy.

Despite growing consensus that our health challenges require a new approach, in England, the long-standing attitude that 'health' is the responsibility of the NHS, serves as a key cultural barrier to considering the value of other public services and actors who have a significant impact on our health. One consequence may be that spending on healthcare often takes priority over spending on other areas that could have a

[28] NHS England, *NHS Long Term Plan*.
[29] Cairney and St Denny, *Why Isn't Government Policy More Preventive?*

greater marginal impact on health outcomes (such as on social care, education and housing).[30]

Measurement

The language of 'prevention' can be vague, and it is often more difficult to connect policies aimed at prevention with key outcome measures over short timescales. This discourages policymakers from shifting investment toward approaches with an apparently 'weaker' evidence base.[31]

Difficulties in measurement challenge also interacts with the siloing and reactivity challenges outlined above. Prevention tends to be narrowly evaluated for its ability to reduce demand for healthcare in the short term, rather than its longer term positive effects on public service demand more broadly. For instance, evaluating the value of school-based mental health prevention initiatives according to their effect on primary care utilisation by young people, may miss the wider positive externalities of these programmes on metrics such as educational outcomes, future employment prospects, and long-run productivity.

3.3 Levers for change

The barriers to shifting towards prevention are significant, but there are a range of levers available to policymakers.

Re-directing public expenditure

The most direct way to shift towards prevention is to reallocate government budgets from reactive to preventive services. In health systems, this might directly involve moving resources out of healthcare settings and into public health or services which target the social determinants of health.

Financial alignment

Alongside more direct interventions to re-allocate expenditure, policymakers can re-orient systems to incentivise preventive goals. Health systems have tended to measure and reward 'activity' in healthcare settings, not population health outcomes. More effectively measuring and rewarding prevention may encourage upstream investment.

[30] Rees, King, and Pickles, *Reimagining Health: A Framing Paper*.
[31] Cairney and St Denny, *Why Isn't Government Policy More Preventive?*, p. 13.

Governance

Effective governance structures to promote a cross-government, inter-sectoral approach to health are vital for moving towards a health creation model. Reforming governance structures at a central and local level to more effectively join up health creating services may help emphasise a preventative shift. International policy bodies have encouraged governments to pursue a so-called 'health in all policies' approach involving changes to governance.[32] It is also an approach that Public Health England (and now the Office for Health Improvement and Disparities) called for, albeit with limited success.[33]

Workforce development

Discussions about the 'health' workforce tend to focus on the role of clinical staff – and in particular, on the role of hospital doctors and specialist clinicians, much more than general practitioners and other clinicians working in primary care and the community. However, developing an effective public health workforce capable of understanding and addressing the determinants of ill health is vital to shifting towards health creation. The 'public health workforce' extends far beyond those employed as directors of public health and public health doctors, to all of those who play a role in boosting population health.[34]

3.4 Case Studies

3.4.1 North Karelia's CVD prevention project

Background

Since the Second World War, cardiovascular disease (CVD) has been, alongside cancer, the biggest killer in most high-income countries.[35] Though some populations have a greater genetic predisposition to CVD, from the 1960s awareness grew that CVD was not a degenerative disease of ageing, but had a number of clearly identifiable

[32] Kimmo Leppo et al., *Health in All Policies: Seizing Opportunities, Implementing Policies* (Ministry of Social Affairs and Health (Finland), 2013).
[33] Public Health England and Local Government Association, *Local Wellbeing, Local Growth*, 2016.
[34] Centre for Workforce Intelligence and Royal Society for Public Health, *Understanding the Wider Public Health Workforce*, 2015.
[35] Gregory A. Roth et al., 'Global Burden of Cardiovascular Diseases and Risk Factors, 1990-2019: Update From the GBD 2019 Study', *Journal of the American College of Cardiology* 76, no. 25 (December 2020): 2982–3021.

risk factors. These chiefly related to diet, alcohol and tobacco consumption and exercise.[36]

In the 1960s, Finland had the world's highest CVD mortality rate.[37] The Eastern province of North Karelia performed worst nationally – nearly 700 male deaths per 100,000 could be attributed to CVD.[38] Poor outcomes were driven by extremely poor underlying population health. Finnish men had higher serum cholesterol and mean blood pressure than any population in the world and 60 per cent of men were smokers.[39] The rapid development of the region's dairy industry after the Second World War meant that the North Karelian diet was characterised by high intakes of butter, cream, full fat milk and cheese.[40]

The extremely high CVD mortality rate led the local population to demand action. In 1971, the Governor of North Karelia convened a meeting of Members of Parliament and representatives of the local population to discuss the problem.[41] Attendees signed a petition asking the government to launch a programme to reduce the burden of CVD. Following this, the Finnish Heart Association set up a planning group to formulate the principles of a population wide intervention to decrease CVD mortality.

In 1972, the so-called 'North Karelia Project' was launched under the guidance of a young physician, Dr Pekka Puska. Puska was tasked with responsibility for planning a population intervention to reduce the incidence of CVD.[42]

Impacts

Country	Tobacco consumption (%)	Alcohol consumption (litres/capita/year)	Obesity rate (%)
United Kingdom	14.5	11.5	26.9
Finland	12.0	10.8	24.8

Source: See Figure 3; Also, OECD, *Tobacco consumption*, 2020; The World Bank, *Total alcohol consumption per capita (litres of pure alcohol, 15+ years of age)*, 2018

[36] Pekka Puska, 'Fat and Heart Disease - Yes, We Can Make a Change. The Case of North Karelia, Finland' (International Expert Meeting in Health, 2 February 2009).
[37] Erkki Vartiainen, 'The North Karelia Project: Cardiovascular Disease Prevention in Finland', *Global Cardiology Science and Practice* 2, no. 13 (June 2018).
[38] Ibid.
[39] Ancel Keys, *Coronary Heart Disease in Seven Countries*, 1970.
[40] Pekka Puska et al., *The North Karelia Project: From North Karelia to National Action*, 2009.
[41] Vartiainen, 'The North Karelia Project: Cardiovascular Disease Prevention in Finland'.
[42] Puska et al., *The North Karelia Project: From North Karelia to National Action*.

Though the North Karelia Project was only intended to run for five years, work to reduce CVD carried on in the province and Finland as a whole over the following four decades. The results of the North Karelia Project are remarkable.

Mortality from coronary heart disease (CHD), the main form of CVD, decreased by 84 per cent in the working-age population. Life expectancy in the region has increased by 11.6 years in men and 9.2 years in women, and roughly half of this change has been driven by declines in CVD.[43] Risk factors that contribute to the incidence of CVD have also been successfully addressed. Major declines in average serum cholesterol, blood pressure and smoking levels have all been recorded, saturated fat consumption has halved and salt consumption has dropped by roughly a third in this period.[44]

Certainly, other countries have also seen marked decreases in the risk factors behind CVD – the percentage of the UK population who are daily smokers, fell by more than five percentage points in the decade from 2010 to 2020, for example – and benefited from associated decreases in CVD mortality.[45] Remarkably, though, before the North Karelia project, Finland had the highest mortality rate from CVD in the world.[46] After implementation, those in North Karelia went on to gain ten years of healthy life expectancy, with comparable increases nationwide.[47]

Understanding how North Karelia and Finland were able to vastly improve CVD outcomes provides vital lessons for policymakers seeking to develop comprehensive, community-oriented approaches to disease prevention. These apply both to CVD, which remains the largest contributor to mortality and morbidity of any disease, but also to other common diseases which can only be addressed through mass behaviour change such as Type 2 diabetes.

Levers for change

Comprehensive and co-productive project design

The North Karelia project was based on a comprehensive set of design and evaluation principles.

[43] Veikko Salomaa and Arto Pietila, 'Changes in CVD Incidence and Mortality Rates, and Life Expectancy: North Karelia and National', *Global Heart* 11, no. 2 (June 2016).
[44] Vartiainen, 'The North Karelia Project: Cardiovascular Disease Prevention in Finland'.
[45] OECD, *Tobacco Consumption (% of Population Aged 15+ Who Are Daily Smokers)*, 2020.
[46] Pekka Jousilahti et al., 'Primary Prevention and Risk Factor Reduction in Coronary Heart Disease Mortality among Working Aged Men and Women in Eastern Finland over 40 Years: Population Based Observational Study', *BMJ* 352, no. 8047 (March 2016).
[47] Harvard School of Public Health, 'Finnish Study Lengthened Lives by Changing Lifestyles', Webpage, 6 November 2018.

In the first instance, the project investigators considered which tools would be available to them in carrying out a successful intervention. Options for treatment of CVD were relatively limited in the early 1970s – surgical procedures such as balloon angioplasty were in their infancy and major pharmaceutical classes such as statins had not been developed.[48] For this reason, Puska and his team recognised that a preventative approach, targeting key risk factors to reduce the overall incidence of CVD, was the most feasible intervention.

With this in mind, the Project set out clear objectives – to reduce the overall incidence of CVD in the population; to target the three core drivers of CVD; and, to achieve this, shift the health behaviours of North Karelia's population. Principles of evaluation were embedded in the project from the beginning to ensure these objectives were monitored and met. A large baselining study was carried out in North Karelia and its neighbouring province, Kuopio, to ensure that the effects of the regions policy response could be monitored.

Following this initial stage of planning and objective setting, a more detailed process informed the design of the Project's core interventions. The Project investigators developed a two-pronged approach to shifting behaviours in North Karelia. Firstly, a high-risk group was identified, who would require more intensive support to avoid CVD or manage the condition from an early stage. This group was largely made up of middle-aged men, who tended to have the worst CVD outcomes. However, given how deeply rooted many of the drivers of poor CVD were in North Karelian society, the investigation team also sought to develop a community wide strategy.

Alongside developing a biomedical understanding of North Karelia's population, the investigators sought to understand the socioeconomic drivers of poor CVD outcomes; the main channels of communication through which to influence health behaviours; and the community organisations and leaders able to drive change in the region. Deep community knowledge allowed the Project's investigators to develop a unifying behaviour change approach and an institutional apparatus to facilitate it. Drawing on advances in social and behavioural sciences,[49] the investigators established a multi-component intervention. Behaviour change would be facilitated by a partnership between the Project team, health services, local municipalities, local and national media, and civil society groups.[50]

[48] Nirav Mehta and Ijaz Khan, 'Cardiology's 10 Greatest Discoveries of the 20th Century', *Texas Heart Institute Journal* 29, no. 3 (2002): 164–71.
[49] Pekka Puska, Aulikki Nissinen, and Jaakko Tuomilehto, 'The Community-Based Strategy to Prevent Coronary Heart Disease: Conclusions from the Ten Years of the North Karelia Project', *Annual Review of Public Health* 6 (1985): 147–93.
[50] Pekka Puska et al., 'Background, Principles, Implementation, and General Experiences of the North Karelia Project', *Global Heart* 11, no. 2 (June 2016): 173–78.

The core project team was kept deliberately lean to ensure that the intervention was carried out 'with' the local population rather than being seen as orchestrated top down. The project team saw its role as being to guide, catalyse, coordinate, assist and evaluate, not to intervene.[51]

An enabling policy environment

Legislative change was not a core priority for the North Karelia project – the project's investigators believed firmly that voluntary action and collaboration with communities would be most effective in delivering lasting behaviour change. Nonetheless, an enabling policy environment contributed to the Project's success.

Firstly, under the terms of the 1972 Primary Care Act, many powers over health system organisation were transferred to local authorities. Primary, preventive and curative services, including local hospitals were all brought under the control of locally-integrated municipal primary healthcare authorities.[52] This localised approach to health policy encouraged municipalities to develop frontline community-based health services, reversing a power imbalance in the Finnish health system – until 1970, around 90 per cent of health expenditure went to the hospital sector.[53] It also gave regions flexibility to tailor their health strategies to local population needs.

Structural re-organisation was coupled by major public health legislation in the same period. In 1977, partly due to sustained pressure over poor CVD outcomes, the Finnish parliament passed internationally ground-breaking anti-smoking legislation. All tobacco advertising was banned, tobacco sales to under-16s were prohibited, and health warnings on cigarette packets became mandatory.

Finally, changes to state subsidy laws also had a significant effect on the country's food producers. Following the Second World War, the Finnish government had attempted to grow its domestic dairy industry by offering generous subsidies to producers, calculated on the basis of the fat content of milk. Shifting towards subsidies based on protein content instead provided a strong incentive for the production of lower fat dairy goods.

Reorientating healthcare delivery

Puskas and his team were aware of the limitations of a biomedical approach to health creation, and understood that pivoting local healthcare providers to focus on prevention was vital to the success of the project. In order to provide effective support to those

[51] Puska et al., *The North Karelia Project: From North Karelia to National Action*.
[52] Ilmo Kesimaki, *Working Paper 9: Development of Primary Health Care in Finland* (The Lancet Global Health Commission on Financing Primary Health Care, 2022).
[53] Kimmo Lepo and Tapani Melkas, 'Towards Healthy Public Policy: Experiences in Finland 1972-1987', *Health Promotion* 3, no. 2 (1988): 195–203.

groups most affected by CVD, policy makers first had to be able to identify them. However, in 1972, as many as 80 per cent of the local population living with hypertension were not aware of their condition.[54] Alongside the comprehensive baseline study of cardiovascular health carried out in 1972, doctors were instructed to carry out blood pressure measurement during every patient contact.

Patients with hypertension were added to a condition-specific register and received personalised guidance, as well as instructions to attend a hypertension clinic 2-3 times each year. Comprehensive guidance and training was given to public health nurses to set up these dedicated clinics which provided an alternative front door to the medical system to address CVD risk factors.

Effective use of media and marketing

The Project team recognised that effective marketing and communication was vital to shifting population wide behaviour. During the initial period of the study (1972-1977), 1,509 newspaper articles on CVD were placed in local media, 22,000 posters were printed, 278,000 health education leaflets dispensed, and 97,000 Father's Day cards distributed to warn middle-aged men of the risks of CVD.

The study was particularly notable for its effective use of television. As well as providing regular news bulletins promoting healthy behaviour and lifestyle change, the Project partnered with a national television station on a series of reality TV segments, where those making lifestyle changes were followed by a camera crew. Those individuals selected to participate tended to be drawn from the high-risk, middle-age male demographic that the study attempted to specifically target.[55]

A community-driven approach

While information presented through television and print media maximised the Project's potential audience, the investigators realised that health behaviour change required reinforcement by family members, colleagues and the wider community.

In the first instance, the project team recruited around 800 lay leaders who travelled between villages discussing smoking and diet with those they met, organising clubs and societies to promote sport and exercise and encouraging local store owners to improve the availability of healthy food.[56]

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[54] Vartiainen, 'The North Karelia Project: Cardiovascular Disease Prevention in Finland'.
[55] Samir Kashyp, 'The North Karelia Project', Community Toolbox, 14 June 2014.
[56] Pekka Puska et al., 'Use of Lay Opinion Leaders to Promote Diffusion of Health Innovations in a Community Programme: Lessons Learned from the North Karelia Project', *Bulletin of the World Health Organization* 64, no. 3 (1986): 437–46.

In order to target CVD risk factors early, a specific North Karelia Youth Program was established.[57] School based approaches were specifically targeted at preventing smoking and included providing health coaching to prevent the onset of smoking due to peer pressure. Schools also adopted competitive approaches to discourage smoking. School classes were rewarded prizes if no class member smoked for a period of at least six months. This both encouraged individual behaviour change and provided incentives to help prevent others from taking up smoking.

Perhaps the most innovative civil society partnership formed in North Karelia was built with Marta, a Finnish housewives association. Marta organised 344 "parties for life" in the initial project period. A representative from the North Karelia Project would be invited to speak about the importance of CVD health, and local women would cook and serve healthy food to village members based on a cookbook produced in partnership with the project. Over 15,000 North Karelians participated in these meetings.

3.4.2 Health in all Policies in South Australia

Background

Addressing the determinants of health across government and between sectors is vital for health creation. For this reason, international organisations have long recommended that policymakers pursue a 'health in all policies' (HiAP) approach. This involves joining up multiple areas of government to design and implement health promoting policies (see Figure 2).

Figure 4: What is a 'health in all policies' approach?

"Health in all policies is an approach to public policies across sectors that systematically takes into account the health implications of decisions, seeks synergies, and avoids harmful health impacts in order to improve population health and health equity."

Source: World Health Organization and Finland Ministry of Social Affairs and Health, *Health in all policies: Helsinki statement. Framework for country action*, 2014.

Since 2007, South Australia has explicitly adopted a HiAP approach to boost population health and reduce health inequalities. The adoption of this approach was driven by many of the factors already outlined in this paper – a recognition that health is not created by the healthcare sector; a crisis in expenditure which has seen healthcare spending rise to consume almost a third of the State's budget; and an

[57] Puska et al., *The North Karelia Project: From North Karelia to National Action*.

acknowledgment that despite additional investment, health inequalities were deteriorating not improving.[58]

Ensuring effective governance mechanisms are in place to build cooperation across departments is a vital first step in ensuring the success of a HiAP approach.[59] The South Australian approach to HiAP governance consists of three core elements.

Firstly, HiAP work across departments is overseen by the central agency of the state government, the Department of Premier and Cabinet (DP&C).[60] An Executive Committee in DP&C, made up of the Premier, Treasurer and three other ministers oversees the HiAP initiative, and brings together departmental chief executives to consider areas that would most benefit from a HiAP approach.[61]

Secondly, a dedicated HiAP unit in the Department of Health and Ageing is responsible for developing methods to conduct effective Health Lens Analysis (HLA).[62] HLA helps policymakers understand the effect that particular interventions have on population health, evaluate existing approaches and inform future policy design. For instance, HLA in South Australia has been used to consider the effects of the State's planning system, regional resettlement, and Aboriginal road safety initiatives on health.[63]

Finally, with the permission of DP&C, the HiAP unit works with other government departments to develop their own capabilities to carry out HLA. While the unit's resources can be drawn on by any department, its work is most effective when developed in partnership with other departments.[64]

Impacts

Establishing the specific health impact of HiAP is methodologically challenging – a large number of factors contribute to population health and many of them are outside

[58] Department of Health, Government of South Australia, *The South Australian Approach to Health in All Policies: Background and Practical Guide*, 2011.
[59] Akram Khayatzadeh-Mahani et al., 'Health in All Policies (HiAP) Governance: Lessons from Network Governance', *Health Promotion International* 34, no. 4 (August 2019): 779–91.
[60] Helen van Eyk et al., 'Health in All Policies in South Australia—Did It Promote and Enact an Equity Perspective?', *International Journal of Environmental Research and Public Health* 14, no. 11 (October 2017): 1–25.
[61] Department of Health, Government of South Australia, *The South Australian Approach to Health in All Policies: Background and Practical Guide*.
[62] World Health Organization and Government of South Australia, *Adelaide Statement on Health in All Policies: Moving towards a Shared Governance for Health and Well-Being*, 2010.
[63] van Eyk et al., 'Health in All Policies in South Australia—Did It Promote and Enact an Equity Perspective?'
[64] Department of Health, Government of South Australia, *The South Australian Approach to Health in All Policies: Background and Practical Guide*.

of the direct control of policymakers.[65] For instance, as in many other jurisdictions, health outcomes in South Australia declined in the period after the global financial crisis due to increased unemployment and squeezed living standards.[66] Further, given many of the outcomes that inter-sectoral approaches to public health aim to achieve are long term, short-term effects of a HiAP approach may be difficult to demonstrate.

However, evaluations of the initiatives success among policymakers in South Australia suggest it has had a positive impact.[67] Despite its low cost – $550,000 per annum – the initiative led to an increased understanding by policymakers across government on the impact of their work on population health, greater understanding and stronger partnership working between health and other government agencies, and an embrace of Health Lens Analysis across government.[68] Thus far, the HiAP Unit has worked with 13 separate government departments to carry out HLA and strengthen health promotion policy.[69]

Levers for change

Clear governance arrangements and accountability structure

Oversight of the HiAP programme from the DP&C has been vital to securing cross-government buy-in.[70] In other international case studies, HiAP initiatives have been the responsibility of health departments, and for this reason, have struggled to gain influence in other parts of government.[71]

The combination of a clear cross-government enabling structure and a dedicated HiAP unit in the Department of Health and Ageing ensured that the initiative could both secure support from across government but also draw from an earmarked resource base.

However, as interviewees in official evaluations of the HiAP initiative noted, it was vital that the programme was not seen as health 'led'.[72] As in other jurisdictions, where health expenditure has far outstripped that of other government departments,

[65] Fran Baum et al., 'To What Extent Can the Activities of the South Australian Health in All Policies Initiative Be Linked to Population Health Outcomes Using a Program Theory-Based Evaluation?', *BMC Public Health* 19, no. 88 (January 2019).
[66] Southgate Institute for Health, Society and Equity, *Does a Health in All Policies Approach Improve Health, Wellbeing and Equity in South Australia?*, 2017.
[67] Baum et al., 'To What Extent Can the Activities of the South Australian Health in All Policies Initiative Be Linked to Population Health Outcomes Using a Program Theory-Based Evaluation?'
[68] Ibid.
[69] Toni Delany et al., 'Health in All Policies in South Australia: What Has Supported Early Implementation?', *Health Promotion International* 31, no. 4 (December 2016): 888–98.
[70] Ibid.
[71] Claire Greszczuk, *Implementing Health in All Policies: Lessons from around the World* (The Health Foundation, 2019).
[72] Delany et al., 'Health in All Policies in South Australia: What Has Supported Early Implementation?'

suspicions existed that the HiAP initiatives would provide further opportunities to move resources into health. Central oversight and an emphasis on the 'co-benefits' of a HiAP approach (i.e. the benefits that accrue to other departments through improved population health) have helped allay these concerns.

Strong mandate and link to other governing priorities

South Australia's Health in All Policies initiative emerged shortly after the establishment of the State's Strategic Plan (SASP).[73] Since 2004, the State has set out triennial cross-cutting plans to improve public services and achieve targets for social, economic and infrastructure development.[74] All government departments are required to achieve and report on targets in SASP.

DP&C made the decision to explicitly link the SASP and the HiAP initiative, helping to secure a greater degree of buy-in from across government and ensuring that an understanding of population health informed other strategic priorities.[75]

Concrete tools and methods

Successful implementation of HiAP requires clear guidance on how government departments should approach health and a methodology to inform action. The pioneering use of HLA provided this in South Australia.

Though HLA does not limit the choices available to policymakers – if HLA determines that a policy decision will have a negative impact on population health, it does not preclude policymakers from enacting it – it does provide a strong evidence base to inform decision making.[76] Through giving concrete recommendations and practical advice on how to address health impact concerns, HLA gives policymakers guidance on how to proceed. This moves HiAP beyond a mechanism to join up government around health priorities and gives it clear tools to effect change.

[73] Carmel Williams and Claudia Galicki, *Health in All Policies in South Australia: Lessons from 10 Years of Practice*, 2017. Williams and Galicki.
[74] Williams and Galicki, *Health in All Policies in South Australia: Lessons from 10 Years of Practice*.
[75] Fran Baum et al., 'Ideas, Actors and Institutions: Lessons from South Australian Health in All Policies on What Encourages Other Sectors' Involvement', *BMC Public Health* 17, no. 811 (October 2017): 1–16.
[76] Toni Delany et al., 'Health Impact Assessment in New South Wales & Health in All Policies in South Australia: Differences, Similarities and Connections', *BMC Public Health* 14, no. 699 (2014): 1–9.

3.4.3 Digital-first public health in Singapore

Background

Figure 5: Singapore – UK system comparison

Country	Health expenditure (% of GDP)	Hospital expenditure (% of total health spending)	Specialist practitioners (% of total)	Life expectancy (Healthy life expectancy)	Infant mortality (per 1000 live births)	Preventable mortality (per 100,000)	Treatable mortality (per 100,000)	Ischemic stroke mortality rate (%)	Obesity rate (%)
United Kingdom	10.15	40.55	73.87	81.40 (70.13)	3.8	123	71	12.0	26.9
Singapore	4.08	-	-	83.22 (72.55)	2.0	-	-	5.9	10.5

Source: See Figure 3

In *Reimagining Health: A framing paper, Reform* noted that an overwhelming focus on healthcare, and acute hospital services in particular, has driven innovation-related investment in our health system towards treatment rather than prevention.[77]

However, public health and health promotion are the areas of our system most ripe for innovative new approaches. In particular, the use of data and digital tools to understand population health, drive public behaviour change, and develop personalised prevention plans holds enormous potential.[78]

Public health systems have, in general, been slow to realise this potential. However, in Singapore, the city-state's Health Promotion Board (HPB) has made significant progress in this area.[79] Its success holds valuable lessons for health creation in England.

The HPB, which was established in 2001 as a statutory agency under the control of the Ministry of Health, has played an important role in improving population health. HPB is responsible for school and workplace health programmes, healthy diet and exercise promotion, and smoking cessation efforts. In recent years, it has increasingly used digital tools to implement innovative health programmes.[80]

[77] Rees, King, and Pickles, *Reimagining Health: A Framing Paper*.
[78] Amanda Koh et al., 'Digital Health Promotion: Promise and Peril', *Health Promotion International* 36, no. 1 (December 2021).
[79] Ling Chew et al., 'Can a Multi-Level Intervention Approach, Combining Behavioural Disciplines, Novel Technology and Incentives Increase Physical Activity at Population-Level?', *BMC Public Health* 21, no. 120 (January 2021): 1–11.
[80] Oliver Wyman and Singapore Health Promotion Board, *The Digital Frontier of Health Promotion and Prevention: Post-COVID 19 Opportunities*, 2022.

Impacts

Figure 6: Singapore – UK case study comparison

Country	Tobacco consumption (%)	Alcohol consumption (litres/capita/year)	Obesity rate (%)
United Kingdom	14.5	11.5	26.9
Singapore	10.1	2.0	8.6

Source: See Figure 3; Also, OECD, *Tobacco consumption*, 2020; The World Bank, *Total alcohol consumption per capita (litres of pure alcohol, 15+ years of age)*, 2018; Singapore Ministry of Health, *National Population Health Survey*, 2020

Singapore has one of the world's most efficient health systems – life expectancy is among the world's highest, while spending on health as a percentage of GDP is around half that of other high-income countries.[81] Though the reasons for the success of Singapore's health system are complex, a strong focus on health promotion and prevention has proved key.[82] Digital health tools have helped deepen Singapore's commitment to these principles.

In the first instance, digital tools have given Singaporean policymakers a far deeper understanding of population health. Health Insights Singapore (hiSG), a tech-enabled population health study led by HPB, uses wearable devices and an app to collect health information about participants.[83] Dietary behaviours, exercise patterns, smoking, and alcohol use can all be monitored and linked to sociodemographic data, biometrics and psychographics (the attitudes, traits and values of individuals).[84] HiSG therefore deepens policymakers understanding of the day-to-day drivers of population health and allows future public health campaigns to be more effectively designed and targeted.

Secondly, technology has enabled the HPB to carry out more personalised behaviour change initiatives. Healthy 365, a free mobile application launched by the HPB uses gamification and rewards to encourage users to adopt healthier lifestyles. The app pairs with fitness tracking devices to track users' daily steps count and amount of time spent exercising. Users can scan QR codes via the app to earn health points when

[81] 'The Remarkable Healthcare Performance in Singapore', in *Great Policy Successes: Or, A Tale About Why It's Amazing That Governments Get So Little Credit for Their Many Everyday and Extraordinary Achievements as Told by Sympathetic Observers Who Seek to Create Space for a Less Relentlessly Negative View of Our Pivotal Public Institutions*, by Mallory E. Compton and Paul T'Hart, 2019.
[82] 'The Remarkable Healthcare Performance in Singapore'.
[83] Singapore Health Promotion Board, 'Health Insights Singapore (HiSG)', Webpage, 2022.
[84] Ibid.

they purchase healthy meals, drinks and groceries.[85] An events tab on the app allows users to find free public exercise classes near them.

Healthy 365 is also linked to annual national health challenges. Since 2015, the HPB has overseen an annual National Steps Challenge, aimed at increasing 'incidental' exercise (exercise carried out as part of everyday life).[86] Through their linked fitness trackers, users log their daily step count and are rewarded for reaching specific targets (5000, 7500, and 10,000 daily steps).[87] Between 2015-2018, the number of participants in the Challenge increased fourfold and it is estimated that 1 in 5 Singaporeans has now taken part.[88] During the period between 2010 and 2017, a national population survey found that incidental physical activity among adults increased threefold and moderate-intensity physical activity doubled.[89]

Since the start of the pandemic, the HPB has continued to strengthen its public health personalisation agenda. In partnership with Apple, the HPB launched LumiHealth in 2020. LumiHealth was created in collaboration with a team of physicians, public health officials, and experts in behavioural science.[90]

LumiHealth continues to reward those who exercise and eat healthily, but also uses health data to develop personalised wellbeing plans for users.[91] Over 300,000 Singaporeans have downloaded the app, and users have increased their daily exercise minutes by over 39 per cent when compared to the month before signing up.[92] Those identified as being part of a 'Low Activity' group before signing up increased their exercise by 88 per cent nine months after joining.[93]

Levers for change

Personalisation

Many public health initiatives aim to target entire populations or large population sub-groups. Focusing on larger groups is vital for tackling many of the structural drivers of poor health – for instance, large scale policy change may be required to create good

[85] Health Promotion Board, 'Healthy 365', Web page, 5 January 2023, 365.
[86] Jiali Yao et al., 'Evaluation of a Population-Wide Mobile Health Physical Activity Program in 696 907 Adults in Singapore', *Jounral of the American Heart Association* 11, no. 12 (June 2022): 1–36.
[87] Chew et al., 'Can a Multi-Level Intervention Approach, Combining Behavioural Disciplines, Novel Technology and Incentives Increase Physical Activity at Population-Level?'
[88] Ibid.
[89] Ibid.
[90] Apple, 'LumiHealth and Apple Watch Helping Singaporeans Live a Healthier Life', Webpage, 26 October 2021.
[91] LumiHealth, 'LumiHealth SG', Webpage, October 2021.
[92] Apple, 'LumiHealth and Apple Watch Helping Singaporeans Live a Healthier Life'.
[93] Ibid.

jobs, improve the quality of food available to consumers and reduce pollution levels.[94] Similarly, efforts to improve health behaviours – for instance, in reducing alcohol and tobacco consumption – have tended to rely largely on cross-cutting policy instruments such as regulation and taxation.

However, where public health initiatives seek to facilitate behaviour change, regulatory and structural reform targeting large groups can be complemented by more personalised tools. Singapore's approach, which aims to collect and analyse user-generated data to understand health profiles and then targets individual level drivers of health behaviour is innovative in this regard. Drawing on the latest developments in behavioural science allows population health outcomes (improved exercise patterns and healthy eating) to be achieved through providing individual level incentives for improvement. Reward schemes, behavioural nudges and personalised lifestyle recommendations all contribute to successful health promotion.

Successful partnership working

Public health initiatives tend to be driven by the state. However, whilst governments should play a key role in agenda setting on public health, partnership with business and industry is vital to maximising population health.

In Singapore, while the HPB has broad oversight over public health initiatives, successful partnership working with developers (Fitbit and Apple) has allowed it to draw on technical expertise and commercial insights into health behaviour to launch successful tools for boosting population health. Further, working closely with food and drink retailers, supermarkets and grocers has allowed the HPB to offer users of Healthy365 and LumiHealth valuable rewards for participation in these schemes.

3.5 Conclusion

Despite a wealth of evidence that shifting to a health creation approach is vital to building sustainable, high-quality health systems, this transition has proven difficult in every country. For this reason, room for policy learning may be more limited – the UK should seize opportunities to be a pioneer.

However, the case studies above suggest that a number of levers are available to shift towards a more pro-active model of health creation. Re-conceiving public health from the bottom up; working in close partnership with communities to target local drivers of poor health; and structuring central and local government to build health across departments and policy functions are all vital to shifting the dial in this area. More

[94] Richard Heller, *Evidence for Population Health*, 2005.

effective governance mechanisms to shift policy at a macro-level can be fruitfully combined with novel, personalised approaches to prevention and behaviour change.

4. The centralism challenge

4.1 Background

Debate on the appropriate balance between centralised control and local responsibility has existed since the beginning of the National Health Service.[95]

Before the inception of the NHS, responsibility for providing health services including public health, infection control and hospital care sat with local authorities.[96] A number of post-war reform plans recommended the preservation of a localised model, but in 1948 the decision was made to nationalise hospitals and run much of the new service from Whitehall. In the early decades of the NHS, this centralised model became more deeply embedded. In 1974, responsibility for many of the remaining duties of local authorities in public health and community care were transferred to the NHS.[97]

More recently, the direction of travel has shifted – moves to grant NHS trusts a higher degree of autonomy in the New Labour era through the Foundation Trust programme, and the return of public health responsibilities to local authorities, both point towards a greater willingness to devolve power. Similarly, the development of regional Integrated Care Systems (ICSs), responsible for joining up NHS organisations and their partners in local government, notionally represent a shift in power away from the centre – with primary care commissioning, for example, now a responsibility of ICSs, rather than NHS England.

However, political and financial control over the health system remains embedded in central government. According to the OECD, less than 2 per cent of health spending in the UK is carried out by sub-national layers of government, compared to an average of 11.5 per cent.[98] Even in the case of ICSs, early evidence points to a continuation of the historic tendency for NHS England to 'micromanage' regional performance. The recent Hewitt Review on the autonomy of Integrated Care Systems cites an example of one ICS receiving "97 ad-hoc requests" from NHS England and the Department for Health and Social Care, in addition to requirements for "6 key monthly, 11 weekly and

[95] Stephen Peckham et al., *Decentralisation, Centralisation and Devolution in Publicly Funded Health Services: Decentralisation as an Organisational Model for Health Care in England* (National Co-ordinating Centre for NHS Service Delivery and Organisation, 2005).
[96] Geoffrey Rivett, *From Cradle to Grave: 50 Years of the NHS* (The King's Fund, 1998).
[97] The Health Foundation, 'NHS Reorganisation Act 1973', Webpage, 2014.
[98] OECD, *Making Decentralisation Work: Handbook for Policy-Makers*, 2019.

3 daily data returns".[99] This top-down approach has left England with "arguably the most centralised health system in the developed world".[100]

In discussing the failure of successive waves of health reform, the chief executive of the Nuffield Trust, Nigel Edwards, points out that a tendency toward centralism may be at the heart of disappointing results: "The central nature of policy-making is a problem because England is a very big unit of just over 55 million people. No one else is trying to run a healthcare system on that scale and design policies from the centre in quite the way we do."[101]

In states with long histories of federalism such as Australia, Canada and the United States, sub-national responsibility for public service delivery (including health and care) has long been the norm. Yet in other jurisdictions, policymakers have turned to decentralisation as an explicit tool of system reform. Three core premises underpin the case for health system decentralisation:

1. Health needs are sufficiently varied throughout England to require distinct local responses.[102]

2. Smaller, more localised organisations are likely to be more responsive and accountable to those who use them than larger, more distant organisations.

3. Large, centralised organisations can often experience 'diseconomies of scale', meaning their marginal productivity decreases as they continue to increase in size. This can occur, for example, because of the inefficiencies introduced by communicating priorities across a larger workforce (known as communication distortion), or the loss of more dynamic organisational cultures and structures as teams scale.

Devolving power and responsibility can help leverage the informational advantages of localism to tailor solutions to a variety of health challenges. Figure 7 sets out the theoretical benefits of a more decentralised approach.

[99] Patricia Hewitt, *The Hewitt Review: An Independent Review of Integrated Care Systems*, 2023.
[100] Chris Ham, *Governing the Health and Care System in England: Creating Conditions for Success* (NHS Confederation, 2022).
[101] Nigel Edwards, 'Successes and Shortcomings: Health Policy Lessons', *Nuffield Trust*, 27 February 2020.
[102] P Martinussen and HT Rydland, 'Is Decentralised Health Policy Associated with Better Self-Rated Health Services Evaluation? A Comparative Study of European Countries', *International Journal of Health Policy and Management* 10, no. 2 (February 2021): 55–66.

Figure 7: Theoretical benefits of health decentralisation

Increased allocative efficiency: organising health services and public health functions at a local level can help better tailor provision to suit local circumstances, increasing quality and driving down cost.

Increased health equity: one-size-fits-all approaches have failed to narrow gaps in health outcomes between socio-economic and ethnic groups. Community-rooted and locally informed approaches to tackling health inequalities can better tackle this challenge.[103]

Opportunities for innovation: devolved governance and decision making allows for pockets of innovation to emerge, whereas centralised systems tend towards one-size-fits all approaches. Decentralisation lowers the risks associated with innovation failure and is therefore more conducive to new approaches.[104]

Join up with other public services: currently, power and responsibility for healthcare, public health and many of the wider determinants of health sit at different levels of government. Aligning responsibility at the same level may help facilitate joint working and a better informed approach to balancing trade-offs in investment.[105]

Empowering citizen participation: citizen participation in the design and delivery of health services tends to be limited. Devolving power to local authorities can help facilitate citizen participation to improve the services they interact with on a daily basis.

Responsiveness to local context: shorter, more efficient communication channels between citizens, health professionals, and decisionmakers can enable a more agile response to (an often rapidly changing) local context: for example, because it easier to convene all relevant stakeholders, and there are fewer administrative bottlenecks to decisions being made.

[103] Anthony Sumah, Leonard Baatiema, and Seye Abimbola, 'The Impacts of Decentralisation on Health-Related Equity: A Systematic Review of the Evidence', *Health Policy* 120, no. 10 (2016).
[104] OECD, *Making Decentralisation Work: Handbook for Policy-Makers*.
[105] Felicity Dormon, Hannah Butcher, and Richard Taunt, *Catalyst or Distraction: The Evolution of Devolution in the English NHS* (The Health Foundation, 2016).

4.2 Barriers to reform

While policymakers have increasingly turned towards decentralisation as a core strategy for health system reform, a number of obstacles remain to devolving responsibility and resources.

Long-term path dependency

Institutional inertia makes reform in this area difficult. The UK remains a highly centralised state – 80 per cent of tax revenue is raised centrally and only 25 per cent of public expenditure occurs locally – and moves to shift the balance of power have tended to be strongly resisted.[106] This has been particularly true in the health system, where strong cultural attachments to the 'national' element of the National Health Service have tended to justify centralisation.

Reform fatigue

Structural reforms which change the levels at which services are commissioned and delivered have been a common tool for policymakers over a long period of time. There is a significant degree of 'reform fatigue' in health systems due to the high level of resource and time commitment involved in structural change and the perception that this has not delivered meaningful improvements.

Fears of inequalities

Concerns exist that decentralised systems may exacerbate inequalities between regions. This is often expressed in the language of 'post-code lotteries', which may mean that a consistent health and care offer is not available to citizens regardless of their location.

Benefits of economies of scale

Some aspects of health system planning and delivery benefit from economies of scale. Negotiating prices for pharmaceuticals, planning the healthcare workforce, and regulating healthcare provision have all been noted as areas that benefit from a high degree of centralism. Relatedly, a major strategy for many high-income countries is to concentrate expensive, specialised care on fewer sites, and decentralisation may misallocate resource (i.e. every area may want a full range of services available locally).

[106] Anthony Breach and Stuart Bridgett, *Centralisation Nation: Britain's System of Local Government and Its Impact on the National Economy* (Centre for Cities, 2022).

4.3 Levers for change

Decentralisation can take a number of different forms and policymakers opt for different approaches depending on the outcomes they seek. Figure 3 provides a rough categorisation of different types of decentralisation.

Figure 8: Types of decentralisation

Deconcentration: the 'weakest' form of decentralisation, deconcentration involves shifting responsibilities within the same level of government. This can include moving parts of central government departments to regions outside of capital cities.

Delegation: delegation is a more extensive form of decentralisation and involves transferring decision-making and administration to semi-autonomous organisations not entirely controlled by central government, but ultimately accountable to it.

Devolution: the strongest form of decentralisation, devolution involves transferring responsibility, management and spending decisions down to more local levels of government. In some instances, devolution also involves transferring responsibility for revenue raising powers (fiscal devolution).

Source: OECD, *Making Decentralisation Work: A Handbook for Policy-Makers*, 2019

The form of decentralisation pursued by policymakers will impact on the type of mechanisms that lead to successful implementation. However, a number of enablers for successful devolution exist.

Clear delineation of roles and responsibilities between different layers of government

Successful decentralisation requires clear delineation of roles and responsibilities between different layers of government. This prevents role duplication and ensures appropriate accountability for performance.[107] Previous attempts at 'devolving' power in the English health system have often been criticised for their failure in this area.[108]

[107] OECD, *Making Decentralisation Work: Handbook for Policy-Makers*.
[108] Peckham et al., *Decentralisation, Centralisation and Devolution in Publicly Funded Health Services: Decentralisation as an Organisational Model for Health Care in England*.

Building effective co-ordination mechanisms between layers of government

Alongside delineation of roles and responsibilities, multi-level governance requires effective co-ordination mechanisms to manage mutual dependencies and any gaps that may occur between them.[109] Where some health system functions continue to sit with central government (for instance, overall system regulation or oversight), it is vital to have effective channels for local policymakers to feed in.

Developing capacity in sub-national layers of government

Systems with a long institutional history of centralism often lack functional capacity to manage or deliver services at a local level. Enhancing the capacity of sub-national layers of government is vital to successful devolution. In the case of health and care, specific capabilities in clinical commissioning, population health analysis, and provider performance management are necessary at a sub-national level.

4.4 Case Studies

4.4.1 Sweden's three tier model

Background

Figure 9: Sweden – UK system comparison

Country	Health expenditure (% of GDP)	Hospital expenditure (% of total health spending)	Specialist practitioners (% of total)	Life expectancy (Healthy life expectancy)	Infant mortality (per 1000 live births)	Preventable mortality (per 100,000)	Treatable mortality (per 100,000)	Ischemic stroke mortality rate (%)	Obesity rate (%)
United Kingdom	10.15	40.55	73.87	81.40 (70.13)	3.8	129*	75*	12.0	26.9
Sweden	10.87	38.95	51.82	83.40 (71.91)	2.0	97*	53*	9.8	12.3

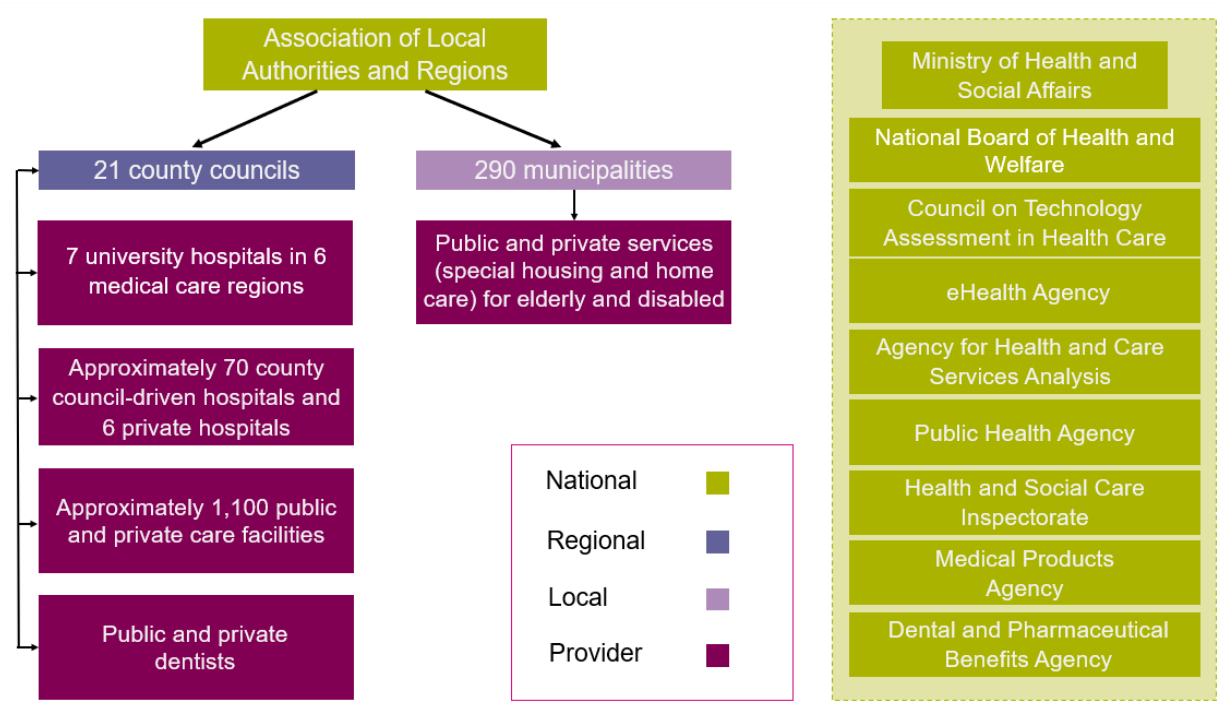
Source: As in Figure 3; *Latest OECD data for Sweden from 2018, UK figures also taken from 2018 for direct comparison

Sweden's health system is decentralised, mirroring the country's approach to governance in general. Though Sweden has a long history of local authority oversight for public service delivery, further decentralisation was a conscious policy decision taken in the 1980s.[110]

[109] OECD, *Making Decentralisation Work: Handbook for Policy-Makers*.
[110] Rose Taylor and Peter Hawkings, 'Decentralisation and Public Health: Inspiration from Sweden', *PwC*, 22 March 2017.

The system is organised into three levels – national, regional and local – which share responsibility for the health system and the provision of health and care services. Figure 10 gives a rough structural overview of the Swedish health system.

Figure 10: Stylised structure of the Swedish health system



Source: European Observatory on Health Systems and Policies, *Sweden: Health System Review*, 2019

The Swedish system is largely funded through general taxation. However, unlike in the UK, taxes are primarily raised as a sub-national level. This is aided by the fact that Swedish regions are able to levy income tax. Around 70 per cent of health funding is generated at a local level, and a central government block grant is provided to equalise resources between regions.[111]

National government through the Ministry of Health and Social Affairs is responsible for strategic oversight of health and care policies and central government agencies are responsible for functions such as health technology assessment, digital health, and healthcare inspection.[112]

Sweden's Public Health Agency has overall national responsibility for activities which promote health, prevent illness and improve preparedness for health threats. It sets

[111] Roosa Tikkanen et al., *International Health Care System Profiles: Sweden* (The Commonwealth Fund, 2020).
[112] Anders Anell, Anna Glenngard, and Sherry Merkur, *Sweden: Health System Review* (European Observatory on Health Systems and Policies, 2012).

broad national strategy in areas such as alcohol and tobacco control.[113] With the exception of addressing national level health security risks (such as pandemics), the Agency does not assist in the delivery of public health services which sit at the regional and local level.

The Public Health Agency largely serves as a coordinator and enabler of activities at the sub-national level. It is responsible for collecting and analysing data on population health, disseminating scientifically based knowledge to promote health which the county councils can draw on for their own preventive work, and monitoring the performance of counties and municipalities on key metrics.[114]

At the regional level, the 21 counties are responsible for financing and delivering health services to residents. Decisions over health services are made by the county council, an assembly elected by the county's inhabitants and by an administrative board which is tasked with ensuring that the broad objectives set by national government are met.[115] Recognising that some tertiary (specialised) services, benefit from organisation at a scale greater than that allowed for by the 21 counties, the counties have also grouped into six 'medical care regions'.[116]

The bulk of public health activity is also carried out at the county council level. County councils are responsible for monitoring the health of their populations, delivering the aims and objectives of national policy on alcohol, drugs and tobacco, and monitoring infectious diseases.[117]

Below the county level, 290 municipalities are responsible for funding and delivering more localised health services including school health services and social care for older and disabled people as well as long-term psychiatric patients. Patients who have been discharged from emergency care in geriatric hospitals are also the responsibility of the municipalities.[118] Municipalities do not have a statutory public health role, but given their statutory responsibility for many of the determinants of health such as childcare, planning, housing and social services, the municipalities play a vital role in health promotion and prevention.[119]

Connecting the municipalities and regions to central government, the Swedish Association of Local Authorities and Regions (SALAR) helps use knowledge and

[113] Tikkanen et al., *International Health Care System Profiles: Sweden*.
[114] Bo Burstrom and Anna Sagan, *Organization and Financing of Public Health Services in Europe: Sweden* (European Observatory on Health Systems and Policies, 2018).
[115] Ibid.
[116] Anell, Glenngard, and Merkur, *Sweden: Health System Review*.
[117] Burstrom and Anna Sagan, *Organization and Financing of Public Health Services in Europe: Sweden*.
[118] Ibid.
[119] Ibid.

insights generated at a sub-national level to inform policymaking. SALAR also helps to pool expertise and resources to support county councils and municipalities attempting to transform their own approach to health and care delivery.

Impacts

Sweden has a high-performing and equitable health system. It has low rates of mortality from preventable and treatable causes, low rates of avoidable hospital admissions and low levels of unmet care needs.[120] Its rates of smoking, obesity and alcohol consumption are all lower than those in the UK, and its healthy life expectancy at birth is more than a year higher.[121] As suggested above, the reasons for Sweden's superior population health are not primarily related to its model of *healthcare*. However, allowing municipalities to design services and interventions better tailored to the needs of their own populations may be a driver of success.

A number of Swedish municipalities are considered world-leading in their approach to the management and integration of chronic condition care, such as Stockholm County Council and Jönköping County Council.[122] An ability to tailor health funding and delivery to local needs allows local regions to serve as sandboxes for experimentation. SALAR plays a role in helping disseminate and replicate reforms nationally, meaning that successful transformation efforts are scaled where appropriate.

4.4.2 Spain's autonomous communities

Background

Figure 12: Spain – UK system comparison

Country	Health expenditure (% of GDP)	Hospital expenditure (% of total health spending)	Specialist practitioners (% of total)	Life expectancy (Healthy life expectancy)	Infant mortality (per 1000 live births)	Preventable mortality (per 100,000)	Treatable mortality (per 100,000)	Ischemic stroke mortality rate (%)	Obesity rate (%)
United Kingdom	10.15	40.55	73.87	81.40 (70.13)	3.8	123	71	12.0	26.9
Spain	9.13	44.18	54.34	83.22 (72.09)	2.7	92	52	10.1	16.7

Source: See Figure 3

[120] OECD and European Observatory on Health Systems and Policies, *State of Health in the EU: Sweden Country Health Profile 2021*, 2021.
[121] OECD, *Health at a Glance: Europe 2020*, 2020.
[122] Bradford Gray, Ulrika Winblad, and Dana Sarnak, *Sweden's Esther Model: Improving Care for Elderly Patients with Complex Needs* (The Commonwealth Fund, 2016).

Spain has a comprehensive, universal national health system – the *Sistema Nacional de Salud* (SNS) – which offers care largely free at the point of use (excepting outpatient pharmaceutical prescriptions and specific orthotic and prosthetic procedures which are subject to small co-payments).[123]

Since the end of the dictatorship in 1978, responsibility for public service delivery in Spain has progressively been devolved to the country's 17 regions (autonomous communities). In the case of health, this process was completed in 2002. Spain's regional governments are responsible for the majority of healthcare and more localised municipalities are responsible for social care.[124] Spain's 17 regions vary in size from approximately 300,000 to over 8 million. Devolved Spanish regions take different approaches to providing healthcare.[125] These include varying degrees of private sector involvement and varied approaches to health and social care integration.[126]

Spain's central government is responsible for general oversight of the health system. This consists of legislating for national minimum care entitlements, regulating pharmaceuticals and raising and distributing most health funding. This funding is allocated to the regions via a formula.[127] Regions are also able to use locally-levied taxes to fund care.

The health systems of Spain's autonomous communities are represented in central government by the Interterritorial Council of the Spanish Health Service. The Interterritorial Council feeds into national policymaking and ensures that standards of care are consistent across Spain's regions.[128]

Since the financial crisis, national bodies have re-asserted a higher degree of control in order to constrain public spending.[129] Acknowledging that health over-spend was a key driver of regional debt, the Spanish government passed laws in 2012 to cap the amount that autonomous communities could spend on healthcare. The laws also allow central rather than regional governments to define the package of health benefits available to patients.[130] Access to additional central government grants during the financial crisis was made contingent on autonomous countries decreasing their total expenditure on health.[131]

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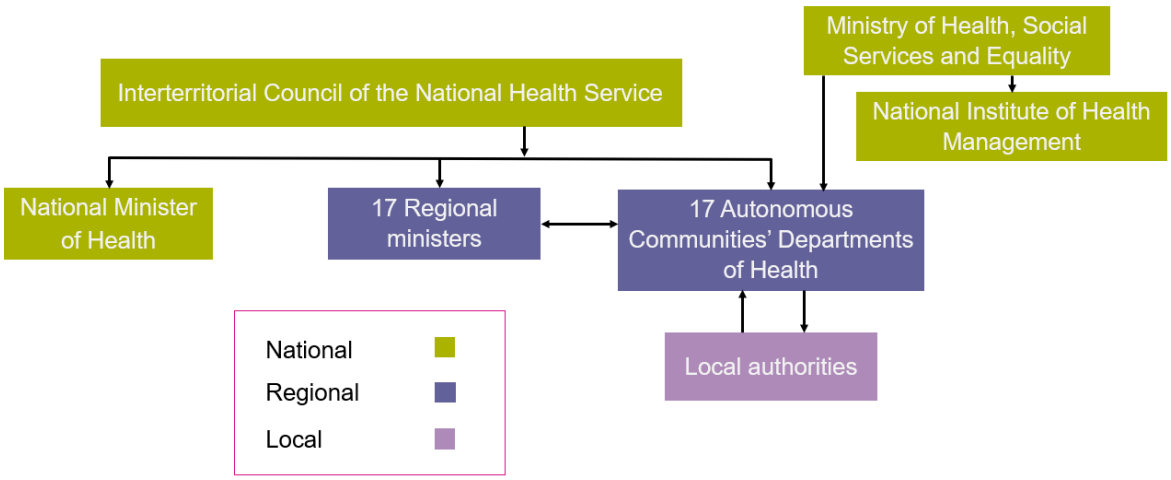
[123] Enrique Bernal-Delgado et al., *Spain: Health System Review* (European Observatory on Health Systems and Policies, 2018).
[124] Dormon, Butcher, and Taunt, *Catalyst or Distraction: The Evolution of Devolution in the English NHS*.
[125] Ibid.
[126] Ibid.
[127] Ibid.
[128] Government of Spain, *National Health System Spain*, 2008.
[129] Bernal-Delgado et al., *Spain: Health System Review*.
[130] Ibid.
[131] Ibid.

Figure 13: Stylised structure of the Spanish health system



Source: Enrique Bernal-Delgado et al., *Spain: Health System Review* (European Observatory on Health Systems and Policies, 2018).

Impacts

Spain has a high-performing public health system. Despite allocating a smaller share of national expenditure to health than the UK, Spain has the highest life expectancy in Europe[132] and healthy life expectancy in Spain is two years greater than in the UK.[133] Spain is able to achieve clinical outcomes (such as treatable mortality, 30 day survival rates for heart attack and stroke) which outperform or are level with those attained in countries with significantly higher health spending per capita (such as France and Germany).[134]

Drawing out the specific impacts of decentralisation on health outcomes is difficult, but in general, evaluation has found that decentralisation has been associated with positive health outcomes in Spain and has stimulated greater policy innovation in health than is the case in more centralised countries.[135]

A recent study focused on two core health indicators, infant and neonatal mortality rates, and found that Spanish regions subject to both fiscal and political decentralisation saw substantial reductions in the deaths of children under one year

[132] Bernal-Delgado et al., *Spain: Health System Review*.
[133] World Health Organization, *Healthy Life Expectancy (HALE) at Birth (Years)*, 2020.
[134] Pablo Avanzas, Isaac Pascual, and Cesar Morris, 'The Great Challenge of the Public Health System in Spain', *Journal of Thoracic Disease* 9, no. 6 (May 2017): 430–33.
[135] Dolorez Jimenez-Rubio and Pilar Garcia-Gomez, 'Decentralization of Health Care Systems and Health Outcomes: Evidence from a Natural Experiment', *Social Science & Medicine* 188 (September 2017): 69–81.

and one month of age.[136] The study also found that regions with fiscal and political powers over health were more successful at shifting the balance of care towards primary care – the number of GPs per 100,000 population grew at a far faster rate in these regions than the national average.[137]

The effect of health decentralisation on inequalities is mixed. Some studies find that decentralisation has helped close inequalities in health and long-term care between regions in Spain,[138] whilst others have found that decentralisation has not led to a decrease in inequalities (though they have not found any exacerbation of inequalities due to decentralisation).[139]

4.4.3 Finland's hyper-local model

Background

Figure 15: Finland – UK system comparison

Country	Health expenditure (% of GDP)	Hospital expenditure (% of total health spending)	Specialist practitioners (% of total)	Life expectancy (Healthy life expectancy)	Infant mortality (per 1000 live births)	Preventable mortality (per 100,000)	Treatable mortality (per 100,000)	Ischemic stroke mortality rate (%)	Obesity rate (%)
United Kingdom	10.15	40.55	73.87	81.40 (70.13)	3.8	123	71	12.0	26.9
Finland	9.15	37.24	-	81.61 (71.00)	1.9	125	56	9.2	24.8

Source: See Figure 3

Finland has one of the world's most decentralised health systems. Like Spain and Sweden, decentralisation was actively pursued as a strategy to improve health outcomes. Under the terms of the 1972 Primary Health Care Act, local municipalities were given oversight over most health and care provision.[140] Healthcare is devolved to 317 local municipalities ranging in population size from 100 to over 600,000 people. In order to realise the benefits of economies of scale, Finnish municipalities are compulsorily part of 'hospital districts' which coordinate acute and specialist

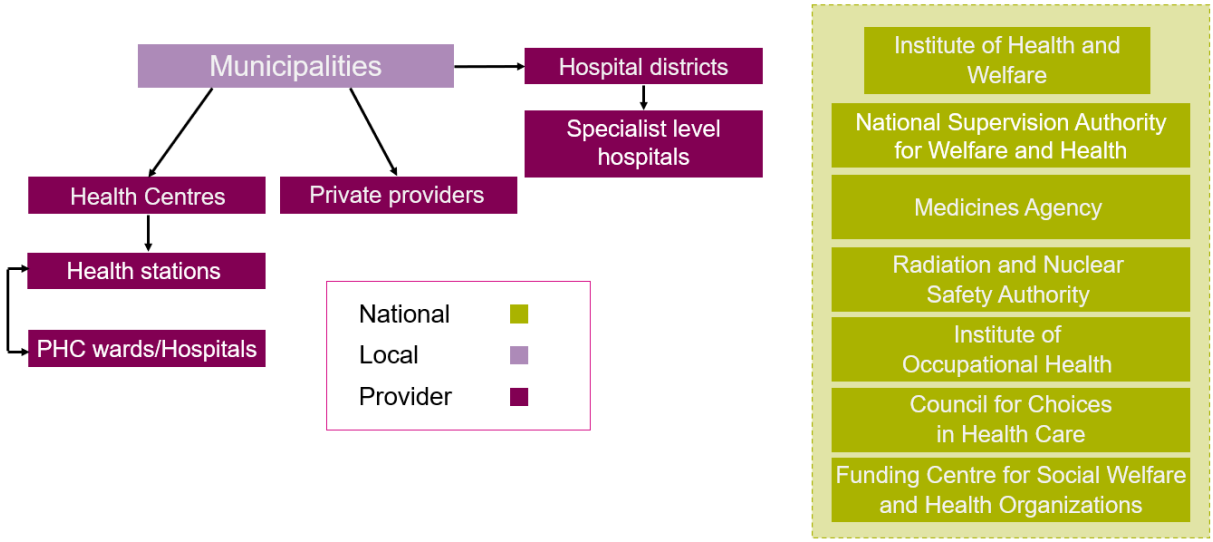
[136] Dolorez Jimenez-Rubio and Pilar Garcia-Gomez.
[137] Ibid.
[138] Joan Costa-Font, 'Does Devolution Lead to Regional Inequalities in Welfare Activity?', *Environment and Planning C: Government and Policy* 28, no. 3 (2010): 435–49.
[139] Joan Costa-Font and Joan Gil, 'Exploring the Pathways of Inequality in Health, Health Care Access and Financing in Decentralized Spain', *Journal of European Social Policy* 19, no. 5 (November 2009): 446–58.
[140] Ilmo Keskimaki et al., *Finland: Health System Review* (European Observatory on Health Systems and Policies, 2019).

healthcare. Some smaller municipalities also pool resources on a voluntary basis to provide primary care and social services.[141]

The majority of health funding comes from taxes levied at a local level. Municipalities are relatively free to set taxes at the levels they see fit and devote a locally determined level of their budgets to health and care. There is a small degree of national equalisation of municipality budgets, but there are significant disparities between resources available in different areas.[142]

Finland's national government has relatively few powers to direct the health system, but does play some role in shaping key strategies and priorities. For instance, national strategies on obesity and alcohol consumption (two major population health risks in the country) have been set out in the last decade.[143] However, in the last two decades, there has been more centralised involvement in healthcare with the national government setting standards and entitlements (such as maximum rates of user charge).

Figure 16: Stylised structure of the Finnish health system



Source: European Observatory on Health Systems and Policies, *Finland: Health System Review*, 2019

Impacts

Finland's health system is relatively high performing. Life expectancy and healthy life expectancy rates exceed the European average, and life expectancy in Finland has increased at a faster rate than the EU average, due in part to significant improvements

[141] Hanna Tiirinki et al., 'Integrating Health and Social Services in Finland: Regional Approaches and Governance Models', *International Journal of Integrated Care* 22, no. 3 (2022): 1–11.
[142] Dormon, Butcher, and Taunt, *Catalyst or Distraction: The Evolution of Devolution in the English NHS*.
[143] Keskimaki et al., *Finland: Health System Review*.

in care services for those living with chronic conditions.[144] Finland compares favourably to most European nations on metrics of healthcare quality such as treatable mortality, and 30 day survival rates after strokes and heart attacks, despite spending less than its Nordic neighbours and most EU member states.[145]

However, major health challenges continue to affect the country. In the first instance, Finland performs poorly on a number of population health indicators – rates of obesity and smoking are higher than in comparable countries.[146] Inequalities in morbidity and mortality are also widespread. Resource equalisation between municipalities is limited and therefore wealthier regions (mostly in the country's South) tend to have significantly more resources available to spend on health and care than those in the centre and north.[147] This stands in contrast to Finland's decentralised neighbours, Sweden and Norway,[148] where central government takes a more active approach to resource equalisation between regions.[149]

Despite Finland's decentralised structure allowing for far more local autonomy in health policymaking, the small populations covered by local municipalities may act as a barrier to optimising health and care service delivery. Municipalities are often unable to take advantage of some of the 'low hanging' economies of scale afforded by a larger structure. On this basis, the Finnish government now provides financial incentives to encourage municipalities to voluntarily merge.[150]

For this reason, Finland has recently announced its largest ever health reform programme. 21 larger 'welfare counties' will be responsible for health and care provision with municipalities retaining responsibility for public health.[151] On average, these welfare counties contain populations of around 200,000 people, a far smaller number than those covered by newly formed Integrated Care Systems in England (1.5 million people on average). Indicative of the scale of 'local' government in England, though, these counties will still have smaller populations than an average London borough. The effect of this reform initiative may nonetheless provide crucial evidence on the optimal balance between achieving greater economies of scale and enabling more localised control.

[144] OECD, *State of Health in the EU: Finland*, 2021.
[145] Keskimaki et al., *Finland: Health System Review*.
[146] Ibid.
[147] Ibid.
[148] Anell, Glenngard, and Merkur, *Sweden: Health System Review*.
[149] Ingrid Sperre Saunes, Marina Karanikolos, and Anna Sagan, *Norway: Health System Review* (European Observatory on Health Systems and Policies, 2020).
[150] OECD, *Reforming Fiscal Federalism and Local Government: Beyond the Zero-Sum Game*, 2012.
[151] Olli Kangas and Laura Kalliomaa-Puha, *Finland Finalises Its Largest-Ever Social and Healthcare Reform* (European Commission, 2022).

4.5 Conclusion

Historically, moves to shift power and responsibility in England's health and care system have been strongly resisted historically. Though efforts have been made to 'deconcentrate' or 'delegate' functions to regional and local tiers, opposition to devolving financial and delivery responsibility to local authorities has meant this has not been attempted.[152]

The variety of approaches taken by various countries in decentralising their health systems – for example, through reforms to governance, accountability and provider organisation – makes the specific outcomes of health decentralisation difficult to evaluate. However, the three case studies outlined above demonstrate that decentralised health systems can successfully provide high-quality care on a universal basis while better matching provision and resource to local need.

Decentralisation would mark a significant rupture with past patterns of British health policy and therefore policymakers would need to think carefully about system redesign. The case studies suggest that smart, strategic central functions to regulate and monitor overall system performance, building capacity in regional and local authorities, and joining up the national and the local through effective governance mechanisms is vital for system success. The examples, particularly the Finnish case, also suggests that there could be a minimum scale of organisation needed for health services to be delivered efficiently, and that appropriate population footprints should be considered in undertaking reforms to decentralise healthcare systems.

[152] Phoebe Dunn et al., *Integrated Care Systems: What Do They Look Like?* (The Health Foundation, 2022).

5. The delivery challenge

5.1 Background

Preventing ill health and focusing on health creation is a vital agenda for all health systems. Evaluation of health systems must focus first and foremost on their ability to generate health, not just treat illness.

Nonetheless, health systems must also be able to provide accessible, high-quality care to patients when they require it. Improving our healthcare delivery system to ensure accessibility and drive up performance is therefore a crucial focus of reform efforts.

All high-income health systems face a similar healthcare delivery challenge: how to transform their models of care to meet the needs of an ageing population living with a range of co-morbid conditions. Almost all recognise that meeting this challenge will require shifting away from hospital-dominated systems and rebalancing investment in primary and community care; modelling workforce requirements around holistic generalist care rather than medical specialism; and increasing patients' engagement with their own care.[153]

Indeed, these are all key ambitions of the NHS' Long Term Plan which pledges to build a "new service model for the 21st century" underpinned by boosting out of hospital care and putting people "in control over their own health".[154]

In *Reimagining Health: A framing paper, Reform* emphasised key priorities for the future of healthcare delivery:

- Shifting the front door to healthcare in order to improve access and provide holistic support outside of conventional care settings;
- Moving significant portions of care out of hospitals and into community settings; and
- Pursuing transformative models of health co-creation between patients and providers.

This chapter draws on international evidence in each of these areas to consider possible avenues for the English health system.

[153] OECD, *Realising the Potential of Primary Health Care*, 2020.
[154] NHS England, *NHS Long Term Plan*.

5.2 Barriers to reform

Comprehensive health delivery reform is difficult to achieve. Challenging conventional 'clinical wisdom', shifting resources out of hospitals and into primary and community care, and moving beyond hierarchical 'doctor-patient' relationships all meet powerful opposition. This opposition can be divided into three broad categories – opposition from the healthcare workforce, opposition from patients, and opposition from system administrators.

Clinical resistance

Attempts to transform the delivery of healthcare require professionals to embrace changes in the way they work.[155] For instance, reform focused on smoothing the boundary between primary and secondary care may require specialists to work in community settings, efforts to improve efficiency may necessitate clinicians playing a more active role in resource management and attempts to digitally transform services may compel healthcare staff to develop new skills in data recording and management.

Clinical input and advocacy can be a crucial enabler of service transformation. In recent years, for instance, clinicians and their representative bodies have been keen advocates of integration and breaking down barriers between primary, secondary, and social care.[156] However, clinical resistance can also prove a powerful barrier to change.

A clash of interests often defines attempts to shift healthcare delivery. Clinicians see their primary task as delivering high-quality patient care within their area of specialism and upholding their professional status whilst policymakers and healthcare managers are necessarily concerned with other imperatives – effective stewardship of finite resources, and improving quality across the board rather than in single patient pathways.[157]

Clinicians may oppose changes to healthcare delivery for self-interested reasons – they may require staff to take on more responsibility, work in ways which they are not comfortable with, or in settings which are unfamiliar.[158] Often clinicians are supported by a powerful network of professional bodies such as medical colleges and trade organisations, able to mount major campaigns against change. For instance, following

[155] Pieter Degeling et al., 'Medicine, Management, and Modernisation: A "Danse Macabre"?', *British Medical Journal* 326, no. 7390 (22 March 2003): 649–52.
[156] See for instance: Academy of Medical Royal Colleges, *Integrating Care — Next Steps to Building Strong and Effective Integrated Care Systems across England*, 2021.
[157] Peter Spurgeon, John Clark, and Chris Ham, *Medical Leadership: From the Dark Side to Centre Stage* (London: CRC Press, 2016).
[158] Per Nilsen et al., 'Characteristics of Successful Changes in Health Care Organizations: An Interview Study with Physicians, Registered Nurses and Assistant Nurses', *BMC Health Services Research* 20, no. 147 (27 February 2020): 1–8.

the announced roll out of polyclinics in England,[159] the British Medical Association launched a public campaign to oppose the move citing concerns around continuity in patient-doctor relationships and access to care.[160]

Public attitudes

The public often exhibit a strong 'status quo' bias and have significant loss aversion when it comes to transforming the delivery of care. This has been true internationally in the case of shifting care out of hospitals and into community settings, particularly where this requires the closure or rationalisation of existing facilities.[161] While in principle, the public may welcome having care delivered closer to home, attempts to close hospitals or move services are met with significant hostility. Public opinion translates into strong political pressure to defend existing services – politicians know that they are more likely to be punished at the ballot box for changing existing delivery than rewarded for promising transformation.[162]

Patients currently in receipt of care often exhibit a particularly strong aversion to delivery reform. Delivery reform may be seen as disruptive to the provision of consistent, quality care. Just as professional bodies marshal resistance to change, patient groups often serve as powerful opponents of reform to delivery, even where it may provide long-term benefits.

Short-term bias of funders

Healthcare delivery reform often requires significant upfront investment. For instance, efforts to digitise patient records, enhance the healthcare estate, or develop or transform the healthcare workforce necessitate a long-term approach to investment.[163]

However, the fiscal and organisational pressures facing health systems often leave little room for the kind of resource commitment required for transformation. This may be an especially significant challenge in tax-funded, politically administered health systems where voters reward meeting demand in the short-term over long-term investment.[164]

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[159] Health centres which would offer extended urgent care, mental health services and social care, in community settings.

[160] Zosia Kmietowicz, 'Polyclinics Are Not the Answer for NHS in London, Says BMA', 335, no. 7622 (October 2007).

[161] Ieva Sriubaite, 'Who Will Be the Mediator? Local Politics and Hospital Closures in Germany', *Ruhr Economic Papers* 897 (2021).

[162] Timmins N. Hospital closures: the great taboo. BMJ. 2007 Sep 15;335(7619):535.

[163] Amitabh Chandra and Dana Goldman, 'Understanding Health Care's Short-Termism Problem', *Harvard Business Review*, 28 September 2015.

[164] Health Consumer Powerhouse, *Euro Health Consumer Index*, 2018.

5.3 Levers for change

Though transformations in care delivery tend to face significant resistance, there are a number of strategies that can help overcome this challenge.

Securing clinician buy-in

Successful efforts at delivery transformation tend to involve a high level of buy in from clinical staff.[165] Some reform efforts involve actively involving clinicians to identify inefficient or harmful practices and redesigning services to remove them. Where staff feel like they have been brought into the process early on and are empowered in transformation plans rather than recipients of direction, delivery reform is more likely to succeed. Similarly, change which is well communicated and explained to clinical staff is more likely to be accepted than reform efforts that appear to be imposed from above with little consultation.

In some instances, securing buy-in is not possible and more direct incentives must be offered – the apposite example in the British context may be "stuffing the doctors' mouths with gold" to secure clinical support for the emergent NHS.[166]

Building public support

Efforts at delivery reform are often seen as technocratic, manager-led exercises. However, as outlined above, public opposition to change is a key barrier to transformation. For this reason, involving the public throughout the transformation process and communicating the value of change directly is vital. Further, it is crucial to connect changes in delivery to improved patient experience rather than cost reduction (regardless of whether this is a key reform ambition).

Dedicated transformation funding

As in other complex systems, the healthcare sector must juggle the short-term imperative to meet high levels of existing need with long-term ambitions for system transformation. Given that the first of these demands tends to crowd out the second, earmarking specific resources for transformation can be a vital mechanism for driving change. This could include dedicated transformation funding, but also human resources to plan and manage transition processes.

[165] Nilsen et al., 'Characteristics of Successful Changes in Health Care Organizations: An Interview Study with Physicians, Registered Nurses and Assistant Nurses'.
[166] Mark S. MacGregor, 'Are Consultants' Mouths Still Stuffed with Gold?', *BMJ* 351, no. 4509 (October 2015).

5.4 Case studies

5.4.1 Putting primary and community care in the driving seat in Israel

Background

Figure 18: Israel – UK system comparison

Country	Health expenditure (% of GDP)	Hospital expenditure (% of total health spending)	Specialist practitioners (% of total)	Life expectancy (Healthy life expectancy)	Infant mortality (per 1000 live births)	Preventable mortality (per 100,000)	Treatable mortality (per 100,000)	Ischemic stroke mortality rate (%)	Obesity rate (%)
United Kingdom	10.15	40.55	73.87	81.40 (70.13)	3.8	123	71	12.0	26.9
Israel	7.46	35.90	67.08	82.62 (72.38)	2.8	72	61	8.3	17.8

Source: See Figure 3

Israel has an insurance based national health system. All Israelis are required to be a member of one of four competing non-profit health plans known as 'health maintenance organisations' (HMOs).[168] These HMOs provide a state mandated benefit package which includes hospital, primary, speciality and mental healthcare.

HMOs receive funding on a weighted capitation basis. The government distributes funds to HMOs according to a formula that takes into account the number of members in each plan, their age mix, gender, and place of residence in the country.[169]

Each HMO organises primary care delivery in different ways. Clalit, the largest health plan provides most primary care in clinics that it owns and operates itself, and GPs are salaried employees. Clinics are made up of multidisciplinary teams of three to six GPs, several nurses, pharmacists and other healthcare professionals. The other plans, Maccabi, Meuhedet and Leumit, rely on a mix of multidisciplinary clinics and independent primary care practices.

Alongside comprehensive primary care, a significant proportion of specialty care in Israel is also provided in community settings. Many surgical and diagnostic procedures, specialist follow-up care, and complex chronic care management takes place in integrated multi-specialty clinics provided by the health plans. Though after-

[167] Mark Britnell, *In Search of the Perfect Health System*, 2016.
[168] Roosa Tikkanen et al., *International Health Care System Profiles: Israel* (The Commonwealth Fund, 2020).
[169] Bruce Rosen, Ruth Waitzberg, and Sherry Merkur, *Israel: Health System Review* (European Observatory on Health Systems and Policies, 2015).

hours care is available in hospital emergency departments, HMOs commission freestanding walk-in urgent care centres and national advice lines for their members.

Impact

Israel has a remarkably high-performing health system despite lower levels of health expenditure than the UK, and lower staff and bed numbers than many comparable countries.[170] Israel has the eighth highest life expectancy and the lowest rate of preventable mortality in the OECD.[171]

The fact that Israel's population is much younger than the majority of other OECD countries, with only 12.2 per cent aged 65 and over (only four countries have a lower proportion), is an important factor in its performance on measures of population health and overall expenditure.[172] For comparison, nearly a fifth of the UK population (18.83 per cent) is aged 65 and over – higher than the OECD average.[173] However, Israel's significantly better performance on treatable mortality is a direct measure of health system performance.

Access to primary care services is regarded as excellent and the HMOs, which are responsible for planning and delivering almost all primary care, are widely popular amongst the public. Indeed in 2018, 90 per cent of Israelis reported being satisfied with their health plan.[174]

Levers for change

Centralised control of hospital resources and expenditure

In order to prevent the expansion of the hospital sector, tight controls over hospital resource expenditure and resources exist. There are rigorous controls on key inputs such as hospital beds and expensive medical equipment and caps on physician and nurse positions in hospitals.[175] The government also sets maximum reimbursement rates and global revenue caps on hospitals. Controlling hospital expenditure frees resources to invest in comprehensive primary and community services.

Data-led accountability in primary care

[170] Rosen, Waitzberg, and Merkur.
[171] Ibid.
[172] OECD, *Elderly Population (Total, % of Population)*, 2021.
[173] Ibid.
[174] Dalia Dreiher et al., 'National Initiatives to Promote Quality of Care and Patient Safety: Achievements to Date and Challenges Ahead', *Israel Journal of Health Policy Research* 9, no. 62 (November 2020): 1–16.
[175] Jack Zwanziger and Shuli Brammli-Greenberg, 'Strong Government Influence Over The Israeli Health Care System Has Led To Low Rates Of Spending Growth', *Health Affairs* 30, no. 9 (September 2011): 1779–85.

In many health systems, monitoring of performance in primary care is more limited than in secondary care.[176] However, Israel's Quality Indicators in Community Healthcare (QICH) programme provides a sophisticated system to monitor quality and access in out-of-hospital care provided by the HMOs. QICH collects data on 50 primary care quality indicators which encompass both care processes and intermediate and long-term outcomes.[177]

This comprehensive data has an internal function for HMOs. Internal data on performance in particular regions, clinics and even at the individual physician level provides a high degree of internal accountability and helps HMOs design targeted improvement programmes.[178] Since 2014, this data has also been made public, providing a higher degree of accountability to patients themselves. Patients can use data on the quality of care available locally to make decisions about their choice of health plans, giving incentives to lower performing plans to improve provision.[179]

Comprehensive, personalised care records

Israel has highly developed, personal electronic health records (HER). These link health data collected about patients from all community-based providers: primary care doctors, community-based specialists, medical laboratories and pharmacies. Each citizen has a unique patient ID and can book appointments and access many components of their EHR online. More recent developments allow patients to contact their primary care physician directly using secure messaging systems.[180]

Effective workforce development and deployment

The primary care workforce in Israel stands out as having made substantive reforms to get ahead of the challenge of an ageing population, the changing disease burden, and cost pressures driven in part by the increasing specialisation of hospital doctors.

In the first instance, physicians in Israel tend to work as part of multi-disciplinary teams in a community setting.[181] This allows for more effective join-up of care around the needs of patients.

Secondly, Israeli nurses play a particularly active role in primary care settings. Nurses are responsible for the majority of preventive care, health counselling, case triaging and home care management. Nurses are also the primary staff group responsible for

[176] Dena H. Jaffe et al., 'Community Healthcare in Israel: Quality Indicators 2007-2009', *Israel Journal of Health Policy Research* 1, no. 3 (January 2012): 1–10.
[177] Rosen, Waitzberg, and Merkur, *Israel: Health System Review*.
[178] Ibid.
[179] Tikkanen et al., *International Health Care System Profiles: Israel*.
[180] Ibid.
[181] OECD, *OECD Reviews of Health Care Quality: Israel 2012: Raising Standards.*, 2012.

24-hour HMO call centres. Nurses provide clinical guidance to patients on how to respond to various illnesses and symptoms and how to get support out of hours.[182]

Aligned financial incentives

Most hospitals in Israel are not owned by HMOs but are reimbursed by them for delivering care. Given hospital care is far more expensive than providing comprehensive and effective care in primary and community settings, HMOs are incentivised to invest resources upstream.[183]

For the same reason, beginning in 2018, there has been an expansion in the use of home hospitalisation by HMOs, as a cost-reducing and clinically beneficial alternative to treating patients in internal wards. Analysis published this year estimates that the cost of home hospitalisation in Israel is less than half that of inpatient hospitalisation.[184]

As with conventional hospital care, those hospitalised at home are (virtually) monitored 24 hours a day, receive all necessary medication (including intravenous medication), and are visited at least daily by a doctor or nurse.[185] Yet patients are much less likely to acquire infections (making home hospitalisation comparatively safer while reducing the costs associated with clinical complications); report greater satisfaction with care; and recover much faster, on average, than in standard hospitals.[186]

On this basis, the Ministry of Health now also provides specific financial incentives for HMOs to develop their capacity to support home hospitalisation.[187]

Additionally, at an individual level, Israel structures health payments to incentivise patients to utilise primary and community care. Whilst visits for specialist care attract a small co-payment, primary care and GP visits are free of charge.

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[182] Rosen, Waitzberg, and Merkur, *Israel: Health System Review*.
[183] Ibid.
[184] Iris Megido, Yael Sela, and Keren Grinberg, 'Cost Effectiveness of Home Care versus Hospital Care: A Retrospective Analysis', *Cost Effectiveness and Resource Allocation* 21, no. 13 (February 2023): 1–8.
[185] Ronny Linder, 'Home Hospitalization May Be Solution to Israel's Increasingly Crowded Hospitals', *Haaretz*, 22 March 2019.
[186] Iris Megido, Avichai Soudri, and Adriana Prodan, 'Management of Community-Based Home Hospitalization (CBHH) in Israeli Public Health System', *International Journal of Comparative Management* 20, no. 5 (December 2019): 544–56.
[187] Ibid.

5.4.2 Putting patients at the heart of care in Alaska

Background

Putting patients and citizens at the heart of health systems is a key cross-national policy focus.[188] Traditionally, health systems have been organised around the interests of health providers who have determined what services to offer and how they are delivered.

But there is increasing recognition that to generate better outcomes, increase care quality and lower costs, patients must not be viewed as passive recipients of care but as active producers of health. In turn, patients themselves increasingly demand a greater say in where, how and by who care is delivered and how services are designed.[189]

Numerous policy prescriptions have been trialled both in the UK and internationally to embed person-centric care. These include promoting provider choice for patients, training medical students in holistic and culturally sensitive care, and developing comprehensive patient records to help smooth care pathways. Yet overall, as the OECD suggests, "no country delivers strong person-centred care across all policy areas and significant challenges remain to putting people not providers at the heart of healthcare." An innovative care system in Alaska may provide answers on how to truly 'reimagine' care around patient needs and preferences.

Southcentral Foundation (SCF) is a non-profit healthcare organisation serving more than 60,000 Alaska Native and American Indian people in Southcentral Alaska. Health services for Alaska Native People were traditionally provided by a federal agency, the Indian Health Service (IHS). The IHS was a large, bureaucratic system centrally controlled from Washington DC.

By the late 1990s, the health system for Alaska Native people was in crisis – waiting times, patient satisfaction and healthcare outcomes were among the worst in the USA. The failing service was taken over by an Alaska Native owned non-profit, Southcentral Foundation. In 1998, SCF took on control of the management of primary care, but by 1999 had taken control of the entire care pathway including hospital provision.[190] From this point, SCF had a single budget and responsibility to provide care for the entire local population.[191]

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[188] OECD, Health for the people, by the people (2021)

[189] Ellen Nolte, Sherry Merkur, and Anders Anell, *Achieving Person- Health Systems: Evidence, Strategies and Challenges*, 2020.

[190] Southcentral Foundation, 'History', Webpage, 6 August 2020.

[191] Ben Collins, *Intentional Whole Health System Redesign: Southcentral Foundation's 'Nuka' System of Care* (The King's Fund, 2015).

The foundation set out to achieve "whole-system transformation" of healthcare.[192] By engaging users of SCF services in the process of system redesign, leadership hoped that care could be transformed to meet the needs, values and priorities of the Alaska Native community.

The model developed by SCF, the so-called 'Nuka system', involved a significant reallocation of resources into primary care. GPs, nurses, and mental health practitioners were brought together in multidisciplinary primary care teams, responsible for delivering the vast majority of care. Specialist clinics were closed down and specialists brought into primary care teams when needed.[193] Service users adopted the label of "customer owners" rather than patients, recognising that as customers they were entitled to standards of care that reflected their preference, but that as owners, they were also responsible for ensuring that they remained responsible for the success of the reform effort.[194]

Impact

SCF's success in transforming health outcomes and care quality is remarkable. Despite serving one of America's most deprived communities, Southcentral Foundation consistently ranks among the country's highest performers in regard to care access and outcomes and cost-effectiveness.

Between 2000 and 2017, Southcentral Foundation recorded a 40 per cent drop in emergency department visits and a 36 per cent drop in hospital admissions.[195] By the end of that period, user satisfaction had reached 97 per cent and employee satisfaction was at 95 per cent.[196]

Levers for change

Community led system re-design

When SCF took control of healthcare services in the late 1990s, leaders set to work consulting community members on how they wanted care designed. SCF carried out

[192] Katherine Gottlieb, Ileen Sylvester, and Douglas Eby, 'Transforming Your Practice: What Matters Most', *Family Practice Management*, January 2008.
[193] Collins, *Intentional Whole Health System Redesign: Southcentral Foundation's 'Nuka' System of Care*.
[194] Katherine Gottlieb, 'The Nuka System of Care: Improving Health through Ownership and Relationships', *International Journal of Circumpolar Health* 72, no. 21118 (August 2013): 1–6.
[195] Robin Routledge, 'Integrating Specialty Care into Primary Care: The Nuka Approach', *BC Medical Journal* 62, no. 1 (January 2020).
[196] Ibid.

extensive community surveys, engagement with existing staff, and focus group and one-to-one discussions with over 1,000 service users.[197]

Significant emphasis was placed on continuity of care, noting a preference to develop a relationship with a single doctor or small primary care team rather than seeing different professionals every time.[198] Given the poor history of state-provided care for Alaska Native people, users also stressed the need for services to be culturally sensitive and accessible in a range of settings beyond health clinics. SCF leaders used the consultation to draft a set of "requirements for an ideal health system". These requirements were converted into a series of 13 operating principles (R-E-L-A-T-I-O-N-S-H-I-P-S).[199]

Figure 20: SCF operating principles

Relationships between the customer-owner, their family and provider must be fostered and supported.
Emphasis on wellness of the whole person, family and community including physical, mental, emotional and spiritual wellness.
Locations that are convenient for the customer-owner and create minimal stops for the customer-owner.
Access is optimised and waiting times are limited.
Together with the customer-owner as an active partner.
Intentional whole system design to maximise coordination and minimise duplication.
Outcome and process measures to continuously evaluate and improve.
Not complicated but simple and easy to use.
Services are financially sustainable and viable.
Hub of the system is the family.
Interests of the customer-owner drive the system to determine what we do and how we do it.
Population-based systems and services.
Service and systems build on the strengths of Alaska Native cultures.

Source: Ben Collins, *Intentional Whole Health System Redesign: Southcentral Foundation's 'Nuka' System of Care* (The King's Fund, 2015).

These operating principles were used to inform the design of services based on generalist, multidisciplinary teamwork and community-outreach and social support. Professional development and training to offer culturally appropriate care and

[197] Collins, *Intentional Whole Health System Redesign: Southcentral Foundation's 'Nuka' System of Care*.
[198] Ibid.
[199] Gottlieb, 'The Nuka System of Care: Improving Health through Ownership and Relationships'.

empowerment of community leaders to take on leadership roles further underpinned the future delivery model.[200]

Continuous improvement

Sustained engagement with community members helped inform initial service design in Alaska. However, engagement with communities did not end after this initial stage of development. A culture of continuous improvement based on sustained feedback from service users is key to the success of the Nuka model. SCF investigated how companies such as Disney and Ritz Carlton collected customer feedback and measured satisfaction. It has developed more than a dozen methods for gaining regular feedback from service users, from submitting feedback or raising concerns via a central online portal, to carrying out online satisfaction surveys after every visit to a primary clinic, and carrying out focus groups with users with specific conditions.[201]

The results of feedback exercises are captured in SCF's recording system and improvement staff feed comments to the leadership team to inform future system design.

5.4.3 Reimagining the front door in Brazil

Background

When it comes to providing comprehensive and high-value health services within tight fiscal envelopes, much can be learnt from low and middle-income countries. As researchers at Imperial College London note, LMICs are often key sources of "frugal healthcare innovations – whether technologies, process, or models – that do more, for less, for many".[202]

Rather than imitate the approach of high-income countries, which as this paper has made clear, tend to centre on expensive acute dominated models of care, many LMICs have sought to contain costs and improve outcomes by focusing on primary and community care. Brazil's health system provides an informative example of this approach.

[200] Gottlieb.

[201] Collins, *Intentional Whole Health System Redesign: Southcentral Foundation's 'Nuka' System of Care*.

[202] Mark Skopec, Hamdi Issa, Matthew Harris, 'Delivering cost effective healthcare through reverse innovation', *BMJ* (November 2019)

Community Health Workers (CHW) form the frontline of Brazil's primary care-oriented health system and are the linchpin of the country's Family Health Strategy.[203] The CHW model was first trialled in the country's rural Northeast in the mid-1990s in response to a devastating cholera epidemic. It has since been scaled nationally and now serves over 70 per cent of the population.[204] Individuals from a neighbourhood are recruited and trained for a period of three months to understand a range of health issues and deliver basic care.[205] CHWs are assigned to serve a population of approximately 100-150 households in their area and visit each household once every month, regardless of expressed need or demand.[206]

The CHWs have a range of care responsibilities from supporting chronic condition management to carrying out routine immunisation. CHWs also play an important public health role, providing advice on matters such as sexual health and early childhood development.[207]

Impact

Figure 21: Reduction in infant and neonatal mortality after introduction of CHW programme

Country	Number of Community Health Workers (per 10,000)			Infant mortality rate (per 1000 live births)			Neonatal mortality rate (per 1000 live births)		
	2000	2019	% Change	2000	2019	% Change	2000	2019	% Change
Brazil	4.63	12.63	127.79	34.3	13.8	-59.77	20.4	9.3	-54.40

Source: See Figure 3; Also, Exemplars in Global health, *Community Health Workers in Brazil*, 2017 World Bank, *Mortality rate, neonatal (per 1,000 live births)*, 2017

Areas covered by Brazil's Community Health Worker programme saw more significant declines in infant and neonatal mortality than those not covered, suggesting that the initiative itself drove improved performance.[208] Following the programme's rapid expansion in the 1990s, both these mortality rates more than halved between 1995 and 2010.[209]

[203] Hester Wadge et al., *Brazil's Family Health Strategy: Using Community Health Workers to Provide Primary Care* (The Commonwealth Fund, 2016).
[204] Matthew Harris, 'From Brazil to Westminster: Learning from a Community Health Worker Model', *Imperial Medicine Blog*, 7 April 2021.
[205] Christopher David Johnson et al., 'Learning from the Brazilian Community Health Worker Model in North Wales', *Globalization and Health* 9, no. 25 (June 2013): 1–5.
[206] Johnson et al.
[207] Wadge et al., *Brazil's Family Health Strategy: Using Community Health Workers to Provide Primary Care*.
[208] Johnson et al., 'Learning from the Brazilian Community Health Worker Model in North Wales'.
[209] World Bank, *Mortality Rate, Infant (per 1,000 Live Births), Mortality Rate, Neonatal (per 1,000 Live Births)*, 2022.

Unnecessary hospitalisations for 'primary care sensitive conditions' – i.e. those that can be prevented if effective primary care is in place (like congestive heart failure and asthma) – fell by 13 per cent, holding other factors constant.[210] Immunisation uptake expanded to almost 100 per cent[211] and a marked decrease in health and healthcare utilisation inequalities – reaching levels comparable to Sweden, and lower than Denmark, Finland and the Netherlands – coincided with the programme's roll out in the 1990s.[212]

Patient satisfaction with CHWs is very high, with 85 per cent approval rates for the programme. 61 per cent of patients consider primary care offered by the programme to be the best service offered by the public health system. At an annual cost of $50 USD per person, the strategy is extremely cost-effective.[213]

Levers for change

Deep community understanding

CHWs are recruited from the communities they serve, giving them an intimate understanding of their patch and existing relationships with local households. Due to their proximity to the communities they serve, rates of turnover among CHWs are far lower than for clinical staff in Brazil.[214] In a country which experiences high levels of violence, CHWs also report that they are able to operate in areas that professional clinicians find difficult to access.[215]

Close links between clinical primary care and community health workers

CHWs form the 'front door' of the health system and have the most frequent contact with patients, but are also fully integrated members of a broader primary care team, made up of clinic-based physicians and nurses. Though CHWs are able to provide the

[210] James Macinko et al., 'Major Expansion Of Primary Care In Brazil Linked To Decline In Unnecessary Hospitalization', *Health Affairs*, August 2017.
[211] Carla Magda Allan S. Domingues, Antonia Maria da Silva Teixeira, and Sandra Maria Deotti Carvalho, 'National Immunization Program: Vaccination, Compliance and Pharmacovigilance', *Revista Do Instituto de Medicina Tropical de São Paulo* 54, no. Supplement 18 (October 2012): 22–27.
[212] James Macinko and Maria Fernanda Lima-Costa, 'Horizontal Equity in Health Care Utilization in Brazil, 1998–2008', *International Journal for Equity in Health* 11, no. 33 (June 2012): 1–8.
[213] Romero Rocha and Rodrigo R. Soares, 'Evaluating the Impact of Community-Based Health Interventions: Evidence from Brazil's Family Health Program', *Health Economics* 19, no. S1 (2010): 126–58.
[214] Wadge et al., *Brazil's Family Health Strategy: Using Community Health Workers to Provide Primary Care*.
[215] Hugo Cesar Bellas et al., 'Effects of Urban Violence on Primary Healthcare: The Challenges of Community Health Workers in Performing House Calls in Dangerous Areas', *Journal of Community Health* 44, no. 3 (1 June 2019): 569–76.

bulk of primary care support, more serious issues can be directed on to general practitioners and nurses who are part of the team. Every five primary care groups are supported by a wider auxiliary team of community-based specialists including psychologists, pharmacists and physiotherapists.[216]

Link up between the CHWs and the primary care team is facilitated by comprehensive information collection (now largely digitally enabled). Information collected by CHWs is added to patients' medical records and discussed at team meetings.

Bringing care closer to people

As Community Health Workers visit households at least monthly, regardless of expressed demand, they are uniquely placed to reach people who would not otherwise have access to care – providing them with direct, basic support or, if needed, triaging them to a specialist. They have a major role in helping patients to manage chronic diseases, for example regularly monitoring symptoms, providing health coaching and specific lifestyle advice, and ensuring medication is taken correctly.

A 2010 study found that, after implementation of CHWs, hospitalisations for "ambulatory care-sensitive" chronic diseases, such as cardiovascular disease and asthma, fell at twice the rate of hospitalisation than for all other causes.[217]

By bringing care closer to patients, CHWs have also had success engaging patients who are not in contact with, or who would be hesitant to access conventional primary care – identifying problems when they are relatively small rather than waiting for them to present in acute settings.[218] Compared to households who are not covered by the programme, those in CHW areas are more likely to have a usual source of care, to have visited a doctor or dentist in the past 12 months, and be satisfied with the care they receive.[219]

5.5 Conclusion

Though healthcare is only responsible for a small portion of our overall health, improving access to high-quality care remains a challenge in all systems. The NHS has had longstanding ambitions to reform its delivery model – from shifting care out of hospitals and into primary and community settings, to building genuine public

[216] Wadge et al., *Brazil's Family Health Strategy: Using Community Health Workers to Provide Primary Care*.
[217] Macinko et al., 'Major Expansion Of Primary Care In Brazil Linked To Decline In Unnecessary Hospitalization'.
[218] Harris, 'From Brazil to Westminster: Learning from a Community Health Worker Model'.
[219] Wadge et al., *Brazil's Family Health Strategy: Using Community Health Workers to Provide Primary Care*.

engagement to help redesign services. However, the pace of change has been slow. The case studies above provide a series of useful insights for policymakers attempting to reimagine care delivery. Firstly, building strong incentives to shift resources upstream is vital. Though moving care out of hospitals has been a long-term ambition in England, strategy to enable this shift has been lacking. Israel's approach, in which insurers have financial incentives to commission care in lower cost settings, offer useful models for further exploration.

Secondly, active and sustained community engagement is vital for transforming care – mass patient involvement in Alaska helped catalyse system redesign. Approaches that work closely with communities who have been poorly served by existing models of healthcare delivery offers useful lessons to those seeking to address long-standing health inequalities in England.

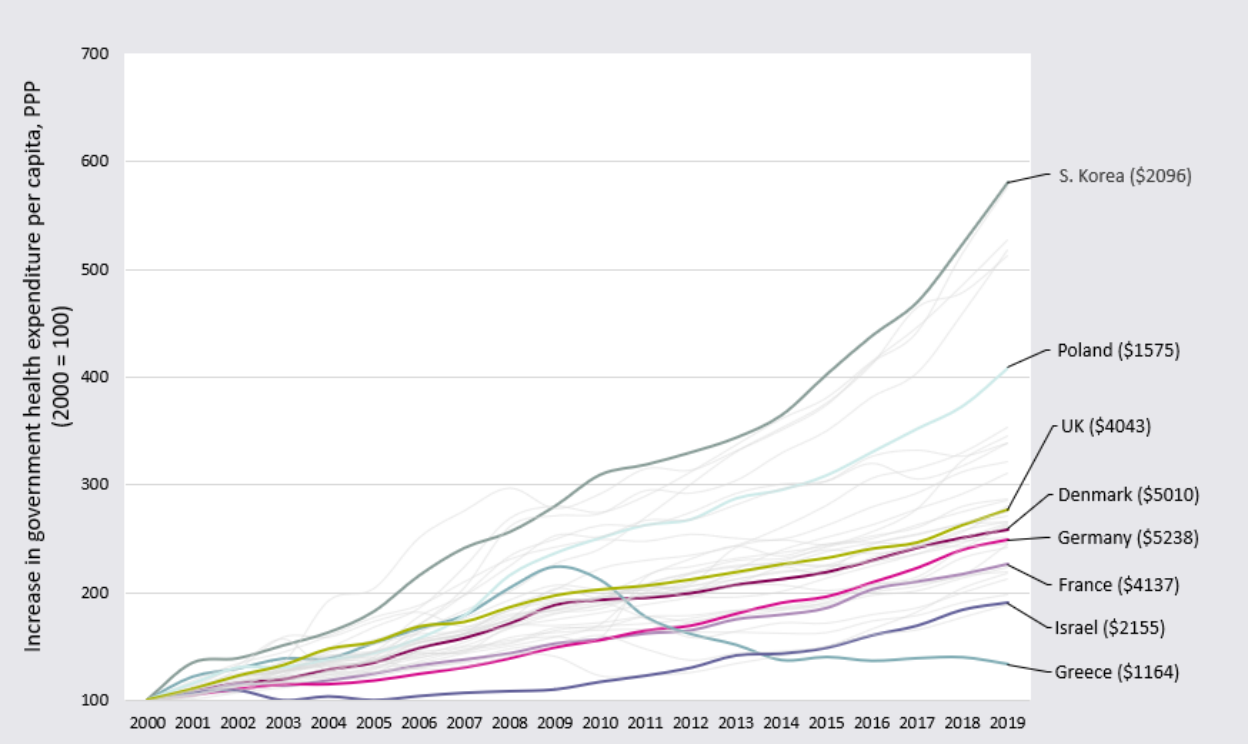
Finally, while hospital-based care is vital in any system, most potential exists to reimagine primary care. Policymakers looking to move towards a more pro-active and community-oriented model can look to the experience of Alaska and Brazil to develop systems in which the front-door of the doctor's surgery is no longer the front door of the health system.

6. The fiscal challenge

6.1 Background

Containing costs and maintaining fiscal sustainability are core challenges for all health systems. In recent decades, health expenditure in OECD countries has grown considerably, consistently outstripping economic growth and placing major pressures on governments, which remain the dominant funders of healthcare.[220] Figure 22 shows the increase in per capita spending in OECD countries between 2000 and 2019. This suggests that even before significant pandemic related spending hikes, health expenditure grew rapidly across almost all OECD countries.

Figure 22: Health expenditure increase per capita in OECD countries, 2000-2019



Source: OECD, *Healthcare expenditure and financing*, 2019; 2019 spend per capita (PPP) stated in brackets of selected countries

In low-and-middle-income countries, the fiscal challenge is even more acute. Many of these countries are simultaneously attempting to establish basic universal health services whilst also meeting demand from growing middle classes for more specialised health services. Further, they are attempting to retain highly valuable staff in the

[220] OECD, *Fiscal Sustainability of Health Systems: Bridging Health and Finance Perspectives*, 2015.

context of global shortages of healthcare personnel, driving greater escalations in cost.[221]

6.2 Barriers to reform

Demographic trends

Demographic change, particularly the ageing of populations, drives increased health expenditure: per capita costs of older people are generally higher than for younger people, particularly given trends in multimorbidity and chronic condition growth.[222] Given that populations are ageing across the world, and in high-income countries in particular, health expenditure can be expected to rise.[223] Simultaneously, in systems reliant on public funding (like the UK), ageing will increase the so-called 'dependency ratio' – working-age tax bases will decline while an older population dependent on public spending will increase.[224]

Healthcare innovation

Technological innovation in many sectors is cost containing – by making processes more efficient and displacing human labour, innovation can reduce the resources required for production. However, the opposite tends to be the case in healthcare. Even where innovation reduces the unit cost of providing care (for instance, by decreasing the time it takes to perform a surgical procedure), it is a long-term driver of cost. Innovation often increases demand for care (if more can be done to treat a condition, costs rise) and also extends life – meaning that patients are in receipt of care for far longer periods.[225]

Healthcare's 'cost disease'

As citizens and countries become wealthier, they typically devote more resources to healthcare, often at a greater rate than other types of good (described by economists as a 'luxury good').[226] As incomes have risen, particularly in low-and-middle income

[221] Mark Britnell, *Human: Solving the Global Workforce Crisis in Healthcare*, 2021.
[222] Gemma A. Williams et al., *Sustainable Health Financing with an Ageing Population: Will Population Ageing Lead to Uncontrolled Health Expenditure Growth?*, ed. Anna Sagan et al. (European Observatory on Health Systems and Policies, 2019).
[223] World Health Organization, 'Ageing and Health', Webpage, 1 October 2022.
[224] Vegard Skirbekk et al., 'The Health-Adjusted Dependency Ratio as a New Global Measure of the Burden of Ageing: A Population-Based Study', *The Lancet Healthy Longevity* 3, no. 5 (May 2022): 332–38.
[225] Mirko Licchetta and Michal Stelmach, *Fiscal Sustainability Analytical Paper: Fiscal Sustainability and Public Spending on Health* (Office for Budget Responsibility, 2016).
[226] William J Moore, Robert Newman, and Mohammad Fheili, 'Measuring the Relationship between Income and NHEs', *Medicare and Medicaid Research Review* 14, no. 1 (1992): 133–39.

countries, expenditure on health has increased: often at a greater rate than spending on other public services.

Additionally, many economists argue that healthcare suffers from an underlying 'cost disease'. As a labour-intensive industry, it has proved difficult to increase productivity in the healthcare sector in the same way as it has been for industries that can more easily replace labour with technological investment.[227] However, wages in healthcare must keep pace with other, more productive sectors, in order to retain staff. Healthcare costs therefore rise over time without an accompanying increase in productivity.

6.3 Levers for change

Shifting health financing

Much of the debate on the future of health financing concerns whether alternative funding systems may be more sustainable than our current general tax funded model.[228]

With the exceptions of the United States, which relies largely on voluntary private insurance, and Singapore (see case study below), almost all high-income countries fund health through social insurance contributions (levied on employers and employees), compulsory private insurance contributions (in which all citizens are obliged to take out cover), or through general taxation. Social insurance models (like those present in Germany and France) or compulsory private insurance models (such as those found in the Netherlands and Switzerland) are often put forward as the most feasible alternatives to our current approach to health financing.

Shifting health funding models is a complex exercise and has significant transition costs associated with it.[229] Few systems adopt this kind of change, although many have converged on 'mixed' models of care financing – for instance, many social insurance systems have come to rely on a higher degree of general taxation to make up for shortfalls in insurance revenues.[230] This has been a prominent feature of social insurance systems in the decade since the global financial crisis where high rates of unemployment affected revenue streams.[231] Similarly, to plug gaps in revenues and

[227] William J. Baumol et al., *The Cost Disease: Why Computers Get Cheaper and Health Care Doesn't* (New Haven, Connecticut: Yale University Press, 2012).
[228] David Davis, 'An Insurance-Based System Is the Only Way to Save the NHS', *The Telegraph*, 2 October 2022.
[229] Helen McKenna and Phoebe Dunn, 'How Health Care Is Funded', *The Kings Fund*, 23 March 2017.
[230] Toth, *Comparative Health Systems: A New Framework*.
[231] World Health Organization, *Health Policy Responses to the Financial Crisis in Europe*, 2012.

limit demand for health services, many systems have introduced or extended user charges in recent years.[232]

Claims about the superior performance of social or private insurance systems, either for health outcomes or for cost-effectiveness do not stand up to scrutiny. As noted above, many of the highest performing health systems are general tax funded, and as seen in Appendix A, there is little association between funding mechanisms and care outcomes.

Though there may be reasonable grounds for shifting funding models, reducing overall expenditure on healthcare is not one of them – a range of studies show that social health insurance and compulsory private insurance systems are more expensive overall than general tax funded systems and have higher administrative costs.[233] Studies on the distributional consequences of different approaches to financing are more limited. However, those that exist find that tax-financed systems are most progressive in character and that social insurance systems are more regressive (i.e. more likely to redistribute resources from those on lower incomes to those on higher incomes).[234]

However, considering the theoretical benefits and disadvantages of different approaches to financing can reveal potential avenues for reform.

In the first instance, although insurance-based systems may not reduce overall expenditure, they may limit *public* expenditure on health and care services, freeing up resources to spend on other government priorities. In the UK, health makes up a higher percentage of total government expenditure (19.7 per cent in 2019) than in other high-income countries – for example in Israel (12.1 per cent), France (15.1 per cent), the Netherlands (15.6 per cent), and Switzerland (11.1 per cent) health accounts for a far lower share of state spending.[235] However, Germany, the archetypal example of a social insurance system, devotes a higher degree of government expenditure to health (20.1 per cent) and in the United States, government spends a higher per cent of GDP than anywhere else in the world.[236]

Secondly, policymakers can fruitfully learn from some of the incentives that exist in insurance-based systems to provide cost-effective care. Insurance based systems, where a single insurer is responsible for the entire patient who can keep or reinvest

[232] Ibid.
[233] Adam Wagstaff, *Social Health Insurance vs Tax-Financed Health Systems - Evidence from the OECD* (The World Bank, 2009).
[234] Adam Wagstaff and Eddy van Doorslaer, 'Equity in the Finance of Health Care: Some International Comparisons', *Journal of Health Economics* 11, no. 4 (1 December 1992): 361–87.
[235] The World Bank, *Domestic General Government Health Expenditure (% of Current Health Expenditure)*.
[236] Ibid.

savings, may encourage greater investment in preventative, primary and community care rather than more expensive hospital care. Even in general tax funded models, this insight can be used to build in incentives for shifting investment upstream – approaches to shared savings schemes and single capitated budgets in general tax funded systems can help replicate these incentives (see case study 6.3.2).

Strategies to contain costs

As the OECD argues, "there is no health care system [type] which performs systematically better in delivering cost-effective care", so debates around the ideal financing arrangement may distract from more productive efforts to contain costs.[237]

Irrespective of their overall financing arrangements, policymakers around the world have implemented a number of strategies to contain cost growth in healthcare. A number of these have already been considered in this paper – shifting payment mechanisms to incentivise care in lower cost, primary and community settings, decentralising health system administration to better match resource to population need, and encouraging provider competition to improve value.

Figure 23: Health cost-containment strategies

Supply side reform	Access restrictions	System level
Payment reform - Reforms to the way that healthcare providers are paid - Use of provider competition and splits between the purchasers and providers of health services	**Cost-sharing** - Cost-sharing schemes, including co-payment models to reduce patient demand for services and raise revenue - Use of supplementary insurance models to cover non-essential care	**Centralisation and decentralisation** - Transferring responsibility for health to sub-national levels of government - Recentralising functions to avoid administrative duplication and achieve economies of scale - Concentrating services on a smaller number of sites
Labour market reform - Restricting or deregulating the supply of medical workforce - Task shifting and role substitution – e.g. nurse prescribing	**Gatekeeping** - Limiting or moderating access to more expensive healthcare such as specialist hospital care	**Changing system financing** - Reduce reliance on general taxation and shift towards voluntary insurance contributions to limit public expenditure
	Equipment/technology restriction - Regulating the supply of medical equipment, technology and treatments to reduce cost	**Shifting resources to prevention** - Shifting resources away from healthcare and into prevention and health creation to reduce demand and cost

[237] OECD, *Health Care Systems: Getting More Value for Money*, 2010.

Some cost-containment strategies are implementable in short timeframes – for instance, applying or increasing co-payments for care, strengthening or loosening the gatekeeping function of primary care, and task shifting between medical personnel. Others such as centralising care on a smaller number of sites and transferring functions to regional tiers of government may require an 'invest to save' strategy – shouldering upfront costs may be necessary to generate long-term savings. In the case of shifting resources towards prevention, savings may take long periods to materialise, but in this case innovative models of health creation (for instance, those described in Brazil above) can generate financial returns in short order.

The vast majority of these cost containment strategies have been pursued in the English context. Activity based payment systems which may generate perverse incentives to maximise care volume not quality are being replaced by blended payment systems designed to better moderate costs;[238] provider competition has been pursued in recent decades to encourage higher performance within fixed budgetary envelopes;[239] and medical equipment and supplies are tightly regulated through the National Institute for Health and Care Excellence (NICE) health technology assessment process.

With the exception of the application of patient charges for optometry and dentistry in the 1950s – and the costs patients pay for pharmaceuticals – pursuing a higher degree of cost-sharing between patients and the State has not been an element of cost-containment strategies. This makes England an outlier given that the vast majority of OECD countries have implemented user charges at some point in the patient pathway.[240] For instance, many European countries apply a co-payment system for specialist physician care, and some require small payments to access primary care.[241]

Similarly, moves to encourage uptake of voluntary insurance and reduce reliance on general taxation as a funding model have not been made in England. Though private health cover is available in England, there are no government provided incentives to encourage taking it out. This contrasts with countries like Australia and the United States where tax breaks are offered to those who choose to take out insurance.[242]

However, deteriorating NHS performance and long waits for care have encouraged a form of 'buy out' of the public system. Increasingly, patients are turning to self-pay

[238] Matthew Bell, Anita Charlesworth, and Richard Lewis, *The Future of the NHS Hospital Payment System in England - The Health Foundation* (The Health Foundation, 2021).
[239] Toth, *Comparative Health Systems: A New Framework*.
[240] OECD, *Cost-Sharing and Exemptions*, 2014.
[241] Steven Globerman, 'Select Cost Sharing in Universal Health Care Countries', *Fraser Institute*, January 2016.
[242] Ruth Robertson, Sarah Gregory, and Joni Jabbal, *The Social Care and Health Systems of Nine Countries* (The King's Fund, 2012).

options to finance care which they cannot get in the public NHS system in a timely fashion. LaingBuisson, a healthcare business intelligence provider, suggests that the self-pay market in England has doubled in value since 2010.[243]

In other countries, there are greater expectations that patients will cover part of their care costs through voluntary insurance. In some health systems, policymakers will define a universal basket of services available to patients and encourage patients and/or employers to take out additional coverage to finance co-payments or more specialist care. For instance, in France, while all citizens are eligible for basic care by the state, 95 per cent are covered by complementary private insurance, largely paid for by employers.[244]

In other systems, the state intervenes more directly to encourage insurance uptake. In Australia, for example, while all citizens are covered by the national Medicare programme, those who take out private health insurance are entitled to a tax rebate of between 8.5 and 33.9 per cent, depending on age and income.[245] Further high-income earners who do not take out private insurance face an income-based penalty payment of 1 to 1.5 per cent.[246]

6.4 Case studies

6.4.1 Singapore: tightly regulated, market-centred

Background

Singapore takes a unique approach to health financing. Its system is based on a strong belief that citizens must take a high degree of personal responsibility for their health and care, including in relation to health financing. Almost three quarters of health expenditure is private. The Singaporean financing system is based on the so-called "three M's": MediShield, MediSave, and MediFund.

[243] LaingBuisson, *Private Healthcare Self-Pay: UK Market Report*, 4th Edition, 2022.
[244] Roosa Tikkanen et al., *International Health Care System Profiles: France* (The Commonwealth Fund, 2020).
[245] Ibid.
[246] Ibid.

Figure 25: Singapore's three 'M's

MediShield Life: Singapore's public statutory insurance system, MediShield Life, covers large bills associated with hospital care and certain outpatient treatments. Its purpose is largely to cover patients against "catastrophic" care costs. Premiums are set by patient age and deductibles are set at around $1,400 USD. Enrolment is automatic but individuals can opt out.

MediSave: MediShield Life is complemented by government subsidies as well as a compulsory medical savings accounts known as MediSave. MediSave helps residents pay for inpatient care and selected outpatient services. Personal and employer salary contributions (8–10.5 per cent depending on age) are mandatory for all working citizens and permanent residents. These tax-exempt, interest-bearing accounts can be used to pay for family members' healthcare expenses. Individuals can also buy supplementary Private Health Insurance or get it through an employer. Patients can only use their MediSave accounts to purchase drugs and treatments that have been approved by the Health Sciences Authority, Singapore's health products regulator.

MediFund: A government safety net, MediFund, covers Singaporeans unable to afford out-of-pocket payments. It is based on a £3 billion endowment and the government is only able to spend the previous year's investment income to pay for medical bills. Eligibility for MediFund is not automatic. Hospitals use discretion to administer MediFund to patients deemed needy enough to qualify.

Impact

Figure 26: Singapore – UK case study comparison

Country	Health expenditure (% of GDP)		State expenditure (% of total health expenditure)		State expenditure ($, current PPP)	
	2000	2019	2000	2019	2000	2019
United Kingdom	3.34	4.08	36.33	50.20	523	2059
Singapore	7.20	10.15	76.72	79.47	1461	4043

Source: As in Figure 3; Also, World Bank, *Current Health Expenditure (% of GDP), Domestic general government health expenditure (% of current health expenditure)*, 2019, OECD, *Healthcare expenditure and financing*, 2019

Singapore's health expenditure is lower than that of comparable countries. In 2019, public and private spending on health amounted to only $4,102 (PPP adjusted) – less than the OECD average of $5,528.[247] Of this expenditure, only half is provided by the

[247] OECD, *Health Spending*.

State.[248] Meanwhile, Singapore's success in containing healthcare costs has been achieved even in the context of having a much higher GDP per capita than the OECD average.[249] Crucially, expenditure on health has remained relatively stable over time, sitting at between 3 to 4.5 per cent of Singapore's GDP since the mid-1990s.[250]

This is despite Singapore experiencing a much faster rate of ageing than other high-income countries (as defined by the World Bank), with the proportion of people aged 65 and over increasing from 5.6 per cent to 14.1 per cent from 1995 to 2021.[251] For comparison, in the UK the proportion of people in this age group increased by 3.1 percentage points over the same period.[252]

Levers for change

Singapore's approach to containing costs in healthcare relies on a unique blend of market competition and rigorous state control on spending. This allows it to benefit from both the cost reduction effects of competition and of centralised price control.

Strong government control and oversight

Though the Singaporean Government relies on competition and market forces to improve quality and raise efficiency, the State actively intervenes to keep costs down.[253] The Ministry of Health remains responsible for workforce planning to ensure that undersupply (which drives up wages) and oversupply (which stimulates supply induced demand) do not occur.[254]

Additionally, government owns half of the country's hospitals, allowing them to shape hospital behaviour and activity without having to resort to onerous regulation or purchase negotiations.[255] High-quality, affordable care is provided in public hospitals and policies to contain costs in this setting have knock-on effects in the private sector. Private providers need to ensure they do not price themselves out of the market and therefore offer reasonable prices and quality care.[256]
Further, activity and investment in the hospital sector is tightly regulated. In the 1980s, when Singaporean hospitals were given more autonomy in management, recruitment, remuneration and investment decisions, it was hoped that costs would be driven down.

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[248] The World Bank, *Domestic General Government Health Expenditure (% of Current Health Expenditure)*.
[249] OECD, *GDP per Capita, USD, Current Prices and PPPs*, 2019.
[250] William A. Haseltine, *Affordable Excellence: The Singapore Healthcare Story* (Brookings Institution, 2013).
[251] World Bank, *Population Ages 65 and Above*, 2022.
[252] Ibid.
[253] John Thomas and Lim Siong Guan, *Using Markets to Govern Better in Singapore*, 2001.
[254] 'The Remarkable Healthcare Performance in Singapore'.
[255] Ibid.
[256] Ibid.

However, competition led to an increase rather than a decrease in healthcare costs. In order to attract patients, hospitals resorted to buying high-cost technology, offering expensive services and decreasing the number of subsidised wards (where the less wealthy received care).[257] In response, the government passed a significant piece of cost-containing legislation – the Affordable Healthcare White Paper (1993).

The White Paper fixed the proportions of different ward classes for each hospital to disincentivise increases in high-cost care.[258] Where hospitals generate profits, these are to be reallocated into areas such as medical education, research and asset replacement, rather than expansion. To prevent hospitals investing in expensive technology or offering cost-accelerating services, the government holds power to approve or reject new investment. Through direct oversight of innovation, the largest cost-accelerator in health systems, Singapore is able to limit overall costs.

Investing in cost-reducing technology

Though Singapore actively intervenes to prevent the cost-accelerating effects of investment in new technology, the State is not averse to investing in cost-saving technologies. Singapore has been a leader in developing comprehensive electronic patient records which allow more effective care integration, medication management and self-care.[259]

Similarly, Singapore's Ministry of Health has invested heavily in tele-health to improve system efficiency. Investing in digital and remote consultation has allowed Singapore's health providers to reduce overhead costs in bricks and mortar settings. Meanwhile, greater digital enablement has allowed for core diagnostic services such as radiology to be almost entirely automated.[260]

Shaping the consumer market

Given that the primary funders of healthcare globally tend to be states and insurance companies, consumers tend to be unaware of the direct costs of providing medical treatment. Singapore's unusual approach to health financing means that the majority of care is purchased directly by patients themselves (MediSave). This encourages a degree of price consciousness among consumers themselves.

To further counteract information asymmetry between patients and care providers, the Ministry of Health also publishes extensive information on public and private

[257] Aaron E. Carroll and Austin Frakt, 'What Makes Singapore's Health Care So Cheap?', *The New York Times*, 2 October 2017.
[258] Haseltine, *Affordable Excellence: The Singapore Healthcare Story*.
[259] Ibid.
[260] Andy Wee An Ta et al., 'Two Singapore Public Healthcare AI Applications for National Screening Programs and Other Examples', *Health Care Science* 1, no. 2 (2022): 41–57.

hospital bills. This encourages stronger price competition among providers and encourages a higher degree of price consciousness among consumers.[261] Patients can use this information to select particular providers, ensuring that competition drives down cost across the board. For instance, in 2004 (when information was first published), the cost of LASIK (laser eye surgery), was S$2300 per eye; 4 years later, the cost had decreased to $1400 per eye.[262]

6.4.2 Paying for value in Valencia

Background

In the late 1990s, the district of Alzira in Valencia faced a significant crisis in care cost and quality. A large public deficit meant that care needs were not being met and there was insufficient funding to build a long overdue new hospital. Medical care for those living with chronic illnesses was poor and patients faced delayed access to care.

Spain's government passed legislation to allow privately owned entities to take on health management and administration responsibilities for publicly funded health services. In 1999, Valencia commissioned a consortium called UTE – made up of a private insurer, a building contractor and a local building society – to manage care provision within the district of Alzira.

The consortium received an annual capitated budget set by the Valencian Ministry of Health and was expected to deliver comprehensive care (tightly regulated by the Ministry) to the local population within this budget.[263] The consortium was also responsible for covering all administrative costs.[264] If the consortium came in under budget, it would be able to accrue the savings as profit (so long as profit did not exceed 7.5%).

UTE set about comprehensively redesigning Alzira's administration and care system: administrative functions (IT, clinician management, human resources) were rationalised across the system to achieve maximum value; investment in primary and community care was expanded; and specialist physicians were assigned to each primary care centre to reduce referrals to secondary care.[265]

[261] Roosa Tikkanen et al., *International Health Care System Profiles: Singapore* (The Commonwealth Fund, 2021).
[262] Haseltine, *Affordable Excellence: The Singapore Healthcare Story*.
[263] Monitor, *Capitation Payment – International Examples*, 2014.
[264] Alberto de Rosa Torner, 'Lessons from Spain: The Alzira Model'.
[265] Micaela Comendeiro-Maaløe et al., 'Public-Private Partnerships in the Spanish National Health System: The Reversion of the Alzira Model', *Health Policy* 123, no. 4 (1 April 2019): 408–11.

UTE also brought together representatives from local government agencies such as the city council and the school board as well as social care providers to develop a comprehensive population health management strategy.[266] A health data system was developed to help target resources at the most cost-effective care settings and tackle drivers of demand for expensive acute services.[267]

Impact

The Alzira model achieved both considerable cost savings and quality and productivity increases. Over the first three years of the contract, overall system costs were reduced by 25 per cent and hospital productivity increased by 75 per cent.[268] Hospital stays in Alzira were more than a day shorter on average than in other Valencian hospitals and emergency waiting times were less than half the level. Patient satisfaction in Alzira exceeded 90 per cent during the 15 years of the contract which ended following the election of a leftist government in Valencia which pledged to bring public service commissioning and provision back 'in-house'.[269]

Levers for change

Effective public-private partnership

The Alzira model suggests the value of effective public-private partnerships in healthcare provision. While the Valencian Ministry of Health played an essential role in regulating the care offer, ensuring standards are met and enforcing contractual terms, the system's private managers were given flexibility to redesign care provision and administrative processes to drive down costs and improve value.[270]

Capitation payment models

Payment models in health often encourage perverse behaviours by providers. As outlined earlier, fee-for-service payment models (such as England's 'payment by results' model for hospital care) tend to encourage over-activity in particular settings. The use of capitated models which provide a set fee to all providers in a system to cover the entirety of a patient's care costs reduce these perverse incentives and encourage system administrators to spend in areas with the highest value.

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[266] NHS Confederation, *The Search for Low-Cost Integrated Healthcare: The Alzira Model – from the Region of Valencia*, 2014.
[267] Alberto de Rosa Torner, 'New Management Models: The Experience of Ribera Salud'.
[268] Monitor, *Capitation Payment – International Examples*.
[269] Comendeiro-Maaløe et al., 'Public-Private Partnerships in the Spanish National Health System: The Reversion of the Alzira Model'.
[270] Torner, 'Lessons from Spain: The Alzira Model'.

In systems like Alzira, where administrators are able to generate a profit from coming in under budget, an additional incentive exists to provide the most cost-effective care.[271] Thus, even though Spain's autonomous communities fund the majority of care through general taxation, the structure of the Alzira model generates many of the benefits usually associated with insurance systems but at lower overall cost.

6.4.3 The Narayana system: driving efficiency in India

Background

Improving access to and the quality of cardiology is a key priority in India which has experienced a huge rise in heart disease in recent decades. India accounts for 45 per of the global burden of coronary artery disease and in the early 2000s, approximately 2.4 million people required heart surgery annually, but prohibitive cost meant only 60,000 received it.[272]

Narayana Health was established to meet this need. Narayana is an Indian chain of multi-specialty hospitals and health centres, primarily focused on cardiovascular care. Founded in 2001, its mission is to provide high-quality, cardiac care to all regardless of their ability to pay.[273] Full paying patients subsidise those who are unable to afford treatment costs.

Narayana Health now comprises 31 tertiary hospitals across 19 cities – combining innovative technology, and a highly efficient delivery system, to optimise productivity and minimise costs.[274]

Impacts

Narayana is able to achieve world-leading cardiac care outcomes at a fraction of the cost of other health systems. Narayana's low costs of care are often compared to the United States – the average cost of open-heart surgery at Narayana is $2,000 compared to upwards of $100,000 in US research hospitals.[275] Though part of this differential relates to input costs, in particular labour, studies controlling for this still suggest that the Narayana approach is substantially more cost effective.[276] It is

[271] Torner, 'New Management Models: The Experience of Ribera Salud'.
[272] Andrea Taylor and Erin Escobar, 'Expanding Access to Low-Cost, High-Quality Tertiary Care', Webpage, 9 November 2017.
[273] Ibid.
[274] Ibid.
[275] Ibid.
[276] F. Erhun et al., 'Are Cost Advantages from a Modern Indian Hospital Transferable to the United States?', *American Heart Journal* 224 (2020): 148–55.

estimated that controlling for staff wages, cardiac surgeries at Narayana Hospitals range between 4-18 per cent of their cost in American hospitals.[277]

Though a full comparative evaluation has not been carried out between the two systems, the cost of a common cardiac procedure (coronary artery bypass graft surgery) is less than a third of the cost in Narayana hospitals than in NHS hospitals.[278] This, despite the fact that Narayana physician and surgeon salaries – the largest contributor to surgical costs – are competitive with those in the NHS.[279]

Importantly, lower costs do not undermine care quality. Though the UK does not systematically collect data on these variables, evidence from the National Institute for Cardiovascular Outcomes Research suggests that NHS and Narayana hospitals perform at a similar level on a number of surgical indicators including door-to-door balloon time, 30 day survival after heart attacks and after mitral valve replacement surgery.[280]

Levers for change

An assembly line approach

Cardiovascular surgery is Narayana's core business and the chain utilises key principles of industrial organisation and management to boost productivity – economies of scale and specialisation.

Narayana operates a hub and spoke model. Specialist staff and high-tech equipment are concentrated in urban 'super-hospital' hubs. Community cardiac clinics and mobile outreach vans, the spokes, provide diagnostic and consultation services to a far wider number of patients in semiurban and rural areas. Doctors in these facilities use telemedicine to contact physicians in the hub where necessary.[281]

Unlike in many high-income settings, where a full range of services is offered in many settings, patients who require more advanced care are transported to the urban hub for treatment. This allows Narayana's hubs to create large volumes, reducing per unit costs of procedures and allowing physicians to develop a higher degree of expertise

[277] Vijay Govindarajan and Ravi Ramamurti, *Delivering World-Class Health Care, Affordably* (Harvard Buisness School, 2013).
[278] Calculated using costs of CABG procedures in NHS England, *2022/23 National Tariff Payment System*, 2022 and in Narayana Health, *Schedule of Charge, 2021-2*, 2021.
[279] Rishabh Kaul, 'Learning from Narayana's Lean Model to Scale Services', *NextBillion, William Davidson Institute, University of Michigan*, 2017.; As a private company, Narayana is not obliged to publish salaries, but these are estimated to range from £80,000 – £200,000 annually depending on seniority levels. Basic pay for NHS consultant surgeons ranges between £88,364 and £119,133.
[280] NICOR, *National Adult Cardiac Surgery Audit (NACSA)*, 2020., Taylor and Escobar, 'Narayana Health'.
[281] Taylor and Escobar, 'Narayana Health'.

by carrying out a larger number of surgeries – the average Narayana Health surgeon performs more than three times as many procedures each year compared to surgeons in the United States.[282]

In the hub, surgical procedures are also arranged in an assembly line fashion. All staff members work at the top of their scope of practice: Narayana surgeons perform only the tasks which they are uniquely qualified to do, and tasks such as preoperative preparation, post-operative care, and data recording and monitoring are all carried out by other clinicians. This enables many surgeries to be performed in a row – surgeons complete one procedure and quickly begin the next on a fully prepped patient.

Task shifting is central to the staffing structure of Narayana hospitals. Alongside increasing the range of clinical work taken on by nurses, more basic clinical and non-clinical tasks are performed by other members of the healthcare workforce. Local high school graduates take on roles as 'technicians' who can prepare patients for surgery, record key data and move patients out of theatre after their procedures.

Narayana also effectively partners with families to ensure that care otherwise conducted in a hospital setting can be moved into the home. Working in partnership with Stanford, Narayana developed a four-hour audio and video curriculum on how to care for patients in the three days following heart surgery. This allows patients to be cared for in a more appropriate setting, reducing costs and improving outcomes.

Smart use of equipment

Cost constraint is also applied through effective equipment procurement and use strategies. Rather than individual hospitals buying their own kit, the hospital chain purchases most essential equipment centrally, allowing it to take advantage of economies of scale. To prevent waste and minimise storage costs, all stock purchased by the hospital chain is barcoded, allowing for precise inventory counts to take place and supplies to be automatically re-ordered when necessary, minimising administrative costs.

The cost of diagnostic equipment, a key driver of increased expenditure in health systems, is limited through a number of mechanisms. Firstly, most diagnostic kit is purchased on a pay-per-use model with suppliers. This allows Narayana to expand its operations quickly, with lower levels of up-front capital cost, and limits unnecessary and wasteful use of equipment. Narayana also partners with Trimedx, a clinical engineering company, to service diagnostic and surgical equipment beyond its usual lifespan, further reducing costs.[283]

[282] Govindarajan and Ramamurti, *Delivering World-Class Health Care, Affordably*.
[283] International Partnership for Innovative Healthcare Delivery, *Narayana Health*, 2013.

For day-to-day instruments and devices such as cardiology catheters and guide wires, which are often branded as 'single use', strict sterilisation procedures enable regular re-use. Although the per unit cost of disposable equipment is small, given the volume of procedures conducted in Narayana Hospitals, re-using kit can multiply into significant savings.[284]

Data driven cost and performance monitoring

Narayana's approach to efficiency is underpinned by the effective use of data to monitor cost and performance. A centralised cloud computer connects all hospitals in the system. This helps streamline back-office administrative tasks and enables real-time performance monitoring.

Finance teams are required to generate profit and loss statements every day, allowing them to identify variation and address financial issues as they arise. All financial data is reviewed monthly with the heads of specific surgical units and the group's Chief Executive Officer. Key financial and clinical performance indicators for individual medical staff and financial staff are monitored daily.

As outlined in Section 5, securing clinician buy-in for reform can be a major challenge in health systems. This applies particularly to driving efficiency and productive resource use – clinicians often do not see resource management as a core duty. Narayana has used a number of measures to overcome this obstacle – all doctors receive a daily text message with the previous day's profit and loss data. Doctors also receive regular comparative performance data for their own hospital and 21 others in the group, which encourages them to share best practice on ways to work more cost-effectively.[285]

6.5 Conclusion

Given long run demography, the unique economic nature of healthcare as an industry, and the rapid pace of cost-accelerating innovation, building fiscally sustainable systems is a pressing and hard-to-resolve challenge. The case studies above suggest that policymakers should look less to macro-level reform – shifting funding mechanisms wholesale – and consider how to drive efficiency and value irrespective of their funding model.

The case studies above provide important insights into how to contain costs while delivering high-value care. Structuring payment mechanisms around value rather than

[284] Manjunath U, Sunil Kumar CN, Kailashnath MS. Comparison of cost structure, package rates and financial feasibility for selected surgeries covered under social health insurance schemes: a case study. *Journal of Health Management.* 2006;18(1):134–160.
[285] Govindarajan and Ramamurti, *Delivering World-Class Health Care, Affordably*.

activity, adopting insurance principles in which a single commissioner is responsible for an entire patient journey rather than specific elements of the pathway, and combining small scale competition with effective state oversight are key underpinnings of a more efficient system.

Collecting comprehensive data on system costs and monitoring performance to understand bottlenecks to efficiency can help reduce variation and reduce waste. Finally, learning lessons from other industries, on how to redesign processes, leverage economies of scale, and encourage employee buy in for cost containment reforms are promising areas for further exploration.

Conclusion

Despite their institutional and cultural differences, health systems internationally are attempting to solve a familiar range of challenges: how to contain ever-accelerating system costs, how to provide holistic care to ageing populations with increasing levels of chronic, long-term disease, and how to shift resources away from reactive, acute healthcare and towards health creation.

No health system has proven able to resolve these challenges at once. There is no perfect, 'off-the-shelf' health system that should serve as a global model for replication. However, given Britain's relatively poor health performance when compared to similar systems, looking outward can provide vital lessons for policymakers.

The case studies outlined in this paper provide guidance on how to overcome the country's deep-seated health challenges – how to develop a health creation model; how to devolve power and resources to better tailor policy to local needs; how to shift care delivery to provide holistic, proactive support to all; and how to address our growing health expenditure crisis. By understanding how these universal challenges have been analysed and overcome elsewhere, we can start to rebuild towards a world-leading health system.

Appendix A

Health spending and resource allocation of OECD countries[286]

Country	Financing model*	Health expenditure (% of GDP)	Subnational health spending (% of total)	Government spending (% of total)	Spending on hospitals (% of total)	Doctors (per 1000)	Nurses (per 1000)	Health workers† (per 1000)
Australia	General tax funded	9.91	22.89	71.68	42.68	3.8	12.2	40.1
Austria	Social insurance, multiple funds	10.43	26.63	73.01	38.72	5.3	10.4	31.8
Belgium	Social insurance, multiple funds	10.65	4.16	76.78	41.80	3.2	-	27.9
Canada	General tax funded	10.84	-	70.17	27.94	2.8	10.0	33.0
Chile	Social insurance, multiple funds	9.33	-	50.92	38.57	-	-	-
Colombia	Social insurance, single fund	7.71	-	71.88	-	-	-	-
Costa Rica	General tax funded	7.27	-	72.54	49.75	-	-	-
Czech Republic	Social insurance, multiple funds	7.83	13.09	81.50	44.35	4.1	8.6	24.2
Denmark	General tax funded	9.96	24.60	83.29	45.40	4.3	10.1	36.0
Estonia	Social insurance, single fund	6.73	15.11	74.42	44.36	3.5	6.2	22.3
Finland	General tax funded	9.15	26.77	80.17	37.24	-	-	34.0
France	Social insurance, single fund	11.06	0.79	75.31	38.06	3.4	11.1	28.9
Germany	Social insurance, multiple funds	11.70	2.34	77.73	28.07	4.4	11.8	39.0
Greece	Social insurance, single fund	7.84	0.00	48.13	43.55	-	3.4	17.8

[286] Financing model: OECD, *Health Systems Characteristics Survey*, 2016; Health expenditure: World Bank, *Current health expenditure (% of GDP)*, 2019; Subnational health spending: *OECD, SNG expenditures and investment by function*, 2019; Government spending: World Bank, *Domestic general government health expenditure (% of current health expenditure)*, 2019; Spending on hospitals: OECD, *Health expenditure and financing*, 2019; Doctors: OECD, *Doctors (Per 1,000 inhabitants), 2019*; Nurses: OECD, *Nurses (Per 1,000 inhabitants)*, 2019; Health workers: OECD, *Labour input by activity*, 2016

Hungary	Social insurance, single fund	6.35	4.41	67.98	37.16	3.5	6.6	28.9
Iceland	General tax funded	8.64	0.37	82.89	39.30	3.9	15.4	32.8
Ireland	General tax funded	6.68	0.00	74.58	38.19	3.3	13.3	30.4
Israel	Social insurance, multiple funds	7.46	0.33	64.78	35.90	3.3	-	-
Italy	General tax funded	8.67	48.52	73.92	44.27	4.0	6.7	23.1
Japan	Social insurance, multiple funds	10.74	11.76	83.86	41.08	-	-	-
Korea	Social insurance, single fund	8.16	3.92	59.53	44.53	2.5	7.9	-
Latvia	General tax funded	6.58	9.24	60.56	34.28	3.3	4.4	19.1
Lithuania	Social insurance, single fund	7.01	18.72	65.09	33.92	4.6	7.7	25.4
Luxembourg	Social insurance, single fund	5.37	0.72	85.87	33.45	-	-	30.9
Mexico	Social insurance, multiple funds	5.43	-	49.31	29.43	2.4	2.9	8.4
Netherlands	Social insurance, multiple funds	10.13	3.89	65.90	33.57	-	-	32.9
New Zealand	General tax funded	9.74	0.00	75.56	-	3.4	10.2	33.5
Norway	General tax funded	10.52	13.48	85.82	39.16	5.0	17.9	37.4
Poland	Social insurance, single fund	6.45	14.94	71.38	41.70	3.3	-	19.0
Portugal	General tax funded	9.53	6.10	60.91	41.91	-	7.1	21.8
Slovak Republic	Social insurance, multiple funds	6.96	2.75	78.82	34.66	3.6	5.7	18.7
Slovenia	Social insurance, single fund	8.52	12.18	72.37	40.73	3.3	10.3	20.9
Spain	General tax funded	9.13	26.66	70.62	44.18	4.4	5.9	19.3
Sweden	General tax funded	10.87	26.80	84.88	38.95	4.3	10.8	33.9
Switzerland	Social insurance, multiple funds	11.29	10.43	32.11	36.83	4.3	18.0	45.1

Turkey	Social insurance, single fund	4.34	1.23	77.92	51.77	1.9	2.4	-
United Kingdom	**General tax funded**	**10.15**	**1.93**	**79.47**	**40.55**	**3.0**	**8.2**	**34.3**
United States	Private funds; Social insurance, multiple funds	16.77	25.10	50.84	33.49	2.6	12.0	45.1
OECD Average	-	**8.84**	**11.51**	**70.59**	**39.15**	**3.6**	**9.19**	**28.9**

* Characterisation of the above financing models is based on the completion of an OECD survey by "national correspondents" from each of the relevant countries. However, many countries have a more complex system of financing which is cannot be captured by the typology. For example, although all citizens in Australia can draw on healthcare funded through general taxation, there are tax incentives to purchase private healthcare insurance, and the private insurance market accounts for a significant proportion of the total amount spent on healthcare.[287]

† Health workers (described by the OECD as those employed in "human health activities") include any workers in general or speciality medicine, as well as accommodation facilities that provide treatment to inpatients with a wide variety of medical conditions, including mental health hospitals and rehabilitation facilities. The category also includes health adjacent professionals "legally recognised to treat patients", such as paramedic practitioners and certain allied health professionals.[288]

Health outcomes of OECD countries[289]

Country	Life expectancy	Healthy life expectancy[1]	Obesity rate	Avoidable mortality (per 100,000)[2]	Infant mortality (per 1000 live births)	Ischemic stroke survival rate	Heart attack survival rate
Australia	83.04	70.93	27.9	154	3.2	-	-
Austria	81.65	70.94	14.7	183	2.9	93.9	94.8
Belgium	81.42	70.56	18.6	-	3.4	92.1	93.6
Canada	82.24	71.25	25.8	171	4.5	92.5	95.4
Chile	80.74	70.05	25.1	-	6.1	91.7	92.8
Colombia	79.31	68.96	20.9	247	11.8	-	-
Costa Rica	80.85	69.97	24.4	222	7.2	-	-
Czech Republic	79.13	68.79	21.0	252	2.4	89.7	93.0
Denmark	81.32	71.04	14.9	-	3.3	95.2	95.5

[287] Tikkanen et al., *International Health Care System Profiles: Australia*.

[288] OECD and Eurostat, *Eurostat-OECD Methodological Guide for Developing Producer Price Indices for Services*, 2014.

[289] Life expectancy: World Bank, *Life expectancy at birth (years)*, 2019; Healthy life expectancy: World Bank, *Healthy life expectancy at birth (years)*, 2019; Obesity rate: OECD, *Obesity Update*, 2017: Avoidable mortality: OECD, *Avoidable mortality*, 2019; Infant mortality: World Bank, *Mortality rate, infant*, 2019; Ischemic stroke survival rate: OECD, *Health Care Quality Indicators: Acute Care*, 2019; Heart attack survival rate: *Health Care Quality Indicators: Acute Care*, 2019

Estonia	78.88	69.24	18	301	1.8	91.8	90.8
Finland	81.61	71.00	24.8	181	1.9	91.6	93.2
France	82.48	72.08	15.3	-	3.4	-	-
Germany	81.72	70.89	23.6	188	3.2	93.8	91.7
Greece	81.10	70.87	17	196	3.5	-	-
Hungary	76.44	67.19	30	404	3.4	-	-
Iceland	82.33	71.98	19	135	2.1	96.9	97.6
Ireland	82.84	71.07	23	-	2.9	93.3	95.3
Israel	82.62	72.38	17.8	133	2.8	94.2	94.7
Italy	82.97	71.92	9.8	-	2.6	-	-
Japan	84.26	74.09	3.7	137	1.8	-	-
Korea	83.30	73.06	5.3	147	2.7	96.5	91.1
Latvia	75.38	66.25	21.3	402	3.4	80.4	85.6
Lithuania	75.99	66.69	17.3	390	3.1	87.6	90.7
Luxembourg	82.41	71.55	22.6	143	2.3	-	-
Mexico	76.01	65.76	32.4	387	12.2	-	-
Netherlands	81.79	71.44	12.8	149	3.5	95	97.1
New Zealand	81.96	70.24	30.7	-	4.1	93.5	95.7
Norway	82.62	71.36	12	-	1.9	96.2	96.8
Poland	78.27	68.66	16.7	292	3.8	-	95.3
Portugal	81.57	70.96	16.6	-	2.8	90.2	92.7
Slovak Republic	78.23	68.54	16.3	321	4.8	91.4	93.7
Slovenia	81.31	70.74	19.2	200	1.9	89.2	95.8
Spain	83.22	72.09	16.7	144	2.7	90.7	93.5
Sweden	82.40	71.91	12.3	-	2.1	94.6	96.5
Switzerland	83.45	72.52	10.3	124	3.5	-	-
Turkey	78.62	68.41	22.3	233	8.6	92.5	96.1
United Kingdom	**81.40**	**70.13**	**26.9**	**194**	**3.8**	**91**	**93.4**
United States	78.50	66.12	38.2	273	5.5	-	-
OECD Average	**80.88**	**70.31**	**19.61**	**225.11**	**3.87**	**92.22**	**93.94**

Notes:

1. Healthy life expectancy - The all-cause years lost due to disability (YLD) per capita, adjusted for independent comorbidity, by age, sex and country.
2. Avoidable mortality (treatable + preventable):
    a. **Preventable mortality**: Causes of death that could be avoided if effective public health and primary prevention interventions were in place.
    b. **Treatable (or amenable) mortality**: Causes of death that could be avoided if effective and timely health care interventions, including secondary prevention such as screening, and treatment, were in place.
    c. Both indicators refer to premature mortality (under age 75).

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