

# Champions of Change: How Governments can Lead Healthcare Transformation

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Future of Healthcare



**WORLD  
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# To Inspire and Enable **The Next Generation of Governments**

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The Summit is a gateway to the future as it functions as the stage for analysis of future trends, concerns, and opportunities facing humanity. It is also an arena to showcase innovations, best practice, and smart solutions to inspire creativity to tackle these future challenges.





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# Foreword

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Published in collaboration with the WGS, this KPMG paper identifies what governments need to do to address current healthcare challenges and prepare for those ahead.

The report examines health system transformation from individual patients and citizens to global institutions, identifying changes required for optimal effectiveness and stakeholder buy-in. While challenges are common across most health systems, the dynamics, stakeholders, and infrastructure do not allow a one-size-fits-all policy blueprint. So rather than prescribe a narrow set of rules **we offer a principles-based approach** which each government can interpret according to its unique circumstances, needs, skills and resources. We hope that by taking stock of these principles, governments can obtain alignment and support among their partners – such as clinicians, providers, insurers, industry and regulators – to deliver on a common vision.

Using examples from across the globe, we trust our paper captures this moment of reflection to guide the transformation needed to improve health outcomes in the wake of COVID-19 and address challenges on the horizon.

The publication examines the implications of the pandemic for the world's health systems. It outlines the role of government action in healthcare and the principles that should underpin it. These include cooperation with the private sector and helping systems reimagine the role of patients.

Finally, the report presents a framework for action encompassing all stakeholder groups. It explains how stakeholders can: build an agile workforce, implement digital technologies, use financial reforms to offer incentives for value creation, and empower patients to take ownership of their own health.

The aim is to ensure the findings and recommendations have long, interactive lives, with continued media debate, regularly updated reports, and thematic panel discussions. As a result, this stimulates a collaborative effort that enhances debate and informs policymaking.



# Executive Summary



Many healthcare systems came close to being overwhelmed by the COVID-19 pandemic as it forced us to confront a key challenge in healthcare. We had to meet the growing demand despite intensifying constraints on resources such as public spending and the clinical workforce. COVID-19 has given us a glimpse of the future if we do not heed the lesson that we need to transform.

## Governments Have a Leading Role to Play in Healthcare Transformation

The Covid-19 pandemic has demonstrated the need for transformation in health systems globally. Governments had to coordinate the response, mobilize the public and private sectors, and develop dynamic policies to execute and enforce that plan. This has shown that skills, ingenuity and resources can deliver healthcare transformation when they are brought together with the right leadership. Having led the way out of this crisis, governments have a lasting role as leaders in healthcare transformation.

### Governments Should Construct their Healthcare Policies Around Eight Principles:



#### 1

##### Ensure Universal Coverage and Access

The health of the population is served best when people can get the right care at the right time in the right place, without cost being a barrier to access or a reason to defer necessary care.



#### 2

##### Build Care Around the Person

Developed healthcare systems users seek the same level of personalization and care as in customer-centric sectors such as retail and leisure. As healthcare becomes more complex and specialized, there has been a tendency for healthcare systems to become more fragmented. Patients are often left to navigate their way between services with little or no support.<sup>1</sup>

In contrast, a person-centric system is built around patients' needs. Person-centric primary care should be the starting point for integrated services in which patients seamlessly flow between home, virtual, primary, hospital, and long-term services. There is evidence that person-centric care can lower costs and improve quality.<sup>2345</sup>



#### 3

##### Give Patients More Ownership of Their Health

Other industries have overhauled their value proposition (how a company or service provider promises to deliver value to customers<sup>6</sup>) to give people greater ownership and choice. Healthcare systems should put patients at the heart of transformation and enable them to have more power over their own healthcare.



## 4

### Think Holistically About the Determinants of Physical and Mental Health

COVID-19 has driven home how every aspect of our social structures, from housing to education, impacts our health. Across the world there are stark differences in life expectancy and healthy life expectancy between rich and poor, irrespective of national wealth. Governments need to design policies that address the root causes of domestic and international inequities in health outcomes.



## 5

### Incentivize the Best Outcome for Patients

All governments face the same challenge: how to improve health while keeping care affordable. Aligning reimbursement incentives with desired outcomes will mobilize providers to achieve those outcomes rather than drive volume. This reduces costs and delivers higher patient satisfaction.



## 6

### Build Systems that are Resilient in Good Times and Bad

The pandemic has revealed the fragility of even advanced healthcare systems. Resilient healthcare requires:

- a large, agile workforce
- public and private sector collaboration
- secure, reliable data analysis and data sharing systems
- robust supply chains
- well-resourced local public health systems.

Healthcare staff shortages pre-date the pandemic<sup>7</sup>. Most countries now understand that investing in their healthcare workforce is a small price to pay compared with the economic destruction that it avoids—health is wealth. The way forward is to re-think national investment strategies, workforce productivity and clinical services, and equip staff with the skills and resources to harness the disruptive power of technology.



## 7

### Plan Long-Term to Unleash the Power of Digital

Government thinking tends to be driven by electoral timescales, while healthcare decisions such as medical workforce training and investing in data systems have timescales that far exceed election cycles.

Success in healthcare transformation will be achieved by governments' commitment to digitalized health services built around user needs. Digital will evolve to deliver more convenient, personalized, artificial intelligence (AI)-powered, smart care. This will be provided through physical and virtual channels to suit the individual, who becomes a partner in managing their own wellbeing.



## 8

### Engender Creative Partnerships: The Only Way Forward

The pandemic has reinforced the message that governments and the private sector can be partners in healthcare. While governments have leading roles in transformation, much innovation and delivery will be in private hands.

Healthcare innovation depends on innovators, researchers, investors, developers, regulators, policymakers and users. Governments need to provide clear rules, encourage collaboration, and help propel good ideas to market quickly.



## Section 1

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# Setting the Stage for the Government

## Historical Context – Barriers to Change

Government has often been regarded as a barrier to healthcare transformation. Short-term thinking has distracted from workforce expansion and digital infrastructure investment. Lobbying by vested interests – private sector providers, doctors' unions, insurance companies – has often discouraged the challenging of professional elites or reining in costs through payment reform.

**Voter demographics** can hinder change. In the United States unhealthy individuals are less likely to vote, making it harder for governments to improve healthcare quality and access for the most deprived.<sup>8</sup>

**Regulation** can hold back innovation. Rules intended to safeguard patient confidentiality can impede critical information-sharing between healthcare professionals<sup>9</sup> and slow research.<sup>10</sup> Laws specifying the responsibilities of clinical professions have failed to keep pace with changing skills and healthcare system needs.<sup>11 12</sup>

After the 2008 financial crash Spain, Portugal, Greece, Italy and the UK responded to the crisis with **austerity policies** that squeezed healthcare.<sup>13</sup> Hospitals in all these countries struggled with COVID-19.<sup>14 15</sup>

High-profile government investment projects, such as building hospitals and rolling out big digital schemes, often run late, **exceed budget** or fail to deliver promised outcomes.

Governments, faced with healthcare systems of great complexity, limit their ambitions for transformation. The resulting piecemeal, uncoordinated, bottom-up approaches to change fail to address the demand and cost pressures overwhelming systems dominated by hospitals that focus on treating illness, rather than primary care systems that keep people healthy.



## How COVID-19 has Reframed the Debate

While virtually all countries have at times struggled with their response to COVID-19, the global pandemic and the public's belief that their government should keep them safe has also provided governments with opportunities to show they can be agile, innovative and outcome-focused. Profound decisions – curfews, lockdowns, the imposition of public health practices such as wearing masks, and eventually the rollout of vaccine programs – have been made in response to real-time data.

Regulations have been changed or suspended to facilitate emergency-use authorizations for vaccines<sup>16</sup>, allow staff to be retrained and redeployed, simplify data sharing, and support the introduction of new digital tools. Partnership with the private sector has enabled services to move online and the rapid development, trialing and manufacturing of vaccines.

The pandemic has forced governments to reconsider every aspect of their healthcare systems. This includes workforce size and shape, digital infrastructure, disease surveillance, research, supply chain speed and resilience, access to care, data use, regulation, and service integration. It has also re-ignited debate about factors contributing to poor health such as overcrowded housing – which encourages the transmission of COVID-19 – and conditions such as obesity which have significantly increased the risk of death from COVID-19.<sup>17 18</sup>

## What Role Should Government Play?

In pursuit of a healthcare future which is digitally enabled and person-centric, governments will need to take the lead as enablers to innovation and partners in transformation. Regulatory flexibility, investments in technology and people, and supporting the right public and private sector partners will allow governments to become transformation catalysts.

Digitally enabled healthcare is by no means the preserve of wealthier countries. On the contrary, developing countries pursuing universal access to healthcare are increasingly looking to the reach and economies of scale offered by digital to provide services at a far lower cost than would have been possible without networked technology.<sup>19 20</sup>

Since healthcare is a core political issue, there is a temptation for governments to create prescriptive plans for its structure and delivery. But the speed and complexity of changes in technology, attitudes and expectations means that **any rigid scheme faces rapid obsolescence**.

Governments that do not have direct responsibility for providing healthcare should:

- Set system values such as social solidarity and the right to affordable healthcare, quality standards, and goals such as expanding access or ensuring adequate mental health services.
- Establish rules on pricing and the confidentiality of patient records, and create environments of innovation that ensure the supply of an agile, adaptable workforce.

Levels of government funding and its distribution have profound effects on the scale of healthcare and how systems behave. Traditional fee-for-service payment models incentivize the volume of care instead of quality, driving up costs and undermining productivity.<sup>21</sup> In contrast, **incentives to manage population health and focus on outcomes are more likely to support healthy behavior among the public and ensure value for money.**<sup>22</sup> Financial incentives can also be levers for new forms of care which improve access or quality, such as virtual consultations, by adding them to reimbursement schedules and providing subsidies.

Regulations can likewise promote or inhibit quality improvements and care transformation. While setting professional practice limits helps ensure quality and safety, prescribing rigid boundaries between professions can prevent staff from making full use of their skills, perpetuate outdated ways of working, and inhibit multidisciplinary teamwork.

Beyond the healthcare system, **governments must understand the impact of factors such as housing, education and employment on people's physical and mental health.** There is now a substantial body of international evidence that the conditions in which people are born, grow, live, work and age are key determinants of their health. The social determinants of health are in turn influenced by drivers such as the way the economy works, the distribution of power, gender equity and societal values.<sup>23</sup>

## Flipping the Pyramid of Care

Transforming healthcare means changing the balance of power, which currently resides with doctors rather than citizens and patients, and in hospitals rather than communities. Governments need to 'flip the pyramid of care' so the system focuses more on the needs of each individual, supporting them in the community through local and digital services and only admitting them to hospital when necessary.<sup>24</sup>

Strong primary care will achieve what the Institute for Healthcare Improvement in the United States – which promotes the use of improvement science to improve quality, safety and health outcomes<sup>25</sup> – calls the "**triple aim**" for healthcare: **improving patients' experience of care (including quality and satisfaction); improving the health of populations; and reducing per cost per head.**<sup>26</sup>

KPMG research has identified a paradox between the strategic role assigned to primary care and its relative lack of investment, importance and influence. It is being held back by inappropriate payment mechanisms that incentivize the wrong types of care, a failure to work with people with more than one long-term condition to design care around their needs, a decline in care continuity as primary care practices employ increasing numbers of sessional doctors, and the need to have better links to services in the community such as housing, social care and the voluntary sector.<sup>27</sup>

Healthcare leaders see it as transformative, but despite this, investment in primary care still remains below the level necessary for it to fulfil its strategic potential.

An empowered and well-resourced primary care system rooted in the local community improves access, enables patients and communities to become partners in health, supports people to age well, and allows local innovation to support the specific needs of a given population. In both developed and developing countries, primary care has been shown to be associated with enhanced access to care services, better health outcomes and a decrease in hospitalization and the use of emergency departments. It can also go some way to countering the health impacts of poor social conditions.<sup>28</sup>

Primary care has traditionally been seen as a GP-dominated gatekeeper for secondary care, but as healthcare becomes more complex its role is increasingly moving towards the **integration of care provision.** In this 'enhanced primary care' model,<sup>21</sup> it sits at the heart of integrated services, directing patients to cost-efficient channels and ensuring the right care is delivered at the right place, at the right time and at optimal cost to the system. Hospital services are seen as the last resort rather than the first port of call after the GP's surgery. The aim should be continuity of care built around the needs of the individual patient as they move between home, virtual, primary, community, hospital and long-term services.







Governments may be tempted, post-pandemic, to invest more in hospitals: intensive care bed numbers are often seen as indicators of preparedness. But lifestyle factors such as obesity increased demand for hospital beds and critical care. The pandemic reminds us that **having an engaged and informed public, with healthy lifestyles and supported by early interventions, helps keeps people out of hospital.**<sup>29 30</sup> Debate needs to shift to how primary care and public health can prevent disease outbreaks and reduce their impact when they happen, such as by helping people to age well.

## Healthcare's Digital Revolution Has Arrived

The pandemic means healthcare's digital revolution is now unfolding rapidly. Over the last two decades other industries have pivoted to digital channels, connecting directly with consumers at lower cost. COVID-19 has propelled similar, overdue changes to healthcare, forcing adoption of digital techniques which, when used appropriately, can improve safety, quality, access and patient experience.

To support this revolution, **governments need to mandate interoperability and open standards**, ensure data can be shared easily and securely, and support the development of mobile infrastructure. By creating trusted connectivity between providers, data can follow the patient, allowing all providers across the system to make the most informed clinical decision.

**Digital success depends on an agile workforce delivering team-based, multidisciplinary care.** As healthcare becomes increasingly digitally driven – as is already being seen routinely in some of the most advanced hospitals worldwide – staff will leverage technology such as machine learning to identify signs of deterioration in real time and interpret scans. Technology provides the information and frees up the time to allow the clinician to focus on the patient, using the mix of physical and virtual channels that healthcare consumers increasingly expect.

In low- and middle-income countries in particular, scaling up digital health depends on offering tangible benefits to address an unmet need, involving service users from the outset, engaging, training, and motivating stakeholders to implement the change, and keeping the technology easy to use, interoperable, and adaptable.<sup>31</sup>

## Section 2

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# Government in Action Principles and Policies





## The Founding Principle - Ensure Universal Coverage and Access

The UN's Sustainable Development Goal of Universal Health Coverage (UHC) has committed governments around the world to achieve this by 2030, necessitating bold strategies and big investments. But there is a long way to go:

- Half the world lacks access to essential health services. In many countries, healthcare is constrained by prohibitively high expenses – 100 million per year.<sup>32 33</sup>
- The world's most expensive healthcare system – the United States' – does not provide universal coverage,<sup>34</sup> and around 29 million of its non-elderly population are uninsured.<sup>35</sup>

Achieving true universal health coverage is a challenge for most countries. All over the world there are difficulties in getting healthcare to rural and remote areas and impoverished parts of towns and cities. The pandemic shook the complacency of many leading industrialized nations as their large and generally well-funded systems struggled to provide care.

Distilling our global experience in supporting governments, payors, providers, and patient groups, we have identified seven principles that should guide governments' roles as leaders, partners and enablers in transforming healthcare. The goals are healthier, happier and better-served populations.

### Principles-based Government Healthcare Transformation Map

Transformation principles	A healthy, happier, and better served population		Government as a leader, partner, enabler of transformation				
	Ensure universal coverage and access						
	Build care around the person	Give patients more ownership of their health	Think holistically about the determinants of health	Incentivize the best outcomes for patients	Build systems that are resilient in good and bad times	Plan long-term to unleash the power of digital	Engender creative partnership
Elements	Develop primary care at scale as universal service run by integrated, multidisciplinary teams, incentivized by funding mechanisms which moves care away from hospitals	Use payments systems to incentivize care self-management, empower patients through technology, include the patient voice in outcome measurements	Refocus public spending to build community resilience, invest in public health programs and address root causes of deprivation	Decide the goals, measure costs and outcomes, understand markets, ensure access, be transparent, build support for reform, evaluate progress	Allow clinicians to work to top of license, break down unproductive barriers, liberate clinical training numbers, invest in care assistants, embrace proven leadership techniques	Mandate interoperability and open standards, invest in cloud, ensure data security, support mobile infrastructure, incentivize digitalization	Regulate to encourage right behaviors, help innovators find funding, research and development partners, help good products get to market
Transformation Framework	A person-centered system that focuses on their health and wellbeing – including prevention and primary care – that's delivered accessibly in their community	An empowered population that is informed and given the opportunity to 'own' their health and make decisions with their providers, improving outcomes and experience	A holistic integration of contributors to a person's health and wellbeing, including social determinants of health (e.g. housing, employment), creating greater equity and better outcomes	Value seen through the lens of patients' needs rather than provider processes, payment systems align and optimize the value created by each part of the healthcare system and incentivize the achievement of the desired outcomes	A health system with resiliency built into its capacity – from an optimized workforce to a secure supply chain to help respond to system needs day to day and crises	A health system built on a digital backbone that enables secure interoperability between integrated care providers, empowers patients and uses data to inform decision-making at the policy, provider, and patient level	An ecosystem of innovation where the best providers, researchers, and manufacturers are supported by responsive regulation and readily available capital
	Transforming Delivery			Transforming Systems			



## Principle 2

### Care Should be Built Around the Person

Person-centric healthcare should aim for the optimal health and wellbeing of individuals and populations through accessible care, focused on prevention as much as treating disease. Healthcare users increasingly seek the customer-centric focus they experience with retail and leisure. For health systems to move beyond 'one-size-fits-all' they need to adopt the six pillars of outstanding relationships with service users:<sup>36</sup>





## 1

### Act with Integrity and Engender Trust

Just as trust in personal relationships must be built over time, healthcare providers, health systems, and the governments that regulate and manage them must establish trust through consistent and transparent action. This includes standing for something more than profit and trying to do the right thing for every patient.



## 2

### Use Empathy to Build Rapport

Organizations need to show they care, by demonstrating the needs of patients are their prime concern. Kindness and empathy need to be at the heart of healthcare delivery, demonstrated through the culture of the organization and the way staff interact with patients.



## 3

### Create Person-Centric Experiences to Drive Emotional Connections

Taking into account individual needs and circumstances ensures they feel listened to and involved in their healthcare decisions, giving them a sense of control.



## 4

### Resolve Problems to Turn Poor Experiences into Positive Ones

When care fails to achieve the desired outcome it is important to engage with the patient to understand what did and did not work. As well as clinical outcomes, quality and experience should always be priorities for providers, and a part of their process of continuous improvement.



## 5

### Manage, Meet and Exceed Expectations

Satisfaction is the difference between expectation and delivery. The aim should always be to understand, deliver and, whenever possible, exceed expectations.



## 6

### Reduce Burden on the Person

People expect quick and seamless service. Reducing obstacles and bureaucracy in their healthcare experience increases patient satisfaction and trust.



## Policies for Building Person-Centric Health Systems

The Declaration of Astana by WHO representatives from 120 countries affirmed that strengthening primary care is the most inclusive and efficient approach to enhancing physical and mental health. It reduces costs, increases service integration, raises consumer satisfaction, and facilitates dramatic improvements in care pathways and provider collaboration. It is also embedded in the communities where we live, work, and interact.<sup>37</sup>

But in many countries investment in primary care has stalled. In the National Health Service (NHS) in England, consultations in general practice grew by 0.7% a year in the two decades to 2020, while planned procedures, mainly in hospitals, grew 9.6%. This has resulted in a major shift towards hospital-based care.<sup>38</sup> Healthcare systems in lower- and middle-income countries are often investing considerable resources in hospitals without ensuring they are complemented by a sustainable system built around primary care.<sup>39</sup>

## Changing Attitudes

Changing to primary care-oriented systems requires a change in perceptions. Payment models still reward hospitals for providing care when delivery closer to home is usually more economical and effective. Poor interoperability undermines the use of technology to share data, integrate care, support quality improvement and direct patients to primary care facilities.

Professionals across the healthcare system need to regard primary care as having equal prestige as hospitals, and see collaboration with a patient's family physician as essential to high quality care. The public needs to be informed about the convenience and quality of care that can be delivered through primary care.

## Elements for Success

Primary care needs to be:



**Person-centric, population-oriented and comprehensive**, meeting patients' physical and mental health needs. Where appropriate skills or services are not available, staff should co-ordinate care with professionals from other community services and specialists in secondary care, and signpost local welfare and other social support services.



Person-centric care acknowledges the **impact of broader life circumstances** on an individual's wellbeing, such as wealth, housing, employment, and family situation. Patients and carers are core participants in decisions around treatment.



Primary care is population-oriented because it **understands and tries to meet the needs of the entire community**, not just those registered with its clinics. This means supporting potentially excluded groups such as the homeless or isolated, as well as understanding and addressing the root causes of ill health.

## Design Principles for Person-Centric Care

Governments need to identify principles the public want embedded in new primary care systems and create momentum for change. These principles should be detailed enough to enable their application while leaving room for local creativity. They must be backed by incentives, measures, contracts and rules that encourage evolution while managing risks. We have identified four design principles:<sup>27</sup>

### 1 Access and Continuity

Give **rapid access to sufficient information and expertise** while ensuring continuity throughout the care journey by allowing data to follow the patient.

Global trends include: increasing the size and scale of primary care clinics; growing specialist services in the community supported by remote consultants and point-of-care diagnostics; clinics tailored to people with multiple conditions; and investment in non-medical interventions to encourage healthy habits and improve social health determinants.

### 2 Patients and Populations

While family physicians remain the bedrock of primary care in high-income countries, many systems have changed their focus in recent years to **integrated teams** involving doctors, pharmacists, nurses, allied health professionals such as physiotherapists, and new cadres of clinical support roles, to offer a wider array of services.

This reflects a shift toward population health management, alongside an enhanced role for patients in setting and achieving care goals, which often go beyond traditional biomedical indicators. Multi-disciplinary teams work with the patient to deliver an **integrated care plan** with goals such as lowering their risk of heart disease, and think innovatively about support, such as 'social prescribing' to join an exercise program.

### 3 Information flows and outcomes

Governments need to offer incentives to move patients away from high-cost secondary care and into more efficient settings.

- Countries such as Saudi Arabia are developing systems similar in principle to US **Accountable Care Organizations** (ACOs), where local integrated systems collaborate to manage population health. These enable the scaling up of primary care. But the ACO model does not guarantee improved outcomes or reduced costs. It is critical that ACOs do not become swamped by the complexities of aligning information, money and outcomes, and instead focus on front line improvements.<sup>40 41</sup>
- Another successful model is the **Patient-Centered Medical Home**. This model ensures primary care practices take responsibility for all enrolled patients, including services beyond primary care. It relies on **integrated electronic health records** and supports patients in managing their own conditions with the help of mobile apps. It also needs **payment models that reward outcomes** achieved by different providers working together, from hospitals and clinics to schools, religious institutions, food outlets and other community-based organizations.





# 4



## Management and Accountability

As value-based payment mechanisms are introduced, it is critical that a primary care-oriented cadre of managers and leaders is developed to support service change. **Transparency of provider and payer performance** reduces variation and strengthens accountability, challenging local health systems to improve.



### Case study: Clalit, Israel – the power of digitalized primary care

- Israel is possibly the only country in the world with a primary care-led, digitalized healthcare system, which demonstrated its power with the COVID-19 vaccine rollout.
- Care is provided by four non-profit Health Maintenance Organizations (HMOs) of which the largest is Clalit, with over four million members. Each HMO has its own network of primary care clinics with staff including social workers and allied health professionals providing round-the-clock care.
- Clalit runs over 1,500 clinics alongside geriatric, rehabilitation and mental health care hubs, 14 general and specialist hospitals and a countrywide network of pharmacies, dental clinics, and laboratories.<sup>42</sup> It provides a high standard of care at low cost.  
<sup>43</sup>Patient satisfaction is high.
- Primary care services are easily accessible, with two-thirds of patients seen the same day.
- Hospital-to-community communication is enabled by Clalit's data-sharing system including online health records and results. Health activities are informed by intelligent data. Even before the pandemic, many consultations were conducted over smartphone.
- Digitally enabled health saw Israel initially lead the world in COVID-19 vaccinations. HMOs used electronic health records to rapidly identify and reach out to population cohorts by text message to book vaccinations.
- Israel's primary care focus can be seen in its hospital spending, which fell from 42% to 35% of total health spending between 1995 and 2012, while community care rose from 39% to 43%.<sup>44</sup>
- Israel's primary care focus can be seen in its hospital spending, which fell from 42% to 35% of total health spending between 1995 and 2012, while community care rose from 39% to 43%.<sup>44</sup>



## Principle 3

### Give Patients More Ownership of their Health

Patient empowerment involves people gaining control over decisions affecting their health,<sup>45</sup> which has often been promised by providers and governments, yet rarely delivered. It depends on transforming organizational cultures and systems through training, leadership, financial incentives, and data.

An empowered patient understands their role in their own healthcare, can acquire sufficient knowledge to engage with providers, has the skills to use this knowledge to contribute to decision-making, and feels supported by the system to take more control. Steps that can be taken by clinical staff to support self-management include identifying problems from the patient's perspective, listening to them, helping them to set goals and helping them overcome concerns.<sup>46</sup>

Patient empowerment is difficult to implement. It can mean different things depending on whether patients have meaningful choices and the physical and emotional strength to engage, and the skills and confidence to express their preferences.

### Policies for Empowering Patients

Healthcare has largely failed to transform its value proposition to encompass patient empowerment because it has seen patients' involvement in their own care as a moral rather than economic issue. The alignment between what patients want and what is provided is often poor, leading to over-diagnosis and treatment and wasted staff time and money. There is growing evidence that patient empowerment can be cost-effective.<sup>47</sup>

Payers are starting to understand the potential of patient power to put pressure on costs while improving quality. Patients with the fewest skills and least confidence to engage in their own healthcare cost 8–21% more than activated patients, even after adjusting for health status.<sup>48</sup>

There are four main ways that governments can encourage patient empowerment and activation:



## 1 Incentivize Care Self-Management

Payment systems need to be structured to reflect the value-creating possibilities of patients, their caregivers and communities. If self-management is treated as an episodic cost it will be difficult to see the return on investment, but if the system looks across the entire patient pathway or population, the return on investment in better patient self-management can be significant. The management of long-term conditions is the obvious example.

Personal health budgets are another financial lever for patient empowerment. The payer allocates money to support an individual's health goals, which they can then spend as part of their care plan.<sup>49</sup> For personal health budgets to work, people need support in making informed decisions.



## 2 Empower Patients through Technology

Digital technology is allowing patients to become active partners in their care and to manage long-term conditions. Self-care platforms such as symptom checkers and medical helplines include Babylon Health in the UK and Saudi Arabia, and Tonic in Bangladesh.

Regulators and clinicians should promote a joined-up approach to app development. For example, apps helping with the management of a long-term condition should include symptom checking, data collection and physical and mental health support.





## 3

### Include the Patient Voice in Outcome Measurement

Many performance measures ignore the patient voice. When judging outcomes, it is important to assess the extent to which they meet patient expectations.<sup>50</sup>



## 4

### Prioritize the Patient Voice in Clinical Training

Giving patients more say in their own care challenges centuries of medical culture. The only way to make it happen is to embed the principle of patient empowerment from the first day of medical training.



#### Case Study: Local People as ‘Customer-Owners’ – Southcentral Foundation, Anchorage, Alaska, USA

- When Southcentral Foundation assumed responsibility for primary, community and mental health services for Alaska Native people in the mid-1990s, the quality of care and outcomes were among the United States' worst. Southcentral is now seen as a pinnacle of health system redesign. Costs are down, quality is up and health outcomes are among the best in the US.
- Improvement began when responsibilities for services and funding were transferred from the federal government to a mix of tribal, local and community leadership,<sup>51</sup> without significant regulation or competition. Transformation was driven by leaders, healthcare staff and the community.
- Southcentral rejected the established healthcare model of experts deciding what's wrong with patients and dictating what to do. Rather than passively receiving tests, diagnoses and pills, their ‘customer-owners’ were encouraged to share responsibility for health and wellness.
- The clinical team provides expertise, but the customer-owner makes the decisions. Southcentral’s performance measures include whether primary care teams support people in taking ownership of their care. In 2015, 96% of customer-owners indicated ‘I was involved in decisions about my care’.
- Southcentral provides an alternative to strategies that pursue inspection to ensure effective performance management.

# Principle 4

## Think Holistically about the Determinants of Physical and Mental Health





The COVID-19 pandemic has highlighted how every aspect of our social structures, from housing to education, impacts our health. Governments need a greater understanding of those points of interdependence and the implications for policy and services.

Across the world there are stark differences in life expectancy and healthy life expectancy between rich and poor, irrespective of national wealth. Global evidence suggests that social determinants of health are responsible for the distribution of disability and mortality from noncommunicable diseases.<sup>52</sup> Governments need to design policies that address domestic and international inequities.

### Policies to Secure Equity in Health and Wellbeing

The COVID-19 pandemic has highlighted how every aspect of our social structures, from housing to education, impacts our health. Governments need a greater understanding of those points of interdependence and the implications for policy and services.

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### Policies to Secure Equity in Health and Wellbeing

Many of the United Nations' Sustainable Development Goals (SDGs) relate to the reduction of health inequalities nationally and globally, including:<sup>53</sup>

- No poverty
- Good health and wellbeing
- Quality education
- Gender equality
- Reduction of inequalities within and between countries.

**In the US, the richest 1% of men live an average of 14.6 years longer than the poorest 1%,** while for women the difference is 10.1 years.<sup>54</sup> In Finland, one of the more equal societies, the difference in life expectancy at age 25 between those in the highest and lowest fifths of the population for income was, in 2007, 11.4 years among men and 6.3 years among women.<sup>55</sup>

In low- and middle-income countries noncommunicable diseases such as those caused by obesity are becoming increasingly common and disproportionately affect poor communities. Compounding this, poor households are more likely to suffer financially catastrophic expenditure from illness, so the people who most need treatment are most likely to forego it.<sup>56 57</sup>

To give people a more equal chance in life, the WHO Commission on Social Determinants of Health recommended supporting maternal health, vaccinating against measles, ensuring effective treatment for childhood diarrhea, investing in rural transport, preventing environmental degradation, and providing social protection at every stage of life.<sup>58</sup>

Direct health interventions should include vaccination and screening drives targeted at deprived communities, ensuring access to services such as sexual health and reproductive care, using nutrition programs to support healthy child development and incentivizing smoking cessation.<sup>59</sup>

For countries in the early stages of developing universal healthcare the goal should be breadth before depth.<sup>43</sup> This means providing a small number of benefits to all citizens quickly through good basic primary care rather than developing a complete package for a minority.<sup>43</sup> This will help build public confidence and political support for UHC and have the greatest impact on the greatest number of people.

### Delivering for Underserved Communities

In almost every country there is an underserved community, such as ethnic minorities or migrant workers, who are often marginalized or ignored when it comes to shaping domestic policy priorities. These communities tend to have low incomes, be socially deprived, and suffer from high levels of chronic disease.<sup>60</sup>

As well as being an issue of social justice, poverty imposes huge costs on the state. Research in Canada identified poverty as one of the biggest burdens on the economic, healthcare, and criminal justice systems, with tens of billions of Canadian dollars being spent on employment insurance benefits and support for low-income families alone. A 2011 study in the country's province of British Columbia estimated that delivering a comprehensive poverty reduction strategy would cost CAN\$4 billion – less than half the cost of doing nothing.<sup>61</sup>

### Rebuilding Lives and Trust after the COVID-19 Pandemic

Both the pandemic itself and the lockdowns to try to contain it have exacerbated health inequalities. Beyond the impact on older people, the death toll has disproportionately affected people with underlying health conditions, those living in crowded housing and people with high-risk occupations such as working in care services. The consequences of the lockdowns include job and income loss, reduced access to green space and poorer mental health.<sup>62</sup>

WHO data indicates that 153 countries have needed to offer citizens cash support, while educational facilities closed in over 200 countries, affecting 86% of children in primary education in countries classified as low development. Marginalized workers such as migrants and those reliant on daily wages report lower wellbeing scores and high levels of stress. In the longer term the consequences of unemployment will again be unequally distributed.<sup>59 63</sup>

The pandemic is pushing health inequalities to the front of political debate. As well as addressing the direct and indirect consequences of COVID-19, trust needs to be rebuilt between state institutions and the people who have suffered most.<sup>64 65</sup> Mistrust is a significant contributing factor to vaccine hesitancy among populations that are being hardest hit by the virus.<sup>66</sup>

The Health Foundation in the UK has talked about the need for a new social compact, including elements such as an enhanced role for the state in providing social protection, investment in public health programs, measures to improve the security and quality of housing, and action to address systemic barriers facing minority groups.<sup>67</sup>



### Case study - Morehouse School of Medicine National COVID-19 Resiliency Network, Georgia, USA

- **Morehouse School of Medicine** in Atlanta, Georgia, has been working with the federal government to develop a national network of community-based organizations to help address the impact of COVID-19 among deprived and ethnic minority populations. The project says it focuses on African-Americans, Latinos, Asian-Americans, Native Hawaiians and other Pacific Islanders, Native Americans and Alaska Natives. The network collaborates with social enterprises, companies, academic institutions, health centers, hospital systems, faith-based organizations and federal agencies to provide critical, culturally relevant resources at the community level.<sup>68</sup>
- **The National COVID-19 Resiliency Network** (supported by KPMG, which built the technology platform underpinning the program) disseminates COVID-19-related information to minority populations.<sup>69</sup> The platform was built on the principle of 'for the community, by the community'. It involved community representatives in its design to increase the likelihood of success while building trust. As well as helping people access a wide range of support in their local area, from food to medical tests, data analytics are being used to identify the support needed.

## Principle 5

# Incentivize the Best Outcomes for Patients





Governments face the same challenge: improving population health while keeping healthcare affordable for all parts of the system, including patients, taxpayers, providers and insurers. The ways physicians, clinics and hospitals are paid impact financial and care outcomes. Aligning reimbursement to incentivize the desired outcomes will alter healthcare spending trajectories and change outcomes for patients.

Most systems around the world operate under fee-for-service models, which drive volume and cost while often failing to ensure quality. **Providers benefit from delivering services for the sick, but they are not incentivized to improve the wider health and wellbeing of the communities they serve.** True value is measured in outcomes, not processes or inputs, so payment systems need to reflect value seen through the lens of patients' needs. Since outcomes are rarely tied to the activities of a single provider, outcome-based systems need to align stakeholders to ensure greater collaboration across the care pathway.

The pandemic has highlighted the need for incentives to keep pace with technological developments and changing patient expectations. As primary care and outpatient appointments shifted to telephone and video consultations, temporary payment codes had to be issued for virtual consultations to ensure services were reimbursed in the same way as face-to-face consultations.

## Policies to Incentivize the Best Outcomes

As demand rises, costs and service complexity grow and technology advances, payment systems must enhance healthcare value. The following principles should underpin payment reform:



### To Measure is to Know

The starting point needs to be analysis of the existing system, beginning with outcomes and costs of care. This enables policymakers to understand where there are value opportunities that can be supported through payment reform.

If reducing the number of low birthweight babies is a key goal, for example, the costs of care should encompass the full duration of pregnancy as well as newborn care. Value must be equated with patient needs rather than provider processes. When supporting elderly people with long-term conditions, the goal moves from managing each individual illness to enhancing quality of life.

Measuring costs and outcomes is complicated, with challenges including poor data and deciding which of the array of quality measures best reflects the outcome. An example of simplifying this information is using the absence of avoidable complications in the year following an operation as the measure of success.



### Consider Market Dynamics

Policymakers need to understand the characteristics and market dynamics of health systems, and the implications of payment reform. This includes supply and demand trends, available political and economic levers and analysis of value opportunities. Understanding the power dynamics between supply (the provider groups) and the future needs of populations need to be factored in as governments shape, get support for, and execute reform programs.



### Balance Incentives Between Supply and Demand

Any reform must balance supply and demand incentives. Singapore recognized the long-term benefit of greater vaccination rates for diseases prevalent in the region, and improved population health through an ambitious vaccination program which reduced financial barriers through cost-sharing.<sup>70</sup>



### Ensure Form Follows Function

The way a delivery system is organized should stem from the functions (dependent on population needs) and outcomes (health policy goals) it aims to achieve. Once needs and goals are clear, incentives can be devised to reinforce outcomes and drive care transformation. Governments tend to work in reverse by starting from their current state, which often perpetuates existing practices rather than promoting care integration. Focusing on key areas for improvement, even if limited to specific disease groups, populations, or segments of care, can help drive payment reform.



### Ensure Fairness and Access

Payment systems should ensure the distribution of resources does not discriminate between different patient groups. For example, capitation payments need to account for risk factors such as age, gender and health status, to discourage providers from 'cherry-picking' younger, healthier, or less costly citizens.<sup>71</sup>



### Make Payment Systems Transparent

Payment systems should be standard, transparent and understandable so their aims and means of achieving goals are clear to policymakers, payers and providers. Data governance, trust, and accountability frameworks are critical to determining how funding flows, whether outcomes were achieved, and where corrective action is necessary.<sup>72</sup>



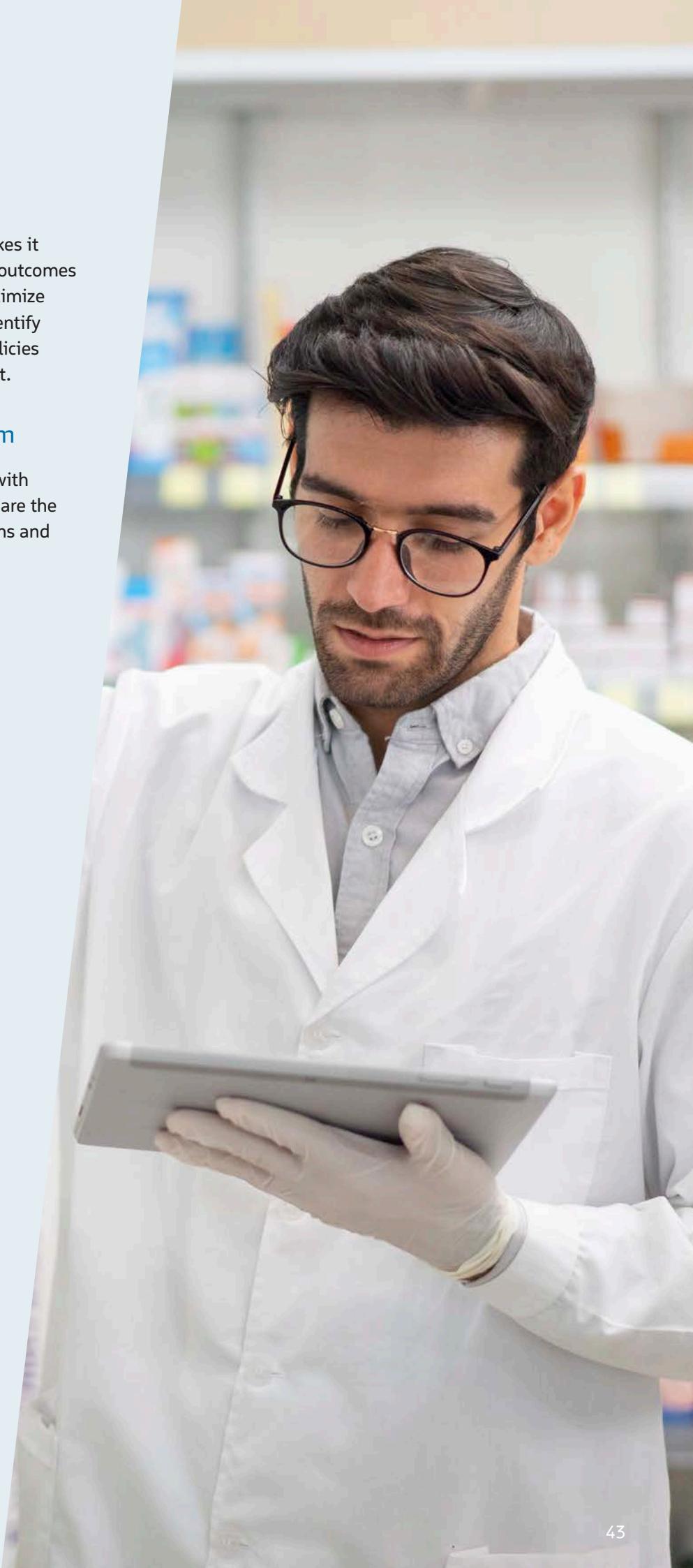
## Evaluate the Reforms

Health market complexity makes it unlikely that payment reform outcomes will neatly fit the plan. To maximize the chances of success and identify problems early, changes to policies should be tested before rollout.



## Build Support for Reform

Governments need to engage with stakeholders from the start, share the aims and motivations of reforms and secure buy-in.







## Case study - Enabling System Reform in Alzira, Spain

- Spain's financial pressures hit its unwieldy, obsolete healthcare system in the 1990s. Tasked with maintaining a universal system while mitigating financial risk, policymakers introduced reforms that separated financing, purchasing and provision of health services. This allowed for private sector participation through public-private partnerships to deliver services under capped funding arrangements tied with quality measures.
- Alzira district in Valencia was one of the first to take advantage of these partnership opportunities, inviting a private consortium to build and run a hospital. Health management company Ribera Salud established a partnership to improve access to care, make costs sustainable, improve health outcomes and improve system efficiency. The model was based on four pillars:



**1**

**Public financing** – the district pays a capped annual per capita rate to Ribera, which then contracts with providers (many of whom are government employees) and covers all treatment costs for the designated population.



**2**

**Public ownership** – the service delivery network and infrastructure (including the hospital) are owned by the public and situated on public property.



**3**

**Public control** – Ribera is held accountable by the partnership agreement, which includes profit capping at 7.5 percent of revenue; the remainder is returned to the government for reinvestment. System performance, population health and outcome measures are tracked.



**4**

**Private delivery** – through contracting for 15–20 years and promoting accountability for costs and outcomes, Ribera functions as a single, integrated provider.

- The model offered a new way of improving care, access and infrastructure, and it was expanded to other districts across Spain. The partnership model provided cost certainty, cost-effective system management and government oversight of quality and access.<sup>44</sup>

# Principle 6

## Build Systems that are Resilient in Good Times and Bad





The COVID-19 pandemic has demonstrated the fragility of even advanced healthcare systems (those consuming around a tenth of GDP).<sup>73</sup> Resilient systems require a large, agile workforce, robust supply chains, strong collaboration between the public and private sectors, secure, reliable systems for collecting, analyzing and sharing data and well-resourced, local public health systems.



### The Future Workforce will be Agile

- COVID-19 has shown that the workforce needs greater agility to ensure resilience, says Susie Perks-Baker PhD, Leadership Associate at the King's Fund.
- Speaking to KPMG, she said: “The workforce almost needs to be modular so that you can ‘bolt on’ skills that are needed at a particular time, and people are using that terminology for what future hospitals might look like.”
- “[During the pandemic] you can’t just say ‘That’s not my job, I’m never going to work in a respiratory unit’. So professional boundaries have been challenged, which is interesting because we have coveted and rewarded specialism.”
- But she stresses that people who have retrained to care for COVID-19 patients have themselves been dependent on specialists such as respiratory consultants, “so it’s a question of balance”.
- Perks-Baker foresees a more modular approach to skills having long-term implications for training and workforce planning. Training would be geared towards the acquisition of diverse skills across clinician careers. These could help resolve the difficulties of predicting requirements for different specialisms years in advance, driven by the current clinical training rigidities: “How do you plan a workforce for disruption? You have to plan for flexibility and agility.”
- In future health emergencies, this would enable faster reskilling and redeployment of staff.

## Policies to Build Resilience

### Develop an Agile Workforce

Before the pandemic there was already a global shortage of healthcare staff. Projections indicated that demand for health workers would rise to 80 million by 2030,<sup>74</sup> but the WHO forecast that there would be a shortfall of around 18 million.<sup>75</sup> The pandemic is likely to accelerate long-term growth in demand.

COVID-19 has reminded us that investing in health is a highly cost-effective insurance policy for a nation and its people. Supporting a healthcare workforce is a small price to pay compared with the consequences of health services being overwhelmed.

Two difficulties in addressing the workforce supply shortage are:



**1**

even the wealthiest countries cannot buy themselves out of the shortage, and if existing professional structures are perpetuated then ways of working will not meet fast-changing population needs nor exploit the potential of technological advances such as AI-assisted clinical decision-making.



**2**

The way forward is to rethink workforce productivity, reimagine clinical services, equip staff to harness the disruptive power of technology and AI, and change national investment strategies.





KPMG partner Mark Britnell, in his major study Human – solving the global workforce crisis in healthcare, identified large-scale changes that governments need to pursue<sup>77</sup> including:



### Reframe the Health Workforce Debate around Creating National Health and Wealth

Extending productive life plays an important role in nation building, social cohesion, social mobility and reducing inequality. A 2013 study by the Lancet magazine estimated that 11% of economic growth in low- and middle-income countries between 2000–2011 resulted from reduced mortality.<sup>76</sup>



### Stimulate the Supply of Clinical Staff

Governments need to stimulate worker supply through measures such as relaxation of training limits and increasing the worker participation rate for healthcare. While there are rational reasons for imposing quotas on clinical training – cost, the capacity of hospitals to support trainees, the risk of supply-induced demand – the drawbacks now outweigh the benefits. In Australia, an end to restrictive policies for nursing education increased admissions to nursing programs from 16,700 to more than 23,000 in two years.<sup>77</sup>



### Supporting clinicians to perform at the top of their license

While regulation ensures standards and safety, it can undermine improvement, integration and teamwork by perpetuating clinical silos and acting as a brake on innovation. The pandemic response has shown how staff can be trained at scale and pace to take on new roles, relieving pressure on specialists.

An example of staff using their full range of abilities is nurses working in remote areas taking on aspects of obstetric care.<sup>78</sup> This is an 'extended role', where a professional takes on a task beyond their traditional scope of practice. This contrasts with roles such as advanced clinical practitioner, which require formal professional development and study. They can be found in a wide range of settings, such as advanced nurse practitioners in oncology.<sup>79</sup>



### Supporting life-long learning and the development of new clinical roles

Regulation should move from its fixation with pre-service training to facilitating lifelong learning. And from rigid career 'escalators' to supporting professionals seeking time out for diversification or research, and helping staff move between professions as they gain skills.

- Staff working outside traditional professional boundaries can become highly proficient at specific tasks, alleviating pressure on other members of the team. Examples include surgical technicians who become experts at a particular procedure as part of a wider surgical team, and medical assistants who are skilled in taking a history from the patient, presenting it to the physician or nurse and supporting the patient with health coaching and education.
- It is often a matter of chance whether professions are subject to statutory professional regulation. In the UK perfusionists, who operate heart and lung bypass machines during cardiac surgery, are not regulated in statute, while art therapists were brought into statutory regulation in 2003.<sup>80</sup>
- The idea of unifying healthcare professionals under a single code of practice with common disciplinary procedures is being explored. The Professional Standards Authority for Health and Social Care in the UK has already proposed a single regulator, arguing it would make it easier to prevent harm while making regulations simpler for patients, professionals, employers and educators.<sup>81</sup>



## Case study - Standardized Excellence, India

- A few private healthcare providers in India combine American assembly-line methods with Japanese lean-management techniques and India's 'jugaad' approach: simple solutions to complex problems that deliver high quality treatment at a fraction of Western costs.<sup>7</sup>
- Apollo Hospital and Aravind Eye Care use volume to increase quality while decreasing cost. Their formula leverages the scarce professional skills of doctors who only work on tasks requiring doctors, with pre- and post-operative care delegated to task-specialist support workers. Aravind doctors perform 1,000 – 1,400 eye surgeries a year, compared with 400 in the US.<sup>82</sup>
- Both Aravind and Apollo demonstrate equivalent (and in some cases better) outcomes than in the West because of the close relationship between volume and quality in surgery: the more someone does a procedure, the better they are at it.<sup>83</sup>



## Case study – Agile, Self-Managing Teams, Netherlands

- Buurtzorg (meaning neighborhood care) is a pioneering healthcare body established in 2006 with a nurse-led model of holistic care that has overhauled community care in the Netherlands.<sup>84</sup>
- Its philosophy is to start from the client and work outwards to create solutions promoting independence and improved quality of life.
- Unusually, its 10,000 nurses operate as self-managing teams of 12 with little central control or support. New teams find their own local offices, introducing themselves to local GPs, communities and therapists. Empowered teams deliver all the care service users need. They set their own schedules, share responsibilities and make decisions, building up caseloads via word of mouth and referrals. It claims the highest client satisfaction rates in the country.
- A KPMG study found that although the high nursing skill levels mean costs per hour are higher, care is achieved with 50% fewer hours, delivering significant savings.<sup>85</sup>
- Buurtzorg grew from 1 to 850 teams in 10 years, by expanding into mental health and family care.

## Stimulating digital disruption

Governments, providers and health systems should stimulate the disruptive possibilities offered by AI, cognitive assistance, robotics and blockchain to augment productivity and the speed-to-delivery of care. Transition strategies must be developed to manage workforce disruption as roles are adapted or reinvented by automation.

The digital healthcare revolution depends on broadening the understanding of who's part of the team. People such as AI experts are partners in delivering care alongside traditional clinicians. Healthcare has found new respect for IT and data teams during the pandemic.

## Invest in Care Assistants

Spending on worker training and development is focused at the top of the skills pyramid. This fails to reflect the rise of chronic conditions for which lower skilled, tech-assisted workers could provide support and encourage significant self-management.

Governments should be stimulating investment in new peripatetic care assistants who straddle health and social care, to deliver services in communities, hospitals and homes.

## Embrace Tried and Tested Leadership and Development Techniques

Given the high cost and value of the healthcare workforce, there are too many archaic attitudes to leadership, personal development and performance. Healthcare should be championing approaches such as promoting a learning culture rather than blaming people for errors, encouraging mutual professional respect, providing flexible working, and listening and responding to staff concerns.

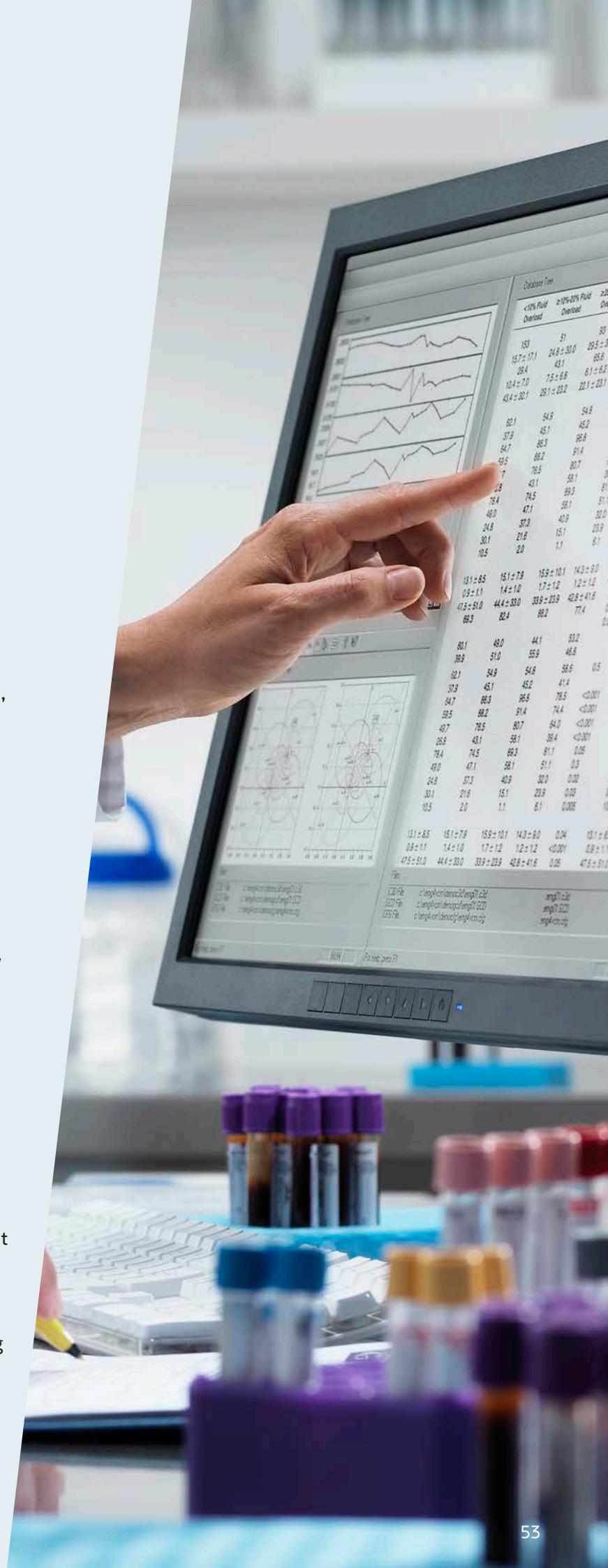
## Address Inequalities in the Healthcare Workforce

Healthcare is poor at tackling inequalities in its ranks, particularly in relation to women<sup>86</sup> and people from ethnic minorities.<sup>87</sup> Women make up an increasing proportion of the global workforce, with a steady rise in female doctors since the 1970s, but despite strong representation, inequalities persist. Across continents, women occupy fewer leadership positions in clinical teams, academia, professional bodies and hospital or practice boards. The distribution of women doctors is skewed towards pediatrics, gynecology, dermatology and endocrinology, while they are still rarely found in orthopedics, urology, cardiology and plastic surgery.<sup>88</sup>

## Make Supply Chains Resilient

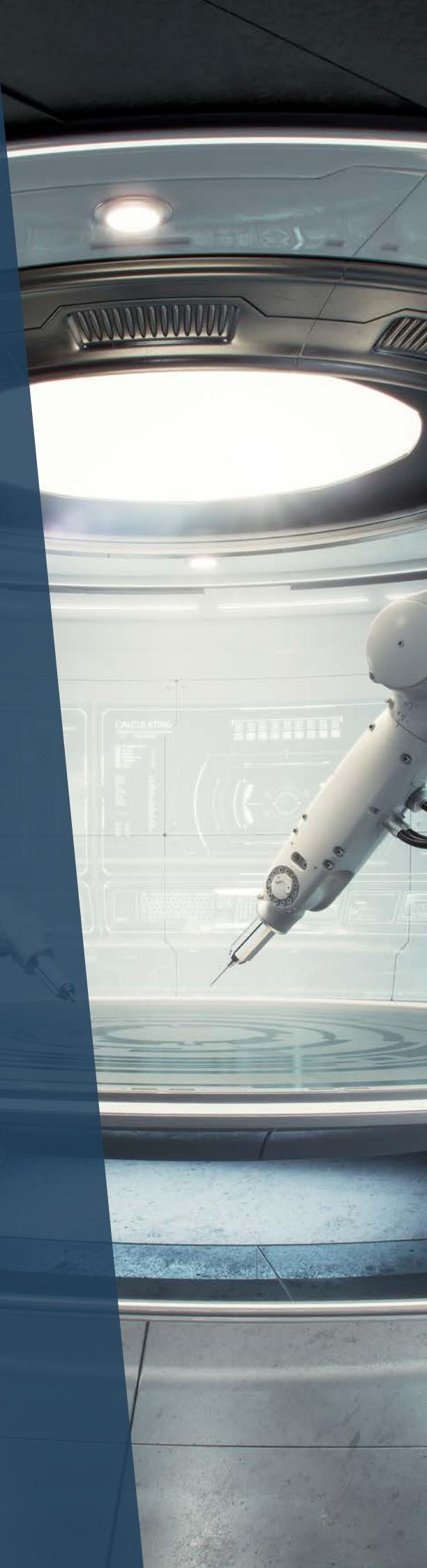
Before the pandemic supply chains in high-income countries focused on getting the best value for money by pooling procurement with group purchasing organizations, while low- and middle-income countries focused on ensuring stable supplies of basic products. With more sophisticated products and pharmaceuticals, the priority was tracing the chain of custody to prevent counterfeit products from entering the market.

The pandemic almost immediately exposed vulnerabilities in supply chains as difficulties in sourcing and supplying personal protection equipment (PPE), testing supplies and reagents, and eventually vaccines demonstrated local gaps and global interdependencies. This opened up economic and political contests between countries as manufacturing nations withheld supplies to serve their domestic markets before exporting. This has led governments to recognize their role in supply chain diplomacy and the need to revisit domestic production capacity, onshoring, and investments to avoid future shocks.



# Principle 7

## Plan Long-Term to Unleash the Power of Digital





The impact of many strategic decisions and investments in healthcare have long time horizons which exceed government terms of office. As healthcare embraces digital transformation, we will need to avoid incremental, piecemeal spending, and instead **embrace cohesive, long-term strategies and investments tied to health system priorities**. Governments must define a digital vision for healthcare, including how it will be delivered and how it will empower citizens and patients. They must also ensure that the necessary building blocks for success such as interoperability and mobile infrastructure are in place.

The COVID-19 pandemic has accelerated digital healthcare by compelling staff to try new digital tools, and prompting banks, financial institutions and sovereign wealth funds to increase investment in healthcare technology. The switch to digital is permanent, albeit at lower levels than during the early peaks of the pandemic before the vaccines were rolled out. KPMG estimates that as countries hit their first wave spike, 80-85% of consultations were happening by phone or video, before dropping back to 30-45%. In January 2020 the global virtual consultation average was only 1%. Microsoft believes that two years of digitalization was compressed into two months.<sup>89</sup>The question is whether governments have the commitment and policies to capitalize on this change.

## Policies for Promoting Digital Delivery of Healthcare

### Where We Need to Be

Analysis by WHO and the World Economic Forum points towards digitalized health services being **built around the needs of individuals and families**. Digital developments will give way to bespoke, AI-powered care delivered through physical and virtual channels to suit the individual, who collaborates in managing their health and wellbeing.<sup>90 91</sup>

Not everyone embraces this vision. Physicians are struggling with changes in the doctor-patient power balance made possible by the digital revolution, manifested in resistance to patients having access to their own health records<sup>92</sup> and slow adoption of apps to empower patients.

### Mandating Interoperability and Open Standards

Interoperability allows patient data to be collected in secure, standardized ways, in real time, and link it together to form a cohesive view of the patient. Different information systems, devices and applications can seamlessly access, exchange, integrate and co-operatively use data in a coordinated, secure manner. While interoperability has historically been associated with information sharing across providers, it now includes individual patients, carers, health apps, researchers, tech developers and payers.

It is synonymous with open standards and should have **a central position in every healthcare system, reducing costs, improving patient safety and care, and stimulating digitalization of the entire system**.

Mandating use of open standards prevents systems becoming locked into inflexible proprietorial kits. Technology should be modular, so it can be upgraded without the expense, disruption and risk of replacing huge networks. As more players help develop and agree these standards, interoperability becomes easier to establish. The Fast Health Interoperability Resource (FHIR) has become a backbone protocol of emerging solutions for COVID-19 certificates globally, linking individuals with their vaccination or test status. By exploiting interoperability and open standards, governments can nimbly facilitate domestic and international data sharing.

### Investing in Cloud Technology

Cloud technology can save money by slashing capital investment, allows access from anywhere and encourages the use of open standards and interoperability. It responds to changing demand by enabling the **rapid scaling of storage and processing capacity**, and, when properly implemented, supports privacy and security.

Cloud technology reduces administrative costs through automation and optimized workflows, and connects patients to providers securely and easily. Large technology firms, including Microsoft, Salesforce, ServiceNow, and Workday, have been introducing cloud-based healthcare solutions in recognition of the value to the sector.

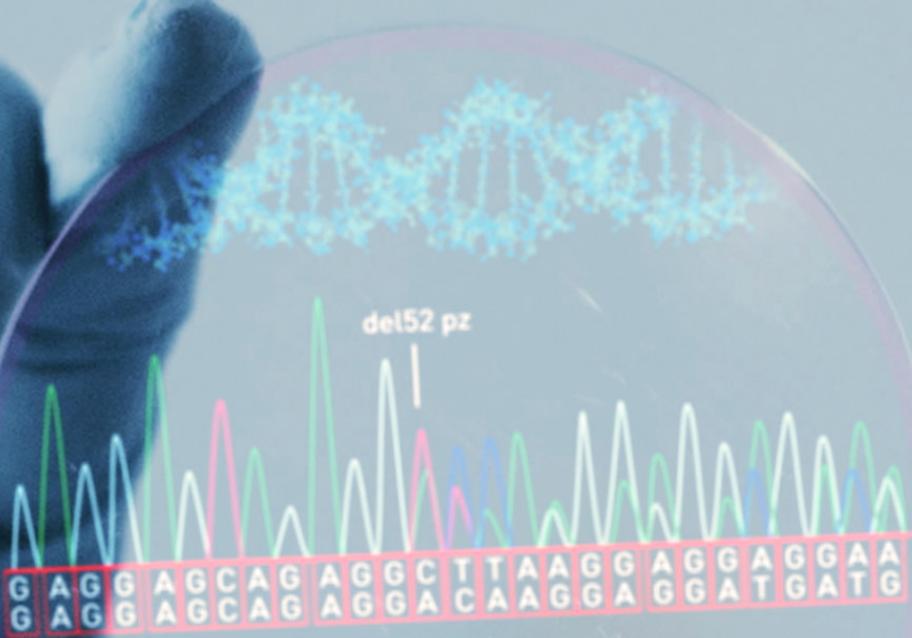
### Ensuring Data can be Shared Securely

Data is the lifeblood of healthcare technology. The ability of health providers and systems to collect and analyze data depends on public trust that it is being used appropriately, privacy is being protected and consent is being sought where necessary, such as in the use of gene sequencing for research.

Data sharing regulations intended to secure public confidence can be applied in ways that do not serve patients' best interests. For example, patients can refuse permission for their anonymized health record to be shared with researchers even though they would wish to benefit from research,<sup>93</sup> and there were instances during the COVID-19 pandemic of failures to share data on vulnerable or infected people who needed support.<sup>94</sup>

During the pandemic countries passed legislation suspending or relaxing rules to ensure that information on COVID-19, such as infections and people's exposure and contacts, were shared quickly in support of contact tracing. New consents were also required for conducting patient consultations over the phone or video instead of in-person. By being explicit about data use, being proactive in seeking consent, and developing an 'opt-in' framework, health systems were able to create trust with patients in short order.

These lessons can feed future policy and practice. As more sources contribute to a patient's data records, such as their smartphone and wearable technology, more trust is required in the system that gathers, transmits, and shares that data. Governments must balance facilitating appropriate data sharing between those that need it with maintaining privacy and public confidence.



n-type region can serve as the temperature sensor. That is, a constant voltage of preferably 0.6 V or more is applied to the pn-junction diode and the current is measured. A calibration curve is prepared in advance by measuring the current value with respect to temperature change, and the temperature is determined from the calibration curve and the observed current value.

By patterning the n-type region or the metal thin film to render a line shape, a heater can be integrally formed. By supplying a current to the n-type region or the metal thin film, heat can be generated and the temperature can be increased. By combining the temperature sensor and the heater, the



As AI systems are learning from many countries' datasets, there is a growing need for common international standards on information sharing. The EU is integrating data across member states to enable cross-border digital prescriptions and patient data exchange. Such an approach on an even larger scale is needed to reap the full benefits of health data, such as supporting research into rare diseases.

## Supporting Cybersecurity

Health systems are vulnerable to cybersecurity attacks from criminals and state actors. Risks include extortion through ransomware or the threat of leaks, and accessing sensitive research and intellectual property. Recent years have seen criminals hijacking hospital data for multi-million-dollar payouts and state actors seeking access to research, including vaccine study data.

Cybersecurity is **as strong as the weakest link**, and as medical devices proliferate and connect with platforms, quality assurance and security controls have often failed to meet appropriate standards. With more and more connected devices, manufacturers, providers, users, and regulators must ensure that consumers are protected. Government's role is to specify and enforce clear, commonly understood cyber security standards, while maintaining the security of vital national infrastructure and intellectual property against malicious actors.

## Supporting the Development of Mobile Infrastructure

Technology giants, with their established data architectures and deep understanding of consumer behavior, will play a crucial role in the consumerization of healthcare. As the pandemic emerged, large technology companies collaborated to create Applied Program Interfaces (APIs) to enable contact tracing apps for exposure notifications. **Their technology can help unlock value for patients and broader public health.**

But the relationship between tech giants and healthcare must be managed carefully to retain public trust in how data is owned and used. In 2017 the UK's privacy watchdog ruled that an NHS hospital had broken data protection laws when it gave DeepMind, Google's artificial intelligence arm, access to 1.6 million patient records. This overshadowed the project's impressive results in detecting acute kidney injury

## Managing Relationships with Tech Giants

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## Providing Financial Incentives for Digitalization

Reimbursement and investment should stimulate service digitalization, including data sharing and the adoption of electronic patient records. Since 2020 Germany has allowed doctors to prescribe health approved apps, with costs being reimbursed by insurers,<sup>96</sup> while the pandemic has led to reimbursement schemes being modified to pay for telephone and video consultations.<sup>97</sup> Governments can stimulate adoption of these technologies, which have often been mired in policy and political challenges.

## Integrating Healthcare with Smart Cities

Smart cities aim to improve citizens' lives through connected technology. Smart cities and the Internet of Things bring healthcare and patient empowerment into the home, workplace and leisure activities. The vision is to integrate these touchpoints of daily life to optimize the way a city is designed and works.

This can be seen on a population level, such as Alphabet's project Sidewalk Labs, which is looking to better understand the way people flow and interact with their environment.

Smart city projects such as Sidewalk Labs have prompted significant concerns about privacy.<sup>98 99</sup> To retain public confidence and trust, integrating healthcare with the smart city concept would depend on the benefits being clear and valuable to the citizen, while the data would need to be handled with high degrees of transparency, accountability and personal control.



## Case study – Real Time Paramedic Management, Victoria, Australia<sup>100 101</sup>

- Ambulance Victoria serves the entire state, providing emergency response to over 5.8 million people in an area of more than 227,000 square kilometers, roughly the size of Romania.
- It uses machine learning, predictive analytics, root cause analysis, and data mining to give paramedics real-time information.
- Healthcare system data is combined with information sources such as weather and traffic patterns to provide contextual data to determine where resources are best allocated and the routes paramedics should take. Having reached patients they are told the best hospitals to go to, considering issues such as drive time, hospital congestion and patient needs.
- The system empowers everyone from junior paramedics to the chief executive, providing insights on individual and team performance, analysis of problems and predictions of future outcomes.
- The goal is to find further productivity gains in areas such as speed of response to emergency calls, quality of clinical care and optimal use of resources. Innovations are underpinned by workforce training and communications.



# Principle 8 Engender Creative Partnerships: The Only Way Forward





The COVID-19 pandemic has shown that governments and the private sector can be partners in delivering better healthcare to the public. From the development, testing, manufacturing and distribution of vaccines at unprecedented speed and scale to putting in place the digital, laboratory and supply chain infrastructure for testing and tracing millions of potential infection contacts and shifting manufacturing production lines to sanitizing agents and PPE, the pandemic has shown the private sector is willing, ready and able to partner with government in mobilizing behind a public cause.

While governments need to play a leading role in healthcare transformation as coordinator, enabler, and regulator, much of the delivery will be in private-sector hands. They will make the investment, create new technological breakthroughs, conduct the research, and execute manufacturing and distribution. The hope is that the spirit of cooperation forged during the pandemic will endure after it.

To enhance this, **public and private providers need to move beyond old enmities** over issues such as the tension between regulation and innovation to view each other as partners in transformation to deliver better outcomes. For example, in countries pursuing UHC, public-private partnerships can help governments contain costs by capping long-term commitments and developing lean care models. For the private sector, UHC partnerships offer opportunities for projects in healthcare markets with levels of growth not seen in the West for years.

Managed well, Public-Private Partnerships (PPPs) can deliver a triple win, for:



**Patients:** higher quality health services at similar or lower costs



**Governments:** maximum benefit from limited public capital



**Private players:** sustainable, trustable returns on their investment and expertise.



But they are challenging to establish and turn into a success, because they are long-term relationships with massive amounts of investment and risk sharing between the public and private sectors. Three critical ingredients for success are:



**1**

Mobilizing greater capital investment than could be done without engaging the public and private sector together



**2**

Openness and transparency – progress towards the desired transformation needs to be measured and exposed to scrutiny so that all parties are held accountable and public trust is enhanced.



**3**

Delivering on its promise of a return on investment through financial, societal, and health outcome benefits.

There are many poorly managed PPPs. Mistakes include incentivizing processes rather than high-value outcomes, making flawed, overly optimistic or overly restrictive assumptions about the future, poorly allocating and managing risk, and failing to generate competition. **To make a success of PPPs, governments need to manage markets rather than simply invite tenders.** They need to understand the mechanics, incentives, and anticipated outcomes of partnership deals, and how they align to the desired effect. To do so requires a new approach to managing PPPs. This includes accountability frameworks that rapidly assess clinical and financial progress to ensure delivery of the project and a return on the private sector investment.

## Changing Markets

PPPs have emerged as a healthcare expansion model for governments in Asia, Africa, Latin America and the Middle East, who are assessing how private sector partners can contribute investment and skills to help them improve care quality and access.

Private partners are themselves adapting the nature of their role in care delivery. Markets in Australia and Europe have been focused on companies building and running hospitals. Partnerships in newer markets now involve primary care, telecommunications companies, clinical training institutes, life sciences companies and multinational hospital chains.

Traditionally, the economics of primary care has struggled to entice the private sector, especially in rural areas. This has changed recently, however, with clinic chains and telemedicine providers approving primary care PPPs in China, India, Brazil, Russia, Romania, South Africa and Singapore.<sup>102</sup> This is driven by greater adoption of digital, which lowers the cost of delivery and offers a strong value proposition in terms of access and outcomes.

## Make Regulation a Facilitator, Not a Barrier

Rather than being a series of hurdles for innovators, regulation should be a process which helps innovators bring safe, high quality products to market with consumer protection at the forefront. Governments should set out requirements for generating clinical outcomes, operating ethically, ensuring privacy, meeting clinical safety requirements, and keeping systems secure and interoperable. Technologies such as AI present challenges such as the ‘black box problem’, where companies may be unwilling to expose their proprietary intellectual property to external regulatory scrutiny, and testing the vast number of permutations in technology such as decision-making support tools.

There are important ethical and institutional considerations. Does the data on which an algorithm was built contain hidden biases, based on ethnicity or gender? One example would be whether a system for detecting melanoma is equally effective with different skin tones. As governments seek to promote equity in access to care, the adoption of technology must address these biases.

Regulation needs to be proportionate to risk, so mobile apps encouraging healthy living have far lower thresholds for approval than symptom checkers for serious illnesses.

## Help Good Products get to Market Quickly

There are many ways governments can support rapid access to market. Here are two examples:



**1** **Fast tracking:** the approval of COVID-19 vaccines shows how regulators can identify and approve technology quickly. Examples include parallel running of parts of the approval process with rigorous, risk-based approaches, working closely with developers during clinical trials and committing to short timescales for approval decisions if products meet certain evidence thresholds for emergency-use authorization.



**2** **Opening up procurement:** Healthcare procurement processes can be baffling to the uninitiated. Common problems include requiring a company to be an approved supplier before being able to tender, contracts being offered at such a scale that they exclude all but the biggest providers, and imposing tendering processes which are so complicated that small firms do not have the capacity to participate. Procurement should encourage the entry of reliable new suppliers and avoid healthcare systems becoming dependent on a small number of large companies.

## Provide Seed Funding to Support Innovation

Challenge funds (competitions for development funding) can provide powerful market signals by indicating where health systems need technological innovation. Small seed investments in healthcare have led to massive companies, as demonstrated by the large number of ‘unicorns’ – start-up companies valued over US\$1 billion<sup>103</sup> – emerging in healthcare private equity.

The National Health Authority of India has set up a market access initiative to support investment in innovation and make it easier to work with the public sector.<sup>104</sup> It advertises funds for which start-ups can bid and clearly explains the clinical need they are addressing. A simple application process cuts bureaucracy, and successful applicants are teamed up with hospitals for clinical trials and development.

## Support the Scaling Up and Spreading of Successful Ideas

Healthcare innovations that benefit patients and cut costs often struggle to build sufficient momentum and scale for system-wide adoption. Funding might solve part of the problem, but the main barrier may well be getting institutions and clinicians to adapt to a new way of thinking and working. **Governments and health systems need to champion good ideas and provide the training and investment to adopt them to spread innovation.**



## Case Study – NHS Accelerated Access Collaborative, England

- The Accelerated Access Collaborative is a partnership between government, the NHS in England, the health tech sector, the pharmaceutical industry, medical charities, academia, patient groups and regulators to streamline healthcare innovation adoption.<sup>105</sup> It aims to place innovations with clinicians and patients more rapidly and to foster innovation within the NHS.
- ‘Demand signaling’ helps researchers understand what the health service needs, while ‘horizon scanning’ identifies the most promising innovations.
- Priorities include histology-independent treatments for cancer, in which the same drug is used to treat all cancer types with a certain genetic mutation, and AI, including £140 million over three years to accelerate testing and evaluation of the most promising AI technologies.





## Build Government Capacity to Deliver Public-Private Partnerships (PPPs)

The ingredients for government PPP success include scaling up their own PPP skills and embracing the sensitive politics around PPPs.

Several countries have developed dedicated, well-resourced PPP units to support projects across government. These are responsible for recommending suitable projects, managing procurement and investing equity, which are often more aggressive and intensive than traditional project requirements.

PPPs are inherently political, especially when they involve clinical services delivered by private providers. Some public skepticism and political resistance are unavoidable, and rightly so given the scale of government commitment and the importance of local health services. The best approach is to anticipate the questions and concerns that will be raised and address them openly and constructively. The broader the support for the PPP the more likely they are to be given the time and space to succeed.



### Case Study – The ‘Triple Win’ in Action: Hospital de Braga, Full-Service PPP, Portugal<sup>102</sup>

- The 700-bed Hospital De Braga greenfield hospital development opened in 2011.
- Serving as the referral core for a population of around a million, the government’s aims were to provide state-of-the-art secondary care while keeping down initial capital outlay and using private sector expertise to reduce overall cost through efficient management. The PPP was responsible for clinical services as well as construction and maintenance.
- The deal was structured in two distinct PPPs, to allow separation of risk between construction of the new hospital ('InfraCo') and the clinical services it provided ('CliniCo'). The InfraCo operated under a 30-year contract to design, build, finance and maintain the hospital site, requiring an initial capital investment of €120 million. The payment model blended fixed prices and performance-related elements to ensure timely delivery and ongoing operation of the hospital at full capacity.
- The Clinico operated under a shorter, 10-year contract requiring €40 million of capital. The payment model was largely activity-based but with various caps (lower prices paid after reaching predefined demand forecasts) and penalties for service failures.
- Outcomes for all parties have been positive. An independent value-for-money study estimated that it had saved 15–21% compared with a public body running the hospital. The Court of Auditors found the operating cost per patient was the lowest in Portugal’s National Health Service.
- Fernando Faria, who worked on the deal for KPMG in Portugal, said one reason for success was the detailed work to understand the local health economy: forecasting how demand might change, the impact of changes to other services and where the scope for efficiencies lay.

## Conclusion

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A Unique  
Opportunity  
to Transform  
Healthcare



This is the moment for governments to lead the transformation of healthcare. The factors are aligned to create a unique opportunity for change:

- Global commitment to universal healthcare as part of UN Sustainable Development Goals<sup>106</sup>
- Momentum for change created by extraordinary government responses
- Healthcare systems
- Revolutionary developments in digital technology
- Politicians' growing understanding of societal and lifestyle factors driving good health

The pandemic has demonstrated that many governments around the world are willing to go to extraordinary lengths to safeguard the health of their people. At the same time, billions of individuals have changed their behavior to protect their own health and that of their communities.

That unity of purpose now needs to be harnessed to create healthcare systems that are focused on supporting each of us in maximizing our physical and mental wellbeing.

# About KPMG

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For almost 50 years, KPMG Lower Gulf Limited has been providing audit, tax and advisory services to a broad range of domestic and international, public and private sector clients across all major aspects of business and the economy in the United Arab Emirates and in the Sultanate of Oman. We work alongside our clients by building trust, mitigating risks and identifying business opportunities.

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As we continue to grow, we aim to evolve and progress; striving for the highest levels of public trust in our work. Our values are:

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- Excellence: We never stop learning and improving.
- Courage: We think and act boldly.
- Together: We respect each other and draw strength from our differences.
- For Better: We do what matters.

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# Acknowledgments

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The authors, Richard Vize and Randall Baran-Chong, gratefully acknowledge the contributions of individuals and organizations that provided their time, expertise and insight to this report.

With particular thanks to Anna van Poucke, Mark Britnell, Richard Stoltz, Emmeline Roodenburg, Niti Pall, Liz Forsyth, Jonathan Duff, and Abhishek Deb Purkayastha, and to each of the external expert witnesses:

- Susie Perks-Baker PhD, Leadership Associate, The King's Fund, London, UK
- Charles P. Friedman PhD, Department Chair of Learning Health Sciences, University of Michigan, United States

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