KPMG

Healthcare Horizons

Healthcare system transformation and the journey towards inclusive care

KPMG International

kpmg.com/healthcarehorizons

Contents

Imagining a new horizon for healthcare

Imagine a world where communities are integrated into the healthcare landscape, and where they are able to directly influence prevention and care services.

Imagine physical and digital worlds colliding, creating a borderless world where a patient can use a virtual reality headset and a personalized online program to treat and prevent mental health disorders.

Imagine a world where healthcare employee wellbeing is prioritized, and where they work at the top of their game, because technology has taken on many of their routine tasks.

Imagine a world where complications for pregnant women with diabetes can be predicted and prevented using digital twin simulations.

Imagine a new horizon of inclusive healthcare, where patients and communities take charge of their health, where the workforce can thrive, and where technology activates patients in their own care and enables healthcare workers to better engage with patients.

At KPMG, this is the new horizon we imagine for healthcare.

To navigate towards this future, our Healthcare Horizons thought leadership examines the current crisis in the sector along with future challenges, the risks of maintaining a 'business as usual' approach, or over relying on technology, and the potential benefits of charting a course towards inclusivity. We also look at the impact of future trends on society, while illustrating the art of the possible in applying these trends to the sector, care ecosystems and specific care pathways. Healthcare Horizons culminates in a number of actionable insights that help inform leaders' agendas in navigating towards a future of inclusive healthcare.

We hope that with this publication in hand, we can create the opportunity to work with healthcare organizations in helping them navigate waves of crises to a new horizon for healthcare.

Dr. Anna van Poucke
Global Head of Healthcare, KPMG International;
Healthcare Senior Partner, KPMG in the Netherlands

Healthcare's perfect storm

Pre-pandemic undercurrents and successive waves of crises threaten the sector

Thinking of the strained circumstances in which many healthcare systems and providers find themselves at this moment, I am reminded of a situation that happened to me a couple of years ago. While on vacation in Portugal, I could not withstand the temptation to go for a dip in the Atlantic Ocean, although I knew there would be a strong current. Being an experienced swimmer, I thought I could handle that current. The swim was great, and I used the waves to return to shore but then was caught by a rip current that dragged me back into the sea and the following turmoil of waves and undercurrents had me tumbling round and round. I tried a number of times to get back to shore but lost strength and focus. Just when I started to despair, I was luckily spotted by someone who saw my struggle, ran into the sea, grabbed my hand and dragged me out.

— Dr. Anna van Poucke

It is exactly this situation of waves and strong undercurrents that is threatening the existence of healthcare systems around the world. Waves of crises related to service access and demand, workforce shortages and staff burnout are pummeling healthcare organizations in many jurisdictions. It's easy to blame COVID-19 but beneath the surface, these undercurrents were already impacting health systems long before the pandemic: aging and growing populations, increased non-communicable disease burden, economic inequality, reliance on outdated technology, coupled with long-standing workforce supply and wellbeing issues.

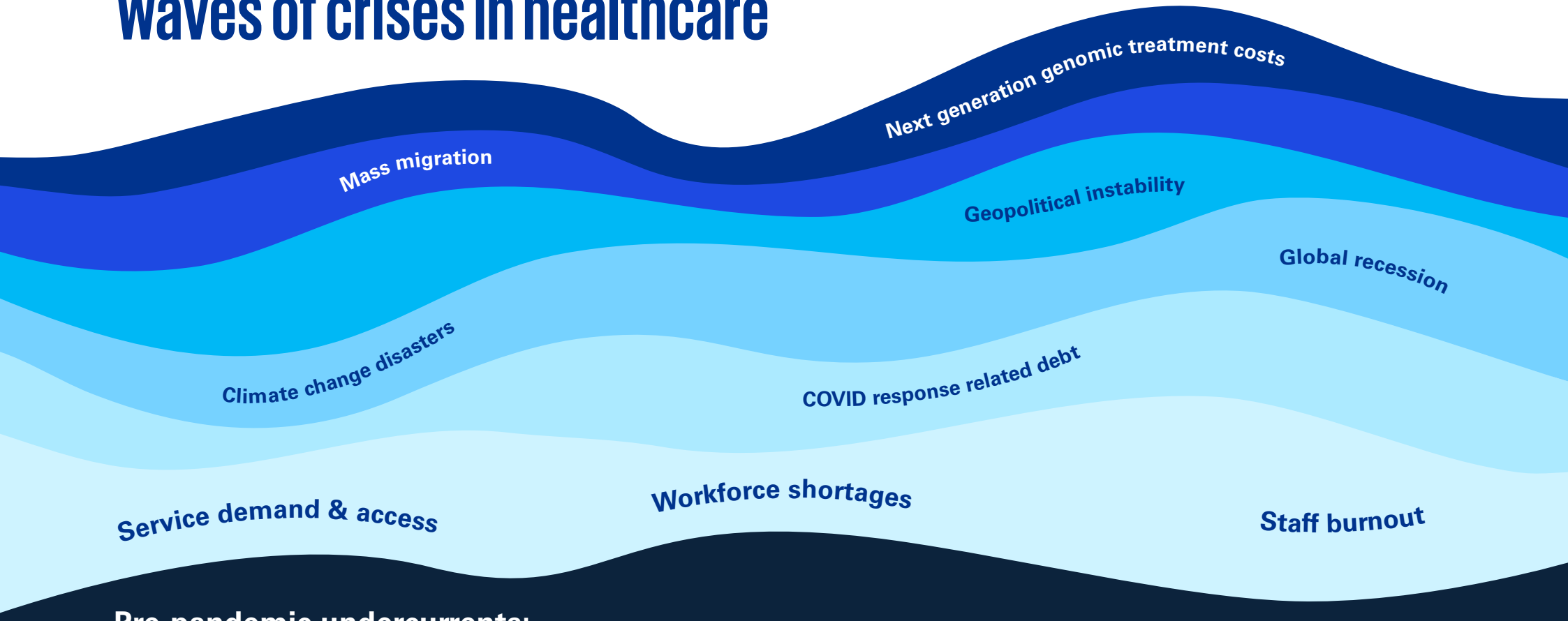
When looking towards the future horizons of healthcare, the pandemic will likely prove to be just the first of several successive waves of crises that may include a looming global recession on top of COVID response-related debt, geopolitical instability, climate change disasters, mass migration and the cost of next-generation treatments, to mention a few (see illustration on next page).

Globally, healthcare systems are at risk of being overwhelmed by crisis waves, and senior leaders in health systems (being providers, payors or governments) are under immense pressure to take action. News reports around the world have been drawing attention to the crises and often call for solutions related to "more money," "training more healthcare professionals," or "recruiting more foreign-trained nurses." The issue is that these historic approaches may have worked in the past but are unlikely to be effective in navigating the magnitude of the coming challenges.

Key takeaways

To build resilience into their organizations, health leaders should carefully consider how the successive waves of crises and pre-existing undercurrents will impact their organizations and factor these circumstances into their investment and planning approaches.

Waves of crises in healthcare



Pre-pandemic undercurrents:

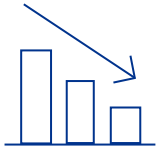
- Aging & growing populations
- Increased non-communicable disease
- Workforce supply & wellbeing
- Outdated technology
- Economic inequality
- Increased social fragmentation
- Increased mental health burden

Source: KPMG Healthcare Horizons

Threat or thrive?

Three possible routes for navigating healthcare's perfect storm

At KPMG, we see healthcare leaders struggling to keep their organizations afloat amid healthcare's perfect storm of pre-pandemic undercurrents and successive waves of crises and would like to extend a helping hand in the form of insights. When projecting where the storm will leave healthcare, we foresee three possible scenarios:



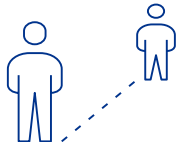
Impoverished

- The result of a continued reliance upon outdated models of care delivery
- Emphasizes the need for investment in traditional areas:
  - Workforce — but without addressing retention, burnout or care models
  - Building new hospitals — but without shifting care in primary and community settings or increasing the workforce
  - Technology — but without fundamentally changing models of care delivery

Digital transformation

Workforce planning

Community empowerment



Alienated

- The result of an overreliance upon digital and technological solutions
- Likely to be dominated by 'big tech' as these organizations are well-placed to utilize huge quantities of data, have the necessary capital to develop market-leading platforms, and already have vast customer-bases
- Two-tier systems in which those with digital literacy and wealth will receive the highest quality service
- Focused on *health*, not on *care*

Digital transformation

Workforce planning

Community empowerment

Inclusive

- The result of utilizing technology and community assets to enable the workforce to provide high quality-care
- Characterized by effective public-private partnerships, such as utilizing the agility of start-ups to support digital transformation
- Features empowered workforces, with tech solutions enabling them to focus on providing care
- Individuals and their communities are empowered to prevent ill health and intervene earlier

Digital transformation

Workforce planning

Community empowerment

Navigating towards inclusive care

At KPMG, we feel that a fundamental change in course is needed in the ways healthcare systems and organizations are operated in order to realize the preferred inclusive scenario for the future. Action is needed now in order to address challenges and design the healthcare models populations will have in 5 to 10 years' time.

Our Healthcare Horizons insights are based on the view that technological innovation is essential for the future of healthcare, but in isolation will not 'save the day.' Hence, we offer a synergetic vision where we focus on the equally important aspects of innovation in how communities can become active custodians of care and how health professionals can fundamentally transform the way they work. It is these human capital dimensions that can enable the benefits of digital- and data-driven healthcare to extend to those who stand to benefit most. When leveraged together, technology, communities and workforces can mutually be the agents of change that are needed for healthcare.

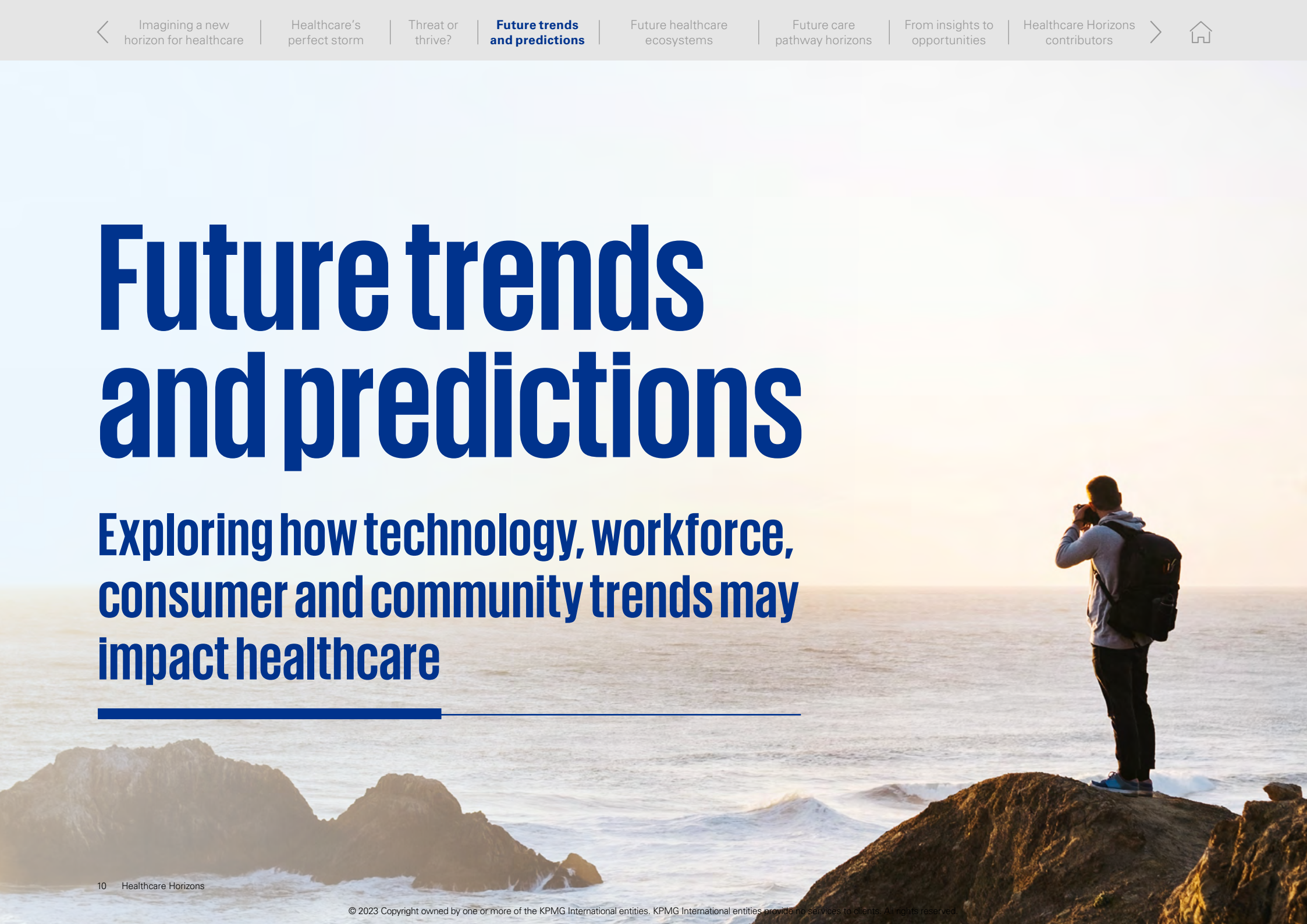
In our view 'inclusive' healthcare systems in the future are possible but will require a radical amount of change that is at least equal to that delivered by health systems during the pandemic. Transformation of such magnitude will require strong collaboration at the ecosystem level between all stakeholders, including governments, public and private providers, healthcare payors and industry groups. These groups should come together to take collective responsibility. To start this process, health leaders should lift their attention up from the immediate day-to-day concerns of their organizations and well beyond the typical one- or four-year business planning cycles, towards the crises and future trends speeding towards them.

Key takeaways

Given the current and future challenges that the healthcare sector is facing globally, a fundamental change in course is needed in the ways healthcare systems and organizations are operated. An inclusive future may only be achieved if the current approaches to technology, communities and workforces are fundamentally transformed over the next decade. This change can only happen if all stakeholders commit to collaboration, collective responsibility and are willing to break out of traditional silos.

Future trends and predictions

Exploring how technology, workforce, consumer and community trends may impact healthcare



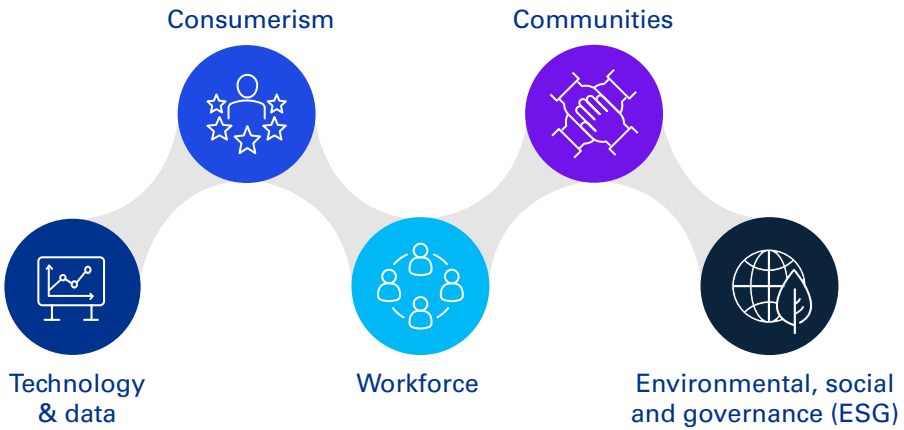
Healthcare Horizons offers a view into the future. To better understand how current and future trends may impact society in general and healthcare specifically, a number of KPMG subject matter experts were interviewed for this report. Based on these subject matter expert views, external sources and KPMG healthcare professionals' experiences and insights working with governments, payors and provider organizations around the world, five trend categories have been identified: technology and data, consumerism, workforce, communities, and environmental, social and governance (ESG).

The health sector has often been portrayed as slow to change, and in some cases this is true. Yet if one looks at the last couple of decades, many major transitions have occurred: a shift away from paternalistic medical culture; more intelligent electronic health records; dramatic declines in length of hospital stays; flexible workforces with more diverse skill mixes (e.g., physician assistants and specialized nursing cadres); and increased focus on work being performed at the top-of-practice. The pandemic catalyzed an even greater acceleration of change, sparking wholesale shifts toward digitally delivered care, community-driven support models, new population health surveillance techniques and mass public participation in clinical trials.

However, there is now a serious risk that healthcare systems will return to 'business as usual,' taking a conservative and incremental approach to transformation. This may even feel like the right thing to do, at least in the short-term: healthcare professionals are exhausted, budgets are tight, and so much change has already taken place over the last few years, but this inclination must be resisted. Waves of crises surging towards the sector mean that rapid transformation should be embraced as the 'new normal' in healthcare. Anything less risks leading organizations down the path towards 'alienated' or 'impoverished' scenarios.

To do so, healthcare systems should harness the power of future trends — developments that are expected to profoundly impact every industry over the next decade. Understanding and preparing for five key areas of change will be critical in guiding healthcare systems towards an inclusive future.

Future trend categories:



Future trends

Technology and data

Web 3.0 will bring about the decentralization of data on the internet, with power shifting to citizens

The metaverse will create new spaces for organizations to transact and engage

Widespread adoption of cognitive technologies (e.g., machine learning, natural language processing, speech recognition, and robotics) will facilitate seamless interactions between humans and machines

Artificial intelligence (AI) will continue to mature, liberating workers from routine tasks and enabling greater innovation

Increasingly complex digital twins will allow individuals and organizations to accurately simulate and predict the consequences of real-world decisions

Consumerism

Demand will increase for seamless, personalized and omnichannel experiences

Ecosystems will be consumer-centric rather than organization-centered

Markets will converge and consolidate

Digital platform-based consumption will become widespread

Workforce

Movement towards employee-centric organizations, in which wellbeing and employee-driven innovation are seen as vitally important

Micro-credentialing will enable more focused skill development and accreditation within more flexible workforces

Borderless delivery of local services will be supported by digitally enabled workforces

Community empowerment

Communities will be activated in addressing complex societal challenges

Community partnerships will rise to address societal challenges

A trend towards localism will be accompanied by, and facilitated by, the rise of global platforms

Environmental, social and governance (ESG)

Emergence of an integrity-based economy in which people demand organizational accountability and transparency on governance, and environmental and social impact

Increased pressure for all organizations to reduce climate impacts and carbon footprints

Access to new sources of capital will be contingent on performance against ESG indicators

Future trends and their predicted impact upon healthcare

Technology and data

Digitalization is radically transforming the way people interact with the world around them. This trend will likely accelerate over the next decade with the emergence of Web 3.0. This can be thought of as the upgrade to the internet, where the current 'read and write' model will be replaced by a 'read, write and own' model, making it more democratic and increasingly decentralized. A key part of this new internet will be the metaverse, which will make it possible to experience a 'phygital' world, where physical and digital realities collide, creating a borderless realm that has the potential to enhance people's lives by providing new opportunities to work, learn and play through the use of virtual and augmented reality.

We can expect to see digital transformation touching every aspect of the healthcare ecosystem in the coming years, from patient experiences to clinical and operational systems, to the skills and culture of healthcare workers. But in order to move healthcare systems towards an inclusive future, technology must be seen as a means to an end, not an end in itself. Technology will transform healthcare for the better where it empowers individuals to take charge of their own health, where it liberates healthcare professionals from routine tasks and allows them to focus on their patients, and where it enables community-driven action to address health inequities and tailor services to the needs of communities.

Prediction: Health data will be decentralized, coveted and traded by individuals, including by patients

There will be an explosion in the volume of data generated by health organizations and individuals well into the next decade. This will likely be driven by two key factors:

1 Increasing cognitive capabilities enabling more natural and intuitive interactions between humans and machines, such as natural language processing systems to automatically convert patient interactions (in person, virtual or written) into coded medical records.

2 Increasing utilization of remote monitoring and wearables by consumers and health organizations.

The distinctive feature of an 'inclusive' healthcare scenario is how data is stored and used. Instead of health data being harvested and monetized by private organizations, new technology will empower individuals and communities with greater control over their data.

Individuals will be able to store their health data from multiple sources in personal online data stores (PODS). These decentralized forms of online data storage will offer greater levels of security, privacy and control for individuals. PODs will also offer a solution to healthcare providers, alleviating the issue of interoperability between systems and the burden of protecting huge quantities of patient data.

Individuals will likely have the opportunity to pool their data in decentralized autonomous organizations (DAOs). These member-owned and led organizations allow virtual communities to control what happens to their data democratically through a system of discussion and voting. DAOs can choose to trade or monetize their data, use their data to improve health outcomes and/or to address health inequities, in accordance with the wishes of their membership.

The ability to pool large amounts of data, along with emerging techniques such as speech-to-text and machine learning, can allow health organizations to derive new insights into activity, vital signs, and wellbeing. This will create a step change in health organizations' ability to forecast, predict, segment and target care. Quantum computing and digital twins (virtual representations of patients) will be used to predict and prevent diseases, identify complications and refine and tailor treatment options. Pooled data and the technologies discussed in this section are also likely to accelerate and reduce the cost of clinical trials and research — quickly leading to a shift from insights about what works for cohorts of similar patients into truly individualized diagnoses and treatments.

Signal of change: Data-driven research

In Israel, Kahn-Sagol-Maccabi (KSM) is the research and innovation center of Maccabi Healthcare Services, one of the country's HMOs. Given that the HMO started using EMRs more than 30 years ago, provides KSM with a high-quality data set that includes stable and longitudinal demographic patient data (including lab results, clinical visit records, pharmacy purchases, scans, images) and 750,000 bio bank samples.[1] KSM uses big data and AI technology and partners with academic institutions, pharmaceutical and tech companies, and startups to discover research and medical breakthroughs such as research on naturally acquired COVID-19 immunity,[2] and work to develop personalized AI-based therapies for depression.[3]

Prediction: A significant amount of healthcare will be delivered remotely, with the use of hospitals restricted to acute and emergency treatment

The step change in the use of data driven care will be accompanied by a similar shift in the use of technology, as more devices currently housed in hospitals will be adapted for home use. The use of virtual wards will likely become commonplace, allowing healthcare professionals to remotely monitor individuals from their homes. Wearable and implantable monitors will also be used for patients with chronic diseases, allowing for greater prevention and early intervention.

Seamless omnichannel experiences will likely be created around patients who will be helped by virtual assistants, powered by artificial intelligence. As virtual reality (VR) and augmented reality (AR) tools and digital platforms (intermediaries that facilitate interactions between and among stakeholders such as individuals, application providers and partners) are embraced by people globally, use of these technologies will also spread to the healthcare sector. With the aid of haptics (technology that can recreate touch-based experiences), clinicians may even be able to conduct examinations virtually.

Coupled with more advanced in-hospital robotics and drones, health systems will see their spending on technology rise, but this may be offset by a decline in spending on estate and buildings, with a significant amount of hospital-based care shifting to new settings, including community based and virtual environments.

Consumerism

Accelerating technological change and generational shifts in attitudes and use of technology are producing a rapid change in the expectations that individuals have of their healthcare systems. The first of the wealthier, and often less deferential, Baby Boomers are approaching an age at which they will need more care, while younger generations will start to engage with health systems that don't meet their expectations for instant access, seamless and personalized experiences, and global connectivity. This will likely coincide with a growth in the proportion of people having an interest in new technology, including those over the age of 75 whose digital adoption and proficiency rapidly increased due to the pandemic.[4]

Prediction: New entrants will compete with existing healthcare players, taking up a substantial part of the market

There is currently a wave of interest and investment in the healthcare sector from major corporations in the technology, retail, consumer goods and wellness industries. Many see healthcare as an area ripe for disruption, and it is true that as consumer expectations move faster than health systems' ability to deliver, many gaps are opening up for new entrants. Platform technologies may allow new players to attract healthcare consumers for certain services, before scaling those services globally.

The offer of "better, faster, cheaper" may be attractive to many consumers — as well as payers, providers and governments — and lead to increased competition for patient care and data, as well as partnerships and consolidation between these new and existing players. The end result will be that these new entrants will compete with existing healthcare players, taking up a substantial part of the market, creating a different, competitive and more globalized healthcare sector in which customer experience is put on a par with clinical outcomes causing ecosystems to shift towards being consumer-centric rather than organization-centered. Many existing organizations will face difficult choices about whether they wish to acquire or be acquired. For some, public private partnerships will be the way forward, enabling them to deliver higher quality health services at the same or less cost. For others, however, new entrants will mean that existing players will be left to take care of more vulnerable and complex populations, endangering the financial and workforce sustainability of services in the future.

Prediction: The volume of apps and VR/AR-based programs prescribed will equal the volume of drugs prescribed

Contrary to popular belief, there are many forms of technology that the healthcare sector adopts relatively quickly — new treatments and pharmaceuticals and, to some extent, surgical devices and techniques as well. The same cannot be said for consumer-facing technologies, particularly apps that have been an everyday part of health management for millions of patients over the past decade, but almost always without any integration into formal health systems.

These circumstances will begin to change rapidly in the coming decade, as more secure means of linking and sharing data becomes accepted, and providers compete increasingly on customer experience and keeping patients well rather than caring for them when sick. Adoption of isolated apps will gradually shift towards integrated, interoperable ecosystems, with the best apps funded and prescribed just as pharmaceuticals are today. Helped by AR and VR techniques, gamification and behavioral health will become the 'secret sauce' of the most successful health organizations, as well as design intuitive interfaces and passive mechanisms to ensure that those with low digital literacy are not left behind. The result will lead to the volume of apps and VR/AR-based programs prescribed equaling the volume of drugs prescribed.

Signal of change: Prescribed apps in action

Globally, chronic pain is one of the leading causes of disability. Virtual reality holds much promise as a nonpharmacological treatment. Recently in a regulatory first in the United States, a VR-based system that uses cognitive behavioral therapy and other behavioral methods has been approved as a treatment for those with chronic lower back pain.[5,6]

Workforce

Although technology is changing healthcare, it is, and will remain, a people-driven business. But the growing demand for care and the immense stresses placed on the healthcare workforce have worsened the global workforce crisis. In response, the same tired approaches are often proposed: to either hire, or train, more doctors and nurses. But there are only a finite number of healthcare professionals in the world, while current training approaches are lengthy. To address these challenges the healthcare workforce of the future will consist of a more diverse array of roles and people will be trained differently. To support inclusive healthcare systems, organizations will become employee-centric, improving digital enablement to liberate health professionals from routine work, and supporting the workforce to build the skills they need for the future.

Prediction: A hybridized and micro-credentialed workforce will function based on their skills, not their roles

With rising service demand and a critical global shortage of traditional healthcare cadres such as doctors and nurses, healthcare systems will seek to adopt the next progression of the existing trends of task-sharing and micro-credentialing.

With micro-credentialing, workforce planning will no longer be done on the basis of "tasks for physicians and nurses," but rather an extensive list of tasks to be performed, with every worker individually classified according to their specific skills, training and performance. This means that non-clinical or even lay workers will be trained and 'micro-credentialed' for various tasks.

In the future, a significant amount of healthcare tasks will be conducted through micro-credentialing. Individuals will learn bite-sized content focused on development of a specific skill, demonstrate competency through an assessment and have a 'credential' issued to provide recognized verification of the skill. This will be a fundamental shift from the current professional silos and guilds of most health systems but will create tremendous flexibility in three ways. First, the ability to rapidly increase, decrease or pivot the health workforce far quicker than current systems, which can take up to 10 years to train specialist doctors or nurses. Secondly, the emphasis on keeping skills constantly up-to-date and assessed rather than relying on undergraduate education as the primary 'credential' for most clinicians. Thirdly, the ability to validate patients, peers and caregivers more formally as a vital and legitimate part of the health workforce.

Prediction: A globalized health workforce will offer 24/7, 365-day care, with complex cases delivered globally

The shift to 'micro-credentialing' will eventually need to happen at scale if workers are to benefit from career progression and transferability of their skills. Alongside the drive towards integrated care, this will lead to more staff moving to 'system employment' rather than organizational employment in the coming years. Micro-credentialing will also tap into a new, more informal workforce pool, helping to free up traditional healthcare staff so that they can work across the care continuum, while providers can achieve maximum productivity from staff time.

This medium-term trend may rapidly be eclipsed by a truly global market for health workers. The rise of AR and VR will allow health professionals to work for systems around the globe, or even for multiple systems at the same time, without the need to move abroad. The widespread adoption of micro-credentialing is a key enabler of this, with employees adopting protocols required by each system for their respective patients (as is already the case in multi-payer systems where clinicians adapt care according to a patient's insurer).

Virtual care workers won't only be employed to see patients but also to supervise. For example, a specialist surgeon from a center of excellence might observe and advise a surgeon from a less specialized center using a VR headset that allows them to 'see what they see' in real time. Within communities, the same principles can be applied to support those in informal care roles. VR and AR offer the opportunity to 'help the helpers,' providing engaging and immersive training, as well as emotional support through buddying and virtual communities, while micro-credentialing would offer formal recognition of their skills.

Communities

Around the world, powerful economic, social, and environmental forces are affecting inequality.[7] While governments are most often seen as solely responsible for creating more equitable societies and protecting the most vulnerable, there is increased acknowledgement that these complex problems may be best addressed through collaboration. Government institutions, public bodies and community organizations all have a role to play, as do the very communities and individuals that are concerned. It is communities themselves that will provide the democratic mandate, the cultural insight, and the social capital necessary to make long-term and lasting change in addressing health inequities, embedding prevention, and improving health outcomes.

Prediction: Caring communities will be the single biggest driver of improved health and care

The most impactful 'new' innovation to many health systems will be communities themselves as they will be empowered to take on responsibility for keeping their own populations healthy and be given far greater direct power over their formal health system than in the past, including shifts to local decision-making and mechanisms of direct democracy. Such community leadership and control of health organizations is already a reality in many Indigenous communities in Australia and Canada.

Communities will work with healthcare organizations and government bodies to address issues related to the social determinants of health, many of which disproportionately impact marginalized and vulnerable groups. Common data sharing platforms can provide timely insights, while artificial intelligence and machine learning technologies can be used to identify at-risk populations through risk stratification and segmentation. This will enable community groups to create or tailor interventions to address specific local needs and work in culturally sensitive contexts.

Signal of change: Community-controlled health organizations

In Australia, 144 Aboriginal Community Controlled Health Organisations (ACCHOs) deliver holistic, comprehensive and culturally appropriate healthcare services to almost 410,000 Aboriginal and Torres Strait Islander peoples.[8] Services are delivered through fixed, outreach and mobile clinics operating in urban, rural and remote settings. ACCHOs are initiated and operated by local Aboriginal communities and controlled through locally elected Boards of Management.[9]

In British Columbia, Canada, the governance structure for First Nations health services belong to First Nations communities.[10] The First Nations Health Authority (FNHA) plans, designs, manages and funds the delivery of health programs to over 200 diverse communities across the province. The FNHA delivers primary healthcare and other community-based services (largely focused on health promotion and disease prevention) through more than 130 medical health centers and nursing stations.[11]

Prediction: An expanded role will be given to primary healthcare, but in a totally new form

Primary care will have an essential role as the central coordinator of local health ecosystems, and key actors in converting population health data and insights into action. The shift towards this type of expanded care will require a significant change in the way in which primary care is provided and organized. Primary care will be part or a continuum of care that moves between complex and acute care on one hand, and community services and or self-supporting individuals on the other hand. Primary care will no longer be based on the current independent clinic or practice model. Primary care will be integrated into larger networks and organizations of community and social services that take collective responsibility and action in keeping populations healthy.

Environmental, social and governance (ESG)

The health sector relies on public trust to function effectively. Historically, this trust has largely been taken for granted in most jurisdictions, as health organizations generate so much value and good will through the care they deliver. In the coming years, however, this relationship of trust is likely to come under greater pressure. Public perceptions of which institutions do and do not deserve trust are shifting as an integrity-based economy emerges, one in which people align themselves with organizations' values, purposes and ethics. In this new world, trust is not defined purely by the quality of the interactions with organizations but by peoples' judgments of whether organizations are living up to their ethical, environmental, and social responsibility promises. Many of the potential scandals facing health organizations are predictable — modern slavery in the supply chain, the mountain of single-use plastics, equitable access to care, and healthcare's carbon footprint. Within this context, health organizations are likely to find their appeals that "but we heal the sick" begin to lose currency. A great deal more effort and energy will therefore be spent preventing, planning for, and responding to threats to the sector's integrity.

Prediction: Healthcare organizations will have halved their carbon emissions and will have plans for achieving net zero

The health sector is responsible for around five percent of global emissions,[12] but to date has been behind other major industries in planning for a decarbonized future.[13] So far, healthcare has largely avoided the spotlight, but as society is mobilized for the immense challenge of meeting climate goals, this exceptionalism will expire. Already, 14 national health systems have committed to and begun work on achieving carbon neutral status before 2050.[14] This number is likely to grow rapidly in the coming years, with a viable 'inclusive' scenario cutting healthcare organizations' carbon footprint in half within a decade. Major players in the supply chain are aiming to move even faster such as life science giant, AstraZeneca who has committed to eliminate emissions by 2025 and be carbon negative across its entire value chain by 2030.[15]

Prediction: Financial systems will exert even greater pressure on health organizations over ESG

Investors and the financial services industry are undergoing their own transformation, from dedicated funds for ESG to embedding these criteria across everything they do. Health systems that rely on outside investment (which to some degree means all health systems) will therefore see an increasing expectation to measure, report on and improve aspects of their organizations that have previously been seen as "nice to have." Certain financing mechanisms may even pay (or penalize) based on whether health organizations are reducing waste and greenhouse gases, paying fair wages, running diverse, inclusive and healthy workplaces, and driving change across supply chains. For staff too these factors will become increasingly important in helping to attract and retain workers.

Key takeaways

Radical change is coming to healthcare through approaching trends in technology and data, the workforce, consumerism, communities and ESG. This will likely be highly disruptive, but under an inclusive healthcare scenario can also mean a significant shift towards personalized and empowering care that is accessible to everyone.

Future healthcare ecosystems

Predicting roles and responsibilities in achieving inclusive care

As seismic as the future trends and their predicted applications to healthcare are, none of them will be effective on their own in moving towards inclusive health systems. To achieve this goal, they will need to happen in harmony — to be driven, or at least directed, by local health leaders working to bridge global and community actors into a coherent model of their future health ecosystem. This will require integration at two levels.

First, the integration of local communities with health systems and global platforms. Engaging communities in health promotion, prevention and care is the single most important factor enabling the inclusive vision described in Healthcare Horizons. At a global level, technology will be key to unlocking this, but it will require planning, investment and coordination from health leaders to ensure that the global players entering this space do not fragment and cherry pick patients. At the system level, the energy of local communities will need to be harnessed and to ensure equity their needs fully understood. But to make this happen integration must be accompanied with empowerment, entrusting communities with influence in the evolution of health systems.

Second, integration of health services themselves — physical and virtual, primary and secondary — so that patients can seamlessly move between different tiers of support with continuity of care and interoperable data acting as an engine for predictive and proactive healthcare. This is where changes to the health workforce and to information flows become most vital.

What kind of health system could this create? The illustration that follows in the next pages is one that may, at first, be familiar in its core, but has several layers and key distinctions from the reality of most healthcare systems today.

Roles and responsibilities

The predictions below have been developed based on KPMG professionals' healthcare industry expertise and experience working with healthcare payors and provider organizations around the world.

Individuals: Service users will be empowered to undertake many activities that would traditionally be the realm of health professionals, enabled by an explosion of smart devices, opportunities in decentralized data governance and new virtual environments. This means that much of the activity that may have taken place in hospitals or primary care settings now takes place in the comfort of peoples' homes, including consultations via virtual reality (VR) or augmented reality (AR). As healthcare becomes more deeply personal, individuals will be empowered to take on a greater role in their own health and overall wellbeing.

Communities: Local citizens, community groups and civil society organizations will be more actively engaged in population health management, health prevention and local health promotion activities. They will have a far greater level of decision-making power — both in priority setting and, crucially, by how the data generated by local health and community organizations are used. Patients and community members may even be given a direct stake in their health systems, such that they themselves benefit from improvements to efficiency and sustainability. Local communities — individually and/or collectively organized — will also be an essential resource to help vulnerable patients navigate the rollout of new health technologies.

Healthcare workers: More staff will be employed at the system-level rather than individual organizations to support integrated care delivery. Artificial intelligence and machine learning will provide staff with more capacity (time) and greater support in decision-making. These technologies will create new roles such as behavioral health specialists, health coaches and patient activators that will be essential to ensuring equitable access for all community members. Micro-credentialing will widen the array of available healthcare workers, bringing in not only formal, but also informal, but credentialed, workforces.

Hospitals: Hospitals will be focused on 24/7 specialist and emergency care provided by multidisciplinary teams. Hospitals will also provide services at home to community members through remote monitoring, virtual wards, and VR or AR consultations. Hospitals will support community and primary care in providing consultations and specialist knowledge and setting up and supporting health data centers (through which interoperable data is shared and artificial intelligence and predictive analytics tools are used to orchestrate care across the ecosystem and make insight-informed decisions). Hospitals will also need to set their capabilities for use by not only individual patients but also supporting communities in their new roles.

Global players: After regulatory challenges are addressed, global providers will play a key role in care delivery largely based on platform and Web 3.0 technology. Services from global providers will be offered directly to individuals and also to local hospitals based on cognitive technologies. Local care systems will interface and manage these relationships, while also collaborating with other systems and global players on platform development and research.

Payors, planners and policymakers: At the whole system level, the architecture of healthcare payment, planning and regulation will shift to enable the seismic changes described above. Local healthcare decision makers will put health data centers at the epicenter as they work towards their vision of an 'integrated community healthcare system,' with key performance indicators being patient and community activation scores, as well as more traditional clinical indicators. Among payers and policy makers there will need to be radical change, most importantly in payment models, which will need to be more bundled but also significantly reward improvements in health among patients at the most risk. Next to that payment models will need to adapt to new organizational setups and entities, from global services to community-based organizations to individual micro-credentialed health workers.

Tying it all together

At the foundation of all of these layers will be interoperable data, which each layer both contributes to and uses, but with ultimate ownership and control residing at the individual and community levels. The ultimate outcome is a technology-powered, 'glo-cal' (global-local) system that achieves inclusive healthcare that is predictive, proactive, preventative and personalized.

Key takeaways

The health system of the future capable of delivering 'inclusive' healthcare scenarios will likely look very different from today, with seamless interaction between local, national and global organizations with their personal data and communities. Health leaders should think hard about how their organizations fit into this picture — those who fail to define their role may have it defined for them.

An inclusive healthcare system illustrated

Global

Global centers of excellence, providing specialist care through platforms and VR/AR

Individuals

Digitally enabled individuals, actively managing their own health and wellbeing

Hospitals

Specialist and emergency care, leveraging remote monitoring and virtual wards

Community services

Patient groups and micro credentialled participants, actively involved in guiding and supporting the health and care system

Community and primary care

Multidisciplinary teams working in an integrated system, managing population health and providing basic care

Source: KPMG Healthcare Horizons

Future care pathway horizons

How inclusive care pathways are predicted to improve experiences and unlock value

Four features of inclusive future care pathways

The true impact of the 'inclusive' healthcare scenario only becomes apparent when all future trends and their applications to healthcare and aspects are considered together. How would the combined effects of transformation in technology, communities and the health workforce change the experiences of patients today?

Future care pathways in inclusive healthcare scenarios are predicted to embody the following four attributes:

Predictive

Predictive analytics are used to identify those at risk for infections and chronic diseases, forecast worsened conditions, and to analyze patient data and outcomes to assist clinicians in developing treatment plans. Further in the future, genotyping and phenotyping will help to prevent many diseases and conditions from happening.

Personalized

Care and treatment plans are developed that cater to individual's circumstances, preferences and eventually due to genome mapping, approaches based on genetic traits and predispositions will evolve personalized treatments to personalized prevention plans.

Proactive

Patients are empowered to manage their own health, such as equipping them with information to participate in decision-making or by providing them with the tools and technology to manage and monitor their own health. Communities are empowered to take on delivery of health promotion, prevention and care services for their populations.

Preventative

Modifiable risk factors for chronic diseases are addressed through smoking cessation and healthy living programs. Genetic testing and screening programs support disease prevention or early detection.

The content that follows predicts how two typical patient pathways for chronic and acute care might be different in 10 years' time if health systems act now to turn insights about the future trends and their industry implications into care experience opportunities.

Evolving to community-based chronic disease and aged care: Patricia's story

Patricia is an older woman who lives alone in subsidized housing in a major urban center. Her only child, a daughter, lives hours away in another city.

Patricia's care today

Population health management:
Patricia has frequent exacerbations of chronic obstructive pulmonary disorder (COPD), which she manages with inhalers and home oxygen while her congestive heart failure (CHF) is medically managed. During a primary care center visit to update her prescriptions she is assessed using a mini-mental state exam and found at 75 to be experiencing early cognitive decline — this is flagged by center staff as something to monitor in the future. Patricia has some social support from her housing community and a personal care assistant who visits her weekly to help her with light housekeeping and to arrange her medications. She has mentioned that she is lonely and fears for her safety.

Intake:
During a visit to Patricia's home, the care assistant notices that Patricia appears confused and short of breath. The worker calls her manager who recommends that an ambulance is called. Patricia is taken to an emergency room where the attending physician finds that her oxygenation is poor, and her congestive heart failure is exacerbated. Consultations are booked with cardiology, respiratory and geriatrics, and an electrocardiogram and bloodwork (including arterial blood gas) are arranged. Patricia remains confused and is unsure of where she is or what is happening.

Care delivery and coordination:
Patricia is admitted to a geriatric assessment unit where she receives additional tests and consultations: a medication review, geriatric psychiatry assessment, social work consult and respiratory therapy assessment. She is diagnosed with dementia and, after a review with her homecare service to assess placement options for Patricia and an in-person meeting with her daughter (who has flown in from out of town), it is decided that she is best discharged to a long-term care facility. Patricia is not happy about this but understands that there are few alternatives available to her. The hospital discharge coordinator cancels her home care services.

Discharge and community management:
Patricia is discharged from the hospital to a step-down care facility where she spends four months before a place (and funding) are found at a care home 20 minutes away. She now has revised COPD and heart failure medications and is supported by 24/7 care assistants and nursing when needed. She is pleased to have more company but misses her old neighborhood and independence, and as her dementia progresses finds it harder to remember where she is or why she is there.

Patricia's care in 10 years

Population health management

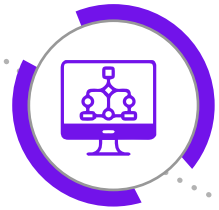
Patricia's health and overall wellbeing are monitored through a health app that feeds data back to a local 'health data center.' Patricia is 70 when the center sends an alert to her phone that it might be a good idea to go for dementia screening — the device has detected minor changes in her touchscreen interactions, response times and eye-movement that can be a sign of early cognitive decline. Her care team identify genetic markers for early onset dementia, and she is prescribed a subscription to a library of validated apps on her phone, TV and VR headset that use games and online communities to improve brain health. Patricia enjoys the games but is also motivated to keep up at them because they earn her rewards in the real world such as trips to the cinema.

She is registered with the national Dementia Society through which she gets access to a clinical trial and permissions her data through a decentralized autonomous organization (DAO).

At 75, Patricia has developed COPD and CHF. These are monitored passively using implantable devices that automatically feedback and adjust her medications and treatment regime to keep it effective and easy to follow.

Intake

At 80, the data from Patricia's health apps detect further decline in her cognition and an alert is issued for a virtual appointment with her primary healthcare provider. Patricia is skeptical as she feels well, but her daughter who has pre-emptively undertaken micro-credentialed dementia caregiver training convinces her it is a good idea. Patricia logs on to her care record and requests a consultation by explaining her concerns to a primary care digital (non-human) worker.



Care delivery

Soon an algorithm at the health data center makes a prediction of worsening health for Patricia and an in-depth multidisciplinary wellbeing and care planning meeting is organized at her home. Using a digital twin (computer simulation) approach, the care team visualizes for Patricia and her daughter different scenarios for her mental and physical health and how that could change with different courses of action. A care plan including a detailed description of Patricia's wishes is agreed upon and uploaded to a funded AI health coach, which is connected to the health data center. The AI coach is able to monitor Patricia's health and respond accordingly. When her activity and mood levels drop, the AI coach suggests activities based on her interests (e.g., mapping a walking route that will intersect with a friend's house). Seeing the positive impact the coaching has had on her life, Patricia decides to get training as a dementia peer support volunteer to help other people locally and online.

Community management

At 85, Patricia's local health data center is alerted by her AI coach that Patricia's cognition is beginning to decline further. As her local area has become a dementia-friendly community, a variety of trained local people are asked to look out for Patricia and help with things she might need.

She also receives homecare help from a care assistant with micro-credentials in dementia management and COPD. This care is gradually increased over the coming months until home monitoring detects that declines in her gait are putting her at risk of a fall. Though she is offered various adaptations, after discussion with her daughter, friends and caregivers Patricia decides her current house is no longer the best place for her to live.

Having made this decision, a room is added to a nearby, small-scale, modular smart care home, in which small numbers of residents live with round-the-clock care workers and support from care robots. Patricia continues to receive good continuity of care from her local community members, daughter and AI coach. She feels well supported and though eventually she no longer acts as a dementia peer support volunteer, by passively sharing her data with research institutions she still feels she is making a contribution by participating in dozens of clinical trials that she hopes will contribute to an eventual cure for the disease.

Leveraging technology to improve acute emergency care: Sebastian's story

Sebastian is a three-year old boy who lives with his parents in a rural area. Both of his parents work full time. He suffers a closed leg fracture after an accident on the playground at his daycare.

Sebastian's care today

Population health management:
One Friday afternoon Sebastian has an accident in the playground and suffers a closed leg fracture. His childcare provider calls an ambulance and his parents.

Intake:
Sebastian is brought to a hospital emergency room by ambulance and is assessed by the pediatric emergency team of a physician and nurse. He is transported to diagnostic imaging for an x-ray, where the fracture is confirmed by a radiologist. The pediatric orthopedic surgery team decides that he is in need of an open reduction and gets consent for surgery from his parents. During the admission process, it is discovered that the family does not have a primary care provider and Sebastian's childhood vaccinations are not up-to-date.

Care delivery and coordination:
The trauma surgeon completes the surgery the next day, in two hours, and Sebastian stays in an inpatient unit where he is monitored closely by the nurses for infection, motor function and pain, and also receives a course of IV antibiotics and inpatient physiotherapy sessions. He recovers well and after five days is assessed as ready to go home. During the discharge assessment, the care team detects a possible speech delay, and an outpatient appointment for a speech and language assessment is booked at the hospital the following week, as well as an appointment at their nearest clinic to get Sebastian's vaccinations up to date.

Discharge and community management:
Sebastian is discharged with pain medication and anti-inflammatories as well as outpatient wound care appointments. He also receives limited outpatient physiotherapy appointments as children of his age tend to be active once their pain is controlled. Sebastian is thrilled to be home again, but his parents are struggling to understand how they will be able to coordinate and attend all of the different appointments he is now booked in for. On his second night at home Sebastian's pain is worse and he is unable to sleep, so his father drives him to the emergency room where they adjust his pain medication.

In the months following discharge Sebastian's parents manage to make all of his wound care, physio and occupational therapy appointments, orthopedic follow-up, and speech and language therapy sessions, though this causes considerable disruption to their work schedules. They continue to worry about his speech and are unsure what impact this may have as he prepares to start school.

Sebastian's care in 10 years

Population health management

Sebastian's health and wellbeing are monitored by the local health data center. He receives regular care from his virtual provider, which organizes his vaccinations to be delivered through a partnering pharmacy chain nearby. When he was two years old, the health data center sent an automated at-home developmental test which discovered a speech delay and Sebastian was prescribed a virtual reality game to improve this, which automatically evolves as his speech progresses and feeds back milestone data to his parents and primary care provider.

One Friday afternoon he has an accident in the playground and suffers a closed leg fracture. His childcare provider calls an ambulance and his parents.

Intake

When the ambulance arrives, Sebastian is assessed on the scene by paramedics. A speech-to-text algorithm populates his case notes and predicts that an open reduction is likely and so pre-emptively books an operating room slot at the hospital designated as the specialist pediatric trauma center and routes the ambulance there. The system also triggers an emergency care coordinator to call Sebastian's parents to brief them on his condition, need for surgery and obtain their consent virtually. Upon arrival at the trauma center, Sebastian's injuries are confirmed via x-ray, and by the time his parents arrive he has already been assessed and prepared for surgery.

Care delivery and coordination

The surgery is performed as minimally invasive as possible, using a surgical robot and in-theater imaging which has automatically mapped out the optimum points to make incisions and refix the bone. The procedure is completed in around 1.5 hours. Later that day, to prepare herself for Sebastian's discharge, his mother takes an interactive mini course on caring for someone recovering from surgery. The following morning, Sebastian is prepared for discharge and is assigned to a virtual ward. An autonomous vehicle delivers a range of adapted hospital equipment to his home, including a smart bed and other non-invasive monitors. Once the equipment is set up, a member of the virtual ward team checks in to see if he is comfortable.

Discharge and community management

Most of the equipment is automated but his parents are shown how to upload photos and other details that will help algorithms and the virtual ward team to monitor his progress. Physical therapy is gamified through a VR headset, and a camera tracks Sebastian's progress as he regains movement. He does not need to return to hospital as his pain medications automatically adjust when the smart bed detects increased pain. It also monitors other vital signs. His parents are helped to care for him through on-demand support through the virtual ward, and an allowance that is debited into a care services marketplace app so that they can arrange for someone to come and help with meals and other housework. When his recovery is complete, Sebastian's hospital equipment is picked up by an autonomous vehicle and sterilized for reuse. All consumables are reused through the hospital's circular supply chain.

Unlocking value

While inclusive future care pathways can improve customer experiences by being predictive, personalized, proactive and preventative, they can also help to unlock value within healthcare systems. The chart below uses a quadruple aim lens of improving patient experiences and outcomes, workforce experiences and reducing costs to illustrate potential opportunities.

Patient experiences

- Care services delivered closer to, and at home
- Highly personalized care based on prevention and early bespoke intervention
- Increased involvement, self-management, and governance on patients' life and health situations
- Increased fulfillment by the ability to take up roles to help others in need of care
- Less disruption of daily life routines

Clinical outcomes

- Reduced complications due to prevention and early intervention
- Increased 'in-time' interventions based on continuous monitoring of a range of functions
- Outcomes focused on both health and wellbeing

Workforce experiences

- Staff able to perform on top of their game by use of more diverse and community-based skills
- Administrative tasks and routine care tasks taken over by AI and digital tooling
- Increased quality of professional decision-making based on actual and relevant data
- Multidisciplinary approaches towards patients' issues
- Higher flexibility in staff deployment due to transformation from organizational employment to system employment
- Taps into a wider array of workforce potential through the skilling of informal workers and micro-credentialing
- Improved staff satisfaction due to ability to spend more focused high-quality time with patients (leading to higher retention levels)

Costs

- Reduced emergency department consults
- Reduced in-hospital diagnostics
- Reduced inpatient care
- Lower waste levels due to increased personalized care
- Use of high-cost infrastructure (hospital care) replaced by use of lower cost infrastructure (primary and community care)
- Less use of expensive highly specialized staff and more use of community-based workers

From insights to opportunities

A new agenda for healthcare leaders

It is said that the best way to predict the future is to create it.

Whether the predictions and scenarios projected in Healthcare Horizons are realistic or not is for individual healthcare leaders to debate and decide. The point is to consider the future waves of crises and trends that are just over the horizon — and in some cases already here — and use these to re-evaluate existing strategic plans. Leaders should ask themselves:

- "Of the projects we have planned, which ones are really going to equip us for the future?"
- "Who do we need to work with (governments, payors, providers, community organizations) to move our system towards an inclusive scenario?"

To turn the insights provided in Healthcare Horizons into action, at KPMG we offer an overview of the most pressing areas for change as a new agenda for healthcare leaders. Envisioning the end goal of an inclusive health system scenario is certainly easier than agreeing on the messy realities of getting there. So how can health leaders be sure that their organizations are moving in the right direction? Each transitional agenda will be unique, but they are likely to share a number of common features.

The agenda for 'inclusive' healthcare systems in 5 years

In the first five years, we predict that inclusive health systems will likely have a preoccupation with three key priorities. First will be a redesign of health services and organizations to better reflect the needs of patients and local communities. This may involve vertical integration of hospitals, primary and community care, and governance reforms to create a stronger voice for local community groups in decision-making. We are likely to see the gradual emergence of 'hybrid' care pathways where health professionals in multiple settings move away from 'hand overs' and multi-disciplinary meetings and towards simultaneous collaboration and shared monitoring of patients — an early example being the recent rise of virtual wards.

The second priority will be around building towards new data architectures to support this integration, as well as empowering patients. Integrated or interoperable EMRs may be a first step, closely followed by the development of health data centers to transform linked data into actionable insights that can be used to establish proactive population health management approaches. Data centers will gradually expand as new feeds are added, such as real-time service performance information and links across to data held by non-health organizations. There may be an initial challenge to develop the data science capabilities to use this information, but this will ease as global tools and platforms for population health management expand and artificial intelligence grows increasingly powerful.

The third priority will be around early advances in creating more agile health workforces. The pace of change in workforce regulation will vary considerably by country or territory, but many organizations may be able to begin moving to integrated scheduling and rostering across organizational boundaries, enabled by more detailed understandings of tasks and skills needed, rather than roles. An easier shift for many will be the automation of administrative tasks, which can be readily adopted by artificial intelligence increasingly being used as a clinical decision support.

So, what does this all mean in terms of the practical 'to do' list for health leaders today? The breadth of change required may be dizzying but can be distilled into a number of milestones over the coming years (see charts on the next pages).

Horizon milestones timeline (1–5 years)

Integrated care

- Establish an agreed model and implementation plan for integrated service delivery across hospital, primary and community settings, that encompass interoperable data systems (including EMRs), shared staffing, and financial flows
- Implement integrated care model 'quick wins' such as virtual wards, integrated service hubs, or hybrid pathways for specific patient groups

Population health management

- Develop and execute on a strategy that engages communities in service design and decision-making and includes data sharing support to enable the ability to segment and stratify different groups
- Start first exercises to segment and stratify populations and develop appropriate offerings to these groups based on prediction and prevention

Workforce

- Give staff representatives lead roles in transformation efforts to ensure that changes are supported and effective, such as identifying where automation could free up time-consuming administrative tasks
- Lay the groundwork for a future of micro-credentialing as the primary unit of supply
- Create detailed forecasts of future demand across different settings matched to current supply systemwide
- Evolve C-suite and board teams to incorporate new capabilities and expertise, in areas such as emerging technology, behavioral health, and climate change

Reimbursement

- Collaborate with payers and policymakers to enable payment model and regulatory changes; in the short term create workarounds by consensus between main system players, and in the long term engage policymakers and lawmakers to ensure that future care models are not held back by a slower pace of change

Partnerships

- Identify external partners needed to make transformational change happen, including technology and data firms, global centers of clinical excellence, and investment partners that can finance necessary (de)investment programs

Technology and data

- Create a systemwide health data center
- Create and pilot a strategy for metaverse-based care delivery that leverages virtual and augmented reality tools
- Run DAO pilots through which patients can opt to share their data in support of research or other efforts

The agenda for 'inclusive' healthcare systems in 10 years

Within a decade, we predict that the agenda for inclusive healthcare organizations will have shifted further, with changes in data, workforce and community engagement cumulatively transforming how health systems operate and are understood. In some ways, the changes will mirror those occurring already in consumer technology industries — individuals will likely have ultimate ownership and control of their data, accessing health tools and training as they would with consumer apps today, and engaging with healthcare across a range of channels according to their choice — voice, text, in-person in the community, in emerging settings in the metaverse, or at a hospital, if necessary. Caregivers and community members can be micro-credentialed in the same way as staff, blurring the boundaries between patients, citizens and the workforce. Healthcare workers will be employed across systems, rather than for specific organizations, and healthcare workforces will likely include informal workers as well as many staff based overseas.

Yet in other ways, inclusive healthcare systems of the future will be quite unlike that of today's technology giants. There will be strong links with, and democratic accountability to, citizens and community groups, who will 'own' (whether formally or informally) a major stake in their local providers, who will give them sway in decision-making, and who will rely on their support to operationalize a decentralized model of data sharing through community-owned DAOs. The emphasis will be on supporting self-management through choice and personalization, rather than any need to drive ever-greater engagement with 'the system.'

Horizon milestones timeline (5–10 years)

Population health management

- Deploy a system-wide population health management system, with a shared healthcare data center at its hub
- Leverage machine learning to develop specific interventions for high-risk groups, then move towards artificial intelligence to create individualized recommendations and interventions

Workforce

- Establish a comprehensive system of micro-credentialing covering all health, care and social services, with all formal care and lay workers captured
- Adapt contracting, staff training, work practices, remuneration and who the employing entity is
- Allocate investment to ensure professional and lay staff worker training is in place, as well as emerging technologies to automatically monitor and audit performance

Reimbursement

- Redesign the majority of systems to incentivize population health management with an emphasis on predictive, promotive and personalized care
- Shift investment from legacy 'sickness' services towards new systems of population health management

Governance

- Formalize new arrangements that more intensively and meaningfully engage local citizens and community groups at multiple levels, from giving patients with particular diseases direct say over service delivery of care pathways, to co-creation of all major strategies with community-based organizations

Technology and data

- Extend plans for data interoperability across the health system that covers real-time data from health providers, and with their permission and/or ownership, links patients' data across traditional EMRs, wearables, health apps and other community services
- Offer metaverse-based health services, either directly designed and delivered by the local healthcare system or in partnership with global providers
- Establish a system-wide digital marketplace offering self-management apps, behavioral health programs, games, training, as well as real-world care services such as home care; ensure that products and services are user-friendly to navigate and interoperable
- Embed DAOs and individual ownership of data in data-infrastructure

Conclusion

This is a radical agenda for any organization and will require planning for crisis and change horizons rather than the typical one- or four-year business planning cycles. At KPMG, we feel that unless action is taken across all of these areas, healthcare organizations likely will be unable to stay afloat amid successive waves of crises and challenges that are expected to batter the sector.

It can be daunting to work out where to start: how can future trends and the above agenda really translate to the specifics of local geography and circumstances? Depending on local priorities and current capabilities, organizations may wish to tackle each element sooner or later, but ultimately all will be critical to developing inclusive healthcare systems. KPMG firm professionals can help organizations to navigate storms of change and plot the potential approaches mentioned previously into a coherent plan of action for what should be done in the years ahead — be that for overall 'inclusive' masterplans or individual elements such as strategic reforms to data, workforce, environment, community engagement and partnerships.

Healthcare Horizons contributors

KPMG would like to thank the following for their contributions:

Michael Allen
Global Lead, Future Workforce in Healthcare, KPMG International; Partner KPMG in the UK

Jonathan Baker
Partner, Health and Government Solutions
KPMG in the US

Mike Beaty
Principal, Health and Government Solutions
KPMG in the US

Aaron Berk
Global Co-Lead, Care System Redesign, KPMG International; Partner, National Health and Life Sciences Industry Leader
KPMG in Canada

Thomas Beyer
Former Global Head of Digital Transformation for Infrastructure, Government and Healthcare
KPMG International

Robert Bolton
Head of Global People and Change Center of Excellence, KPMG International; Partner
KPMG in the UK

Beccy Fenton
Global Co-Lead, Care System Redesign, KPMG International; Partner, Head of Health and Human Services
KPMG in the UK

Janet Greenwood
Director, Infrastructure Advisory Group
KPMG in the UK

Mike Hayes
Global Decarbonization Hub Leader and Global Renewable Energy Leader
KPMG International

Dr. Marty Herbert
Global Lead, Customer Experience, KPMG International; Director
KPMG in the UK

Julio Hernandez
Global Lead, Customer Center of Excellence, KPMG International; US Customer Advisory Practice Lead
KPMG in the US

Deanna Heroux
Partner, Management Consulting — Healthcare Solutions
KPMG in Canada

Michael Hulbert
Global Sector Executive for Healthcare and Executive to the Global Head of Health
KPMG International

Dilan Luvis
Global Director, Digital Health Strategy and Alliances, Digital Health Hub
KPMG International

Hannah Lyonette
Global Healthcare Executive
KPMG International

Alex Morton
Partner, Public Sector Consulting, Healthcare
KPMG in Germany

Rachel Orton
Director, ESG Climate Risk
KPMG in the UK

Dr. Niti Pall
Managing partner, Health 4 all advisory

Evan Rawstron
Global Co-Lead, KPMG Connected Enterprise for Health, KPMG International; National Sector Leader — Health, Ageing and Human Services
KPMG Australia

Jonty Roland
Independent Health Systems Consultant, Health For All Advisory

Jennifer Shulman
Global Lead ESG Advisory Hub, KPMG International; Lead Partner Economic Services
KPMG in Canada

Matthew Smith
Partner, Strategy and Transformation Lead and Global Claims Lead
KPMG in the UK

Eveline van Beek
Partner, Advisory
KPMG in the US

Karin Vernooij
Director, Healthcare
KPMG in the Netherlands

Kate Young
Senior Manager, Management Consulting
KPMG in Canada

Charlotte Zamzow
Senior Manager, Public Sector Consulting, Healthcare
KPMG in Germany

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Contact

Dr. Anna van Poucke
Global Head of Health,
KPMG International;
Healthcare Senior Partner,
KPMG in the Netherlands
T: +31206 568595
E: vanpoucke.anna@kpmg.nl

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