

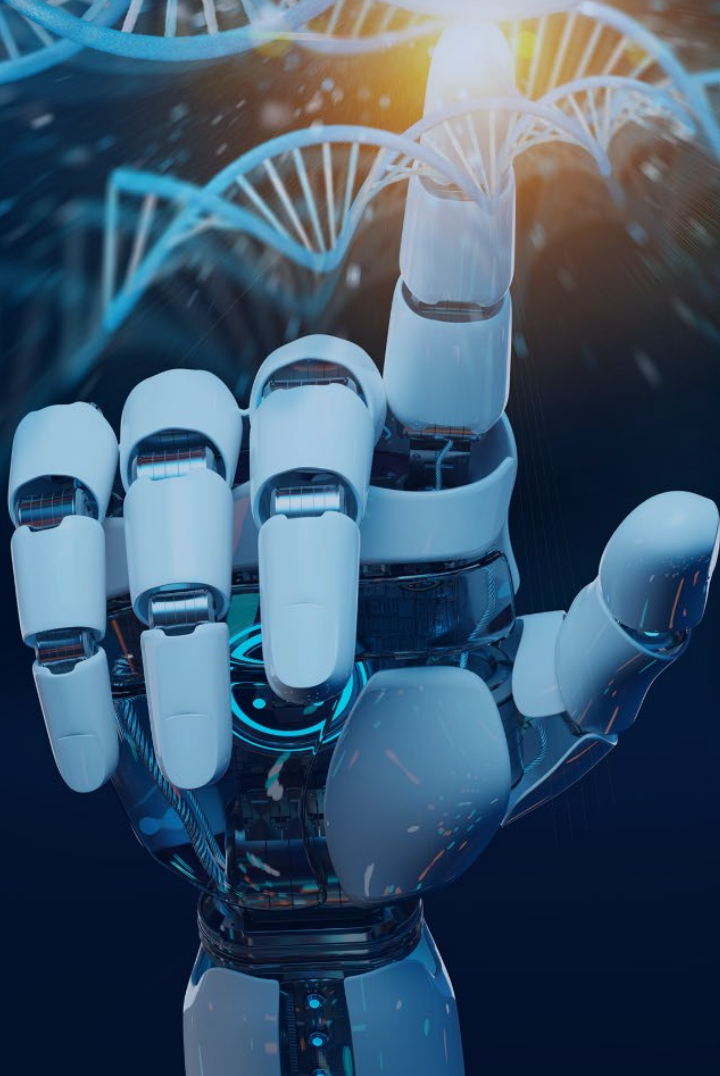


Care Reimagined 2025

January 2025

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[KPMG.com.au](https://www.kpmg.com.au)



Acknowledgement of Country

KPMG acknowledges Aboriginal and Torres Strait Islander peoples as the First Peoples of Australia. We pay our respects to Elders past, present, and future as the Traditional Custodians of the land, water and skies of where we work.

At KPMG, our future is one where all Australians are united by a shared, honest, and complete understanding of our past, present, and future. We are committed to making this future a reality. Our story celebrates and acknowledges that the cultures, histories, rights, and voices of Aboriginal and Torres Strait Islander People are heard, understood, respected, and celebrated.

Australia's First Peoples continue to hold distinctive cultural, spiritual, physical and economical relationships with their land, water and skies. We take our obligations to the land and environments in which we operate seriously.

We look forward to making our contribution towards a new future for Aboriginal and Torres Strait Islander peoples so that they can chart a strong future for themselves, their families and communities. We believe we can achieve much more together than we can apart.

kpmg.com/au/RAP



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As today's care systems grapple with the formidable challenge of balancing escalating demands for care with finite resources, we must confront the reality that conventional approaches are faltering. Governments and care delivery organisations worldwide are striving to reconcile the troubling disparity between the growing need for services and the limitations imposed by economic constraints, rising expenses, and workforce shortages. Although continuous efforts are being made to bridge this gap, prevailing metrics of care system performance indicate that progress is disappointingly slow, signalling a need for more radical and innovative interventions to avert the widening chasm forecast for the years ahead.

Resources are increasingly strained as demographic shifts, such as an ageing population, amplify the demand for care. Concurrently, the sector is beset by labour market pressures, including an ageing workforce, restrictive immigration policies, and a surge in absenteeism stemming from illness, injury, and professional burnout. These challenges underscore the urgency for care systems to reinvent the organisation and delivery of services if they are to not only survive but thrive in this new era.

In the face of these imperatives, this publication contends that the path forward involves strategic investments that better align with long-term systemic outcomes. System leaders need the foresight to acknowledge that care provisioning must be predicated on proactive identification of needs and delivered through cohesive multidisciplinary networks focused on the individual. This transition to a more integrated model of care necessitates smart technological solutions and the astute utilisation of data.

At the national level, we are seeing step-changes in the work being done to drive a truly interoperable care delivery system. The Digital Health Blueprint¹, the National Digital Health Strategy², and the National Healthcare³ Interoperability Plan all set the vision and ambition for much greater alignment to standards across the sector. Through the recent announcement of a National Health Information Exchange we expect to see the infrastructure to enable this at a national level become a reality.

To date, national digital healthcare initiatives have been focussed largely on the acute and primary health care settings, but we are now seeing appetite and initiatives that address other care settings. The publication of the Aged Care Clinical Information Systems recommended minimum requirements⁴ together with an increased focus on digitising the allied health sector, which supports primary, community and aged care both promise a more cohesive approach to care across a variety of settings.

At the state and local levels, expectations are intensifying for organisations to collaborate in data sharing, with larger entities serving as pivotal hubs facilitating local care through virtual consultations and remote monitoring.

The transformative power of data and technology in reshaping care has long been advocated, yet progress has not kept pace with the escalating needs. Enter Generative AI (Gen AI)—an emerging powerhouse with enormous potential, notwithstanding its accompanying risks and the many considerations prerequisite for widespread adoption.

This publication aims to navigate the current landscape by detailing what is currently achievable with established AI technologies, while also providing insight into the nascent applications of Gen AI.

We examine these advancements through the prism of the Quintuple Aim⁵, integrating essential perspectives on patient and clinician experience, population health, efficiency, and equity—all of which are vital for a lasting and meaningful transformation of care systems.

Notes:

1. Department of Health and Aged Care; The Digital Health Blueprint and Action Plan 2023–2033 available at [The Digital Health Blueprint and Action Plan 2023–2033 | Australian Government Department of Health and Aged Care](#)
2. Australian Digital Health Agency; The National Digital Health Strategy 2023-2028 available at [About the Strategy \(digitalhealth.gov.au\)](#)
3. Australian Digital Health Agency; National Healthcare Interoperability Plan 2023-2028 available at [National Healthcare Interoperability Plan \(digitalhealth.gov.au\)](#)
4. Australian Digital Health Agency; Aged Care Clinical Information System (ACCIS) Standards <https://www.digitalhealth.gov.au/healthcare-providers/initiatives-and-programs/digital-health-standards/aged-care-clinical-information-system-accis-standards#:~:text=Digital%20health%20standards%20enable%20interoperability%20by>
5. [The Quintuple Aim for Health Care Improvement: A New Imperative to Advance Health Equity | Institute for Healthcare Improvement \(ihi.org\)](#)

Figure 1 - The changing landscape (Source: KPMG)

In the following sections, we look initially at the four areas of changing needs noted above. We then consider examples of AI in operation, and the outcomes AI is helping to deliver across the five areas of the Quintuple Aim. We round out our view of Care Reimagined with recommendations around how organisations can work differently to respond to changing needs by appropriately leveraging AI.

01

Resources are under stress



Staffing shortages are on the rise



Infrastructure is facing increasing pressure



Financial pressure is intensifying

02

Needs are changing



Focus on health and wellbeing



Utilising data



Seamless care network



Personalised care

03

Using the Quintuple Aim highlights opportunities for improvement



Patient/Client Experience



Population Health



Operational Efficiency



Clinical Experience



Equity

04

Working and organising differently is necessary



Appropriate care supported digitally



Integrated and collaborative transformation of (care) processes

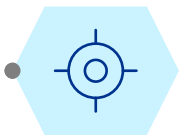


Governance and leadership

02

The need for transformation

Appropriate digital care requires different ways of structuring and delivering the work and care

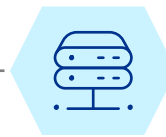


Focus on health and wellbeing

In addressing the imbalance of demand outstripping supply within the care sector, it is essential to broaden our perspective beyond technology application and care reorganisation. A paradigm shift towards prioritising 'health' over 'care' is needed, emphasising prevention, lifestyle modification, and early detection to extend the length of a healthy life. Empowering citizens to take greater control of their health is crucial in this endeavour.

Data is indispensable in this regard, enabling enhanced insight and outcome direction, both for individuals through self-measurement and behaviour awareness, and for care professionals through preventive actions. This shift necessitates novel collaborative approaches within the care network centred around the citizen, while also opening doors for Gen AI to revolutionise patient engagement systems.

Many practical instances can be observed where physical care programs are augmented with digital components, resulting in customised interventions for individuals. Data analytics has facilitated the pinpointing of at-risk demographics for targeted preventative programs, such as during the COVID-19 pandemic to enhance vaccination rates.



Better utilisation of data

The evolution of care has seen a pivot from reliance solely on clinician's expertise to increasingly data-driven treatments. Predictive analysis has become integral, with its application spectrum spanning diagnoses, prognosis, disease course prediction, patient monitoring, avoiding risk of complications, clinical decision support, and treatment pathway optimisation. Yet, adoption in healthcare settings, such as aged care, are lagging.

There is good evidence over a long period of data being used to predict incidents. The "between the flags" initiative, which has been used to identify deteriorating patients in hospitals in New South Wales⁶, has brought significant benefits, both in the recognition and response to deteriorating patients, and reduction of cardiac arrests and admissions to ICU^{7,8}. There are also healthcare organisations (hospital, rehabilitation, and long-term care) collaborating to develop predictive analyses for patients who have recently experienced a stroke, in order to predict the degree of recovery. In medical imaging, data is also widely used to support diagnosis.

However, there are still many opportunities for better use of data, and while traditional AI has already made a broad impact here, GenAI holds promise for further developments in driving value from the data that is increasingly routinely collected, generated and shared. In the mental health and disability care sector, there are plans to use algorithms to predict aggressive behaviour or stress. With all these developments, health care can anticipate changes in models of care and delivery of appropriate care more quickly, as deviations and changes are detected and treatment policies can be adjusted accordingly.

Notes:

6. Between the Flags - Clinical Excellence Commission (nsw.gov.au)
7. Hughes, C, Pain, C, Braithwaite, J et al., 2017, 'Between the flags: implementing a safety-net system at scale to recognise and manage deteriorating patient in the New South Wales Public Health System', International Journal for Quality in Health Care, 29(1), 130–136
8. Ou, L, Chen, J, Hillman, K, et al., 2020, 'The effectiveness of a standardised rapid response system on the reduction of cardiopulmonary arrests and other adverse events among emergency surgical admissions', Resuscitation, 150, 162–169.

New technologies, applications, and platforms that facilitate data collection and sharing about patients and their environments are forging previously untapped possibilities. To address the evolving needs, it is critical to identify these opportunities and understand their practical applications. On-demand care and comprehensive identification of at-risk populations for timely intervention are now within reach.

This is the transformative "next big step" that many envisage — where innovative technology, particularly GenAI, is increasingly cited as a solution to one of the most substantial challenges in care services: delivering an augmented volume of care with fixed numbers of resources and personnel.



Seamless care network

With an ageing population, the number of people with multiple chronic conditions is increasing^{9, 10}. Earlier diagnosis and better survival rates in cancer patients mean what were previously acute conditions now require long term management, with a team of clinicians involved. This translates into the involvement of various care providers with a patient and shows the need for a shift from the current model of care delivery. Increasingly multi-disciplinary care is being actively managed, and while one care provider will generally take on a role coordinating care for their patient, there is more focus on collaboration in networks around the patient¹¹. This shift can only succeed with the use of technology, for example by making (medical) data more available to and improving communication between all providers in the care network. This way of innovating requires a broad, organisation-transcending collaboration, and improving the interoperability across the system will support this. An example from the Netherlands is the Achterhoek region, where hospital, general practitioners, aged care, mental health care, public health service, and municipalities work together on regional health under the name '8RHK Gezond'¹². With the parties involved, it is now possible to do joint data analysis without being able to view or trace each other's sensitive patient data. This ensures patient consent to information sharing and privacy is respected.



More personalised care

The individualisation of care, informed by a person's unique characteristics and data, is paving the way for more tailored and effective treatments. This tailored approach not only improves health outcomes and patient quality of life but also enhances healthcare accessibility and affordability. In Western Australia, the Department of Health has partnered with Telstra Health to develop the first synthetic chronic disease registry, creating a virtual replica of the complex Pilbara environment and the people who live there, which will support both healthcare providers and researchers to test new strategies and interventions¹³. Advances in GenAI promise even greater ability to build virtual worlds and support development of digital twins¹⁴ – while the focus for digital twins may initially be heavy engineering, innovators will be looking for ways to apply this in care delivery.

Notes:

9. AIHW, Older Australians 2020; <https://www.aihw.gov.au/reports/older-people/older-australians/contents/demographic-profile>
10. AIHW, Australian Burden of Disease Study 2022; <https://www.aihw.gov.au/reports/burden-of-disease/australian-burden-of-disease-study-2022/contents/summary>
11. Examples of multidisciplinary care teams | [Cancer Australia](#)
12. English - 8RHK ambassadors (<https://8rhk.nl/English>)
13. The Challenge - Pilbara Digital Twin (health.wa.gov.au)
14. NVIDIA announces GenAI and services to support digital twins and robotics (processonline.com.au)

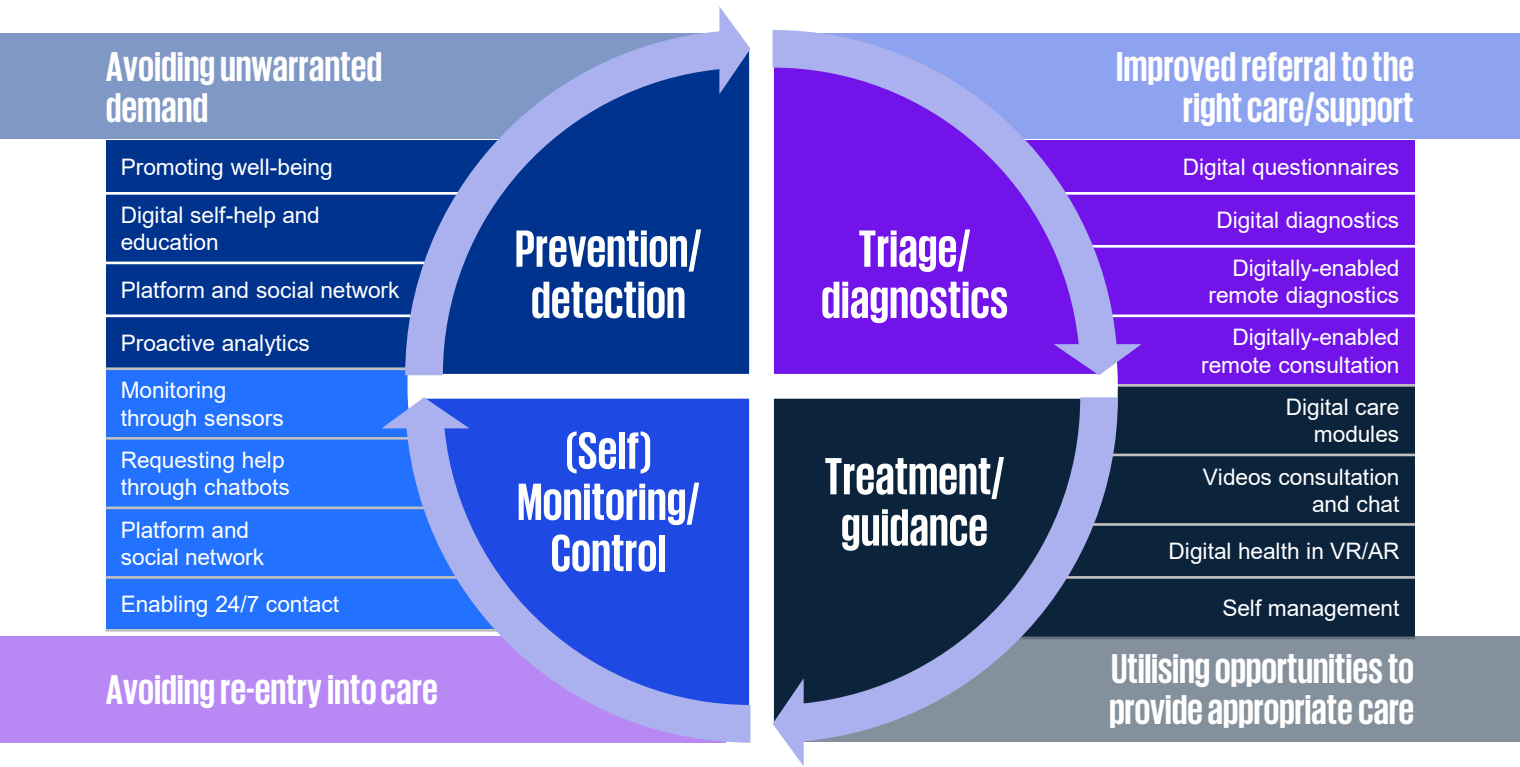
Appropriate digital care demands transformation on multiple levels

Digitisation within care provider organisations presents a paradox. It is touted as the answer to numerous challenges yet may inadvertently raise the demand for services by lowering barriers to access. As technology makes it simpler to navigate pathways to care, it doesn't always guarantee the accuracy or reliability of those paths, nor does it necessarily align with the specific needs of consumers. This complexity results in the concept of 'appropriate digital care'—the use of digitisation where it adds substantial value and addresses the pressing problems of our times. To bridge the care gap, the answer can't be technology in isolation; an adaptable and innovative delivery model is essential.

Only then can we achieve a true digital care transformation.

Appropriate digital care can act as a lever across various stages of the care continuum. Figure 2 showcases how it can accelerate the closure of existing gaps. The real challenge resides in discerning which technological innovations to adopt from the plethora available, organising the foundational groundwork for these technologies, and ensuring seamless coordination. Technological solutions are often designed to foster collaborative care, making a solid governance model invaluable for such cooperative efforts.

Figure 2. Considerations for appropriate digital care (Source: KPMG)



For effective care planning and delivery, concerted action is needed in three key domains to expedite digital transformation. Firstly, the technological landscape and its architecture, both locally and nationally, must be crafted according to a comprehensive vision that incorporates care and governance aspects. Secondly, care processes should be re-envisioned so that technology forms an inseparable element, enhancing and enriching these processes rather than being an afterthought. Thirdly, collaboration across different care

settings necessitates well-defined agreements and frameworks for cooperation.

The pace of transformation is, therefore, intrinsically tied to the readiness of care providers to collaborate, which in itself is contingent upon their preparation to embrace digital change. Encouragingly, national digital health initiatives and roadmaps are increasingly providing clarity and direction towards what a cohesive digital healthcare ecosystem should embody, along with the standards needed to achieve such an environment.

03

The Impact of AI on achieving the Quintuple Aim

In this chapter, we explore different AI use cases which demonstrate how AI can significantly contribute to advancing the five fundamental goals of the Quintuple Aim⁵ in health care. These goals encompass enhancing patient experience, improving population health outcomes, increasing operational efficiency, and reducing costs, fostering clinician satisfaction, and improving the equity of healthcare delivery. We explore how AI technologies can be harnessed to support these

critical objectives.

The matrix provided below summarises these AI use cases and demonstrates how each can contribute to multiple pillars of the Quintuple Aim. The Quintuple Aim generally refers specifically to health care, and it is positioned in relation to health care in this analysis. However, all care settings can potentially benefit from active pursuit of the Quintuple Aim.

Case Study	 Patient Experience	 Population Health	 Operational Efficiency	 Clinician Experience	 Health Equity
National Pathology Imaging Co-operative (UK)	Primary		+	+	
Intelligent Healthcare Agents (US)	Primary		+		
Healthdirect Australia	Primary		+		+
CDC Disease Monitoring and Response (US)		Primary	+		+
AI-Driven Stethoscope (UK)	+	Primary	+	+	
Multi-omics Analysis	+	Primary			
Automated Surgery Scheduling (Norway)	+		Primary	+	
Speech Recognition and Transcription	+		Primary	+	
Data-informed Decision Making (Netherlands)	+		Primary	+	
Virtual Command Center (US)	+		Primary	+	
Medical Imaging and Diagnostic Support			+	Primary	
Cancer Screening (US)	+		+	Primary	
AI Note Taking for Clinicians			+	Primary	
NHS Talking Therapies (UK)		+			Primary
Health Equity & Pop Health (US)		+			Primary
Digital Staffing Marketplace			+		Primary



3.1 Patient Experience

Within the framework of the Quintuple Aim, enhancing patient experience focuses on improving how patients perceive and interact with healthcare services. It aims to ensure that health care encounters are compassionate, efficient, and patient-centred, enhancing satisfaction and trust, while addressing individual needs and preferences. This approach aims to foster a positive relationship between patients and healthcare providers, ultimately leading to better outcomes and overall well-being for patients.

AI is already starting to reshape how we approach patient care, having been integrated across multiple healthcare practices in recent years. Through AI-driven tools like personalised care plans and virtual assistants, providers can offer more tailored support and proactive management. This enhances patient engagement, satisfaction, and outcomes while reducing administrative burdens. By harnessing AI's capabilities in data analysis and decision support, healthcare teams can deliver more efficient, empathetic care, fostering a patient-centric approach that focuses on individual needs and preferences.

Here are some examples of how AI integration in healthcare has made a noticeable impact on patient experience.

The National Pathology Imaging Co-operative (NPIC):

The National Pathology Imaging Co-operative (NPIC) aims to improve patient experience by enhancing diagnostic accuracy and efficiency through digital pathology and AI. Established in 2019 at Leeds Teaching Hospitals, NPIC has implemented a substantial digital pathology network across multiple NHS sites, designed to support faster, more reliable diagnoses. This approach reduces wait times and provides patients with more immediate, personalised care plans, addressing key patient needs for timely information and treatment. By analysing millions of digital pathology images, NPIC's AI-driven processes improve diagnostic precision, particularly in cancer and complex conditions, while also facilitating research and quality assurance. This initiative exemplifies how digital pathology and AI can modernise healthcare delivery, with an emphasis on transparency, reliability, and collaborative research for ongoing improvement in patient care¹⁵.

KPMG US: Intelligent Healthcare Agents:

KPMG in the US partnered with a major health services provider to transform their customer service call experience.

By leveraging IBM's Watson AI platform, KPMG upgraded the legacy system to an AI-driven intelligent conversational (IC) system. This advanced solution employs real-time natural language processing (NLP), speech-to-text, and text-to-speech technologies to facilitate nuanced, context-aware interactions with callers. It integrates seamlessly with both legacy and cloud-based systems while ensuring the highest security for sensitive health information. The AI system enhances customer interactions by effectively managing complex voice queries and catering to a diverse range of caller profiles, including various ages and accents.

This innovation not only improved the customer experience but also resulted in cost savings and addressed workforce challenges¹⁶.

Healthdirect Australia:

Healthdirect Australia partnered with Infermedica to implement a multichannel triage solution based on Infermedica's AI powered Inference Engine¹⁷. Infermedica's Inference Engine uses a modified form of Bayesian networks to combine well-established clinical assessment methods with new developments in machine learning. Healthdirect added an Outcome Rules Engine that maps eligibility criteria for Australia's unique mix of care pathways, and integration with the National Health Services Directory of care providers to enable comprehensive triage that optimises patient access to the country's health system¹⁷.

Notes:

15. The National Pathology Imaging Co-operative (NPIC) | <https://npic.ac.uk/>
16. KPMG US | Intelligent Healthcare Agents (<https://deliverybackbone.kpmg.com/collaboration/display/GPSCZ/Intelligent+Healthcare+Agents>)
17. Healthdirect Australia | <https://www.healthdirect.gov.au/>



3.2 Population Health

Improving population health involves adopting a holistic approach, aimed at enhancing the overall health outcomes of a specific group or community. As such, the approach may include multiple targeted interventions tailored to address prevalent health issues, promoting preventive care through regular check-ups and screenings, educating individuals and communities about healthy behaviours and managing chronic conditions, addressing and preventing social determinants of health such as socioeconomic factors and access to healthcare, engaging communities in health promotion activities, ensuring coordination across healthcare providers and services, and monitoring progress through data-driven evaluation.

AI's effective analysis of large datasets and ability to employ machine learning algorithms, provides potential to advance the goal of improving population health. By processing vast amounts of healthcare data, AI can uncover hidden patterns, identify correlations, and offer predictive analyses that aid in early disease detection, personalised treatment plans, and healthcare resource optimisation.

However, the effectiveness of AI in enhancing population health outcomes is contingent upon the quality and availability of data. Despite these challenges, several impactful applications of AI are already demonstrating its potential.

The following examples illustrate how AI is increasingly playing a pivotal role in achieving the goals of improving population health under the quintuple aim framework.

Palantir: CDC disease monitoring and response:

Since 2010, Palantir has collaborated with the U.S. Centers for Disease Control and Prevention (CDC) on the Data Collation and Integration for Public Health Event Response (DCIPHER) Program. Utilising Palantir's Foundry platform, the program integrates diverse data sources—such as health records, surveillance data, and public health reports—into an integrated system. This integration provides a comprehensive view of public health trends and issues, allowing CDC workgroups to efficiently combine data, conduct analyses, and optimise operational workflows. The result has been enhanced disease and outbreak surveillance, as well as more coordinated response efforts. Similarly, Palantir's software solutions played a crucial role in powering the digital operating system for the U.S. public health response to the pandemic. Their technology enabled real-time tracking of outbreaks and generated actionable insights, which were instrumental in shaping vaccine distribution decisions and mitigating the pandemic's impact¹⁸.

AI-Driven Stethoscope for Heart Disease Detection:

In the UK, the Eko Health AI-enabled stethoscope is being deployed across 200 GP surgeries in north-west London and Wales, including Golborne Medical Centre. This advanced device uses artificial intelligence to analyze heart sounds and rhythms in real-time, instantly detecting conditions such as heart failure, atrial fibrillation, and valvular heart disease. By leveraging AI algorithms trained on extensive datasets, the stethoscope provides rapid, accurate diagnostics, significantly reducing the time to identify and treat heart conditions.

The technology aims to address long waiting times for cardiology appointments and decrease excess deaths by enabling prompt intervention. Its efficiency not only improves patient care but also offers substantial cost savings to the NHS, with potential annual savings estimated at around £1 million for one sector. This innovation exemplifies how AI can enhance population health management and streamline healthcare delivery¹⁹.

Multi-omics Analysis:

Multi-omics refers to the study of multiple "omes" such as genomics, transcriptomics, proteomics, metabolomics, and others, in an integrated manner. By combining various omics data types together, researchers are able to discover novel associations and complex biological insights that might otherwise be undetectable using a single method.

Multi-omics has the potential to bring several population health benefits by enhancing our understanding of disease mechanisms, improving diagnostics, and enabling personalised interventions.

A recent Nature article highlights how integrating multiomics data with machine learning (ML) is transforming our understanding of pregnancy-related complications and enhancing population health. By combining insights from various omics layers—such as epigenomics, metabolomics, and proteomics—researchers are identifying crucial biomarkers associated with preterm birth and preeclampsia.

Advanced multiomics models can now predict conditions like preeclampsia and labour onset with high accuracy, facilitating early diagnosis and targeted interventions. This innovative approach not only improves predictive capabilities but also provides valuable insights into pregnancy biology, ultimately advancing prevention and treatment strategies that directly support the population health²⁰.

Notes:

18. Palantir | CDC disease monitoring and response <https://www.palantir.com/newsroom/press-releases/palantir-expands-longstanding-cdc-partnership-for-disease-monitoring-and/>
19. Eko Health | AI-Driven Stethoscope for Heart Disease Detection (<https://www.ft.com/content/a7b87a58-0b0d-41f0-912c-f8c778c83059?countryCode=AUS&multistepRegForm=multistep>)
20. Nature | Multiomics, artificial intelligence, and precision medicine in perinatology (<https://www.nature.com/articles/s41390-022-02181-x>)



3.3 Operational Efficiency

Improving operational efficiency focuses on enhancing the overall effectiveness and productivity of healthcare systems. This involves streamlining processes, minimising waste, and optimising resource utilisation to reduce operational costs and improve efficiency throughout. The goal is to achieve better outcomes for both healthcare professionals and patients, by creating more efficient healthcare operations.

AI can significantly enhance operational efficiency through a variety of applications. For example, Large Language Models (LLMs) can automate administrative tasks, such as transcribing patient-physician interactions, reducing manual effort and minimising errors. Moreover, by integrating and analysing large datasets related to patient flow and staff schedules, AI facilitates decision-making by healthcare professionals in real-time to optimise staffing and resource allocation. Continuous monitoring of operational metrics also enables AI to identify inefficiencies and recommend immediate improvements, further boosting overall efficiency in healthcare operations.

The following applications of AI in healthcare highlight its potential to enhance resource management, reduce costs, and elevate the overall quality of care. These advancements play a crucial role in achieving the operational efficiency objective outlined in the Quintuple Aim.

KPMG Norway: Automated surgery scheduling:

KPMG in Norway delivered a scalable solution to optimise surgical scheduling at Oslo University Hospital. By leveraging ServiceNow's low/no-code platform, KPMG integrated data from the hospital's three separate systems and automated the scheduling process. This led to a significant reduction in surgery delays and around 3,000 fewer cancellations annually.

Additionally, the solution includes a digital twin, enabling the hospital to simulate scenarios such as sudden patient surges and evaluate contingency plans to enhance the deployment of personnel, theatres, and equipment²¹.

Nuance: Speech recognition and clinical transcription:

Nuance's Dragon Medical One is an AI-driven, cloud-based speech recognition solution designed to enhance documentation processes, accuracy, and efficiency in healthcare settings. It enables clinicians to dictate notes, patient records, and other medical documentation directly into electronic medical records (EMRs).

By utilising natural language processing (NLP), the system interprets medical terminology and converts speech to text. The AI engine learns from user interactions, adapting to individual speech patterns and preferences while understanding the context of clinical conversations to further refine the accuracy of transcriptions. Additionally, the solution integrates with popular EMR systems and streamlines EMR input by automating data entry tasks. This reduction in manual data entry allows healthcare professionals to focus more on patient care²².

KPMG Netherlands: Data-informed decision making:

SAS and KPMG NL partnered to develop a predictive AI model to enhance ICU planning in client hospitals. The model analysed patient in-flow data and provided reliable predictions of patient volumes in the ICU, allowing flexible scheduling and efficient resourcing²³.

Palantir, Virtual Command Center:

Palantir partnered with the Cleveland Clinic to create the 'Virtual Command Center' on Palantir's Foundry platform. The system integrates a wide range of data sources, including patient records, resource allocations, and operational metrics. By utilising AI and machine learning (ML), the Virtual Command Center delivers real-time operational recommendations that optimise the coordination of hospital resources and enhance patient flow. The AI-driven insights analyse complex data to predict demand, streamline workflows, and address bottlenecks, ensuring more effective management of hospital operations.

This innovation improves operational efficiency by enabling proactive resource management and more precise patient care. The real-time recommendations facilitate better coordination among staff and resources, reducing wait times and improving overall patient outcomes. By transforming data into actionable insights, Palantir's Virtual Command Centre exemplifies how AI and advanced analytics can drive operational excellence and elevate the quality of healthcare delivery²⁴.

Notes:

21. KPMG Norway | Automated surgery scheduling (<https://kpmg.com/xx/en/home/industries/healthcare/digital-healthcare-solutions.html>)
22. NUANCE | Speech recognition and clinical transcription (<https://www.nuance.com/en-au/healthcare/provider-solutions/speech-recognition/dragon-medical-one.html>)
23. KPMG Netherlands | Data-informed decision making (<https://kpmg.com/xx/en/home/insights/2024/03/from-emrs-to-data-integration-platforms.html>)
24. Palantir | Virtual Command Center (<https://investors.palantir.com/news-details/2023/Cleveland-Clinic-and-Palantir-Technologies-Partner-to-Improve-Hospital-Performance-Through-Virtual-Command-Center/>)



3.4 Clinician Experience

The goal of the clinician experience objective of the Quintuple Aim is to enhance healthcare provider satisfaction and reduce burnout by improving their work environment. This can involve improvements such as streamlining workflows and making clinical tasks more manageable and less stressful. By focusing on these aspects, the objective ensures that healthcare professionals are more engaged and effective in their roles. This improvement in clinician experience contributes to the Quintuple Aim's overall goals by fostering better patient care, enhancing safety, and increasing the efficiency of healthcare delivery. Ultimately, these enhancements support the broader ambition of achieving better health outcomes for patients and improving healthcare efficiency.

AI can significantly boost clinician experience by addressing several key aspects of their work. For example, AI solutions can be deployed to reduce the administrative burden and automate routine tasks, freeing up more time for direct patient care. AI-powered clinical decision support systems can assist clinicians by providing data-driven recommendations and alerts, helping them make more informed decisions and reducing cognitive load. Additionally, AI can improve workflow efficiency through predictive analytics and smart scheduling, helping to optimise patient flow and resource allocation.

Integrating AI into these areas can lead to greater clinician engagement, reduced stress, and a more fulfilling work environment, all of which contribute to improved patient care and overall healthcare efficiency.

Annalise.ai: Medical imaging and diagnostic support:

Annalise.ai offers two diagnostic support solutions: Annalise CTB for non-contrast head CT studies and Annalise CXR for chest X-rays. These tools are designed to aid radiologists in interpreting medical images by leveraging advanced AI algorithms trained on extensive case study data. Annalise.ai's solutions analyse radiological images to provide initial diagnoses and highlight critical cases, enabling radiologists to prioritise urgent cases and expedite both diagnosis and subsequent treatment.

By performing an initial evaluation, Annalise.ai enhances efficiency and mitigates radiologist fatigue. The AI-driven assessments also offer a form of independent review, reducing the potential impact of cognitive bias on diagnoses.

Moreover, Annalise.ai's reporting solution integrates with the CTB and CXR tools to generate comprehensive, editable draft reports. This feature allows radiologists to quickly review and finalise reports, significantly reducing the time required to complete radiological assessments²⁵.

Finally, the example of natural language processing (NLP) mentioned in section 3.3 can also significantly enhance clinician experience. By automating transcription and seamlessly saving notes to electronic medical records (EMRs), NLP reduces the time clinicians spend on administrative tasks. This automation allows healthcare providers to allocate more of their time and energy to patient care, improving both efficiency and job satisfaction.

Improving Cancer Screening with AI:

Research by the Breast Cancer Research Foundation, demonstrates how recent advancements in AI for breast cancer screening and diagnostics are significantly enhancing both clinician and patient experiences. AI technologies, such as the MIRAI deep learning model, are improving mammography interpretation by providing more accurate and efficient assessments of breast images. This reduces the incidence of false positives and negatives, enabling radiologists to detect early-stage cancers that might otherwise go unnoticed. AI algorithms enhance image quality, identify subtle abnormalities, and streamline data processing, which helps radiologists make quicker and more precise decisions. This leads to earlier detection, better patient outcomes, and potentially less aggressive treatments.

Moreover, AI's integration into breast cancer care extends to underserved and rural areas, where it facilitates remote image interpretation and timely diagnosis. By improving accuracy and reducing the need for additional, costly procedures, AI can lower overall healthcare costs and improve access to quality care. Despite challenges in data standardization and regulatory compliance, ongoing research and validation are crucial for realizing AI's full potential in breast cancer diagnostics and treatment. This advancement demonstrates how AI can transform clinical workflows and patient care, ultimately driving better health outcomes and more efficient use of resources²⁶.

PatientNotes: AI notetaking for clinicians:

PatientNotes is an AI-driven tool designed to streamline clinical documentation and improve clinician efficiency. It generates detailed, personalized clinical notes, patient summaries, and medical letters, reducing the time clinicians spend on administrative tasks and allowing them to focus more on patient care. The tool also simplifies the creation of treatment plans and referral letters and integrates seamlessly with existing Medical Practice Management Systems.

By enhancing the accuracy and thoroughness of documentation, PatientNotes reduces administrative burden, leading to decreased stress and a more efficient workflow for clinicians. This allows them to dedicate more time to patient interaction and clinical decision-making, ultimately improving job satisfaction and patient care outcomes²⁷.

Notes:

25. Annalise.ai | Medical imaging and diagnostic support (<https://annalise.ai/about-us/>)

26. Improving Cancer Screening with AI (<https://www.bcrf.org/blog/ai-breast-cancer-detection-screening/>)

27. PatientNotes | AI notetaking for clinicians (<https://www.patientnotes.app/professions/doctor>)



3.5 Health Equity

Improving health equity is essential for advancing the overall goals of the Quintuple Aim by ensuring that all populations have access to and benefit equally from improved care. Specifically, improving health equity focuses on reducing barriers to healthcare access and ensuring that everyone, regardless of socio-economic status, race, ethnicity, or geographic location, has equitable access to high-quality, affordable care. As barriers are removed and services become more responsive to diverse needs, this inclusivity leads to better health outcomes for the population. Access to preventive measures and timely treatments improves overall health and reduces disparities.

Additionally, addressing health equity also has significant financial and operational benefits, by reducing demand on the healthcare system and the need for costly emergency care and advanced treatments. By promoting access to preventive and early interventions, the need for costly emergency care and advanced treatments for neglected conditions diminishes. This reduction in high-cost care not only lowers overall healthcare expenditures but also creates a less pressured work environment for healthcare providers, enhancing overall clinician experience.

AI can significantly advance health equity by improving access to care, enhancing patient experience, and optimising resource use. For example, AI-powered platforms can extend healthcare access to underserved populations, while personalised AI tools can tailor treatments to diverse needs, ensuring culturally and contextually appropriate care. Additionally, AI can identify and address biases in healthcare delivery by analysing demographic data, promoting equitable treatment and decision-making.

The below use cases provide examples of how AI can help accelerate achieving health equity outcomes.

Limbic Access AI-chatbot:

A recent study in *Nature Medicine* reveals that Limbic Access, an AI chatbot, significantly enhances access to mental-health services in England, particularly for underrepresented groups. By integrating the chatbot into NHS Talking Therapies websites, referrals increased by 15% compared to a 6% rise with traditional methods. Notably, the chatbot boosted referrals by 179% among nonbinary individuals, 39% for Asian patients, and 40% for Black patients.

The chatbot streamlines the referral process and provides a non-judgmental interface, reducing barriers and improving access for marginalised groups. Importantly, it also maintains service quality and reduces clinician workload by efficiently collecting and processing data, ensuring that increased demand does not lead to longer wait times or reduced care quality. This case illustrates how AI can directly advance health equity by facilitating better access and support for those facing systemic obstacles in mental-health care²⁸.

KPMG US: Health Equity and Population Health Management Platform:

KPMG's health equity and population health management platform leverages data, analytics, and machine learning to identify vulnerable communities and issues affecting health outcomes. By utilising the KPMG Signals Repository, which processes data from various sources into actionable signals, the platform delivers precise predictive insights. Salesforce technologies—including Marketing Cloud, Service Cloud, and Community Cloud—connect these communities with essential resources and manage inquiries and outreach.

For instance, with funding from the U.S. Department of Health and Human Services, Morehouse School of Medicine developed the National COVID-19 Resiliency Network (NCRN) to mitigate COVID-19's impact on underserved populations. KPMG built and managed the NCRN platform, using Salesforce to analyse data and identify health disparities at the zip code level. The NCRN then partnered with various organisations to deliver targeted, culturally appropriate interventions based on these insights²⁹.

Hippocratic AI: Digital staffing marketplace:

Hippocratic AI offers a digital staffing marketplace that enables healthcare providers to "hire" generative AI assistants. These AI agents handle low-risk, non-diagnostic tasks such as pre-operative outreach, chronic care management, and post-operative follow-up. By leveraging these solutions, Hippocratic AI seeks to significantly enhance healthcare access, scalability, and affordability, while promoting equity in healthcare delivery. The product has recently entered phase 3 testing. Initial results from phases 1 and 2 demonstrated that its performance was superior to both alternative Large Language Models (LLMs) and human physicians and nurses³⁰.

Notes:

28. Limbic Access AI-chatbot (<https://www.limbic.ai/contact-us>)
29. KPMG US | Health Equity and Population Health Management Platform (<https://deliverybackbone.kpmg.com/collaboration/pages/viewpage.action?pageId=988745115>)
30. Hippocratic AI | Digital Staffing Marketplace (<https://www.hippocraticai.com/>)

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04 What can care delivery organisations do now?

With digital transformation firmly on the agendas of executives and boards, organisations grapple with making it a practical reality within day-to-day operations. To fully capitalise on new technologies, a radical reshaping of workflows is necessary.

Technological developments progress rapidly and it is challenging to make the right choices and to ensure that all developments are well aligned. This is particularly evident with the emergence of Gen AI. Without an overarching plan and some commitment to not getting distracted by every new development there will be fragmentation of solutions – and thereby the fragmentation of data. Here, we outline a plan of action across three vital themes to commence transformation:



01

**Smart choices:
appropriate digital care**



02

**Integrated and collaborative:
transforming (care) processes**



03

**Governance and leadership:
steering transformation with
vision and control**



4.1 Smart choices: appropriate digital care

Digitisation is not an end in itself but a means to facilitate new models of care. It's about making well-founded choices to adopt digital tools that enhance patient outcomes, quality of life, and ease the burden on care providers.

What role does digitisation play within your organisation? Is the reason for delivering care digitally clearly described in your organisation's vision and strategy, and is the actual added value of using technology for care providers and patients clear? To achieve appropriate digital care, making clear choices is important.

Actions

- **Collaboratively develop a vision for the future model of care**, firmly rooted in the daily practise of your organisation. Identify success factors, potential barriers, and translate these into actionable steps.
- **Begin with simple, small-scale projects** to avoid disjointed solutions, anchoring them with a solid data platform foundation.
- **Redesign operational processes** to align with digital capabilities, ensuring these innovations are truly transformational and not just digital renditions of outdated methods.
- **Cultivate ambassadors** within your organisation to champion the adoption of digital care, promoting its value and facilitating a shift in current practise.
- **Forge clear agreements with network partners** to shape the transformation in development and care delivery.
- **Seek out and scale digital care opportunities** that align with your organisation's strategy and vision, striving for consistency in digital care models to realise economies of scale and risk management. Digital care models need to cascade down though to individual care models across the organisation to leverage economies of scale in both the tech, but the necessary clinical governance. By applying digital models of care as consistently as possible, whether in cardiology, admissions or birthing, the return on investment can be maximised, and the overhead of risk management can be minimised.
- **Adhere to national standards and initiatives** to ensure interoperability and ease of integration.



4.2 Integrated and collaborative: transforming (care) processes

Effective collaboration across care settings is imperative to the success of digital innovation, enabling technology to offload routine tasks and promote patient involvement in self-care, making the care sector more appealing to professionals.

Actions

- **Convene partners from multiple care settings** to co-create a unified vision for technologically-enabled care delivery.
- **Select digital use cases that directly support the overarching vision** and build the necessary foundation for wider adoption.
- **Jointly invest in technological advances with care ecosystem partners** to reduce costs and facilitate the sharing of developments.
- **Establish new coalitions** with providers and technology partners for sustained transformation and maintenance of digital infrastructure.





4.3 Governance and leadership: steering transformation with vision and control

Developing and implementing appropriate digital models of care demands governance and leaders who regard digital transformation as a strategic priority, setting a clear direction amidst a wealth of technological possibilities.

An important condition for success is the establishment of a clear governance structure with sufficient mandate.

Actions

- **Implement 'governance for governance'**—temporary control structures that nurture trust and collaboration towards a definitive governance framework for regional care.
- **Take manageable steps towards irreversible commitment**, increasing the costs of alternative choices at each juncture.
- **Recognise and communicate that collaboration may entail a partial surrendering of autonomy**, as responsibilities shift towards the regional framework.
- **Engage all levels of participating organisations**, rotating leadership roles to ensure ownership and prevent the feeling of distant obligation.
- **Guarantee that every participating organisation has significant 'skin in the game'** ensuring a vested interest in the success of the collaboration.
- **Provide independent support** to ensure all parties feel involved and represented throughout the transformation journey.
- **Secure sufficient capacity and resources** internally, safeguarding the collaboration's momentum and resilience against setbacks.
- **Collaborate closely with care funders** to introduce reforms in funding structures that accommodate and support the digital transformation.

By consolidating our focus on these areas and proceeding with clarity and conviction, the groundwork for a digitally enabled future in care can be laid, one where technology enhances and revolutionises the delivery and experience of healthcare for all stakeholders.



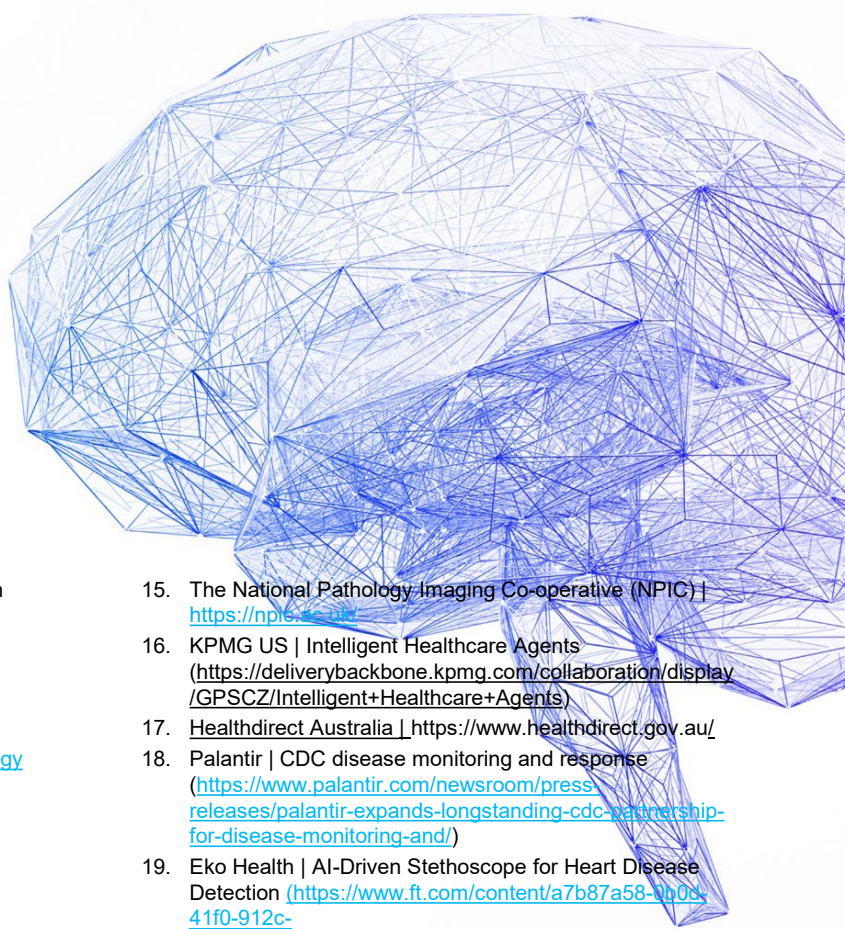


Uniting Governance with Visionary Leadership

Now, more than ever, the digital transformation of care requires leaders who not only have the foresight and courage to initiate change but also the resolve to follow through. True progress demands that sufficient latitude be granted to organisations to innovate and adapt within their unique regional contexts. Leaders must possess an expansive outlook—an eagerness to reach out and forge meaningful collaborations beyond the confines of their institutions.

Transformations are no longer just an organisational mandate; they call for a collective regional commitment. It's essential for organisations to articulate a clear rationale behind their technological investments, assessing the value these bring not just internally but also to the broader regional care landscape. Moving beyond the perpetual cycle of pilot projects, leaders must be decisive, scaling up successful innovations and seamlessly embedding new methodologies into the fabric of their organisations.

This pivotal moment calls for strong, future-focused leadership that can harmoniously blend human touch with technological advancement. As we champion the synergistic triad of technology, care transformation, and governance, our sights are set on a collaborative journey towards an envisioned future—a future where static indecision is no longer viable. We stand ready to partner and co-create this transformative pathway with those who share our enthusiasm and commitment.



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