



Value-Based Partnerships:

The need for a person-centred approach in technology-enabled healthcare innovation



Healthcare challenges are evolving

As the world's population ages and chronic disease levels rise, healthcare systems must innovate in order to cope with increasing demand.¹ But the solutions to rising costs, high workforce burden, staff shortages, and variations in care quality are complex.¹⁻³ If a COVID-19 world has proven anything, it's that population health challenges are evolving, often at a faster pace than the systems in place can keep up with.⁴ In order to stay on top of the increasing pressures, we must find novel systems that are flexible in the long-term, adaptable to change, and resilient to uncertainty.⁴ Tackling the evolving challenges of global healthcare requires a new way of thinking. This paper will explore these challenges, and consider where the focus should be placed, to enable us to overcome them in the future.

Technology is evolving too

As healthcare challenges continue to evolve, so does technology, and many speculate that Medtech and AI may hold the key to relieving many of healthcare's current burdens.^{5,6} Technology is advancing in ways that could provide cost-effective solutions to satisfy the demand for timely, accessible, quality healthcare.^{5,6} The hope is that Medtech and AI will provide new ways to improve efficiency and operational workflow within hospitals, enable faster and more accurate diagnoses, and support earlier detection and prevention.

Are healthcare and technology evolving at the same pace?

Despite many healthcare systems implementing innovative technological solutions, new technologies in this space often struggle to tangibly improve patient outcomes.⁷⁻¹⁰ When a technological innovation shows promising signs of improving outcomes, what is it that's standing in the way of its fruition? The truth is: the technology is often the easy part... but even the best technology is only as effective as its implementation.^{6,10}

The reasons for lack of success are complex and multifaceted, with one small gap in implementation having the potential to inhibit a new technology's trajectory.¹⁰ Improving care can be extraordinarily complicated, and it is often very hard to predict the effects that interventions will have when played out in real-world scenarios.¹⁰ A vast number of discrete yet interconnected factors drive patient care outcomes, often heavily reliant on the success of one another.¹⁰ An oversight in one small area can have a profound effect on the effectiveness of the system as a whole.^{7,8}

Case study 1

East Midlands Radiology Consortium (EMRAD)



EMRAD
East Midlands Radiology
Consortium

Key challenges

Increasing demand for radiology services, combined with a shortage of radiologists who have the correct expertise, has led to high spending on outsourcing of radiologists to relieve patient demand. In addition, current patient image transfer systems are costly and can lead to huge bottlenecks - delaying vital patient care.

Key solutions

Through a unique multidisciplinary collaboration, GE Healthcare and EMRAD were able to create a streamlined data access solution involving a cloud-based vendor-neutral archive of patient radiology images, to enable instant cross-centre and third party sharing. Constant monitoring has been implemented to allow for positive change to be measured and maintained.

Results

Cross-centre analysis of patient images has helped to standardise treatment, increased quality of image reporting, and reduced bottlenecks to diagnosis.

Importantly, this has reduced delays to patient care, decreasing the likelihood of complications and hospitalisations. In addition, fast identification of radiologist capacity across an entire region and insourced cross-centre reporting have enabled financial optimisation.



Taking this complexity into consideration, it's no wonder that change is so difficult to execute. Without the correct expertise, infrastructure, and support in place to make radical workplace change happen, individuals and systems naturally resort to deeply entrenched operational styles.^{7,10} For example, robot-assisted surgery has been heralded as an important tool in improving surgical care, showing great promise in automating parts of highly skilled and difficult surgeries.⁷ However, its integration into surgical theatres requires a behaviour change, and has not come without obstacles.⁷ For staff at all levels of organisations that attempt to adopt this technology, lack of proper support infrastructure can lead to a loss of engagement and willingness to adapt to the new practice style.⁷ Without adequate training and support, it can be difficult to understand the benefit of transformation.^{7,10} There is little doubt that the technology itself is remarkable, but translating this potential into real-world benefit is complex and difficult, even with the best efforts. In short: change can be challenging, even when the technology is a game changer.

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No matter how exceptional a technology is, its potential will not be met if stakeholders with the correct expertise are not united from the start.¹⁰ Unless all parties have a strong trust and willing-to-adapt mindset, partnerships become siloed, communication weakens, and competing and conflicting approaches fragment.¹⁰ Unless there is a direct focus on ensuring all the necessary capabilities are met from the start, gaps in implementation arise and lessen the chances of success.¹⁰ An example of this is an innovative AI platform that showed great promise in the world of oncology. Many saw the potential for the technology to assist in more personalised treatment for patients with cancer, through its unique ability to use machine learning to extrapolate important findings from the abundance of clinical trial literature. Despite this, its implementation in many care centres has not been as smooth as hoped, with one report revealing that the technology faced compatibility challenges alongside the new medical reports system of a high-profile cancer centre.⁸ Oversights such as these are costly to the reputation of a new technology and can dramatically hinder its future success – even after issues have been ironed out.

When measurement of the viability and validity of outcomes is not a possibility, or is not made a priority, people inevitably struggle to ensure that technologies adapt to the evolving requirements of patients and health workers.¹⁰ Efficiency and productivity gains are often seen as precursors to success, but they don't necessarily result in better outcomes, and the success of a technology relies on constant monitoring and improvement towards a more salient outcome.¹⁰ In addition, the absence of an immediate and quantifiable impact of a new technology can quickly lead to disillusion, as was potentially the case for the AI platform in oncology.⁸

AI=artificial intelligence; PET=positron emission tomography

Case study 2

National Consortium of Intelligent Medical Imaging (NCIMI)



Key challenges

Increasing demand for PET scans, long radiologist turnaround times, and inconsistent imaging quality can delay diagnosis, increasing unnecessary risk to patients.

Key solutions

By enabling an ecosystem of collaborating partners, NCIMI is supporting GE Healthcare to create a software tool to increase image quality and inform patient-specific radiation dose, in addition to developing algorithms that can quickly identify critical chest X-ray findings.

Results

Improved scan capacity, quality, and reporting have the potential to enable faster and more accurate diagnosis for patients, and improve standards of care. In addition, personalised radiation doses will aim to reduce unnecessary radiation in patients.



What must be considered for technological transformation to produce the desired outcome?

In order to address the complexity of healthcare innovation, great consideration must be taken to ensure the correct expertise is in place to enable robust organisational change.^{7,10} Success is not achieved with solo efforts, but through collaboration, and understanding this is the first step to developing a framework for technological implementation. Such a framework only has a chance of success if all stakeholders involved hold a strong grasp of the multidimensional requirements needed for implementational success.^{7,10} The forming of technology-enabled partnerships should be centred upon ensuring stakeholders and resources (people, budgets and support) are suited for the specific transformation requirements.¹⁰ If a paradigm shift is required to address healthcare's growing needs, a breadth of expertise in change management and partnership enablement is essential to orchestrate this high level of operational change.^{7,10} Digital, AI and medical technology-enabled innovation happens through people and can be realised only when both patient care and people management are at its core.^{7,10} In addition, developments must be constantly evaluated to assess impact on quality of care, with feedback used to cater the approach towards the best results for patients.^{7,10}

Person-centred partnerships

At GE Healthcare, we take a different approach to technological transformation, forging an ecosystem of Value-Based Partnerships (VBPs) to address the immense challenges of change implementation. VBPs offer long-term yet flexible co-created solutions for delivering person-centred care, driven by innovation in AI, digital and medical technology. By bringing together industry-leading partners, we create an ecosystem of combined expertise and understanding. We find that partnerships evolve naturally with customers when we hold a shared understanding of the specific challenges, business needs, and priorities within the healthcare sector. VBPs are built on our pioneering expertise in extending clinical capabilities, driving workforce development, securing financial sustainability, and standardising care to better cater for patient needs.

Case study 3

Rigshospitalet- GE Healthcare partnership



Rigshospitalet

Key challenges

Currently, using echocardiography to diagnose patients is a time-consuming process. To compound this, the rate of cardiac patients who need echocardiography is expected to increase 3–10 times over the next 10 years.

Key solutions

The GE Healthcare and Rigshospitalet Cardiac Center are collaborating across multiple diagnostic disciplines, one of which is to build tools that will increase echocardiogram efficiency to reduce time spent by clinicians. In addition, the collaboration aims to develop AI tools that can predict outcomes and disease progression for patients with aortic stenosis and atrial fibrillation.

Results

This collaborative approach has enabled clinicians to be more proactive in shaping the tools they use in practice. The overarching goal is to help cardiologists predict outcomes for patients with common cardiovascular diseases, offer more personalised treatment plans and, most importantly, to improve patient recovery rates.



Value-Based Partnerships enable transformation in the following ways:

Person-centred care innovation

A person-centred care approach using care quality as the primary focus of technological transformation, with productivity and efficiency as secondary metrics, to achieve real-world patient impact. We are developing digital tools with real-world impact, through increasing efficiency and accuracy of medical imaging (see case studies 1–3), optimising hospital capacity (see case studies 1 and 2), personalising imaging radiation dose (see case study 2), and predicting patient outcomes (see case study 3). Through these solutions, we are working to enable earlier diagnosis of life-threatening conditions, reduce delay to critical care treatment, reduce radiation dose delivered to imaging patients, and improve patient recovery rates.

Deep domain expertise

A leading global medical technology and digital solutions innovator, we have a century-long track record of delivering high-impact healthcare innovation. Our deep domain expertise strives to enable clinicians to make faster, more targeted and more informed decisions in the diagnosis, treatment and monitoring of patients. This is achieved through intelligent devices, data analytics, applications and services. We support customers in over 160 countries around the world in their pursuit of precision health: healthcare that is integrated, highly personalised to each patient's needs and enables the best use of available resources. Our purpose is to improve lives in the moments that matter, a focus that enables us to help healthcare providers improve outcomes for their patients.

Change management thought leaders

GE Healthcare has a long history of change management excellence, and continually strives to be at the forefront of change innovation. We work closely with staff to execute change and create internal alignment at all levels within a partnership, using our skill and experience in work-practice innovation to drive workforce excellence. We see the ability to measure meaningful change as fundamental to the change management process. Central to this is the ability to demonstrate improvement in metrics that matter to healthcare professionals, such as tangible improvements in care quality. We use digital solutions with a demonstrated ability to standardise patient data sharing, secure financial stability and reduce costs on outsourcing, and increase the quality and accuracy of imaging (see case studies 1 and 2). By using technology to create more precise and efficient care, we can improve outcomes and create positive change.

Uniting forward-thinking partners

Singular efforts are of limited value in dealing with complexity. With this in mind, we strive to build meaningful relationships that allow us to combine our capabilities with the expertise of our customers and other external partners. Success comes when we work as a collective towards a common goal, which is why we bring together forward-thinking industry leaders and innovation-minded healthcare practices to form collaborations that grow and succeed together (see case studies 1–3). Through these kinds of partnerships we are able to offer not just what we do best, but what we know others do best too.



Summary

Tackling healthcare challenges in an uncertain world requires partnerships that are flexible, responsive, and robust in the face of new challenges. It takes an ecosystem of innovators and expert partners with shared values to rise to the challenge of making innovation stick. Orchestrating such an ecosystem requires a different kind of partnership mindset. By uniting forward-thinking industry leaders, we can help leaders change healthcare for the better. Through VBPs, we are committed to better quality care as the primary focus of transformation.

By tailoring our approach around your specific needs, GE Healthcare aims to bridge the gap between technological innovations and improved patient outcomes. Together, we can be a catalyst for change.

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