A Blueprint for Collective Delivery: Designing the Future of Connected Care in Wales

GIG CYMRU NHS WALES

in partnership with

Tektology

PURPOSE OF THE SESSION

See how digital is transforming care globally and in Wales.

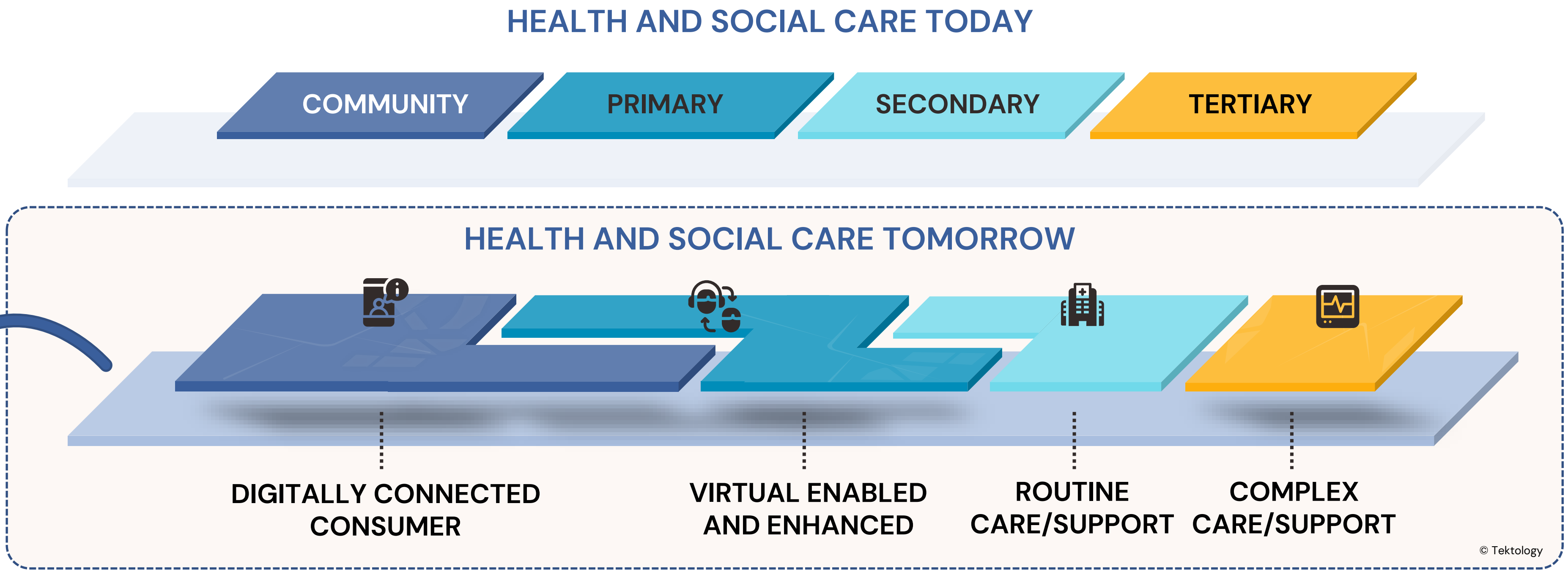
Understand what foundations we must build.

Reflect on the leadership and collaboration needed.

Who here tracks their own health using a smartwatch, fitness tracker, or app?

THE FUTURE OF HEALTH AND SOCIAL CARE WE ARE AIMING FOR

Redefining care and support delivery by integrating digital innovation

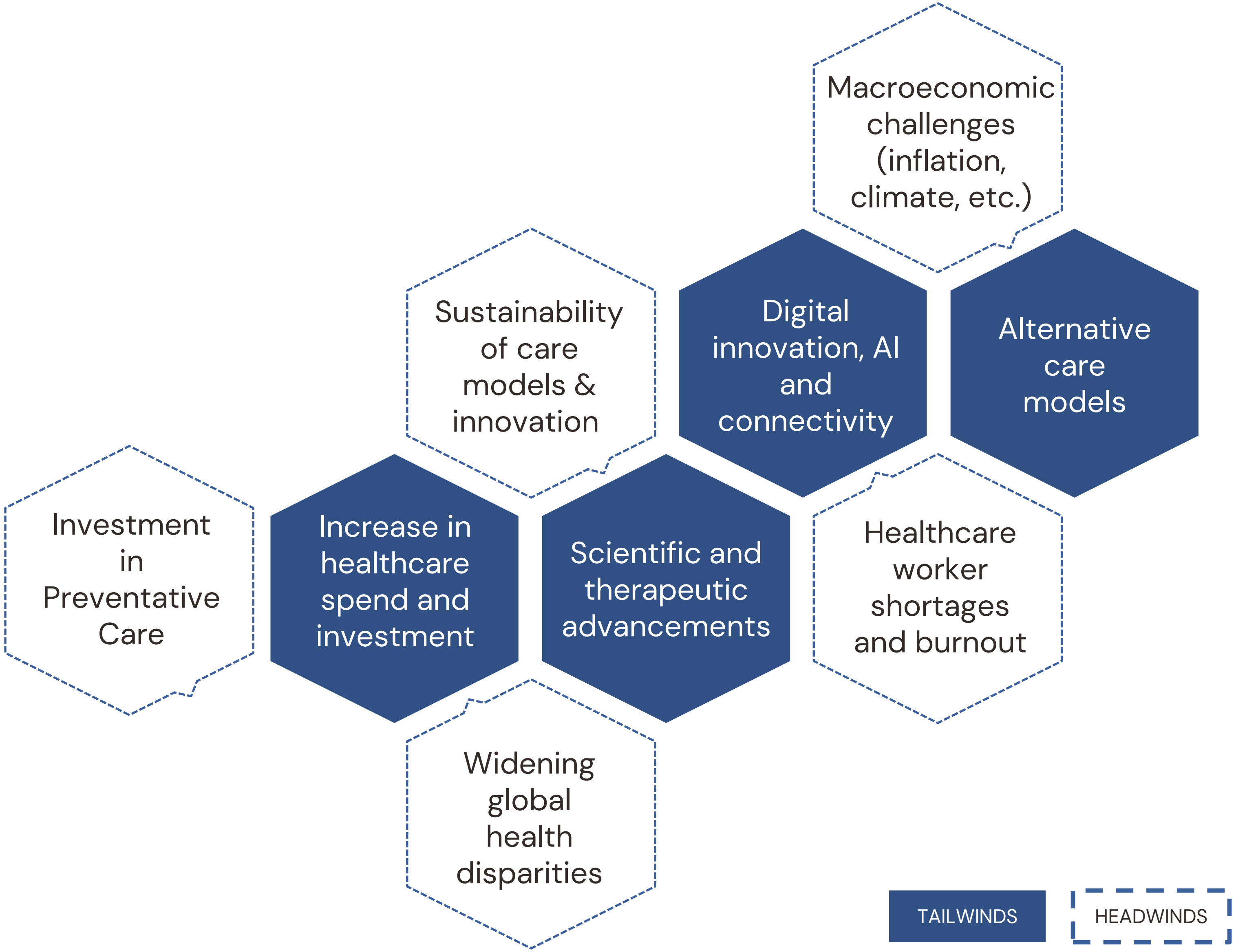


Seamless movement between services and levels	Integrated teams across traditional boundaries	Real-time information sharing between providers	Person-centred/controlled care and support coordination	Care and support delivery independent of location

The future of health and social care in Cymru is connected, flexible and built around people and data rather than buildings, IT and traditional ways of working

WALES MUST NAVIGATE BOTH THE TAILWINDS OF INNOVATION AND THE HEADWINDS OF CAPACITY AND SUSTAINABILITY

WHAT IS IMPACTING THE CHANGE?



WALES NEEDS A BLUEPRINT THAT BALANCES STABILITY AND TRANSFORMATION…

Investing today, to break silos and become smarter for tomorrow

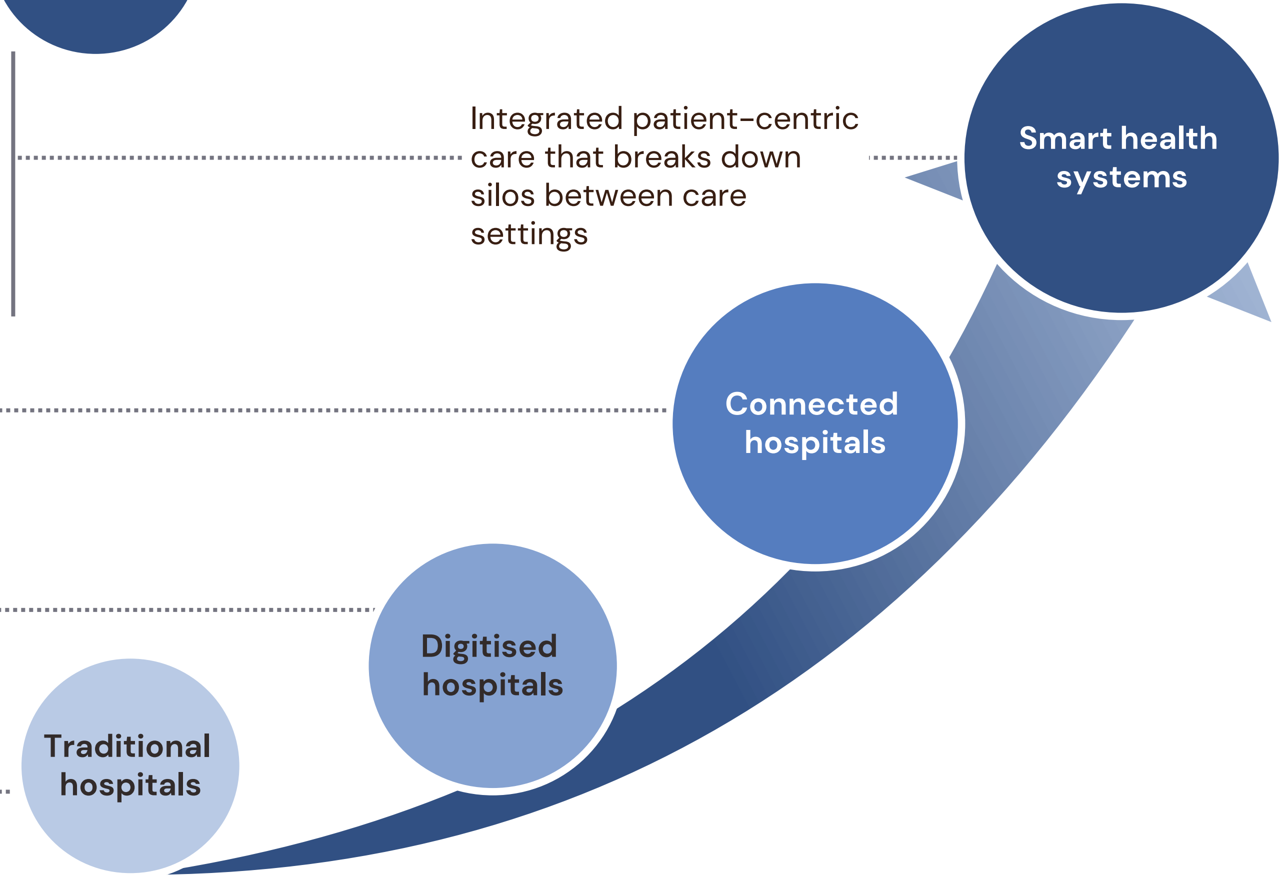
Continue to optimise the business of today	Duality of growth	Innovate and grow the business of tomorrow

- Technology-driven improvement in access, efficiency, equity, personalisation and quality of care
- Data liquidity
- Seamless integration between the different care locations: physical and virtual
- Preventative and predictive care

- Hospital-centric, physical and remote care with connected digital systems

- Some technology-enabled solutions not fully integrated

- Paper processes; some stand-alone IT infrastructure



… ENABLED BY TECHNOLOGIES THAT OPEN UP PATHWAYS FOR CARE TRANSFORMATION

IoT and wearables

IoT has been driving the evolution of wearables devices in the healthcare industry, where medical devices and applications share data with IT systems

Connected using 5G

5G enables hyperconnectivity through sensors, wearables and other devices and facilitates connected ecosystem and remote surgeries

Edge computing

Edge computing is helping bring data storage and computation closer to data sources helping improve data security and deliver real-time

Cloud

Cloud computing is improving scalability of health IT infrastructure, allowing for effective data storage, and enhancing data security and interoperability

Use Cases

Enable care planning through data-collection, reminders and monitoring	Expanding access to treatment	Personalised care plans	Data repository from disparate sources
Enable home care	Engaging with multidisciplinary teams from diverse geographies	Improving resource efficiency in hospitals	Improves data accessibility across networks
Population health management	AI-assisted robotic surgeries	Detection of abnormal patient parameters in real-time	Enhances data security and privacy

AT THE OUTSET, THIS WILL NEED SOME FOUNDATIONAL CAPABILITIES

Digital Infrastructure and Connectivity

- Reliable, high-speed network coverage across care settings
- Scalable connectivity to support national platforms
- Integration of Wi-Fi and wired networks to enable mobility
- Connectivity built to support future digital tools

Data and Intelligence

- Unified data architecture supporting centralised and distributed models
- Secure cloud and hybrid storage with strong access governance
- Data standards aligned to national frameworks
- Analytics and visualisation capabilities

Cybersecurity and Resilience

- End-to-end security covering identity, access, and encryption
- Continuous monitoring and threat detection to maintain trust
- Compliance with national security frameworks
- Built-in resilience for rapid recovery and operational continuity.

Interoperability and Integration

- National interoperability standards
- API-first architecture to enable modular innovation
- Vendor-neutral approach ensuring flexibility

Digital Operating Environment

- Modern digital workplace enabling virtual collaboration and service delivery
- Common tools for communication, project management, and shared learning
- Embedded digital literacy
- Technology-enabled workflows

Robust digital foundations underpin shared frameworks for collective delivery, translating national vision into digitally enabled models of care


When you think of ‘digital transformation’, what setting comes to mind first – Primary Care, Hospital, or Community?”

WITH FOUNDATIONS IN PLACE, DIGITAL INNOVATION IS TRANSFORMING THE WAY CARE IS DELIVERED

Transforming healthcare through Technology

PRIMARY AND COMMUNITY CARE	VIRTUAL CARE	DIAGNOSTICS	PHARMACY	EMERGENCY DEPARTMENT	SMART HOSPITAL	BACK-OFFICE
Sutter Health – Virtual GP	RPA Virtual – Australia's first virtual hospital	I-Med Radiology Network – AI-based Review	Synapxe - Closed-loop Medication Management	Royal Melbourne Hospital - Predictive AI models	Humber River Hospital – Smart Hospital	South Eastern Sydney LHD Hospital – Automated Rostering
Great Ormond Street Hospital for Children - Ambient Voice Technology	Mercy Virtual - Single Hub e-ICU	San Gerardo Hospital – Enterprise Imaging	Christus Muguerza Hospitals - Real-time Drug Information Database	Princess Royal Hospital NHS - Rapid Assessment Model	Tsinghua University – AI Agent Hospital	NHS Blackpool Teaching Hospitals - No-code Automation
The Swan Practice - Ask NHS App	Co-HIVE – Geriatric Virtual Care Program	Fingerland Pathology – Digital Dictation Platform		Victoria - Victoria's Virtual Emergency Department	Tan Tock Seng Hospital – C3 Platform	Dalhousie University – Workflow Automation
Tønsberg Municipality - Digital Home Care Service	Mater Health - Virtual Care	Hospital for Special Surgery – Digital Pathology Slides		Mount Sinai – AI to Predict Hospital Admissions	New Dunedin Hospital – Digital Hospital	Singapore Hospital – AI Scheduling Model

INNOVATIVE WAYS OF WORKING

Alder Hey Children's Hospital – Innovation Centre	Catalonia - Open Data and Citizen Partnership	Ireland - Strategic Frameworks and Learning Passport

Click on the shape for a more detailed view of each exemplar

AI IS ALREADY ENHANCING EVERY STAGE OF THE CARE JOURNEY FROM PREVENTION TO POPULATION HEALTH

Self Care and Health Management

- Chatbots & digital coaches for preventive guidance.
- Wearable + AI models predicting risk of diabetes, hypertension.
- Personalised lifestyle recommendations (diet, exercise, sleep).
- Voice-based vernacular AI assistants for health awareness.
- Disease management (diabetes, cardiac, TB, etc.)

Primary Care and Care Navigation

- AI-assisted triage tools for frontline health workers.
- Decision support systems for differential diagnosis.
- Automated digital documentation reducing admin burden.
- Remote consultation platforms with AI-driven symptom checkers.
- Care navigation (hospital, doctor) and coordination assistance.

Hospital Care and Operations Management

- Patient onboarding, voice of customers and patient engagement.
- Predictive analytics for bed/ICU/OT resource planning.
- AI-based radiology & imaging for faster diagnosis.
- Clinical decision support for evidence-based treatment.
- AI-enabled EMRs and non-clinical documentations assistance.

Post - Hospitalisation & Rehabilitation

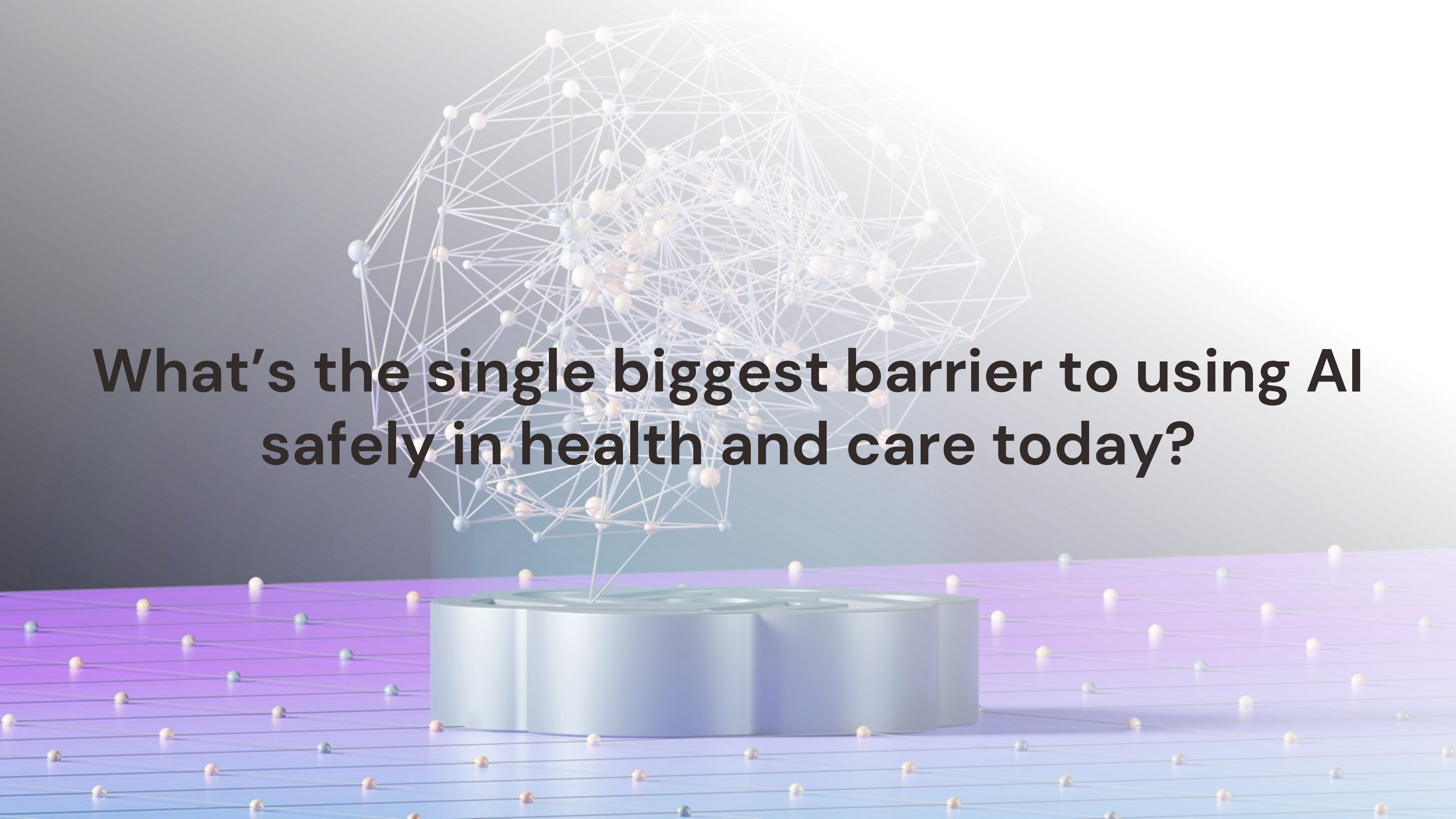
- Personalised and dynamic recovering plan.
- Smart medication reminders with adherence tracking.
- Virtual physiotherapy & rehabilitation using computer vision.
- Predictive models to flag re-hospitalisation risks.

Remote Care & Telehealth

- Remote care and progress monitoring.
- Vernacular, voice-first AI health assistants.
- AI-based translation in real-time doctor–patient interactions.
- Intelligent triage to escalate cases needing physical visits.

Public Health System & Policy Level

- AI-driven epidemiology and outbreak prediction.
- Resource optimisation models for policy planning.
- Fraud detection in insurance/medical claims.
- Real-time population health management and risk profiling.
- Continuum of care planning and outcome tracking.



What's the single biggest barrier to using AI safely in health and care today?

National Disability Insurance Scheme (NDIS)

My NDIS Participant Portal

The My NDIS Participant Portal is a secure, central digital platform that allows NDIS participants to view and manage their plans, budgets, and supports online. It simplifies communication with the National Disability Insurance Agency (NDIA) and supports transparency and independence in managing care.

600,000+ NDIS participants supported nationally	**Thousands** of providers connected via the digital platform
24/7 access to plan details, funding and service messages	**Single sign-on** for secure participant management

BEYOND HEALTHCARE, CONNECTED DATA IS BEING USED TO MANGE SOCIAL CARE

OBJECTIVES OF THE MY NDIS PARTICIPANT PORTAL

01 Help participants view, track and manage their NDIS plans easily

02 Enable real-time communication and updates from the NDIA

03 Strengthen transparency, accessibility and digital confidence for users

04 Support the NDIS vision of choice and control through digital tools

*The My NDIS Participant Portal demonstrates how digital innovation can **bridge health, social care, and community support**, ensuring people with disabilities are empowered to manage their care independently.*

BUILDING ON GLOBAL LESSONS, WALES IS ALSO TRANSLATING DIGITAL AMBITION INTO CONNECTED CARE FOR ITS PEOPLE

NHS Wales App

- National digital front door for NHS services in Wales
- Developed by DHCW and Welsh Government
- Enables GP access, prescriptions, and health records
- Fully bilingual, ensuring digital inclusion

The Electronic Prescription Service (EPS)

- The EPS in primary care enables GP and other prescribers to send a prescription electronically to the pharmacy or dispenser of the patient's choice
- It was launched in November 2023 and is live in multiple sites across Wales and all in the seven health board areas

Asthma & COPD Digital Toolkit – ICST Wales

- National digital toolkit for managing asthma and COPD in Wales
- Developed by ICST with NHS Wales and clinical partners.
- Provides standardised guidance, self-management tools, and training
- Accessible via HealthHub Wales for clinicians and patients

Doccla – Virtual ward platform

- Enables remote patient monitoring at home
- Used by NHS Wales through TEC Cymru's national virtual ward programme
- Supports monitoring of frailty, long-term and post-discharge patients
- Integrates with NHS systems, ensuring safe data sharing and clinician oversight

OUTCOMES

NHS Wales App

- *81% uptake in early rollout GP practices*
- *Cuts admin load and phone traffic for GPs*
- *Empowers patients to self-manage care*
- *Foundation for wider digital and social care integration*

The Electronic Prescription Service (EPS)

- *Made primary care easy, safe and more efficient to prescribe and dispense medicines for healthcare professionals*
- *7.1M prescription items have been successfully claimed via EPS including 1.6M in August 2025*

Asthma & COPD Digital Toolkit – ICST Wales

- *Improved disease management and patient self-care*
- *Consistent, evidence-based practice across Wales*
- *Reduced avoidable hospital admissions*
- *Strong clinical engagement and national adoption*

Doccla – Virtual ward platform

- *Frees hospital capacity by supporting care-at-home pathways*
- *Enables early discharge and reduces readmissions.*
- *Improves patient safety through continuous monitoring*

HOWEVER, REAL TRANSFORMATION HAPPENS WHEN LEADERSHIP, CULTURE, AND COLLABORATION MOVE AT THE SAME PACE AS TECHNOLOGY

Data and Technology

Data and technology serve as foundation of innovative care delivery by enabling **application of health data** to drive informed decision-making. Advanced healthcare technologies **facilitate scalable solutions** like virtual care, remote patient monitoring, and hospital-at-home models, ultimately transforming the way care is delivered

Use of sophisticated technologies to derive actionable insights and tailor interventions to patient needs improves efficiency, reduces costs, and enhances patient outcomes in a sustainable manner

Digital Infrastructure

Connected, intelligent, and human-centered ecosystem that **integrates data, digital tools, and innovative care models**. The focus is on delivering highly personalised, holistic care driven by advanced technologies like AI, Internet of Things (IoT), virtual care models, and smart infrastructure

Provide seamless, data-driven experiences that improve clinical decision-making, optimise patient flow, and connect the hospital to a wider healthcare delivery ecosystem.

Digital Healthcare Governance

System of **structures, processes, and accountabilities** that guide how digital technologies, data, and innovation are deployed across a health system. It defines who makes decisions, how those decisions are made, and how their outcomes are measured to ensure effective use of digital solutions in healthcare.

Clear governance delineates who holds authority, responsibility, and accountability for decisions, enabling traceability of choices related to data use, procurement, and system integration.

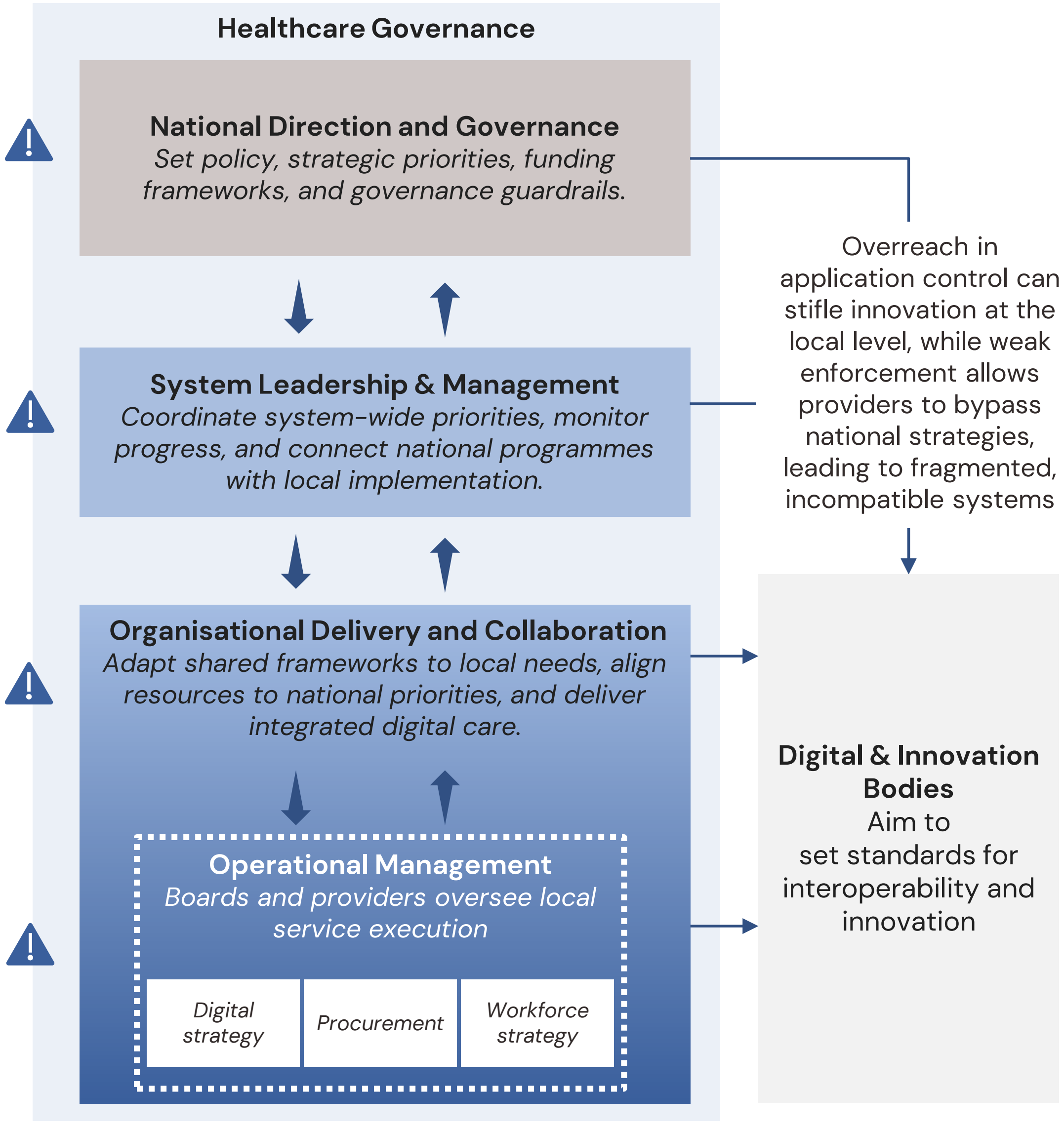
FINDING THE RIGHT BALANCE BETWEEN NATIONAL DIRECTION AND LOCAL EMPOWERMENT IS KEY TO SYSTEM-WIDE DELIVERY

Policy and funding direction are clear but often interpreted differently across organisations

Tension between coordination and control. Too much control reduces local flexibility, while too little leads to fragmentation.

Local programmes often operate independently, diluting collective impact and creating delivery friction.

When trusts or boards take on system-wide functions without central coordination, it leads to duplication, misalignment, and resource waste



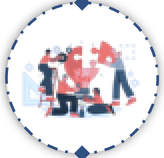
A well-functioning health and social care system needs

- **Clear boundaries** which enable collaboration without duplication, conflict or cross-purpose actions
- **Collective prioritisation** ensuring resources are directed to what delivers the most value and allows surfacing and management of interdependencies
- **Action-oriented delivery frameworks** which translates national strategy into implementable workplans that can be monitored the same way by all parties
- **Feedback and learning loops** to sustain progress and adaptation
- **Firm commitments and behaviours** to build progress rapidly and embed change

THAT SUPPORT COMES TO LIFE THROUGH A STRONG DIGITAL MINDSET, ACTIVE ADOPTION, AND SUSTAINED CHANGE MANAGEMENT

DIGITAL MINDSET

A



- Enhance digital literacy programs to build confidence in using technology
- Modernise legacy processes by phasing out outdated systems
- Foster a culture of digital adaptability through leadership support
- Strengthen digital fluency with hands-on training and real-world use cases
- Enable flexible work models through remote and hybrid digital solutions
- Eliminate barriers to adoption by addressing staff concerns and fears

DIGITAL ADOPTION

B

- Develop a structured innovation framework to guide technology rollouts
- Expand digital resources & accessibility to support all workforce segments
- Decentralise digital capabilities by empowering teams to drive innovation locally
- Create incentives for digital engagement through gamified learning and rewards
- Ensure seamless system integration for interoperability across NHS Trusts
- Provide post-implementation support to sustain long-term success

CHANGE MANAGEMENT

C

- Implement a standardised methodology for digital transformation projects
- Engage stakeholders early to ensure alignment and commitment
- Define clear roles & accountability for successful execution
- Strengthen feedback loops to refine and optimise digital initiatives
- Ensure user-centric implementation that enhances productivity rather than adding complexity
- Expand digital training resources to cater to varying skill levels

WE PROPOSE A PHASED APPROACH TO CO-DESIGN, VALIDATE, AND DELIVER, SUPPORTED BY WIDER ENGAGEMENT ACROSS NHS WALES

Outputs from the engagement

High-Level Digital Service Blueprint for NHS Wales
Unified, government-aligned vision for digital health and care services across Wales

Prioritisation and Agreed Ways of Working Framework
Structured approach for setting and monitoring digital priorities

Ways of Working Dynamic Playbook
Practical guidance translating the Blueprint and Framework into action

Offer

- ✓ Clear roles, responsibilities, and boundaries between **DHCW, Health Boards, and other NHS Wales organisations**
- ✓ Governance **alignment with national DDaT principles** and direction – no revisiting
- ✓ **Shared accountability** for digital maturity and delivery outcomes
- ✓ **Transparent decision-making** and shared accountability across organisations
- ✓ **Common delivery approach** supporting coordinated digital delivery
- ✓ **Tools, templates, and examples** to support consistent delivery
- ✓ Principles **for agile, collaborative, and user-centred** ways of working
- ✓ **Continuous learning and system-wide improvement** mechanisms

Who we will engage

CEOs	*Senior Clinicians*	*Digital Directors*	*COOs*	*DoFs*	*CEMT*

ARE WE ALIGNED?

BARRIERS TODAY

- Legacy Systems
- Workforce Capacity
- Variable Data Quality

EMERGING ENABLERS

- Digital Literacy
- Open Data Standards
- Shared Governance

APPENDIX

PRIMARY AND COMMUNITY CARE

Sutter Health
Sutter Health's 'virtual-first' primary care model delivers nearly 90% of care via messaging, video or audio, supported by remote devices with in-person visits only when needed

The model improves access, maintains continuity of care through integrated records, and shifts care into more efficient digital channels

"

We do 90 % of our care by messaging, video, audio, but I also have a half-day of clinic that I can see my patients in person if needed.

The Swan Practice
The Swan Practice in Buckinghamshire adopted the 'Ask NHS App' which let patients check symptoms, book appointments, and access health advice digitally

Reduced phone pressure, improved triage efficiency, and gave patients faster, more convenient access to care

"

We needed to cope better with the demand; we were struggling to break the habit of patients calling at 8 am every morning. We needed to provide patients with some sort of interface and get the requests to flow somewhere else

Great Ormond Street Hospital for Children (GOSH)
AI Scribe technology was tested at GOSH across care settings including primary and community care that automatically transcribes and summarises consultations for clinicians

Reduced admin time, improved appointment flow, and allowed clinicians to focus more on patient interaction

"

AI is the catalyst that will revolutionise healthcare and drive efficiencies across the NHS, as we deliver our Plan for Change and shift care from analogue to digital.

Tønsberg Municipality, Norway
Launched the country's first digital home-care service with Oiva Health which offers remote monitoring and virtual visits for seniors and people with disabilities

Improved independent living, reduced need for in-person visits, and delivered more efficient, connected community care

"

In just one week in April, the municipality replaced 154 physical visits with digital ones.

VIRTUAL CARE

rpaVirtual
Royal Prince Alfred Hospital launched Australia's first virtual hospital to serve patients at Sydney Local Health District (SLDH) level by repurposing its old community care program

Transitioned its community care service, originally run by 100 FTEs, into a virtual hospital team supported by 6 registered nurses

We've got psychologists and social workers available to all virtual care centre patients. That's actually made a a big difference to quality of care. ……We've got complex case management and medication monitoring."

Mercy Virtual
Mercy Virtual is world's first facility entirely dedicated to telemedicine with largest single hub e-ICU, spanning 120,000 square foot building integrating state-of-the-art technology

Mercy's workforce strategy illustrates how flexibility and scalability in staffing can support rapid growth while maintaining high quality care

A critical success factor has been a software that allows us to automatically text and send text messages and phone calls to patients without us having to manually do anything

HIVE – Health in a Virtual Environment
First geriatrician-led virtual care program (Co-HIVE) dedicated to residential aged care, designed to extend hospital-level expertise into the community and strengthen continuity care

Hospital avoidance was achieved by using remote assessments to manage residents safely in place

Co-HIVE ensures older people in residential aged care receive the right care, in the right place, at the right time — often avoiding stressful and unnecessary hospital transfers.

Mater Health
Mater Health is an emerging model of virtual care focused on patient pathway redesign - serving large parts of Queensland, Australia

Mater virtual care services were aimed at reducing length of physical stay throughout post-acute program and integrating it with the home hospital services to enhance care virtually

We do have a very clear road map of the pathway of care and what we're defining really clearly, and I think this is really important

IMAGING

I-Med Radiology Network
Rolled out Annalise.ai across its national network of radiology clinics. The AI integrates directly into PACS/RIS, automatically reviewing chest X-rays for 124 findings and flagging abnormalities to radiologists during reporting.

Demonstrated how AI can be embedded seamlessly into existing imaging workflows at scale

San Gerardo Hospital
Implemented Enterprise Imaging to unify radiology across sites, including digital dashboards, mobile reporting apps, and collaborative worklists. Clinicians and radiologist could access images on-the-go

Enterprise platforms enable cross-site resilience and collaboration, critical in a multi-hospital system like CTM.

PATHOLOGY

Fingerland Pathology
Deployed digital dictation platform with Newton Dictate, integrated into LIS. Pathologists could dictate reports directly into the system with voice recognition, automating transcription.

Even small-scale digital adoption can deliver measurable efficiency.

Hospital for Special Surgery
Integrated Sectra's digital pathology solution into its enterprise imaging platform. Pathology slides were digitised and stored alongside radiology images, enabling unified review during cancer MDTs.

Linking pathology and imaging data supports MDTs and integrated care pathways.

PHARMACY

Synapxe
Introduced closed-loop medication management and PILBOX automated collection lockers across hospitals. Patients can collect prescriptions 24/7 without queuing; pharmacists shifted to clinical counselling.

Shows how digital dispensing can extend access and free clinical time.

Christus Muguerza Hospitals
Introduced a real-time drug information database integrated into CPOE. Automated clinical alerts flagged unsafe interactions, duplications, and contraindications.

Clinical decision support at scale can materially improve safety

EMERGENCY DEPARTMENT

Royal Melbourne Hospital
Introduced predictive AI models (in partnership with University of Melbourne) using de-identified hospital data to project ED LOS and discharge outcomes. Designed to improve patient

Predictive analytics can help reduce overcrowding and strengthen resource planning in high-demand settings

“

These tools are about supporting our clinicians, not replacing them, and ensuring patients continue to receive timely, high-quality care

Princess Royal Hospital NHS
Introduced a Rapid Assessment and Treatment service and launched an Ambulatory Clinical Decision Unit (ACDU) – a short-stay unit for patients needing clinical care

Rapid assessment and ambulatory models can ease ED congestion, improve flow, and reduce ambulance delays

“

The Emergency Department Team have worked extremely hard implementing new and innovative ways of providing safer care for our patients

Victoria’s Virtual Emergency Department
Provides access to free virtual care from anywhere in the Victoria, 24 hours a day to address challenges faced by Victorians when visiting physical emergency departments

86% of patients seen by VVED did not require transport to, or care at a physical hospital, taking pressure off emergency departments and Ambulance Victoria

“

It has helped more than half a million people, and is almost tripling its capacity so more families can get free, 24/7, world-class health care

Mount Sinai
A study at Mount Sinai showed that AI can help emergency department better anticipate which patients will need hospital admission, hours earlier than is currently possible

The study, involving nearly 50,000 patient visits across Mount Sinai’s urban and suburban hospitals, showed that the AI model performed reliably across these diverse hospitals

“

We wanted to design a model that doesn’t just perform well in theory but can actually support decision-making on the front lines of care

SMART HOSPITALS

Humber River Hospital
Humber River Hospital in Toronto, is North America's first fully digital smart building, integrating IoT, automation, and AI to optimise operations, patient experience, and workflows

Integrated digital strategy from the design phase, and invested in staff training and change management for technology adoption

"

We need to get hospitals to a point where they don't make errors. The Command Centre allows us to identify the drivers that often lead to errors and alleviate those situations to reduce the mistakes

Tsinghua University
World's first AI Agent hospital that blends virtual AI agents, clinical care, and real-world pilot deployment into one tightly integrated system

Has 42 AI doctors across 21 clinical specialties covering over 300 diseases. Furthermore, each specialty has trained its virtual agents on over ten common conditions

"

This technology has the potential to democratise healthcare access globally, particularly in regions with physician shortages, however, we must ensure robust safety protocols are in place

Tan Tock Seng Hospital
Tan Tock Seng Hospital, in collaboration with Integrated Health Information Systems, developed the C3 Smart Hospital System, a command, control and communications platform

The system enables real-time visibility and optimised patient flow, allowing 2,000+ beds to be managed with just two to three staff

"

Much like an airport control tower, the C3 Smart Hospital System is the nerve centre for the hospital. It is a real-time integrator of systems, enabling TTSH to better optimise resources

New Dunedin Hospital
New construction project in New Zealand that will incorporate smart hospital technology to digitise information and use data to improve decision-making, efficiency, and automation

A "highly mobile and paper light" digital hospital that aspires to get a Level 6 accreditation from HIMSS

"

Represents future of hospitals in NZ where modern design and innovative technology are harnessed to deliver improved health outcomes for patients and provide support to health professionals

BACK-OFFICE TRANSFORMATION

South Eastern Sydney LHD Hospital
The hospital replaced outdated systems with a cloud-based automated rostering platform, configuring practice-specific rules and linking payroll directly to provider schedules.

Automated rostering can save significant time and costs while improving fairness, transparency, and staff satisfaction

> *Rosters are crucial to the functioning of any healthcare service as they ensure that staffing resources are allocated appropriately to provide high quality and efficient patient care and support services*

Dalhousie University
Replaced outdated systems with a cloud-based automated platform. Configured practice-specific rules and validations using workflow automation

Automating scheduling and payroll at scale streamlines operations, eliminates manual errors, and accelerates payroll cycles

> *We schedule short and long rooms, call, and subspecialty call equally based on FTE. That's where the QGenda automation works quite well to balance out the schedule*

NHS Blackpool Teaching Hospitals
Introduced digital process automation through a no-code solution, alongside existing RPA. Automated multi-department forms and workflows (e.g., HR, safety checks, accommodation)

No-code automation can quickly digitise cross-departmental processes and improve accuracy and efficiency while reducing operational burden

> *It has also prompted departments to review their processes and ensure they are fit for purpose. Lastly, it reduced the burden on our in-house development team who now concentrate on critical projects*

Singapore Hospital
Developed stochastic AI models to schedule nurses under fluctuating demand. Applied multi-stage algorithms with generative AI to build rosters resilient to patient demand

AI-enabled scheduling can balance cost, fairness, and patient demand, making workforce planning as adaptive and resilient as frontline care delivery

> *multi-stage stochastic programming framework integrates nurse demand uncertainties and employs generative AI algorithms to optimise rosters that are resilient to fluctuating patient demand*

INNOVATIVE WAYS OF WORKING

Alder Hey Children's Hospital
Developed 'Alder Hey Innovation' which allows clinicians, industries and higher education institutions to come together to create innovative products and technologies for children

The centre uses an open innovation methodology, working with industry partners to co-create the best solutions using emerging technology

The second part of our strategy is how we're going to use technology to optimise the hospital. That's anything from how we can eliminate and reduce safety through augmenting clinical decision making

Catalonia
Catalonia's Open Data and Citizen Partnership fosters transparency, collaboration, and innovation by enabling citizens and institutions to access government data

These solutions enhance decision-making, personalise patient care, and relieve healthcare staff of administrative burdens

He added that the strategy needs support from the industry so that together with healthcare providers the use of healthcare data can be intensified

Ireland
Ireland has launched strategic frameworks and learning passport (in-progress) to embed digital skills across its healthcare workforce, aligning with broader national priorities

Establish a flexible guide that empowers individuals and organisations to define tailored digital learning paths across proficiency levels

Capability informed frameworks address wider aspects of professionalism, focusing on supporting continuous development rather than assessment of a skill at a specific point in time