Metro North Health

Digital Strategy

Strategy 2018–32

2022 Update

Metro North
Health

Queensland
Government

Message from the Board Chair and Chief Executive

Metro North Health has an international reputation for delivering excellence in healthcare outcomes. It is our ability to drive innovation and provide optimum patient outcomes with exceptional clinical expertise that has positioned Metro North Health at the forefront of quality healthcare delivery.

Healthcare services across the world are facing the increasing challenges of complex care and finite resources, coupled with ageing and growing populations, while navigating through a pandemic. As the provider of health services to almost one quarter of Queensland's population, we must develop new models of care and transform our ways of working to meet emerging and growing demands. In the years ahead, it will be our ability to leverage digital technologies that will enable us to remain a world leading health service.

Metro North Health's digital transformation strategy, first developed in 2018, has been refreshed to ensure our digital journey continues to align with Metro North Health's MN32 strategic outlook.

The MN32 desired state recognises the need to incorporate digital innovation throughout its key focus areas – clinical models, workforce, infrastructure and research and innovation to achieve its vision. This will involve us as a Health Service embracing technology to support evolving models of care such as virtual care, remote based monitoring and population health management.

Importantly, our staff and consumers helped shape the strategy which allows us to access the opportunities offered by digital innovation from real time data and analytics through to precision medicine.

As we progress this significant period of investment in technologies and initiatives, we are excited about the future for our staff and patients. We will continue to deliver value through connection, innovation and compassion.

Our digital strategy enables us to reimagine healthcare and continue to lead the way in delivering outstanding outcomes to our patients.

Jim McGowan AM
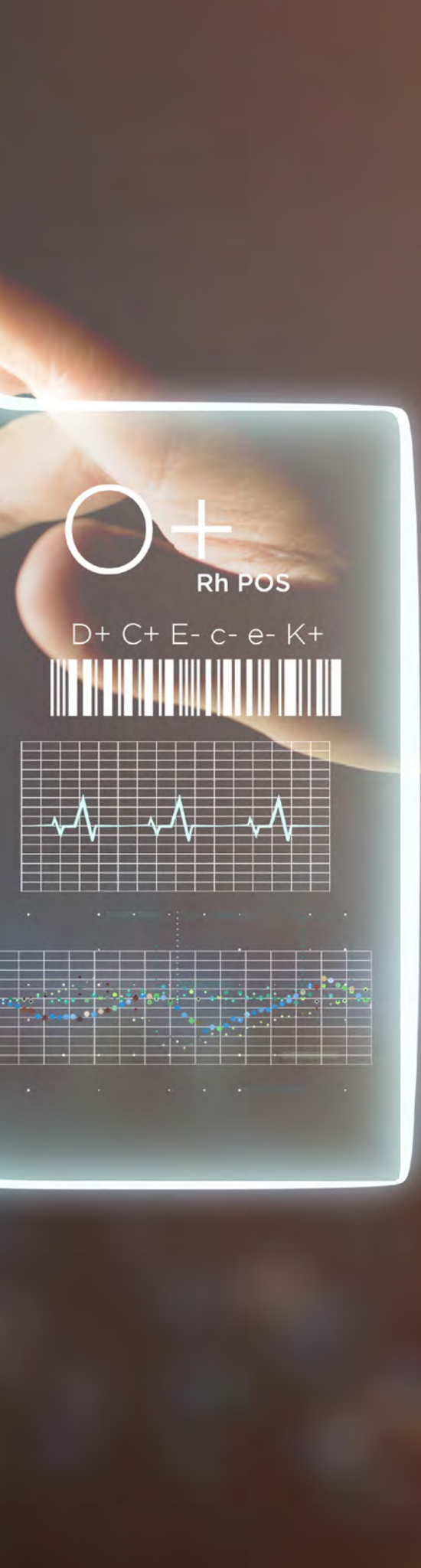Chair
Metro North Health Board

Adj. Prof. Jackie Hanson
Chief Executive
Metro North Health

Contents

Welcome from the Chief Digital Health Officer

Dr Jason Brown

Chief Digital Health Officer
Metro North Health

As the healthcare landscape continues to change, Metro North Health remains committed to leveraging innovation and digital transformation to improve service delivery and health outcomes.

The COVID-19 pandemic has demonstrated Metro North Health has the ability to rapidly adopt technology and new ways of working. Digital Metro North will continue to collaborate with our care teams to harness this momentum and willingness to embrace new ways of working.

Innovative models of care, supported by cutting-edge technology and groundbreaking research, will enable our staff to deliver high quality care. At the same time, it is critical that the therapeutic relationship between the clinician and the patient remains at the centre of care and the technology is supportive to this relationship, rather than being intrusive.

The volume of demand for Metro North Health services, as well as consumer expectations, continues to rise placing increasing challenges on our available resources. Technology offers a key lever to address this imbalance. Opportunities provided by digital technology to address these pressures should not be underestimated. International trends are showing increasing benefits for both patients and clinicians as digital technology becomes part of our daily life not just at home, but in our hospitals as well.

Integrated digital platforms are essential to ensure patients receive seamless, personalised care across providers. We have come a long way from paper-based charts and handwritten notes. The digital hospital allows simultaneous viewing of the patients records in real time, when needed and where needed. However, the current lag implementing digital technologies is preventing Metro North Health from fully realising all aspects of integrated, connected and person-centred care.

Increasing investment in technology as well as embracing emerging technologies will be essential for Metro North Health to realise our digital transformation goal to establish Australia's most integrated, efficient and effective digital health service by 2032.
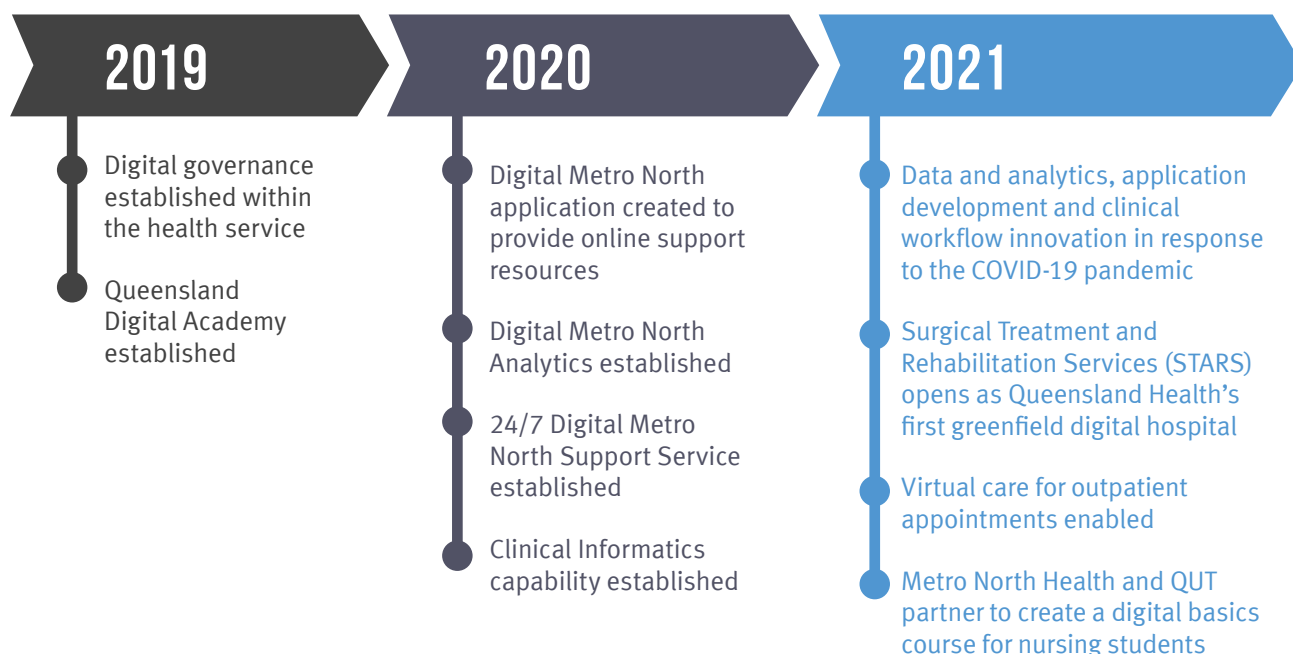
Introduction

The Digital Metro North Strategy, first developed in 2018, has been updated to ensure it continues to align with the refreshed MN32 vision that positions Metro North Health as a leading health service provider on the global stage. Now that we are a few years progressed in our digital journey it is timely to reflect on our achievements to date and confirm our initiatives planned for the years ahead.

Achievements to date:

2019
- Digital governance established within the health service
- Queensland Digital Academy established

2020
- Digital Metro North application created to provide online support resources
- Digital Metro North Analytics established
- 24/7 Digital Metro North Support Service established
- Clinical Informatics capability established

2021
- Data and analytics, application development and clinical workflow innovation in response to the COVID-19 pandemic
- Surgical Treatment and Rehabilitation Services (STARS) opens as Queensland Health's first greenfield digital hospital
- Virtual care for outpatient appointments enabled
- Metro North Health and QUT partner to create a digital basics course for nursing students

Metro North Health provides health services that are amongst the best in the world. However, a worldwide pandemic, financial constraints coupled with rapidly rising demands, complexity and increasing consumer expectations continue to challenge us. Innovative digital solutions and connected technology will enable us to support high-quality, sustainable health care into the future.

The expectations of the community are becoming increasingly clear; a health system that provides more choice, control and transparency. Consumers want improved access to digital health services and information, in a way that is secure, yet easy to navigate.

Staff expect digital systems that provide instant access to patients' information and that support them in earlier diagnosis and better management of their diseases and clinical care. They also need technology to ease their administrative burden, so they have more time to spend with patients.

Digital systems provide the foundation for delivery of high-quality healthcare. They enable improved coordination of complex care leading to better treatment decisions, reduced duplication of tests, fewer adverse drug events and avoidance of hospital admissions.

This strategy encompasses all aspects of the Metro North Health digital journey. By securing our strong technology foundations we can apply integrated patient care solutions and dynamic digital innovation. It opens up opportunities to reach beyond our boundaries to partner with universities and other healthcare organisations to conduct groundbreaking research and enhance service delivery.

Strategic Context

Digital information can transform the quality and sustainability of healthcare. When used effectively, it can save lives, improve health and wellbeing and support a sustainable health system to deliver safe, integrated, patient centred health services. Digital transformation is playing a critical role in enabling Metro North Health to keep pace with global change, pioneer new models of care and provide responsive patient care in the future.

The Digital Strategy describes the integration of digital technologies across our health service to support the Metro North Health Strategic Plan 2020-2024 and the achievement of its four objectives:

- To always put people first

- To improve health equity, access, quality, safety and health outcomes

- To deliver value-based health services through a culture of research, education, learning and innovation

- To be accountable for delivery of sustainable services, high performance and excellent patient outcomes.

Our Digital Metro North team is driving the transformation agenda within our health service. Clinicians are partnering with technology experts to lead our digital innovation, keeping patient needs at the centre of our care delivery. As real-time data analytics and research becomes part of our strategic imperative, our transition to a digitised healthcare environment will consider people at every step in the journey.

Metro North Health's Digital Strategy supports the four key focus areas of the Metro North Health Service Strategy 2021- 2026:

- Delivering person-centred, connected and integrated care

- Effective delivery of healthcare to address growing population health needs of the community

- Living healthy and well

- Responsive healthcare to meet the high health needs of identified groups.

Metro North Health will continue to broaden and strengthen the use of technology throughout the health service by implementing systems such as the integrated electronic medical record (ieMR). Clinicians will have access to comprehensive data gathered throughout a patient's healthcare journey. This will enable more networked and connected care across clinical teams and lead to more individualised, patient-centred care and real time decision making.

Our approach will be informed by comprehensive data sets enabling our services to predict changing population needs and create targeted healthcare strategies.

Hospital and health service strategic plan

The Metro North Strategic Plan 2020-2024 sets the strategic direction for the health service and aligns to the priorities of the Queensland Government. The four objectives in the plan are: To always put people first; to improve health equity, access, quality, safety and health outcomes, to deliver value-based health services through a culture of research, education, learning and innovation and to be accountable for delivery of sustainable services, high performance and excellent patient outcomes. The strategic plan directs the strategy development and planning undertaken across Metro North Health.

Strategies

Health services

Safety and quality

Research

Clinical engagement

Consumer engagement

Metro North Digital Strategy

There are six headline strategies for Metro North Health focussing on key functions of Metro North Health. The strategies confirm the strategic directions and objectives of the relevant area and outlines the priority strategies required to achieve the desired outcomes. The Health Service Strategy focuses on health service delivery and links with the other Metro North Health strategies.

As Metro North Health pursues its vision to establish centres of excellence, the Digital Strategy will connect these centres by integrating research data across our services. The digital platform will allow the "virtual cycle" of clinical data collection, sophisticated analysis and using standardised care pathways and digital decision support to rapidly translate research into practice (bench-to-bedside).

The strategy embeds research, teaching and learning into clinical practice, supported by rich data, knowledge and evidence, as well as state-of-the-art robotics, artificial intelligence and machine-based learning.

Digital innovation provides limitless opportunities for Metro North Health to lead the way in delivering excellent patient outcomes throughout our facilities and services to enable the MN32 vision to be realised.

Driving the case for change

Healthcare systems across the world are increasingly using technology and digital innovation to meet growing patient care needs. Our ability to reimagine healthcare will rely on our capacity to keep pace with technological advances and continuously improve quality, safety and efficiency across the health service.

An integrated digital platform delivers a range of benefits for patients, clinicians and the community. A recent literature review concluded short-term benefits were found in fewer medication errors, increased efficiency, better presentation of patient information and better development and accountability for staff. [1]

There are six key drivers for digital change within hospitals and health services.

Sustainability of current models of care

Our current models of care are facing increasing pressures as our hospitals and services are challenged with increasing healthcare demands, and demographic and workforce pressures.

The Australian population is ageing and the number of people over 85 years old will increase from 0.4 million in 2018 to 1.8 million in 2050 (APH). [2] The burden of chronic illness is also growing as this group lives longer and develops conditions such as diabetes.

Treasury's Intergenerational Report 2021 (IGR) has projected health and aged care to be the fastest growing areas of spending over the next 40 years. Growth in these areas reflects pressures from an ageing population, rising incomes and technological advancement. The government estimates spending on healthcare as a percentage of gross domestic product (GDP) per person will increase from 4.1 per cent in 2018-19 to 6.2 per cent in 2060-61 citing the use of new health technology as a key reason. [3]

Our new models of care are likely to be based on new technology and methods such as digital devices, the Internet of Things (connection of everyday objects to the internet), robotics and virtual care rather than new scientific or molecular discoveries. This will enable Metro North Health to meet growing healthcare demands through digital innovation and continue to provide high-quality patient care.

Patient-centred care

Patient care has traditionally been delivered via an illness or specialist-based model where individual medical specialties have their own unique systems, care and records. This is changing as patients increasingly seek ways to become more informed about their care.

Metro North is implementing patient-centred care models to ensure consumers are placed at the centre of their healthcare experience.

Value-based healthcare

Value-based healthcare involves measuring the impacts of our health services and ensuring they align with patient expectations, experiences and outcomes.

Measuring these patient outcomes can be difficult as our existing paper-based and standalone digital systems frequently rely on disconnected and time-consuming processes. However, digital transformation makes it possible to effectively measure value-based outcomes including patient-reported outcomes and experience measures, and real-time, clinically recorded data.

This information can be analysed and rapidly delivered to decision makers.

Quality and safety

Digital communication will deliver significant benefits relating to safety, quality and costs of delivering healthcare. Research has found that digital hospitals (particularly integrated ePrescribing systems) are safer than paper-based healthcare systems. This is due to greater transparency and availability of integrated information.

Digitised systems enable quality and safety frameworks to transition from retrospective data to live-streaming analytics which inform clinicians about adverse events such as physiologic deterioration, falls and pressure injuries. The real-time transparency and rich clinical data delivered through integrated digital solutions will inform machine learning and artificial intelligence and facilitate our move from the current "break-fix" model to a more cost-effective and safer "predict-prevent" model of patient care.

Our focus should always remain on clinical care. We use technology as a tool to support quality and safe clinical practice.

Metro North Health recognises that failure to successfully execute digital transformation would adversely impact patient outcomes, service delivery, research and clinical partnerships and organisational viability.

Innovation

Rapid innovation through emerging technologies will be crucial to enabling our health service to respond to the increasing complexity and rising costs of healthcare. Our ability to apply new technologies such as the Internet of Things and precision medicine will also help us accelerate innovation and translate this work into improved outcomes.

Digital technologies will allow constant, data-driven improvement of our processes and outcomes across clinical, operational, administrative, financial and research streams.

Society and public expectations

Consumers and their families have increasing expectations that they will be able to interact and connect with their health providers in the same way they do with their banks or other service providers. Staff also expect digital capabilities to be the same whether they are at home or at work.

Digital solutions will deliver more seamless and integrated healthcare experiences for our consumers and enable our clinicians to access innovative digital solutions throughout all facilities.

Our Digital Strategy is driven by the perspectives and aspirations of our staff and consumers.
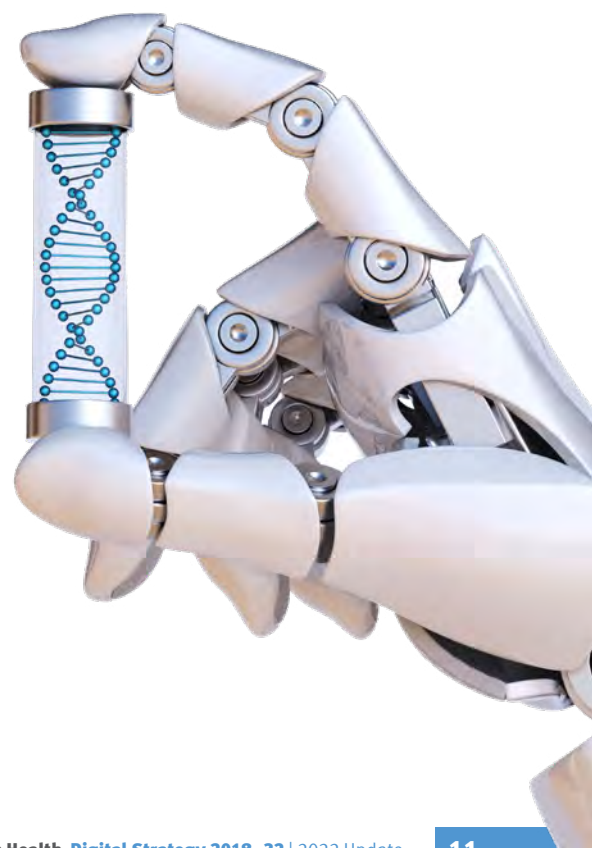
Challenges

Adopting digital technologies in healthcare is often challenging due to the significant and complex human and technology factors involved. Digital transformation at Metro North Health is a large-scale change impacting all work areas and staff. Preparing for significant cultural change is essential to bring all staff on the transformation journey.

Our staff

Our staff will experience significant digital disruption throughout the change process as their workflows, equipment and systems are transformed to accommodate new digital solutions. The success of these changes will rely heavily on our ability to transition our workforce from paper-based processes to a digital hospital environment. The philosophy that no one is left behind will underpin all transformation activities.

Some staff members will be understandably resistant to altering existing workflows and these staff will be supported throughout the change. Temporary efficiency reductions as staff navigate digital learning curves, also known as digital deceleration, are also expected and will need to be strategically managed.

Our governance

Clinical leadership in partnership with technical and health informatics specialists will play an important role in driving the changes. This must be supported with strategic governance structures and strong change leadership with an understanding that long-term benefits will outweigh short-term disincentives.

This approach will help ensure risk is managed effectively throughout the digital change.

Our infrastructure and systems

Metro North Health's current infrastructure and systems are old and outdated. As we become more dependent on digital systems and technology, robust modern infrastructure becomes critical. A major digital challenge facing Metro North Health is our ageing infrastructure and applications and preparing our infrastructure and information platforms for future demands.
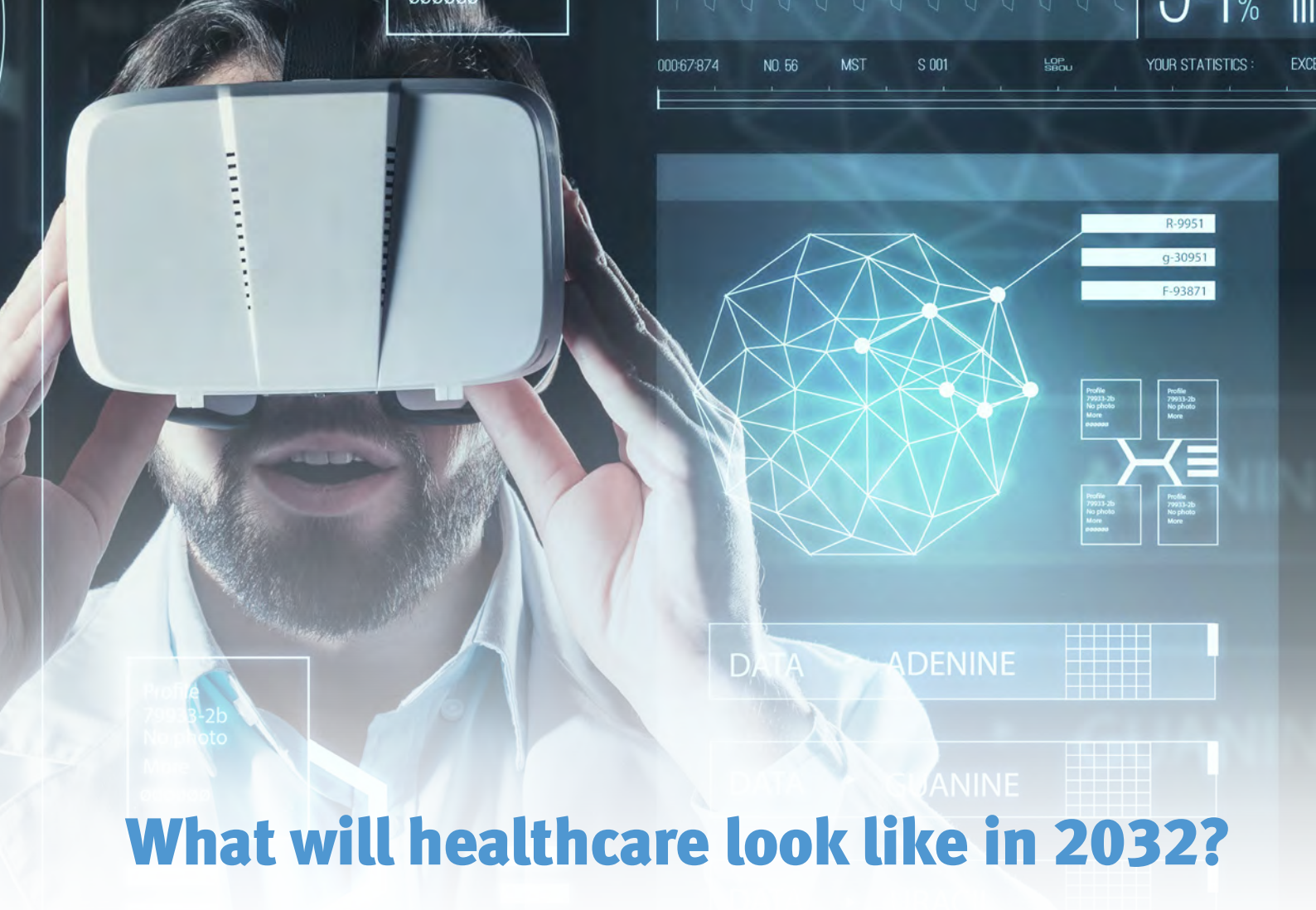
What will healthcare look like in 2032?

Australians are already choosing to use digital applications, tools and services as their preferred way to manage their personal and professional lives. There is an increasing expectation that patients will use digital applications and services to manage their health care needs. Our staff will expect digital tools that are secure, intuitive and innovative and can integrate into their daily work to improve efficiency and patient outcomes.

Our models of care will evolve in response to the challenges of an ageing population with increasing levels of frailty and chronic diseases [4]. The healthcare workforce available to care for this vulnerable group (and our growing population) will be relatively smaller.

New models of care will be developed to manage this challenge and ensure our patients continue to receive quality care [5]. By 2032:

- Our consumers/patients will be able to access their own health records and be confident their treating clinician has the information they need to make the best decisions anywhere and at any time.

- Our health service will be less constrained by current boundaries and will work more effectively to deliver joined up care within the hospital as well as in the community, enabled by shared data and integrated/interoperable systems.

- Our population health initiatives will leverage our data lake using data analytics and artificial intelligence to be more proactive and focused leading to more effective use of resources and demonstrably better health outcomes.

- Our workforce will directly benefit from modern technology and better data to enable them to deliver better patient engagement and improved care.

- Our ability to increase healthcare delivery throughput will be underpinned by enhanced access to patient information, improved collaboration tools as well as advanced business intelligence and data analytics capability.

- Our leaders including senior directors, executive, board members and government will have access to better information. This will enable improved decision support and surety that the health service is making the most judicious use of taxpayer assets to effectively deliver the standards of care for which it is funded.

Digital Metro North Strategy

The Metro North Health Digital Strategy includes:

- enablers of digital transformation which emphasise our focus on our people, processes, information and technology

- core principles to create the conditions needed for our successful digital transformation

- three strategic horizons to provide a clear, detailed timeline for our health service.

ENABLERS

There are key enablers that support and guide our transformation journey.

PEOPLE

The consumers, clinicians, administration, management, executive, support staff and partners engaged or connected to Metro North Health and the culture of Metro North Health.

PROCESS

The workflows, tasks and procedures used daily by the people at Metro North Health.

INFORMATION

The information and insights from the data created by the interactions between people, process and technology at Metro North Health.

TECHNOLOGY

The underlying capability to interact with the systems supporting, analysing and transacting the information and processes for Metro North Health.

PRINCIPLES

Core principles will underpin all Metro North Health digital initiatives to ensure a consistent and integrated approach is applied throughout the digital transformation process.

These principles are critical for success and will create the conditions for a responsive strategy while also assisting our health service to manage the risks associated with this significant change.

Cultural readiness
Metro North Health has a united culture where staff are motivated and willing to put in a high level of effort to adopt change and achieve improvement. We will engage widely on digital transformation to ensure no one is left behind during the transformation journey.

Technical excellence
Metro North Health provides superior technical solutions and our teams can access immediate technical assistance.

Digital clinical governance
Metro North Health understands the digital healthcare environment and is equipped to govern digital implementation, content, data analytics and innovation.

Single source of truth for data
Metro North Health has a single data repository, governed data definitions and uses a single identifier to link a patient's data.

Information governance and transparency
Metro North Health governs digital information and promotes digital transparency.

Integration
Metro North Health promotes integration of people, processes, information and technology throughout the healthcare continuum, and has future-proof health service-wide systems.

Disaster recovery and cybersecurity
Metro North Health is prepared for digital disasters and has robust business continuity plans and strong defences against cybersecurity threats.

### Digital partnerships with research teams and universities
Metro North partners with research teams and universities accessing the skill sets needed to realise the benefits of digital transformation.

cardiovascular
system

upper injector

cvs-100

lower injector

Strategic horizons

Three strategic horizons provide a clear and detailed approach for the digital transformation of Metro North Health.
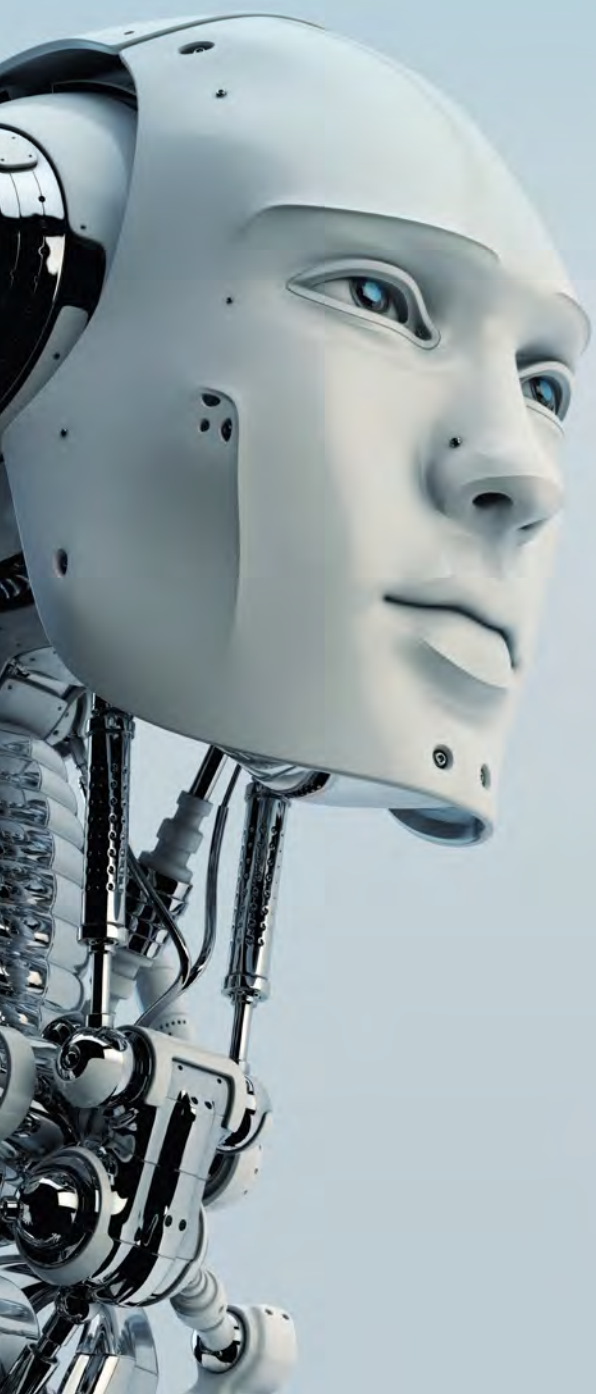
HORIZON 1: Building digital foundations

Building strong digital foundations is the critical first step in our digital journey. They expand our ability to create ground-breaking solutions that improve patient outcomes and quality of life. Technologies such as the ieMR enable the health service to capture patient information and data in real-time. This will support decision-making at the bedside and streamline clinical and administrative workflows. Our foundations are strengthened by robust governance, system connectivity and infrastructure capability.

People

Our workforce is developing strong digital literacy through training programs that incorporate global best-practice methodologies. These are being delivered through the Queensland Digital Academy which offers immersive learning opportunities for our clinicians and staff to support their transition to new workflows and solutions.

The digital healthcare environment enables our teams to excel and partner with universities to establish more effective and integrated research to improve patient care outcomes.

Highly skilled specialists provide essential software and hardware support for clinical and administrative workflows.

Process

Streamlined processes have begun enabling clinicians to access real-time data remotely and at the bedside. The move from paper-based to digital records allows care teams to more efficiently coordinate care, allocate resources and deliver responsive services.

Information

Comprehensive patient information will be collated within a centralised digital record and used to provide more integrated patient care. Privacy and data security will be safeguarded through best-practice standards. Digital Metro North Analytics has been established to focus expertise and resources on the detailed process of clinical data extraction. Timely and secure access, integration and use of electronic clinical data is essential for Metro North Health to deliver high quality, sustainable healthcare.

Technology

The ieMR, robots, applications and Internet of Things will expand the digital workflows in our health service and improve service delivery within our hospitals and the community. The ieMR will form the bedrock of our digital health system and allow the digitisation of the workflows in clinical and administrative areas. Designed to deliver the digital basics, the ieMR will touch almost every workflow, clinician and staff member throughout the health service. Its establishment will enable the possibilities of a digital hospital to be realised.

The Metro North Health Digital Strategy will support innovation in a dynamic environment where clinicians, informaticians and technology experts work collaboratively to develop innovative digital solutions to advance our world-class healthcare agenda. Technical resources will continue to be allocated to provide highly reliable and highly available systems to enable digital business as usual.

KEY PRIORITIES

Year	Priority
2022	Health service wide smart referrals and kiosks implemented
2022	Front door of the hospital reimagined, providing alternatives to ED underpinned by supporting technology
2023	A single source digital workforce implemented
2023	All Metro North Health hospital infrastructure has been upgraded to digital hospital standard
2023	Caboolture redevelopment opens with a digital uplift in technology
2025	A clinical terminology service implemented
2025	Machine learning is part of clinical models, including use of Artificial Intelligence (AI) in training for clinicians
2026	Full ieMR functionality implemented across Metro North Health
2026	Digitally literate workforce

We will achieve:
- a single, integrated digital record for healthcare data
- a digitally literate workforce.

We will establish:
- clinical informatics capability.

We will measure:
- implementation of the ieMR by its digital footprint to agreed timeframes
- number of staff accessing ieMR
- number of patients transitioned to digital records
- number of partnerships established with universities and healthcare organisations
- a legacy digital system integrated across settings per annum to enable clinicians' access to information when and where needed
- new technology and/or new model trialled and implemented per annum.

HORIZON 2:
Transforming patient care

Patient care will be revolutionised as detailed clinical and demographic information informs personalised care plans. Live-streaming analytics will empower clinicians and operational staff with critical data enabling treatment to be adjusted in response to changing patient needs. Real-time data collection and workflow analysis will become a fundamental part of our healthcare service and deliver opportunities for improved service efficiencies and delivery.

People

We will start the journey to become a learning healthcare organisation. A workforce skilled in the data cycle (extraction, validation, presentation) will be developed and become skilled in using data to improve the quality and efficiency of care. Digital Metro North Analytics will host resources to provide organisation-wide support for both operational and research data requests.

Processes

Targeted care plans will allow the reduction of unwarranted variations in care and the ability to interrogate patient outcomes to refine our practice and increase reliability of care.

Information

Digital Metro North Analytics will establish and manage data governance and reporting functions as our new digital environment enables access to comprehensive data sets. With robust governance based on international standards, the centre will ensure our data is clean and accessible. Digital Metro North Analytics will enable hospital clinicians, staff and executive to access aggregated clinical data in real time. Live-streaming analytics and research requests for data will be possible. Advances in data analytics and machine learning will improve how we deliver care to our patients and expand our insights about population health.

Technology

Technology will enable the linking of clinical, genetic and other data sources. Sophisticated data extraction and reporting will enable clinical, operational and executive teams to identify emerging issues and opportunities for service improvements in real time.

KEY PRIORITIES

2027	Ability to create real-time reporting to inform decision-making
2027	Use of standardised care plans to reduce unwarranted variability and increase reliability of care
2028	Technology implemented to facilitate robotics enabled care and clinical interventions to be delivered remotely
2028	Clinical care supported by real time data monitoring across a range of linked data sources
2029	Accessible and integrated digital pathways available to create innovative research opportunities

We will achieve:

- delivery of live-streaming analytics for clinicians and operational staff at the coalface
- research outcomes informed by real-time data and deliver innovative bench-to-bedside treatment pathways
- integrated digital systems across settings to enable access to information when and where needed.

We will establish:

- a repository of clinical information (a digital phenobank) to provide Metro North Health staff with access to detailed data (as appropriate)

- a highly skilled clinical informatics workforce that provides an industry leading approach to adoption, training and support
- digital ordering for all inpatient meals.

We will measure:

- coverage of our hospitals and health services with digital workflows
- the number of analytic tools developed, and innovations supported, as well as the improvements they bring to our workflows and outcomes.

HORIZON 3: Reimagining our future

An integrated digital platform incorporating all services and research facilities will enhance our ability to create new and innovative models of care and research capability. Clinical data will be used with sophisticated data analytics, machine learning and artificial intelligence to help predict hospital admissions and prevent adverse outcomes. This will facilitate moving patient care from a "break-fix" to a "predict-prevent" model.

We will integrate our digital platform with other services and research facilities to innovate and deliver new models of care and research capability.

People

A workforce skilled in innovation and new digital models of care will develop. Roles will evolve as the healthcare landscape changes. Our workforce will be supported by new technologies including robotics to deliver high-quality care to meet changing needs.

Processes

Machine learning, and predictive and prescriptive analytics will allow new models of care. Patients will play an active role in their own care and effectively use technology to monitor and manage care from their homes. There will be an increasing emphasis on prevention of illness rather than treatment.

Information

Our facilities will be linked with integrated digital systems and insights from Digital Metro North Analytics will allow us to move from "break-fix" to "predict- prevent" models of care. Data from biosensors and the Internet of Things will contribute to digital patient records and support the delivery of high-quality care outcomes.

Technology

Innovative new technologies such as robotics and remote monitoring will underpin our ability to provide long-term care for patients with complex and high-level care needs.

To support innovation, we will have a system that is responsive to technological advances and enables rapid acceleration translating research to practice.

KEY PRIORITIES

New and innovative models of care will evolve to meet increasing demands.

2030	Data and analytics will support Metro North Health as a learning healthcare organisation
2030	Patients able to self-serve and access their patient record via a trusted and secure system
2031	Population health management underpinned by data and artificial intelligence
2032	Technology implemented to enable first human printed kidney
2032	Completion of works to enable transitions between all settings, services and sectors to be seamless and secure

We will achieve:

- consumers have the option of digitally enabled interactions from their first point of engagement
- the ability to interrogate our clinical data repository (digital phenobank) to facilitate world-class research
- linking of patient clinical information to their genetic information to enable precision medicine and improve patient outcomes
- fifty percent of routine tasks automated
- digital innovation supports business as usual clinical practice.

We will establish:

- sophisticated analytics capability using machine learning and artificial intelligence to enable our care pathways to transition from break-fix to a "predict-prevent" models
- automation via artificial intelligence.

We will measure:

- the number of new and innovative models of care
- the improvements this brings to our workforce and outcomes.

Metro North Health

DIGITAL METRO NORTH

REIMAGINING HEALTHCARE
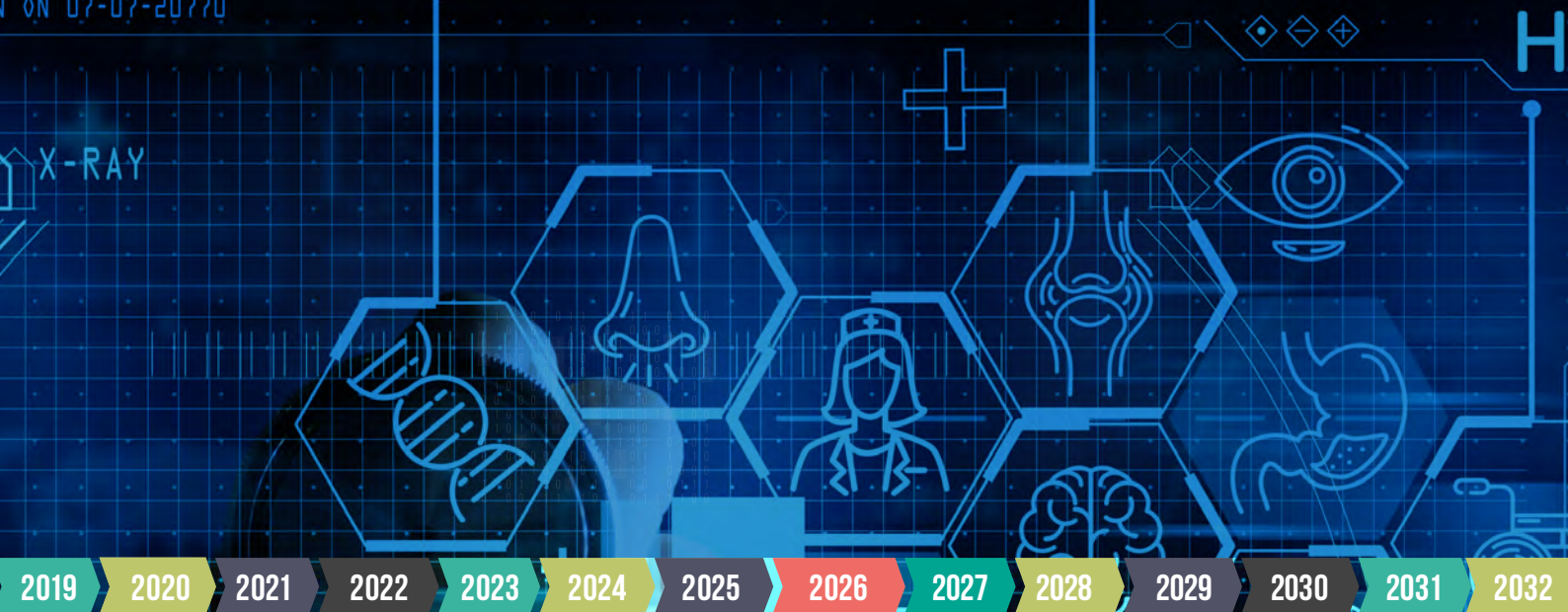
MN32 #NEXTCARE THE FUTURE OF HEALTH

2017 | 2018

HORIZONS

ENABLERS

- PEOPLE
- PROCESS
- INFORMATION
- TECHNOLOGY

PRINCIPLES

HORIZON 1
Building digital foundations

HORIZON 2
Transforming patient care

HORIZON 3
Reimagining our future

HORIZON 1	HORIZON 2	HORIZON 3
Our workforce develops digital literacy Integrated research partnerships are established	Workforce skilled in the data cycle Personalised care plans for patients	Innovative workforce New digital models of care for patients
Integrating information and technology Transition from paper to digital records	Transparency to increase efficiency and reliability	Machine learning and artifical intelligence informs clinical practices
Collecting and collating patient data with best practice standards	Live-streaming analytics and reporting Robust data governance	Predictive and prescriptive analytics
Broadens workflows to improve care Integrates devices	Establish links between data and analytics Sophisticated data extractions	Our digital platform integrates with emerging technologies

CULTURAL READINESS

TECHNICAL EXCELLENCE

DIGITAL CLINICAL GOVERNANCE

SINGLE SOURCE OF TRUTH FOR DATA

INFORMATION GOVERNANCE AND TRANSPARENCY

INTEGRATION

DISASTER RECOVERY AND CYBERSECURITY

DIGITAL PARTNERSHIPS WITH RESEARCH TEAMS AND UNIVERSITIES

Metro North Health

DIGITAL METRO NORTH
REIMAGINING HEALTHCARE

Digital Metro North will be achieved through three digital horizons which will be used to transform our healthcare system and embrace the opportunities offered through digital innovation.

MN32 #NEXTCARE THE FUTURE OF HEALTH

⚙ **METRO NORTH CLINICAL MODELS**

💡 **METRO NORTH RESEARCH, INNOVATION AND KNOWLEDGE TRANSLATION**

👥 **METRO NORTH WORKFORCE**

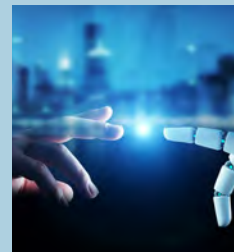🏥 **METRO NORTH INFRASTRUCTURE**

Metro North Health | Queensland Government

QUEENSLAND DIGITAL ACADEMY ESTABLISHED

DIGITAL GOVERNANCE ESTABLISHED WITHIN THE HEALTH SERVICE

WIFI

HORIZON 1 BUILDING
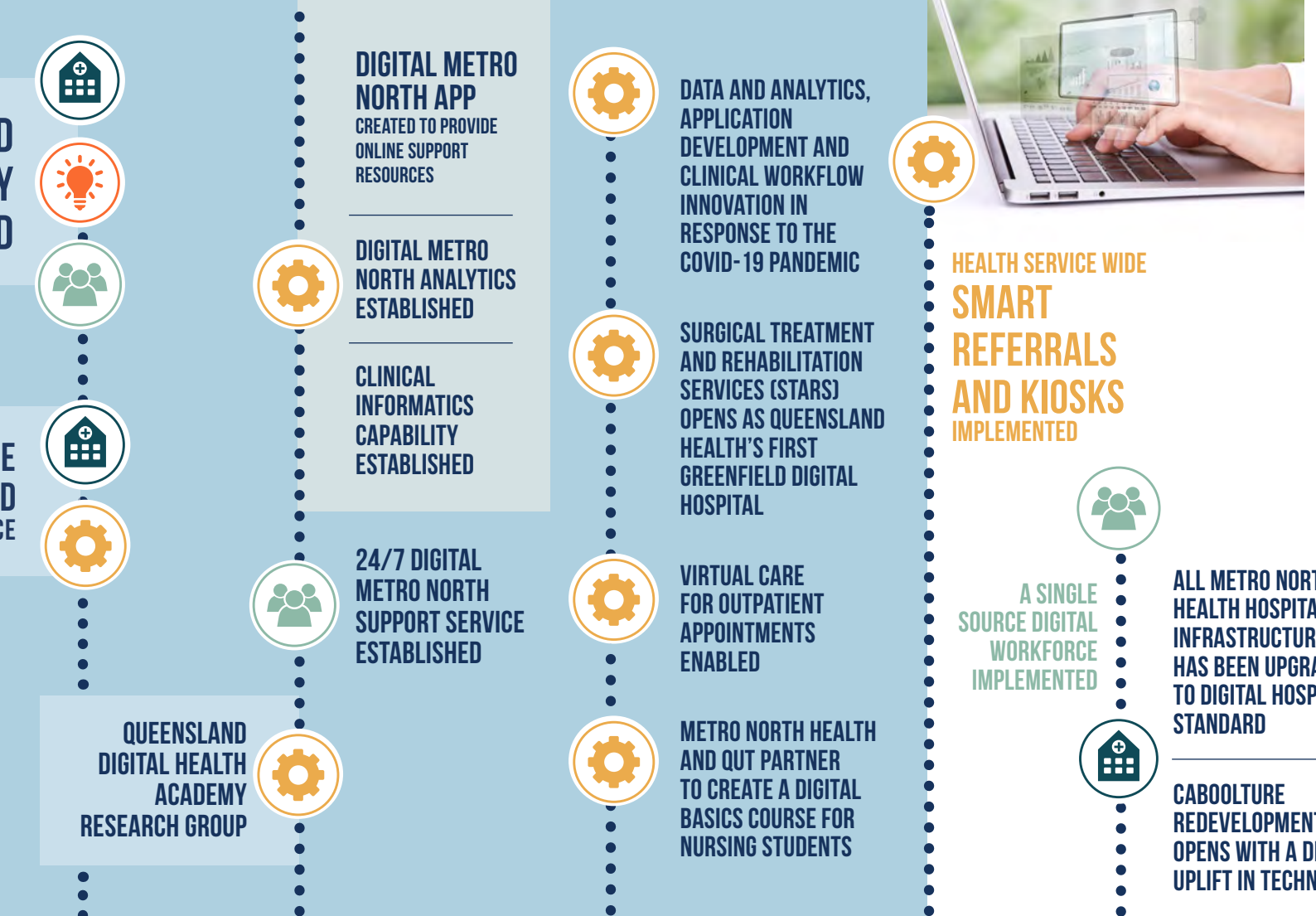
2018

VALUES BASED HEALTHCARE

DIGITAL HEALTH TRANSFORMATION PLAN LAUNCHED
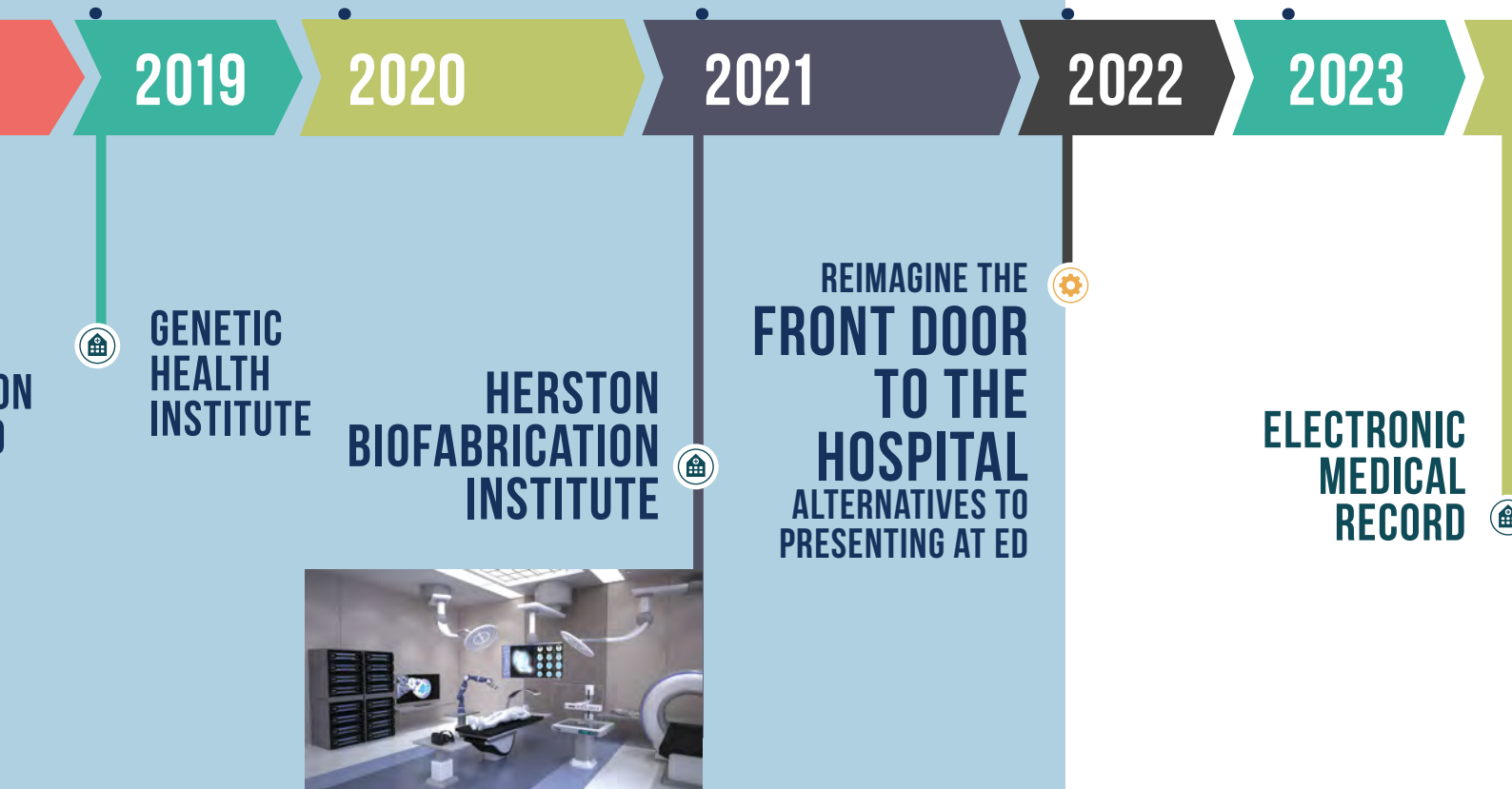
JAMIESON TRAUMA INSTITUTE

EXPANSION OF ROBOTIC TECHNOLOGY ACROSS SURGERY DISCIPLINES

DIGITAL METRO NORTH APP
CREATED TO PROVIDE ONLINE SUPPORT RESOURCES

DIGITAL METRO NORTH ANALYTICS ESTABLISHED

CLINICAL INFORMATICS CAPABILITY ESTABLISHED

24/7 DIGITAL METRO NORTH SUPPORT SERVICE ESTABLISHED

QUEENSLAND DIGITAL HEALTH ACADEMY RESEARCH GROUP

DATA AND ANALYTICS, APPLICATION DEVELOPMENT AND CLINICAL WORKFLOW INNOVATION IN RESPONSE TO THE COVID-19 PANDEMIC

SURGICAL TREATMENT AND REHABILITATION SERVICES (STARS) OPENS AS QUEENSLAND HEALTH'S FIRST GREENFIELD DIGITAL HOSPITAL

VIRTUAL CARE FOR OUTPATIENT APPOINTMENTS ENABLED

METRO NORTH HEALTH AND QUT PARTNER TO CREATE A DIGITAL BASICS COURSE FOR NURSING STUDENTS

HEALTH SERVICE WIDE
SMART REFERRALS AND KIOSKS IMPLEMENTED

A SINGLE SOURCE DIGITAL WORKFORCE IMPLEMENTED

ALL METRO NORT[H] HEALTH HOSPITA[L] INFRASTRUCTUR[E] HAS BEEN UPGRA[DED] TO DIGITAL HOSP[ITAL] STANDARD

CABOOLTURE REDEVELOPMEN[T] OPENS WITH A D[IGITAL] UPLIFT IN TECHN[OLOGY]

[BUILDI]NG DIGITAL FOUNDATIONS

HOR[IZON]

2019 **2020** **2021** **2022** **2023**

GENETIC HEALTH INSTITUTE

HERSTON BIOFABRICATION INSTITUTE

REIMAGINE THE
FRONT DOOR TO THE HOSPITAL ALTERNATIVES TO PRESENTING AT ED

ELECTRONIC MEDICAL RECORD

DIGITALLY LITERATE WORKFORCE

A CLINICAL TERMINOLOGY SERVICE IMPLEMENTED

MACHINE LEARNING IS PART OF CLINICAL MODELS, INCLUDING USE OF AI IN TRAINING FOR CLINICIANS

FULL IEMR FUNCTIONALITY IMPLEMENTED ACROSS METRO NORTH HEALTH

LIVE-STREAMING ANALYTICS FOR CLINICIANS AND OPERATIONAL STAFF

DIGITAL PHENOBANK

ENABLES DETAILED CLINICAL AND DEMOGRAPHIC INFORMATION TO INFORM CARE

TECHNOLOGY IMPLEMENTED TO FACILITATE ROBOTICS ENABLED CARE AND CLINICAL INTERVENTIONS TO BE DELIVERED REMOTELY

CLINICAL CAR[ ]
SUPPORTED B[ ]
REAL TIME DA[ ]
MONITORING
ACROSS A RA[ ]
OF LINKED DA[ ]
SOURCES

REAL-TIME REPORTING INFORMS DECISION-MAKING

STANDARDISED CARE PLANS REDUCE UNWARRANTED VARIABILITY AND INCREASE RELIABILITY OF CARE

INTEGR[ ]
DIGITAL SYS[ ]
ENABLE ACCE[ ]
INFORMATION [ ]
AND WHERE NE[ ]

DIG[ ]
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FOR ALL INPATIENT

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RIZON 2 TRANSFORMING PATIENT CARE **HOR[ ]**

2024 **2025** **2026** **2027** **2028**

BIOMEDICAL TRANSLATION SYSTEM

FOOD SERVICES MENU SYSTEM IMPLEMENTED

BRIGHTON HEALTH CAMPUS EXPANSION

REDCLIFFE HOSPITAL REDEVELOPMENT STAGE 1

$1.1B HERSTON QUARTER REDEVELOPMENT

ROBOTICS

WILL BE A DRIVER IN WORKFORCE CHANGE THROUGH IMPROVING PATIENT DIAGNOSIS AND TREATMENT

**CLINICA[ ]
INTERVE[ ]
REMOTE[ ]
ROBOTIC[ ]**

**HEART AN[ ]
INSTITUTE**

ACCESSIBLE AND INTEGRATED DIGITAL PATHWAYS AVAILABLE TO CREATE INNOVATIVE RESEARCH OPPORTUNITIES

RESEARCH OUTCOMES INFORMED BY REAL-TIME DATA AND DELIVER INNOVATIVE BENCH-TO-BEDSIDE TREATMENT PATHWAYS

A HIGHLY SKILLED CLINICAL INFORMATICS WORKFORCE THAT PROVIDES AN INDUSTRY LEADING APPROACH TO ADOPTION, TRAINING AND SUPPORT

DATA AND ANALYTICS WILL SUPPORT METRO NORTH HEALTH AS A LEARNING HEALTHCARE ORGANISATION

PATIENTS ABLE TO SELF-SERVE AND ACCESS THEIR PATIENT RECORD VIA A TRUSTED AND SECURE SYSTEM

POPULATION HEALTH MANAGEMENT UNDERPINNED BY DATA AND ARTIFICIAL INTELLIGENCE

TECHNOLOGY IMPLEMENTED TO ENABLE FIRST **HUMAN PRINTED KIDNEY**

COMPLETION OF WORKS TO ENABLE TRANSITIONS BETWEEN ALL SETTINGS, SERVICES AND SECTORS TO BE SEAMLESS AND SECURE

RIZON 3 REIMAGINING OUR FUTURE

2029   **2030**   **2031**   **2032**

CABOOLTURE HOSPITAL REDEVELOPMENT PHASE 2

INTEGRATED RESEARCH INSTITUTES

INTEGRATED CLINICAL SERVICES

RESEARCH, EDUCATION AND TRAINING INSTITUTES WILL BE ESTABLISHED.

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Who is responsible for ensuring we deliver our Digital Strategy?

Metro North Health's Chief Digital Health Officer is driving the Digital Strategy to achieve the Health Service's digital MN32 vision. Through Digital Metro North, the digital transformation agenda for the health service is progressed via Horizon Plans mapping the Health Service's Digital Strategy implementation.

The strategy will facilitate collaborative partnerships with academic, industry and non-government organisations and we will work with the Digital Health CRC to develop and test digital health solutions for our patients. This will ensure we deliver effective outcomes and build an evidence base for healthcare organisations undergoing digital transformation.

Digital Metro North will take the lead in implementing and upgrading digital systems across the Health Service and will partner with:

- Health Excellence and Innovation implementing technologies and workflows to deliver virtual care

- Metro North Health institutes and universities to support innovation and research

- facilities and directorates within Metro North Health to deliver standard data sets and support them in developing clinically relevant reports and dashboards

- technology partners including eHealth Queensland and Biomedical Technology Services to deliver new technology solutions and innovations.

Review and evaluation

The key priorities of the Digital Strategy will be achieved through comprehensive horizon plans which includes performance measures, timelines for delivery, evaluation, roles and responsibilities. Horizon plans will be reviewed annually to ensure strategic alignment remains current and progress continues to be achieved.

Research methodologies will be embedded into our approach to effectively measure the impact of our interventions.

This strategy will be refreshed every three years to take changes in technology, strategy and clinical practice into account. Annual progress reporting will continue throughout the implementation.

Endnotes

1 Eden, R., Burton-Jones, A., Scott, I., Staib, A., & Sullivan, C. (2018). Effects of eHealth on hospital practice: synthesis of the current literature. *Australian Health Review. https://doi.org/10.1071/AH17255*

2. Parliament of Australia (2021). *Sustainable funding of health care: challenges ahead.* Retrieved from https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/BriefingBook44p/FundingHealthCare

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4. King, C. (2017). *The Medical Journal of Australia 207(10),* 415-416. Retrieved from https://www.mja.com.au/ journal/2017/207/10/future-health-care-australia

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