

eHealth Strategy 2019 - 2023



About the eHealth Strategy

South West Hospital and Health Service (SWHHS) partners with eHealth Queensland, Health Support Queensland and other digital providers to support the Board's strategic intent through its various strategic objectives as outlined in the SWHHS Strategic Plan 2018 –2022.

Our eHealth Vision

To focus on the health of our communities and to provide an individualised person-centred care experience leveraging innovation and technology.

Our eHealth Purpose

To deliver a uniquely personalised experience for our communities and workforce through the provision of an innovative, safe, effective and sustainable digital environment.

Our Enablers

1. My health, Queensland's future: Advancing health 2026
2. Digital Health Strategy Vision for Queensland 2026
3. eHealth Investment Strategy
4. Digital 1st, Advancing our digital future
5. Queensland Health Architecture Vision
6. eHealth Queensland Digital Innovation Strategy
7. South West Hospital and Health Service Strategic Plan 2018 – 2022
8. Digital Strategy for Rural and Remote Healthcare, 10 year plan
9. Queensland Health Virtual Healthcare Strategy 2021
10. Queensland Digital Clinical Charter, Queensland Clinical Senate.

SWHHS Values

Quality – We strive for excellence and do our best to deliver person centred care

Compassion – We treat people with the same kindness, respect and dignity as we would our own family

Accountability – We are reliable and own what we do and do what we say we will do

Engagement – We work effectively and inclusively with others

Adaptability – We learn, change and grow

SWHHS Priorities

Our Communities

1. People first
2. No preventable harm
3. Close the gap on health inequities

Our Teams

1. Design, attract and retain the future workforce
2. Build strong teamwork and leadership
3. Embrace safe and healthy workplaces

Our Resources

1. Be fiscally responsible
2. Develop fit-for-purpose infrastructure
3. Deliver digital innovation

Our Services

1. Strengthen local collaborative partnerships
2. Deliver the 'Right service, right place, right time'
3. Achieve excellence in future planning and governance.

Our eHealth Opportunities

We aspire to provide each person in our community an individual health record that follows them wherever and whenever they need care and is integrated and accessible by our care partners.

We commit to consultation and feedback from consumers to co-design our eHealth strategies to improve the patient experience and understanding.

We are excited to embrace technology to support our people to more effectively manage their own health journey.

We will be fierce advocates for the care of our people and our communities taking advantage of technology to give them equal access to health services.

We are passionate about delivering excellent and innovative care to our communities and expect reliable, resilient, responsive, standards-based, safe and secure digital systems to underpin all we do.

We ensure our communities receive the best care possible wherever and whenever it is needed by backing our clinical decisions with the best data available.

We embrace innovation and have a unique environment in which digital innovations can be trialled, tested and challenged before broader rollout.

We will leverage the capabilities of our existing ICT and new technologies that are available through projects to upgrade our legacy systems.

Our eHealth Challenges

Community Expectations – Community expectations of a modern, responsive, accessible digital health service are increasing in line with the rapid evolution of consumer ICT; posing significant challenges for the HHS to keep pace.

Policy – Policy change at the Federal / State level often lacks the appreciation of the rural and remote ICT environment which results in a limited ability to fully implement the requirements.

Financial – Escalating costs to support digital technologies and increasing demands upon remote infrastructure may inhibit our ability to leverage new technology for improved clinical service delivery.

Infrastructure – Ageing and inadequate infrastructure limiting our ability to keep pace with digital innovation.

Cybersecurity – The capacity and capability to remain in step with the rapidly evolving ICT security environment and the need to respond quickly, manage wisely and remain ever watchful.

Service Partners – High reliance on external ICT service and support partners to implement, maintain and support our digital infrastructure who are out of step with our digital vision.

Workforce – The capacity and capability of the workforce to embrace digital technologies to enhance care delivered to our communities.

Our Five eHealth Principles

The principles below underpin the eHealth Strategy and align with the Digital Strategy for Rural and Remote Healthcare as identified below.

1. The best outcomes for both the community and the health service will be at the heart of our eHealth future.

People are the focus of our eHealth vision that recognises the environment our communities live in and that technology is critical to support for our people to more effectively manage their own health journey.



Digital Strategy for Rural and Remote Healthcare

- Patient centred, clinically led
- Access to services a fundamental right: No-one left behind

2. As a health service we can be trusted to deliver the best technology experience we can for the community and the health service.

eHealth is a key enabler to care closer to home and will be reliable, resilient, responsive, standards-based, safe and secure. The health service will be backed by the best data available to support our decision making.



Digital Strategy for Rural and Remote Healthcare

- Delivering care closer to home
- Connected services, empowered communities
- Decision support at the point of care

3. Partnership and collaboration are critical to delivering value through technology investment.

Our eHealth future will be co-designed and include cultural input from our First Nations peoples.



Digital Strategy for Rural and Remote Healthcare

- Tells us once, regardless of provider

4. Innovation and new technologies will have a place to incubate and thrive.

Our community expects we will embrace the benefits of digital advancement to continuously keep pace with change.



Digital Strategy for Rural and Remote Healthcare

- Clinicians are supported with the best digital tools

5. Technology investment will deliver best value for money for our community and health service. *eHealth investment will always focus on the best outcomes for both the community and the health service and where possible leverage existing technologies to get the best value from current investment.*



Digital Strategy for Rural and Remote Healthcare

- Leveraging what is already in place

Strategy Development

Context

Following the 2020 Internal Audit by Price Waterhouse Coopers, it was recommended this eHealth Strategy align with the advice provided by the Queensland Government Enterprise Architecture Framework. During the 2020 annual review of the Strategy, alignment was confirmed with the Digital and ICT Strategic planning advice where it states, “An effective digital or ICT strategy or plan provides the organisation with planned approach to adapting to digital disruption and provides a collaborative way of integrating technology strategy into business strategic planning.”

The SWHHS eHealth Strategy 2019 – 2023 aligns below with ‘Digital vision strategy or plan’ depicted below. Noting that the ‘Business strategy or plan’ is the SWHHS Strategic Plan 2018 – 2022.

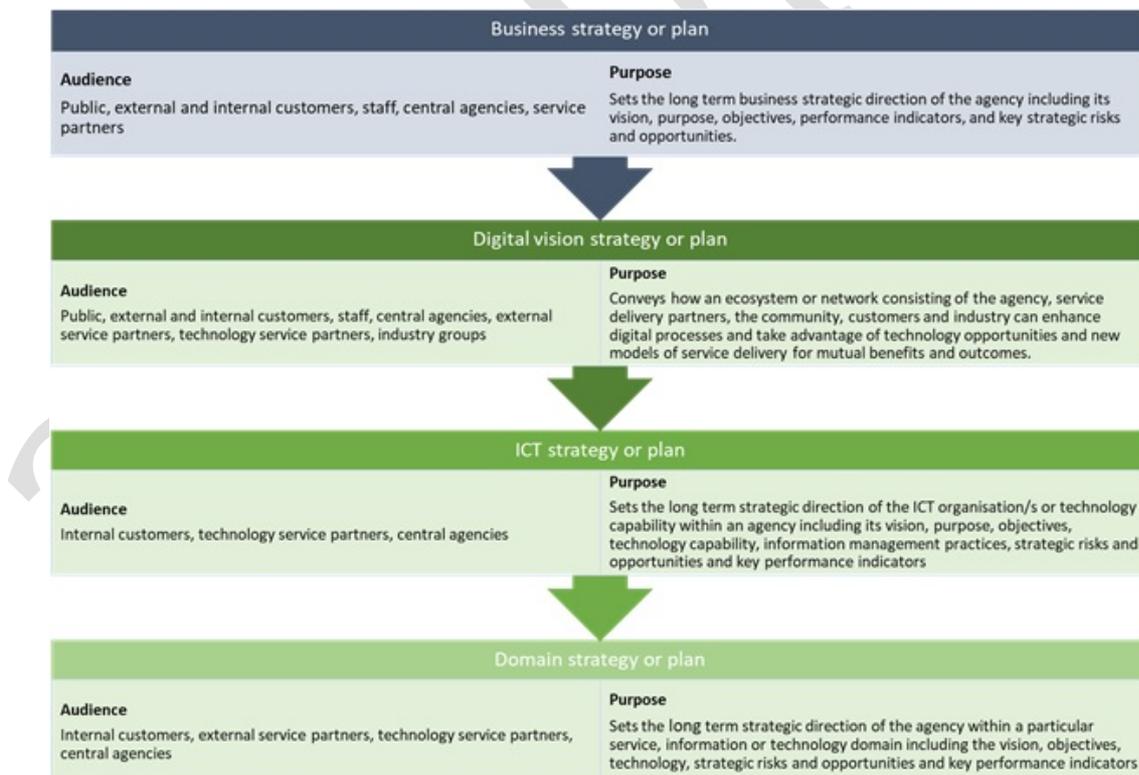


Figure 1 - Hierarchy of business, digital or ICT related strategies or plans¹

¹ <https://www.qgcio.qld.gov.au/information-on/digital-and-ict-strategic-planning/digital-or-ICT-strategy-or-plan>

Three Horizons

A three-horizon approach has been developed for the Strategy, with an annual targeted review and update of the forward horizons to further inform and plan for initiatives as the organisation matures in its approach.

Horizon 1 (2019 – 2021) has been defined as ‘Establishing Enablers’ and is based on the current status and role of ICT in the SWHHS. It focuses on strengthening the integration of core foundations which enhance current performance and ensure the organisation is both culturally and resource ready for Horizon 2 development and implementation.

Horizon 2 (2021 – 2023) has been defined as ‘Advancing Opportunities’ and focusses on leveraging the organisation to the next phase of improvement. Many initiatives will represent systems and capabilities that are not currently within the SWHHS and require preparation work during Horizon 1.

Horizon 3 (2023 and beyond) has been defined as ‘Visionary Innovation’ and looks beyond what may be currently realistic or even possible in how healthcare will be delivered into the future. Many of these initiatives will be informed by disruptive technologies, procedures, and research findings.

Maturity Model

Over time, the maturing and culmination of strategies will support and further cultivate the digital movement. As such, each strategy within a Horizon has been group into a maturity category.

Maturity Level – Foundation Digital Enablers focuses on:

Connectivity LAN, WAN, WiFi, highspeed broadband	CyberSecurity	Identity, Access, Authentication, Protection
Productivity tools	Hardware	ICT support

Clinician quote “the technology needs to just work”

Maturity Level – Core Digital Enablers focuses on:

Patient Administration	Financial Management	Longitudinal health record
Integrated information accessibility	External information sharing	Secure messaging
Telehealth/medicine	Data exchange	Resiliency

GP quote “We must get the ICT basics right”

Maturity Level - Advanced Digital Health focuses on:

Digital primary care	Digital hospital	Digital aged care
Electronic referral	Clinical dashboards	Patient portals

Allied Health quote “I want to feel empowered by technology to deliver connected up care”

Maturity Level 4 - Visionary Digital Health focuses on:

Integrated health care	System-wide information visibility	Virtual health service
In-home monitoring	Video/tele-medicine	Person led, individualised / personalised care

Patient quote “Technology needs to keep pace, so I travel less and feel less isolated”

SWHHS is also jointly working with the University of Queensland, Queensland Digital Health Academy, Department of Health and Healthcare Information and Management Systems Society (HIMSS) on a collaborative research project to baseline digital health and continuity of care maturity, establish a baseline of measures of maturity, develop a methodology to measure digital maturity and a suite of process indicators and outcome measures for digital maturity. The SWHHS Maturity Model and its application to a rural and remote health service such as SWHHS, will provide an invaluable contribution to that research work.

Focus areas of the future

In February 2019, the Queensland Clinical Senate released The Queensland Digital Clinical Charter. The Charter was developed to:

- Clearly outline the digital health needs of clinicians to ensure the best outcomes for patients
- Inform and calibrate digital health projects
- Support decision making from a clinical perspective at each stage of the digital program.

The Clinical Senate recommends that the Queensland Digital Clinical Charter is used as a reference point for all digital health programs and aims to ensure that clinician and consumer needs are met, and that digital healthcare investment truly improves the delivery of care.

The SWHHS has leveraged and referred to The Queensland Digital Charter in the development of this eHealth Strategy. The *Digital Strategy for Rural and Remote Healthcare* is soon to be released. This strategy has been aligned with the SWHHS eHealth Strategy including:

- Personalised Care
- Integrated Care
- Virtual Care
- Digital Foundations.

It is anticipated that following the release of the Digital Strategy for Rural and Remote Healthcare, eHealth Queensland will undertake further work to develop an Investment Roadmap and Business Cases for funding initiatives. eHealth Queensland has also established the Rural and Remote Digital Committee and will endorse a workplan in early 2021. Although, this document identifies potential funding sources, they may change once initiatives are funded through eHealth Queensland’s Business Case process.

Review

This eHealth Strategy will be reviewed annually and will be endorsed by the Board annually. The purpose of the review is to refresh the horizons to enable the HHS to be agile with technology change, remain at the front of thought leadership and embrace any funding opportunities as they arise.

Horizon 1 2019 – 2021
Establishing enablers

Visionary Digital Health

- Provide rural and remote input to QH strategy development and implementation
- Participate in Whole of Government technology innovation
- Align one patient record initiatives at a HHS, QH and health ecosystem level including Health Pathways and other Primary Health Network initiatives
- Commence planning activities for mobile technologies such as Hospital in the Home, smart devices for clinicians, in-home monitoring, wearables, remote point of care devices, etc
- Embrace opportunities for 'next wave' of innovative digital initiatives to enable care closer to home, improve health literacy and virtual care

Advanced Digital Health

- Plan for implementation of HHS-wide primary care and aged care systems
- Implement HHS-wide Smart Referrals
- Implement patient experience monitoring software to capture patient satisfaction/experience measures i.e., Qualtrics
- Plan for update to Patient Flow Manager
- Implement travel management technology
- Prepare HHS systems to send data to The Viewer and My Health Record

Core Digital Enablers

- Implement new or enhance existing telehealth in an increased number of clinical contexts enabled by an uplift in telehealth support and skills in MS Teams/ QH Telehealth and other tele-technologies e.g., telerehab, teledental
- Support community transition to new technologies for enhanced engagement models e.g., virtual community wellbeing opportunities
- Understand the use of email and text messaging to support care delivery
- Understand data quality and single patient electronic record standards to enable one patient record view with common data definitions, consistent coding and workflows
- Participate in the implementation of financial and workforce management systems
- Contribute to the preparation activities for the implementation of replacement enterprise systems e.g., Enterprise Integration Platform upgrade

Foundation Digital Enablers

- Implement resilient infrastructure for single HHS instance of Best Practice
- Digital initiatives as a part of the new Roma Hospital e.g., digital theatre, digital sterilisation system, smart technologies
- Assess options for rural and remote ICT support through strategic partnerships with eHQ and greater collaboration with other HHSs
- Assess WiFi footprint across the HHS including clinical and non-clinical expansion e.g., acute hospitals, remote clinics, staff accommodation
- Identify connectivity challenges and develop a plan to increase capacity for future growth e.g., alternate connectivity options
- Measure quality of all connectivity to improve performance e.g., LAN, WAN, WiFi
- Assess connectivity redundancy for acute care sites i.e., secondary WAN links to keep a site connected in network outage
- Understand current use of mobile technologies for optimisation opportunities e.g., photos for wounds, store and forward, critical injuries
- Scope the implementation of an Information Security Management System
- Implement cyber security requirements in new systems i.e., single sign-on and multifactor authentication
- Align with cyclical upgrade approach for workstations, devices, operating systems and productivity tools
- Develop tools required to monitor ICT expenditure

Horizon 2 2021 – 2023
Advancing opportunities

Visionary Digital Health

- Plan for a platform for an individual care record that shares care information with our care partners including real-time notifications i.e., aggregation platform
- Investigate available technologies for shared care pathways and nurse navigation
- Continue to implement in-home monitoring, remote point of care devices, virtual health care and related video consultations
- Publish clinically-approved apps for community wellbeing
- Explore technology-enabled opportunities e.g., digital dental vouchers, digital diagnostics

Advanced Digital Health

- Implement Best Practice at Wallumbilla, Bollon enabling a HHS wide Primary Care system
- Extend the use of a digital aged care record at MPHS's
- Implement next stage of Smart Referrals i.e., general practice
- Review and implement clinical quality dashboards e.g., PROMS, PREMS
- Implement upgrade to Patient Flow Manager hardware and software
- Implement feeds from HHS systems to The Viewer and My Health Record e.g., primary care, aged care
- Implement Business Intelligence Framework migrating existing dashboards and enabling new leveraging HHS data holdings for greater evidence based, data driven decision making, performance reporting, financial measures, clinical quality, safety and patient outcomes, trend analysis
- Leverage Business Intelligence Framework to improve forecasting and demand management and to enable risk stratification and targeted health strategies for chronic disease, evidence-based recall systems

Core Digital Enablers

- Continue to implement video consultation tools for improved care closer to home for both clinician and patient
- Implement Client Directory/The Viewer for Wallumbilla, Bollon and Morven
- Align to approach for secure clinical email and increased efficiencies through messaging e.g., appointment confirmations
- Achieve KPIs for delivery of electronic discharge summaries
- Explore clinical decision support systems to increase quality and safety at the point of care
- Plan for and implement new enterprise systems e.g., Springboard, rostering, staff safety

Foundation Digital Enablers

- Implement renewed rural and remote ICT support and services model
- Increase WiFi footprint across the HHS including clinical and non-clinical expansion i.e., General Practice and staff accommodation
- Implement uplift in infrastructure to support telehealth and virtual care delivery e.g., fit for purpose screens
- Implement upgrades to improve connectivity performance and resiliency including 4G routers, satellite backup links and redundant power
- Implement cyber security technologies including vulnerability scanning, whitelisting, privilege access management, single sign-on and multifactor authentication
- Align with cyclical upgrade approach for workstations, devices, operating systems and productivity tools
- Develop a framework for monitoring ICT expenditure to achieve savings on underutilised ICT
- Commence the implementation of the Information Security Management System
- Develop 'One environment' server strategy to ensure HHS server infrastructure is hosted, resilient, secure and supported rather than locally i.e., minimise locally located servers

Horizon 3 2023 and beyond
Visionary innovation

Visionary Digital Health

- Continue to leverage digital solutions that support alternative care models to reduce staff travel and increase efficiencies e.g., wearables, smart devices, precision medicine, genomics, AI/machine learning, virtual reality for therapeutic support
- Scan the market to leverage innovative technology advancements to deliver care as close as possible to the home regardless of modality
- Analytics to move from descriptive to predictive and prescriptive care models toward a more predictive/preventative model of care
- Explore partnerships to utilise data for predictive individual healthcare leveraging analytical algorithm technology to enable personalised care and early identification of patients at risk of chronic disease e.g., Primary Sense
- Explore approach to implement Digital Dispensary and robotics where relevant
- Investigate viability of drone delivery for vulnerable patients' medications during floods
- Investigate options for robotics to support tele-surgery
- Explore potential use of ingestibles, implantables and other virtual models of care
- Identify research initiatives to support enhanced care for rural and remote communities e.g., skin cancer monitoring technology

Advanced Digital Health

- Plan for the implementation of an acute care electronic medical record including e-prescribing and medications management
- Leverage expanded read-only access to ieMR to ensure increased use resulting in greater access to information for care delivery
- Optimise the use of existing electronic records to improve quality, safety and community experience
- Streamlined consent for the use of data in clinical research
- Promote expanded use of The Viewer including increased access and visibility of 13HEALTH summaries
- Consolidate business intelligence and data holdings aligned with a data analytics and business intelligence strategy
- Implement improved information accessibility and exchange with partners e.g., RFDS

Core Digital Enablers

- Implement digital elective form for all hospital admissions
- Enhance data analytics and business intelligence capacity and capability
- Increase use of telehealth and virtual care to enable care closer to home

Foundation Digital Enablers

- Implement satellite network backup links for all Primary Health Clinics and sites with 000 buttons/clinic based ambulance
- Remain in step with connectivity technologies to deliver high speed, reliable, resilient digital connectivity
- Finalise WiFi uplift across the HHS
- Where possible leverage software-as-a-service, cloud-based systems or eHQ hosted environments
- Single sign-on, multifactor authentication and vulnerability scanning active on all clinical applications
- Implement mobile devices for direct care clinicians
- Align with cyclical upgrade approach for workstations, devices, operating systems and productivity tools
- Continue the implementation of the Information Security Management System

Capacity Planning

- Develop a framework for digital governance, risk management, investment decisions and ICT change management
- Develop and test a digital Disaster Recovery/Business Continuity plan (or integrate with existing plans)
- Develop a digital literacy plan to increase preparedness for the digital era for our staff and our communities
- Undertake an ICT audit and delivery an ICT asset lifecycle plan

Our eHealth Roadmap

\$ = potential source of funding

Capacity Planning				2019 – 2023	
Maturity level	Description	Who	By when	Performance indicator outcome	
Underpinning all levels	Develop a framework for digital governance, risk management, investment decisions and ICT change management	HHS (\$)	June 2023	Review current ICT governance Develop revised digital governance framework including areas such as: <ul style="list-style-type: none"> Digital safety, risk and audit Information management, data quality and stewardship Digital security, reliability and resilience Digital innovation Digital competency and organisational capability Digital change management i.e., software changes/upgrades Digital investment and asset management 	
	Develop and test a Digital Disaster Recovery/Business Continuity plan (or integrate with existing plans)	HHS (\$)	June 2023	Assess Digital Disaster Recovery/Business Continuity maturity Develop and deliver a Digital Disaster Recovery/Business Continuity Plan (DRP/BCP) or integrate with existing plans Test effectiveness of DRP/BCP Schedule annual review and test	
	Develop a digital literacy plan to increase preparedness for the digital era for our staff and our communities		HHS (\$)	June 2023	Identify a digital literacy assessment framework Develop and conduct digital literacy survey Co-design a workforce digital literacy uplift plan Implement plan
			HHS (\$)	June 2023	Identify a digital literacy assessment framework Develop and conduct digital literacy survey Co-design a community digital literacy uplift plan Implement plan
			HHS (\$)	June 2023	Implementation of next level workforce plan Review effectiveness and prepare for next level
	Undertake an ICT audit and delivery an ICT asset lifecycle plan		HHS (\$)	June 2022 and ongoing	Undertake ICT audit Identify gaps, redundant/lazy ICT assets
			HHS (\$)	Dec 2021 and ongoing	Develop an ICT asset lifecycle plan Annual update of ICT audit Annual update of ICT lifecycle plan

Horizon 1 – Establishing Enablers				2019 – 2021
Maturity level	Description	Who	By when	Performance indicator outcome
Visionary Digital Health <ul style="list-style-type: none"> • Integrated health care • Person led, individualised / personalised care • Virtual health service • In-home monitoring • Video/tele-medicine • System-wide information visibility 	Provide rural and remote input to QH strategy development and implementation	HHS eHQ CEQ	June 2021 and ongoing	Participation in the development of the rural and remote digital strategy led by eHealth Queensland (eHQ) Participating in the eHQ Rural and Remote Digital Committee Contribution to the Rural and Remote Clinical Network and Clinical Senate ICT strategies Participation in Working Groups for rural and remote digital enablement
	Participate in Whole of Government (WOG) technology innovation	HHS eHQ	June 2021 and ongoing	Contribute to WoG and eHQ technology innovation opportunities
	Align one patient record initiatives at a HHS, QH and health ecosystem level including Health Pathways and other Primary Health Network (PHN) initiatives	HHS eHQ PHN Other	June 2021 and ongoing	Contribute to and align with the development of integrated care initiatives that bring care closer to the home through working with PHN and QH initiatives Identify key initiatives that add value to the one patient record, one patient experience ambitions Plan for the implementation/leveraging of those initiatives Implement Review and enhance as required
	Commence planning activities for mobile technologies such as Hospital in the Home, smart devices for clinicians, in-home monitoring, wearables, remote point of care devices, etc	HHS (\$)	June 2021 and ongoing	Market scan of technologies to identify opportunities that will add value to the HHS leveraging learnings from elsewhere in the market Deliver proof of concept trials Evaluation proof of concept trials Plan for whole of HHS implementation Prepare Business Case as required Implement solution
	Embrace opportunities for 'next wave' of innovative digital initiatives to enable care closer to home, improve health literacy and virtual care	HHS (\$) eHQ CEQ Other	June 2021 and ongoing	Contribute to Department of Health planning activities Regular scan of potential opportunities and assess for potential Prepare project brief/business case for any opportunities to be progressed
Advanced Digital Health <ul style="list-style-type: none"> • Digital primary care • Digital hospital • Digital aged care • Electronic referral • Clinical dashboards • Patient portals 	Plan for implementation of HHS-wide primary care and aged care systems (including Business Case as required)	HHS (\$)	June 2021	Leverage the implementation of new architecture for Best Practice to enable HHS-wide benefits realisation Assess the potential for the migration of Medical Director site to Best Practice Assessment of the RiVeR project to determine if appropriate for SWHHS Plan for rollout of LeeCare to remaining residential aged care beds i.e., Waroona, MPHSS Establish governance for primary care information systems Consider governance for aged care information systems
	Implement HHS-wide SmartReferrals	HHS (\$) CEQ (\$)	June 2022	Finalise HHS-wide implementation for Stage 1 (state funded, may attract a levy)

Horizon 1 – Establishing Enablers **2019 – 2021**

Maturity level	Description	Who	By when	Performance indicator outcome
				Implement State 2 General Practice (state funded, may attract a levy)
	Implement patient experience monitoring software to capture patient satisfaction/experience measures i.e., Qualtrics	HHS (\$)	June 2020	Develop an approach to using capturing patient experience measures Prepare Business Cas as required Select approach/system Implement system
	Plan for update to Patient Flow Manager	HHS (\$)	June 2021	Develop Business Case for implementation of new infrastructure, underlying database software and upgraded software version Implement
	Implement travel management technology	HHS (\$) DoH (\$)	June 2021	Implement Patient Travel Subsidy System (PTSS) (state-funded, may attract a levy)
	Prepare HHS systems to send data to The Viewer and My Health Record	HHS (\$) eHQ	June 2021	Review capability of Best Practice, Lee Care and other relevant clinical applications to feed data to The Viewer and My Health Record
Core Digital Enablers <ul style="list-style-type: none"> • Patient Administration • Financial Management • Longitudinal health record • Integrated information accessibility • External information sharing • Secure messaging • Telehealth/medicine 	Implement new or enhance existing telehealth in an increased number of clinical contexts enabled by an uplift in telehealth support and skills in MS Teams/ QH Telehealth and other tele-technologies e.g., telerehab, teledental	HHS (\$)	June 2021	Develop a plan for use of telehealth in clinical settings beyond specialist encounters and to include intra-HHS sessions and in-home telehealth sessions Review deployment of TEMSU and ensure in-ceiling cameras are implemented at all sites Prepare Business Case as required (HHS funded activity which may incur additional eHQ levies)
	Support community transition to new technologies for enhanced engagement models e.g., virtual community wellbeing opportunities	HHS (\$)	June 2021	Identify opportunities for new technologies to that will enhance community engagement Leverage existing or identify new systems as require Develop Business Case if investment is required Implement
	Implement Client Directory integration for remaining non-acute sites i.e., Wallumbilla, Bollon, Morven	HHS	June 2021	Undertake site data preparation activities Work with eHQ to test and implement
	Understand the use of email and text messaging to support care delivery	HHS (\$) eHQ (\$)	June 2021	Conduct a survey of use of email and text messaging to support care delivery Work with eHQ to develop and implement updated guidelines for secure use of email and text messaging (potentially part-funded by eHQ as a part of the implementation of the Information Security Management System)
	Understand data quality and single patient electronic record standards to enable one patient record view with common data definitions, consistent coding and workflows	HHS (\$) eHQ DoH	June 2021	Undertake a review of the data quality standards relevant to the HHS Determine if alignment for data definitions, coding, terminologies is required (whilst eHQ and DoH provide much of the above, the alignment challenge is one for the HHS to implement which will require funding)
	Participate in the implementation of financial and workforce management systems	HHS (\$) DoH (\$)	June 2021	Implement FSR across the HHS in collaboration with HSQ (state-funded may attract a levy) Implement state-funded MyHR across the HHS in collaboration with DoH (state-funded may attract a levy)

Horizon 1 – Establishing Enablers				2019 – 2021
Maturity level	Description	Who	By when	Performance indicator outcome
	Contribute to the preparation activities for the implementation of replacement enterprise systems e.g., Enterprise Integration Platform upgrade	HHS (\$) eHQ (\$)	June 2021	Participate in the eHQ migration of integration from current Integration Platform to new enterprise integration engine (state-funded may attract a levy)
Foundation Digital Enablers <ul style="list-style-type: none"> • Connectivity • Cybersecurity • Identity, access, authentication, protection • Productive tools • Hardware 	Implement resilient infrastructure for single HHS instance of Best Practice	HHS	June 2021	Analyse infrastructure requirements aligned with business need Develop architecture design Develop Project Plan/Brief/Business Case for approval Implement Implement Best Practice Infrastructure Improvement initiative (BP-II)
	Digital initiatives as a part of the new Roma Hospital e.g., digital theatre, digital sterilisation system, smart technologies	HHS (\$) DoH (\$)	Dec 2020	Included as a part of the new Roma Hospital build Participate in implementation including governance oversight and commissioning
	Assess options for rural and remote ICT support through strategic partnerships with eHQ and greater collaboration with other HHSs	HHS (\$) eHQ	June 2021 and ongoing	Contribute to the revision of the eHQ Support Services Agreement Establish a support model for primary care information systems which will be fee for service or levied Conduct a landscape analysis of IT units in smaller HHSs Develop a model for a collaborative IT unit for rural and remote HHSs
	Assess WiFi footprint across the HHS including clinical and non-clinical expansion e.g., acute hospitals, remote clinics, staff accommodation	HHS (\$) eHQ	June 2021	Undertake a landscape analysis to determine gaps in current coverage Identify sites requiring further works Develop implementation/upgrade plan Secure funding Implement
	Identify connectivity challenges and develop a plan to increase capacity for future growth e.g., alternate connectivity options	HHS (\$)	June 2021 and ongoing	Identify sites with connectivity issues and determine options for future growth
	Measure quality of all connectivity mechanisms to improve performance e.g., LAN, WAN, WiFi	eHQ (\$)	June 2021 and ongoing	Measure WAN, LAN and WiFi performance Contribute to eHQ planning to improve performance of digital connectivity (eHQ to measure, HHS may need to fund improvements)
	Assess connectivity redundancy for acute care sites i.e., secondary WAN links to keep a site connected in network outage	HHS (\$) eHQ	June 2021	Undertake a landscape analysis to determine gaps in current coverage Identify sites requiring further works Develop implementation/upgrade plan Secure funding Implement
	Understand current use of mobile technologies for optimisation opportunities e.g., photos for wounds, store and forward, critical injuries	HHS (\$)	June 2021	Audit current use of mobile technologies Analyse requirements for mobile technologies and determine HHS approach for clinical and non-clinical use Plan the implementation of mobile technologies for clinical and non-clinical use Prepare Business Case as required (HHS may need to fund improvements and/or work with eHQ, carrier, whole of government)

Horizon 1 – Establishing Enablers				2019 – 2021
Maturity level	Description	Who	By when	Performance indicator outcome
	Scope the implementation of an Information Security Management System	HHS (\$) eHQ	June 2021	Scope the Information Security Management System in collaboration with eHealth Queensland
	Implement cyber security requirements in new systems i.e., single sign-on and multifactor authentication	HHS (\$) eHQ (\$)	June 2021	Include a cyber security risk assessment as a mandatory requirement for all new systems implemented in the ICT Governance and Decision-Making framework Ensure requirements for single sign-on and multifactor authentication included in any new systems procured by the HHS (HHS may need to fund Active Directory integration and multifactor authentication for non-enterprise applications)
	Align with cyclical upgrade approach for workstations, devices, operating systems and productivity tools	eHQ (\$) HHS (\$)	June 2020 and ongoing	Reduce the number of Windows 7 workstations in the HHS Ensure all new systems implemented align with eHQ's digital policies Participate in cyclical upgrade activities led by eHQ
	Develop tools required to monitor ICT expenditure	eHQ (\$) HHS	June 2020 and ongoing	Work with eHQ to present charging, usage and activity data for levied ICT items to improve visibility i.e., expenditure dashboards Develop separation checklist to ensure unseen ICT levies are deactivated Develop a process for monitoring of ICT expenditure

2022 Update

Horizon 2 – Advancing opportunities				2021 – 2023
Maturity level	Description	Who	By when	Performance indicator outcome
Visionary Digital Health <ul style="list-style-type: none"> • Integrated health care • System-wide information visibility • Virtual health service • In-home monitoring • Video/tele-medicine • Person led, individualised / personalised care 	Plan for a platform for an individual care record that shares care information with our care partners including real-time notifications i.e., aggregation platform	HHS (\$)	June 2023	Plans for the implementation of an electronic health record for acute facilities
	Investigate available technologies available for shared care pathways and nurse navigation	HHS (\$)	June 2023	Review of technologies available for shared care pathways and nurse navigation and identify implementation approach. Complete implementation of solution to support shared care pathways and nurse navigation
	Continue to implement in-home monitoring, remote point of care devices, virtual health care and related video consultations	HHS (\$)	June 2023	Identify technologies to support in-home monitoring, remote point of care devices, virtual health care and video consultations
	Publish clinically-approved apps for community wellbeing	HHS (\$)	June 2023	Investigate potential apps and technologies for the HHS to publish to support community wellbeing
	Explore technology-enabled opportunities e.g., digital dental vouchers, digital diagnostics	HHS (\$)	June 2023	Investigate potential technologies to enhance care in the South West e.g., digital dental vouchers and digital diagnostics
Advanced Digital Health <ul style="list-style-type: none"> • Digital primary care • Digital hospital • Digital aged care • Electronic referral • Clinical dashboards • Patient portals 	Implement Best Practice at Wallumbilla, Bollon enabling a HHS wide Primary Care system	HHS (\$)	June 2021	Implement Best Practice at Wallumbilla and Bollon
	Extend the use of a digital aged care record at MPHS's	HHS (\$)	June 2023	Rollout of LeeCare across all HHS residential beds
	Implement next stage of Smart Referrals i.e., general practice	CEQ (\$)	June 2023	Participate in technical testing activities with practice management systems Plan for and implement next stage of Smart Referrals
	Implement clinical quality dashboards e.g., PROMS, PREMS	HHS (\$)	June 2022	Review current Qualtrics system and determine if migration to PROMS and PREMS system will add value Implement PROMS and PREMS system if benefits case is sound
	Implement upgrade to Patient Flow Manager hardware and software	HHS (\$)	June 2022	Implement new version and new infrastructure for Patient Flow Manager
	Implement feeds from HHS systems to The Viewer and My Health Record and promote same e.g., primary care, aged care	HHS (\$)	June 2023	Best Practice sending appropriate data to The Viewer and My Health Record Lee Care sending appropriate data to The Viewer and My Health Record
	Implement Business Intelligence Framework migrating existing dashboards and enabling new, leveraging HHS data holdings for greater evidence based, data driven decision making, performance reporting, financial measures, clinical quality, safety and patient outcomes, trend analysis	HHS (\$)	June 2023	Establish a Business Intelligence Framework Commence implementation of the Business Intelligence Framework (A Business Case may be required to migrate existing data holdings over to the eHQ data lake and develop dashboards)
	Leverage Business Intelligence Framework to improve forecasting and demand management and to enable risk stratification and targeted health strategies for chronic disease, evidence-based recall systems			

Horizon 2 – Advancing opportunities				2021 – 2023
Maturity level	Description	Who	By when	Performance indicator outcome
Core Digital Enablers <ul style="list-style-type: none"> • Patient Administration • Financial Management • Longitudinal health record • Integrated information accessibility • External information sharing • Secure messaging • Telehealth/medicine 	Continue to implement video consultation tools for improved care closer to home for both clinician and patient	HHS (\$)	June 2023	Identify opportunities to expand use of video consultation or virtual care to enable care closer to home for the patient
	Implement Client Directory/The Viewer for Wallumbilla, Bollon and Morven	HHS (\$)	June 2023	The Viewer recognizes Wallumbilla, Bollon and Morven
	Align to approach for secure clinical email and increased efficiencies through messaging e.g., appointment confirmations	eHQ (\$) HHS	June 2023	Approach to secure clinical email identified Best Practice messaging for appointment confirmations enabled SMS text messaging approach identified to replace end-of-life MS Outlook gateway
	Achieve KPIs for delivery of electronic discharge summaries	HHS (\$)	June 2023	Achievement of Department of Health Discharge Summary KPI
	Explore clinical decision support systems to increase quality and safety at the point of care	HHS (\$)	June 2023	Scan the market to determine clinical decision support systems that meet the HHSs requirements (Revisit in Horizon 3 once acute care electronic medical records are implemented)
	Plan for and implement new enterprise systems e.g., Springboard, rostering, staff safety	DoH (\$)	June 2023	Implementation of Springboard to support resource recruitment Implementation of IWFM Rostering Implementation of staff safety e.g., personal EPIRBs, vehicle tracking (It is anticipated that DoH will fully fund the implementation of Springboard and IWFM, expectations of ongoing resource requirements must be considered as a key part of the implementation)
Foundation Digital Enablers <ul style="list-style-type: none"> • Connectivity • Cybersecurity • Identity, access, authentication, protection • Productive tools • Hardware 	Implement renewed rural and remote ICT support and services model	HHS (\$)	June 2023	Rural and Remote ICT Unit Concept Brief agreed with the three western HHSs
	Increase WiFi footprint across the HHS including clinical and non-clinical expansion i.e., General Practice and staff accommodation	HHS (\$) eHQ	June 2023	Review all locations requiring WiFi Proposal of WiFi plan for General Practice and Staff Accommodation Implementation of the WiFi plan for General Practice and Staff Accommodation
	Implement uplift in infrastructure to support telehealth and virtual care delivery e.g., fit for purpose screen	HHS (\$)	June 2022	Identify opportunities for additional telehealth infrastructure, obtain funding and implement
	Implement upgrades to improve connectivity performance and resiliency including 4G routers, satellite backup links and redundant power	HHS (\$) eHQ	June 2023	Review wide areas network connectivity across the HHS and provide a Connectivity Improvement Plan Implement Connectivity Improvement Plan
	Implement cyber security technologies including vulnerability scanning, whitelisting, privilege access management, single sign-on and multifactor authentication	eHQ (\$)	June 2023	Implement vulnerability scanning Implement Privilege Access Management Implement Workstation whitelisting Identify HHS systems that require single sign-on (Active Directory) or multifactor authentication Determine other local HHS systems that are at risk

Horizon 2 – Advancing opportunities				2021 – 2023
Maturity level	Description	Who	By when	Performance indicator outcome
	Align with cyclical upgrade approach for workstations, devices, operating systems and productivity tools	eHQ (\$)	June 2023	Support the implementation of regular workstation replacement by eHQ Support the implementation of Windows 10 and MS Office upgrades by eHQ
	Develop a framework for monitoring ICT expenditure to achieve savings on underutilised ICT	HHS (\$)	June 2023	Build further on data visibility with eHQ to add to existing dashboards to monitor excessive unnecessary spend Continue to build intranet resources to assist cost centre managers control ICT spend Commence implementation of an ICT asset business justification/approval process
	Commence the implementation of the Information Security Management System	HHS (\$)	June 2022 and ongoing	Following on from Horizon 1 where the scope of the implementation was determined, commence implementation
	Develop 'One environment' server strategy to ensure HHS server infrastructure is hosted, resilient, secure and supported rather than locally i.e., minimise locally located servers	HHS	June 2022	Develop and publish 'One environment' policy Undertake a landscape analysis of all servers Forecast future requirements Set the strategic direction for the approach for server environments for the HHS Publish direction on HHS intranet, communicate with EDTC and include in ICT asset planning

Horizon 3 – Visionary innovation				2023 and beyond
Maturity level	Description	Who	By when	Performance indicator outcome
Visionary Digital Health <ul style="list-style-type: none"> • Integrated health care • System-wide information visibility • Virtual health service • In-home monitoring • Video/tele-medicine • Person led, individualised / personalised care 	Continue to leverage digital solutions that support alternative care models to reduce staff travel and increase efficiencies e.g., wearables, smart devices, precision medicine, genomics, drones, AI/machine learning, robotics, big data, virtual reality for therapeutic support	HHS (\$) eHQ (\$)	June 2023 and ongoing	Market scan Use of innovation framework to explore potential projects Collaborate with eHQ on their innovation initiatives Undertake proof of concept initiatives Assess outcomes Plan for HHS-wide rollouts Prepare Business Case as required Both eHQ and HHS will need to invest to achieve these outcomes
	Scan the market to leverage innovative technology advancements to deliver care as close as possible to the home regardless of modality	HHS (\$)	June 2023 and ongoing	Market scan Use of innovation framework to explore potential projects Collaborate with eHQ on their innovation initiatives Undertake proof of concept initiatives Assess outcomes Plan for HHS-wide rollouts Prepare Business Case as required
	Analytics to move from descriptive to predictive and prescriptive supporting a predictive/preventative model of care	HHS (\$)	June 2023 and ongoing	Undertake a review to determine where analytics can add value to clinical decision support with a view to predictive capability Determine HHS approach Develop Business Case to implement
	Explore partnerships to utilise data for predictive individual healthcare leveraging analytical algorithm technology to enable personalised care and early identification of patients at risk of chronic disease e.g., Primary Sense	HHS (\$)	June 2023 and ongoing	Undertake a review to determine where data intelligence and predictive analysis can add value to individual personalized care with a view to algorithmic predictive capability Determine HHS approach Develop Business Case to implement
	Explore approach to implement Digital Dispensary and robotics where relevant	HHS (\$)	June 2023 and ongoing	Collaborate with Clinical Excellence Queensland Undertake proof of concept initiatives Assess outcomes Plan for HHS-wide rollout where relevant Prepare Business Case as required
	Investigate viability of drone delivery for vulnerable patients' medications during floods	HHS (\$)	June 2023 and ongoing	Market scan of opportunities, partners and funding Prepare proposal documentation (or support partners where relevant) Support implementation of trials, pilots or research to ultimately support implementation or ability to leverage drone technology as a service
	Investigate options for robotics to support tele-surgery	HHS (\$)	June 2023 and ongoing	Market scan of opportunities, partners and funding Prepare proposal documentation (or support partners where relevant) Support implementation of trials, pilots or research to ultimately support implementation or ability to leverage drone technology as

Horizon 3 – Visionary innovation				2023 and beyond
Maturity level	Description	Who	By when	Performance indicator outcome
				a service
	Explore potential use of ingestibles, implantables and virtual critical care	HHS (\$)	June 2023 and ongoing	Market scan of opportunities, partners and funding Prepare proposal documentation (or support partners where relevant) Support implementation of trials, pilots or research to ultimately support implementation or ability to leverage drone technology as a service
	Identify research initiatives to support enhanced care for rural and remote communities e.g., skin cancer monitoring technology	HHS (\$)	June 2023 and ongoing	Market scan of opportunities, partners and funding Prepare proposal documentation (or support partners where relevant) Support implementation of trials, pilots or research to ultimately support implementation or ability to leverage drone technology as a service
Advanced Digital Health <ul style="list-style-type: none"> Digital primary care Digital hospital Digital aged care Electronic referral Clinical dashboards Patient portals 	Plan for the implementation of an acute care electronic medical record including e-prescribing and medications management	eHQ (\$) HHS (\$)	June 2023 and ongoing	Participate in review of potential electronic medical records for rural and remote acute care (Investment required of HHSs is presently unknown)
	Leverage expanded read-only access to ieMR to ensure increased use resulting in greater access to information for care delivery	eHQ (\$)	June 2023 and ongoing	Leverage opportunity when eHQ implements read-only ieMR once trials/business cases are approved
	Optimise the use of existing electronic records to improve quality, safety and community experience	HHS (\$)	June 2023 and ongoing	Leverage new application governance committees to review existing systems and develop application roadmap including optimization opportunities for approval by EDTC
	Streamlined consent for the use of data in clinical research	HHS (\$)	June 2023 and ongoing	Undertake an analysis of consent models in use across the HHS for use of data for clinical research Determine strategy for collection of consent Develop business case to implement electronic capture of consent
	Promote expanded use of The Viewer including increased access and visibility of 13HEALTH summaries	eHQ (\$)	June 2023 and ongoing	eHQ will implement the enhanced access and functionality of The Viewer The HHS will promote and support these enhancements across the HHS to ensure increased use resulting in greater access to information for care delivery
	Consolidate business intelligence and data holdings aligned with a data analytics and business intelligence strategy	HHS (\$)	June 2023 and ongoing	Following on from Horizon 2, continue implementation of the data analytics and business intelligence strategy
	Implement improved information accessibility and exchange with partners e.g., RFDS	HHS (\$)	June 2023 and ongoing	Work with RFDS to improve information exchange between primary care and emergency systems Enable improved access to QH systems in relevant Primary Health Clinics to support enhanced care for SWHHS patients
Core Digital Enablers	Implement digital elective form for all hospital admissions	HHS (\$)	June 2023 and ongoing	Implement eHQ's electronic elective form system in all acute care facilities

Horizon 3 – Visionary innovation				2023 and beyond
Maturity level	Description	Who	By when	Performance indicator outcome
<ul style="list-style-type: none"> • Patient Administration • Financial Management • Longitudinal health record • Integrated information accessibility • External information sharing • Secure messaging • Telehealth/medicine 	Enhance data analytics and business intelligence capacity and capability	HHS (\$) eHQ	June 2023 and ongoing	Continue implementation of the Business Intelligence Framework
	Increase use of telehealth and virtual care to enable care closer to home	HHS (\$)	June 2023 and ongoing	Review current use of telehealth Identify areas for further implementation Plan for rollout Prepare Business Case as required Implement
Foundation Digital Enablers <ul style="list-style-type: none"> • Connectivity • Cybersecurity • Identity, access, authentication, protection • Productive tools • Hardware 	Implement satellite network backup links for all Primary Health Clinics and sites with 000 buttons/clinic based ambulance	HHS (\$) eHQ	June 2023 and ongoing	Undertake audit of all Primary Health Clinic sites with 000 buttons and clinic based ambulance to determine requirements Develop project proposal
	Remain in step with connectivity technologies to deliver high speed, reliable, resilient digital connectivity	eHQ (\$)	June 2023 and ongoing	Participate in eHQ's upgrade of digital connectivity Ensure digital connectivity is included in Disaster Recovery and Business Continuity Planning Investigate any performance expectations and uplift as digital capability becomes more embedded in the HHS
	Finalise WiFi uplift across the HHS	HHS (\$)	June 2023 and ongoing	Deliver WiFi networks across the whole HHS Prepare Business Case as required
	Where possible leverage software-as-a-service, cloud-based systems or eHQ hosted environments	eHQ HHS	June 2023 and ongoing	Procurement policies and solution designs to include software-as-a-service, cloud-based systems or eHQ hosted environments as a preference to a physical implementation on servers in the HHS
	Single sign-on Single sign-on, multifactor authentication and vulnerability scanning active on all clinical applications	eHQ (\$) HHS (\$)	June 2023 and ongoing	All critical clinical applications to have single sign-on and multifactor authentication implemented to ensure clinical staff have secure ease of access and versatility across care settings. Vulnerability scanning on servers for all local HHS systems e.g., Best Practice, Patient Flow Manager, Lee Care Prepare Business Case as required for any HHS specific requirements
	Implement mobile devices for direct care clinicians	HHS (\$) eHQ	June 2023 and ongoing	Implement app versions of clinical applications where possible Advocate for eHQ to establish an enterprise image store for photos and other images taken on mobile/point of care devices used to support care i.e., ultrasound
	Align with cyclical upgrade approach for workstations, devices, operating systems and productivity tools	eHQ (\$)	June 2023 and ongoing	Reduce the number of Windows 7 workstations in the HHS Ensure all new systems implemented align with eHQ's digital policies Participate in cyclical upgrade activities led by eHQ
	Continue the implementation of the Information Security Management System	HHS (\$)	June 2023 and ongoing	Following on from Horizon 2 continue implementation

Version Control

Version No	Author / Modified By (title)
1.1	Chief Information Officer, Rural and Remote
2.0 (2020 update)	Chief Information Officer, Rural and Remote
3.0 (2022 update)	Chief Information Officer, Rural and Remote

Approval

HSCE Approval	
Name: Anthony Brown	Title: Health Service Chief Executive
Signature:	Date:

Board Approval	
Name: Karen Tully	Title: Board Chair
Signature:	Date: