

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, eHealth Queensland (soon to be released)
9. Queensland Digital Clinical Charter, Queensland Clinical Senate.

SWHHS Values

10. **Quality** – We strive for excellence and do our best to deliver person centred care
11. **Compassion** – We treat people with the same kindness, respect and dignity as we would our own family
12. **Accountability** – We are reliable and own what we do and do what we say we will do
13. **Engagement** – We work effectively and inclusively with others
14. **Adaptability** – We learn, change and grow

SWHHS Priorities

15. Our Communities

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

16. Our Teams

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

17. Our Resources

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

18. 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.

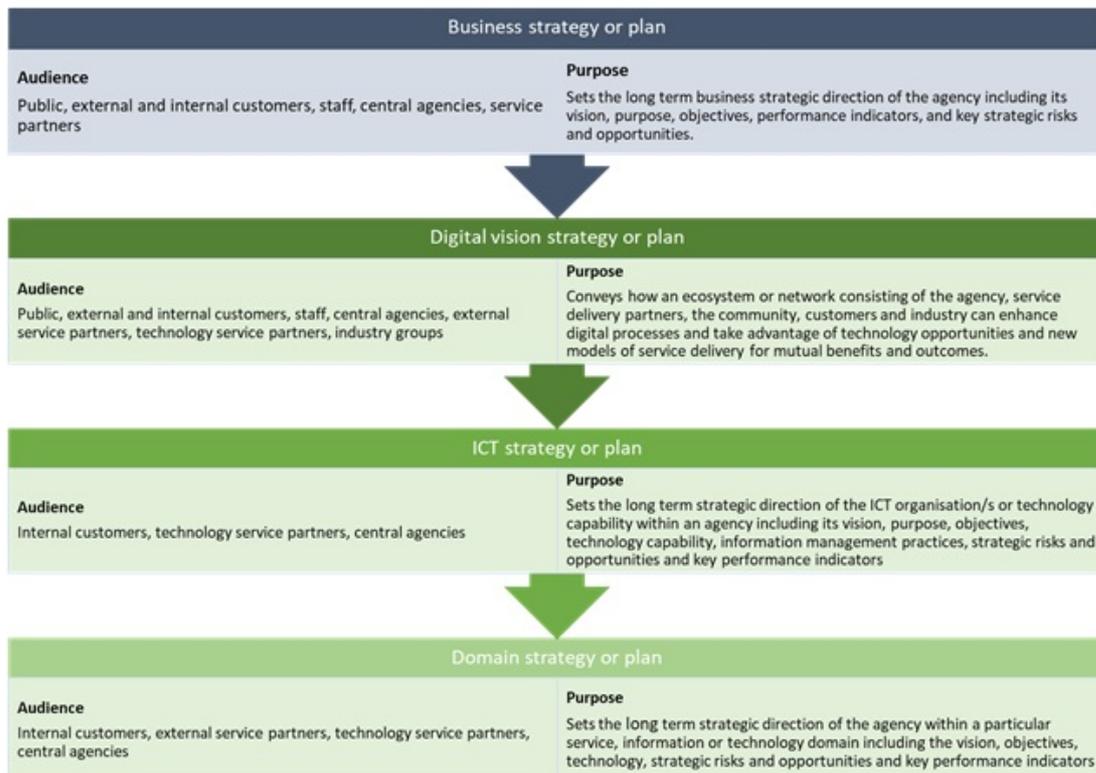


Figure 1 - Hierarchy of business, digital or ICT related strategies or plans¹

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, GoShare 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
- Implement Client Directory integration for remaining non-acute sites i.e., Wallumbilla, Bollon, Morven
- 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

- Develop 'One environment' strategy to ensure HHS server infrastructure is optimised, meets the needs of the HHS and is hosted, resilient and supported
- 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
- Investigate available technologies for shared care pathways and nurse navigation
- Implement technology for in-home monitoring, remote point of care devices, virtual health care and related video consultations
- Explore potential use of ingestibles, implantables and virtual critical care
- Explore an app portal for clinically-approved apps for our community
- Explore technology-enabled opportunities from elsewhere in QH e.g., digital dental vouchers, digital diagnostics

Advanced Digital Health

- Implement a HHS-wide primary care system i.e., Wallumbilla, Bollon
- Extend the use of a digital aged care record i.e., Waroona, 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 and promote same e.g., primary care, aged care
- Undertake a review of HHS data holdings with a view to developing a data analytics and business intelligence strategy to consolidate data sources for greater evidence based, data driven clinical decision making, performance reporting, financial measures, clinical quality, safety and patient outcomes, trend analysis, forecasting
- Leverage data captured in patient flow manager to improve forecasting and demand management through data analytics, scorecards and dashboards
- Leverage data in acute care and primary care systems to enable risk stratification and targeted health strategies for chronic disease, evidence-based recall systems

Core Digital Enablers

- Explore video consultation tools or extension of existing primary care tools or MS Teams for closer integration between clinician and electronic medical record
- Implement The Viewer for Wallumbilla, Bollon and Morven
- Determine approach to secure clinical email and increased efficiencies through text messaging e.g., appointment confirmations
- Improve the delivery of electronic discharge summaries to all HHS general practices
- Explore clinical decision support systems to increase quality and safety at the point of care
- Migrate all data feeds to new integration hub
- Plan for and implement new enterprise systems e.g., Springboard, rostering, e-staff replacement

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 e.g., staff accommodation, remote clinics
- Understand and implement uplift in infrastructure required to increase telehealth and virtual care delivery e.g., fit for purpose screens
- Implement upgrades to connectivity to improve performance
- Implementation of resilient network connectivity including 4G routers, satellite backup links, personal alarms and redundant power
- Migrate existing systems to improved cyber security technologies including server/system vulnerability scanning, single sign-on and multifactor authentication where possible
- 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

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, drones, AI/machine learning, robotics, big data, 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
- Explore approach to implement a Digital Health Hub (Digital Dispensary) aggregating the use of EMR's, telehealth and drone delivery

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 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

Core Digital Enablers

- Deliver digital records for acute, primary and aged care
- 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

- 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: 6. Digital safety, risk and audit 7. Information management, data quality and stewardship 8. Digital security, reliability and resilience 9. Digital innovation 10. Digital competency and organisational capability 11. Digital change management i.e., software changes/upgrades 12. 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 2021	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 2022	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 2020	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, GoShare and other 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 2021	Deliver SmartReferrals across the HHS (state funded, may attract a levy)

Horizon 1 – Establishing Enablers				2019 – 2021
Maturity level	Description	Who	By when	Performance indicator outcome
	Review and implement clinical quality dashboards e.g., PROMS, PREMS	HHS (\$)	June 2021	Implement clinical data dashboards
	Assess and deliver options for clinical dashboards for use at the bedside for evidence based, data driven clinical decision making and improve clinical quality, safety and patient outcomes	HHS (\$) eHQ (\$)	June 2021	Develop an approach to using the enterprise data lakes to provide data dashboard to improve clinical and business decision making Prepare Business Case as required (data lake funded by eHQ, HHS integration with and use of enterprise data lakes requires HHS funding)
	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	Identify any relevant systems that should be sending data to My Health Record and The Viewer Prepare primary care systems to send summaries to My Health Record Investigate sending summaries from LeeCare
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)

Horizon 1 – Establishing Enablers				2019 – 2021
Maturity level	Description	Who	By when	Performance indicator outcome
	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 Undertake a review of the current systems that capture clinical record information Develop requirements for single patient electronic record and a transition/alignment plan Develop roadmap identifying change required to implement alignment Develop business case for implementation (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)
	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 	Develop 'One environment' strategy to ensure HHS server infrastructure is optimised, meets the needs of the HHS and is hosted, resilient and supported	HHS	June 2021	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
	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
	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	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

Horizon 1 – Establishing Enablers				2019 – 2021
Maturity level	Description	Who	By when	Performance indicator outcome
	Measure quality of all connectivity mechanisms to improve performance e.g., LAN, WAN, WiFi	eHQ (\$)	June 2021	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)
	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

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	HHS (\$)	June 2023	Market scan of products that will integrate with our existing systems, those of our care partners and enable data entry from within and outside of the organization Prepare Business Case as required
	Investigate available technologies available for shared care pathways and nurse navigation	HHS (\$)	June 2023	Market scan of products that will enable shared care pathways Prepare Business Case as required
	Implement technology for in-home monitoring, remote point of care devices, virtual health care and related video consultations	HHS (\$)	June 2023	Market scan of technologies to support in-home monitoring, virtual health care and video consultations Deliver a proof of concept trials Evaluation proof of concept trials Plan for whole of HHS implementation Prepare Business Case as required Implement
	Explore potential use of ingestibles, implantables and virtual critical care	HHS (\$)	June 2023	Market scan of technologies to support in-home monitoring, virtual health care and video consultations Consider viability of proof of concept trials and pursue if viable
	Explore an app portal for clinically-approved apps for our community	HHS (\$)	June 2023	Market scan of portals for apps for clinician and community use Contribute to the eHQ work for clinical endorsement of apps for patient use Deliver proof of concept trials Evaluation of proof of concept trials Plan for whole of HHS implementation Prepare Business Case as required
	Explore technology-enabled opportunities from elsewhere in QH e.g., digital dental vouchers, digital diagnostics	HHS (\$)	June 2023	Undertake needs analysis Market scan of relevant technologies Deliver proof of concept trials Evaluation of proof of concept trials Plan for whole of HHS implementation Prepare Business Case as required
Advanced Digital Health <ul style="list-style-type: none"> Digital primary care Digital hospital Digital aged care Electronic referral Clinical dashboards Patient portals 	Implement a HHS-wide primary care system i.e., Wallumbilla, Bollon	HHS (\$)	June 2021	Implement Best Practice at Wallumbilla and Bollon Explore approach to incorporating Medical Director onto the Best Practice environment
	Extend the use of a digital aged care record i.e., Waroona, MPHS's	HHS (\$)	June 2023	Prepare Business Case as required Rollout of LeeCare across all HHS residential beds
	Implement next stage of Smart Referrals i.e., general practice	HHS (\$) CEQ (\$)	June 2023	Participate in technical testing activities with practice management systems Plan for and implement next stage of Smart Referrals (anticipate that CEQ may fully fund, otherwise a Business Case will be required)

Horizon 2 – Advancing opportunities				2021 – 2023
Maturity level	Description	Who	By when	Performance indicator outcome
	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 2021	Upon approval of the Business Case, migrate to eHQ hosted infrastructure, implement new database software, implement upgraded software, migrate historical data and undertake business change management including training.
	Implement feeds from HHS systems to The Viewer and My Health Record and promote same e.g., primary care, aged care	HHS (\$) eHQ	June 2023	Delivery of data feeds to MHR and The Viewer as identified in Horizon 1 following delivery of the Best Practice and LeeCare upgrades
	Undertake a review of HHS data holdings with a view to developing a data analytics and business intelligence strategy to consolidate data sources for greater evidence based, data driven clinical decision making, performance reporting, financial measures, clinical quality, safety and patient outcomes, trend analysis, forecasting	HHS (\$) eHQ	June 2023	Review HHS's current data holdings, platforms, and requirements and other HHSs where synergies may be of value Develop a data analytics and business intelligence strategy that will meet the current and future needs of the HHS (leveraging where possible enterprise offerings i.e., eHQ data lake) Develop a migration plan Implement plan (A Business Case may be required to migrate existing data holdings over to the eHQ data lake and develop dashboards)
	Leverage data captured in patient flow manager to improve forecasting and demand management through data analytics, scorecards and dashboards	HHS (\$) eHQ	June 2023	Upon the approval of the data analytics and business intelligence strategy: Establish a feed of patient flow manager to data lake/business intelligence environment Design and develop dashboards leveraging the data lake (eHQ is implementing data lakes, however the HHS may need to contribute funds for any specific dashboards it requires)
	Leverage data in acute care and primary care systems to enable risk stratification and targeted health strategies for chronic disease, evidence-based recall systems	HHS (\$) eHQ	June 2023	Upon the approval of the data analytics and business intelligence strategy: Establish a feed of patient flow manager to data lake/business intelligence environment Design and develop dashboards leveraging the data lake (eHQ is implementing data lakes, however the HHS may need to contribute funds for any specific dashboards it requires) (Note the Department of Health and PHN are both separately investigating the use of Gold Coast PHN's Primary Sense environment)
	Explore all care delivery systems to share data with The Viewer and My Health Record	HHS (\$)	June 2021	Investigate current clinical systems (Best Practice, LeeCare) for capacity to send summaries to My Health Record and The Viewer Develop a roadmap identifying systems, type of data being shared and delivery timeframes (HHS funded leveraging eHQ capacity)

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 	Explore video consultation tools or extension of existing primary care tools or MS Teams for closer integration between clinician and electronic medical record	HHS (\$)	June 2023	Market scan of video consultation tools that integrate with care records Prepare Business Case as required
	Implement The Viewer for Wallumbilla, Bollon and Morven	HHS (\$)	June 2023	Once Wallumbilla, Bollon and Morven are feeding HBCIS data to Client Directory, educate clinical team regarding the use of The Viewer and approach to visualizing all of QH data to aid care delivery closer to home
	Determine approach to secure clinical email and increased efficiencies through text messaging e.g., appointment confirmations	eHQ (\$) HHS	June 2023	Develop a forward plan for implementation of portals, policies, protocols to securely use email and text messaging for clinical purposes Prepare Business Case as required
	Improve the delivery of electronic discharge summaries to all HHS general practices	HHS (\$)	June 2023	Undertake an EDS audit Determine action plan to uplift performance Implement action plan
	Explore clinical decision support systems to increase quality and safety at the point of care	HHS (\$)	June 2023	Undertake proof of concept initiatives Assess outcomes Plan for HHS-wide rollouts Prepare Business Case as required (Revisit in Horizon 3 once acute care electronic medical records are implemented)
	Migrate all data feeds to new integration hub	eHQ (\$)	June 2023	Work with eHQ to migrate current data feeds over to the new Rhapsody platform
	Plan for and implement new enterprise systems e.g., Springboard, rostering, e-staff replacement	DoH (\$)	June 2023	Participate in the implementation of new enterprise systems as they arise (It is anticipated that DoH will fully fund the implementation, 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	Following on from Horizon 1 options analysis, develop the overall approach to a rural and remote IT Unit and engage the Rural and Remote Digital Committee to oversee/implement and/or the Rural and Remote HSCEs.
	Increase WiFi footprint across the HHS including clinical and non-clinical expansion e.g., staff accommodation, remote clinics	HHS (\$) eHQ	June 2023	Deliver WiFi for in a staged approach for clinical and non-clinical locations including remote clinics and staff accommodation Prepare Business Case as required Secure funding Implement
	Understand and implement uplift in infrastructure required to increase telehealth and virtual care delivery e.g., fit for purpose screens	HHS (\$)	June 2022	Identify locations requiring improved infrastructure i.e., RSQ cameras, wall mounted screens, improved size of screens or new screen/camera/speaker integrated suite for MS Teams

Horizon 2 – Advancing opportunities				2021 – 2023
Maturity level	Description	Who	By when	Performance indicator outcome
	Implement upgrades to connectivity to improve performance	HHS (\$) eHQ	June 2023	Monitor performance of wide area network and upgrade bandwidth as required Continue to work with Telstra to upgrade copper sites and improve performance for locations with significant latency e.g., Mungindi Explore alternate methods of connectivity e.g., nbn SkyMuster or other satellite options
	Implementation of resilient network connectivity including 4G routers, satellite backup links, personal alarms and redundant power	eHQ (\$)	June 2023	Based on the review in Horizon 1, Determine a staged implementation based on priorities Prepare Business Case as required Deliver redundancy for identified priority areas on a cyclical basis until all sites are covered
	Migrate existing systems to improved cyber security technologies including server/system vulnerability scanning, single sign-on and multifactor authentication where possible	eHQ (\$)	June 2023	Work with eHQ to deliver single-sign on/multifactor authentication as identified in Horizon 1 HHS may need to fund if eHQ/vendor has not already integrated the technology into their environment
	Align with cyclical upgrade approach for workstations, devices, operating systems and productivity tools	eHQ (\$)	June 2023	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 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 the implementation of the Information Security Management System	HHS (\$)	June 2022	Following on from Horizon 1 where the scope of the implementation was determined, commence implementation

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 +	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 +	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 +	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	HHS (\$)	June 2023 +	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 a Digital Health Hub (Digital Dispensary) aggregating the use of EMR's, telehealth and drone delivery	HHS (\$)	June 2023+	Market scan Use of innovation framework to explore potential projects Collaborate with eHQ on their innovation initiatives Undertake proof of concept initiatives Asses outcomes Plan for HHS-wide rollout Prepare Business Case as required
Advanced Digital Health <ul style="list-style-type: none"> • Digital primary care • Digital hospital • Digital aged care • Electronic referral • Clinical dashboards 	Plan for the implementation of an acute care electronic medical record including e-prescribing and medications management	eHQ (\$) HHS (\$)	June 2023 +	Participate in eHQ 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+	eHQ obtained agreement from the Rural and Remote Digital Committee to explore the implementation of view only access to ieMR eHQ will develop the business case and investment roadmap

Horizon 3 – Visionary innovation				2023 and beyond
Maturity level	Description	Who	By when	Performance indicator outcome
<ul style="list-style-type: none"> • Patient portals 	Optimise the use of electronic records to improve quality, safety and community experience	HHS (\$)	June 2023 +	Undertake an audit of electronic records and determine if they are fit-for-purpose, require optimization or replacement Establish a forward plan to improve quality, safety and community experience using technology Prepare Business Case as required
	Streamlined consent for the use of data in clinical research	HHS (\$)	June 2023 +	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+	eHQ will implement the enhanced access and functionality of The Viewer The HHS will promote 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 +	Following on from Horizon 2, continue implementation of the data analytics and business intelligence strategy
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 	Deliver digital records for acute, primary and aged care	HHS (\$) eHQ	June 2023 +	Complete rollout of digital records in all acute, primary and aged care
	Enhance data analytics and business intelligence capacity and capability	HHS (\$) eHQ (\$)	June 2023 +	Review current use of data analytics and business intelligence Identify areas for further implementation Plan for rollout Prepare Business Case as required Implement The HHS should leverage any work being undertaken by eHQ, but recognize that it is likely to need to contribute to local requirements
	Increase use of telehealth and virtual care to enable care closer to home	HHS (\$)	June 2023 +	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 	Remain in step with connectivity technologies to deliver high speed, reliable, resilient digital connectivity	eHQ (\$)	June 2023 +	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 +	Deliver WiFi networks across the whole HHS Prepare Business Case as required

Horizon 3 – Visionary innovation				2023 and beyond
Maturity level	Description	Who	By when	Performance indicator outcome
<ul style="list-style-type: none"> Hardware 	Where possible leverage software-as-a-service, cloud-based systems or eHQ hosted environments	eHQ HHS	June 2023 +	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 +	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 +	Implement plan developed in Horizon 2
	Align with cyclical upgrade approach for workstations, devices, operating systems and productivity tools	eHQ (\$)	June 2023 +	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 +	Following on from Horizon 2 continue implementation

Version Control

Version No	Author / Modified By (title)
1.0	Chief Information Officer, Rural and Remote
2.0	Chief Information Officer, Rural and Remote
3.0	Chief Information Officer, Rural and Remote

Approval

HSCE Approval	
Name: Matt Boyd	Title: A/Health Service Chief Executive
Signature:	Date: 11/03/2021

Board Approval	
Name: Karen Tully	Title: Board Chair
Signature:	Date: 11/03/2021