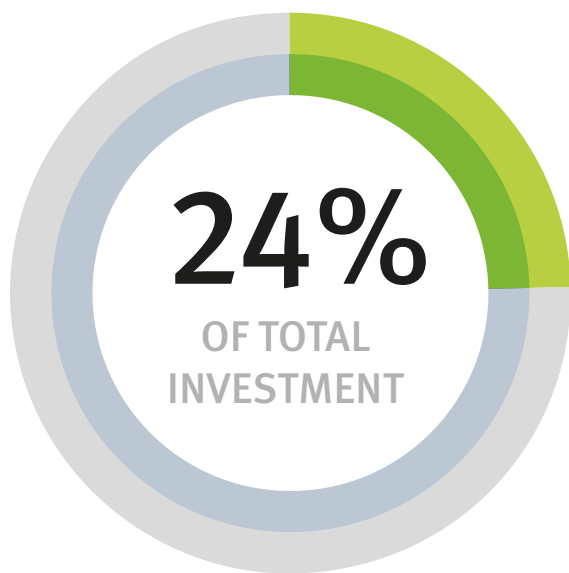


10

ICT infrastructure

\$300 million



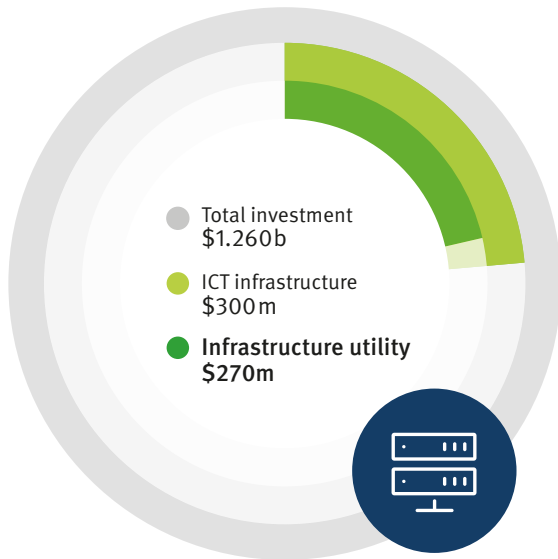
One of the greatest areas of investment need is the renewal and enhancement of core infrastructure. Ageing technology coupled with advancements in healthcare delivery necessitates an ICT environment capable of supporting digital hospitals, with contemporary, responsive and flexible equipment and business tools.

ICT infrastructure components

- Infrastructure utility
- Contemporary desktop



Providing new infrastructure utility



STATEWIDE ACROSS 16 HHSS

Infrastructure utility

- Capital asset renewal.
- Pre-requisite infrastructure required for digital hospital.
- Infrastructure to enable a contemporary platform including identity management.
- Infrastructure to enable and enhance Telehealth.

Years of under investment in ICT and poor ICT project delivery performance has resulted in out-of-date infrastructure, ageing technology, and highly customised and heavily integrated bespoke systems. These are costly to renew and difficult to sustainably support.

Currently, inconsistency in the network speed and connectivity across the regions, coupled to ageing infrastructure and standard operating environments, impedes the ability to innovate and improve services. The uptake of commonly accepted peripheral devices is also limited. The age, stability and scope of ICT capability available also varies greatly between HHSS. ICT infrastructure requirements vary widely across the state ranging from the need to renew and replace, to leveraging the Cloud computing and introducing new capability.

Queensland Health has an increasingly mobile workforce that is largely supported by an immobile technology platform. Some current licensing arrangements tie users to a particular device, resulting in administrative overheads for software licence management and auditing. Mobile devices, remote monitoring of patients, integration with biomedical devices at the bedside and improved access to online patient information and clinicians requires high grade, high availability digital connectivity, supported by appropriate mobile, point of care technologies.

The current state of ICT infrastructure in rural and remote areas impacts health service delivery through poor performance, unplanned outages, the inability to securely share patient information and limited or no access to health systems in some areas. Telehealth and clinical networking are the strategic enablers of healthcare services in rural and remote communities. Queensland Health must guarantee the availability and reach of this model



of care in more isolated communities to provide healthcare as close to the patient's home as possible. Investment in foundation infrastructure will also enable rural and remote HHSs to maximise the advantages offered by emerging technologies, such as the National Broadband Network (NBN).

Improved identity management is required so Queensland Health can accurately and consistently identify the people, organisations and other entities involved in the access and sharing of patient information. Investment in improved identity management will enable Queensland Health to uniquely identify patients and service providers, and improve the integration with national identifier services, such as:

- Medicare's Health Identifier Service
- the National Health Service Directory
- Healthcare Identifier and the PCEHR.

Success will be achieved when we have a stable and reliable ICT infrastructure platform across all regions and communities that support new systems and models of care that provide increased access to healthcare for all Queenslanders.

Benefits

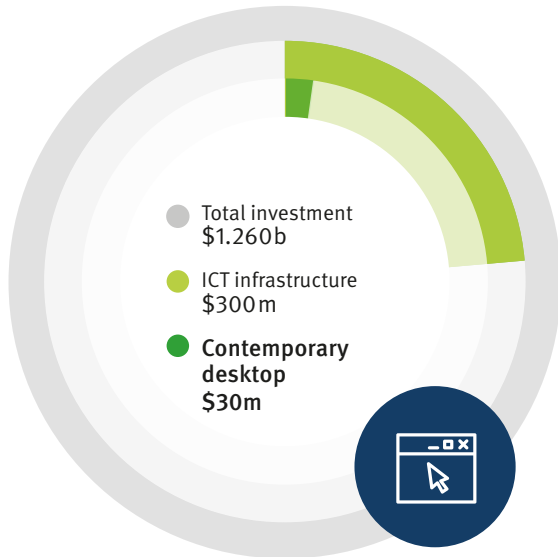
- Healthcare providers can securely share patient clinical records and collaborate on patient care within the HHS and across other providers.
- Reduced unexpected system outages.
- Increased availability of core infrastructure.
- Increased patient safety by consistently identifying a patient across the continuum of care.
- Increased patient privacy through the secure and controlled access and sharing of patient information.

'The lack of WiFi capability in Redcliffe hospital impacts our ability to move forward on many fronts – staff access to clinical information at point of care such as bedside observation and monitoring, decision support, patient support services, clinical audit as well as automated and controlled medication Pyxis. WiFi is a foundational ICT enabler for us and without it we are hamstrung.'

Lexie Spehr

Executive Director,
Redcliffe Hospital and
Director of Nursing

Investing in contemporary business tools



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Contemporary desktop

- Introduction of a cloud-based, integrated device and user productivity suite to enable connectivity and functionality anywhere any time.

Frontline service providers are the face of healthcare and crucial to the delivery of valued, effective, efficient, safe and contemporary healthcare in Queensland. Supporting staff in responsible and timely decision making, providing tools to streamline processes, and reduce time spent on administrative activities will maximise time spent with the patient. A consistent user experience and access to common systems and tools across the healthcare system is necessary to support improvements in clinical practice and business processes.

Queensland Health is committed to recruiting and maintaining a flexible, experienced and supported health workforce. There is an ever-present need to attract and retain the highest-calibre health service professionals who will grow the quality of care. Having an innovative approach to healthcare in an environment where staff are supported with contemporary tools and networked communities of clinical practice are important incentives.

Queensland Health’s desktop environment is ageing. Trends in desktop services and software have changed considerably with the increasing emergence of Cloud-based services. The current desktop environment, based on Microsoft’s Windows XP, is no longer supported and inhibits upgrades to existing clinical and system support applications.



Cloud-based solutions offer an integrated device and user productivity suite that enables the connectivity of information and functionality. Queensland Health has conducted a pilot of Cloud-based services and now needs to provision the connectivity, access and integration of the user productivity suite across the ICT system. Leveraging whole-of-government arrangements in-situ will provide a platform that supports a federated organisational structure.

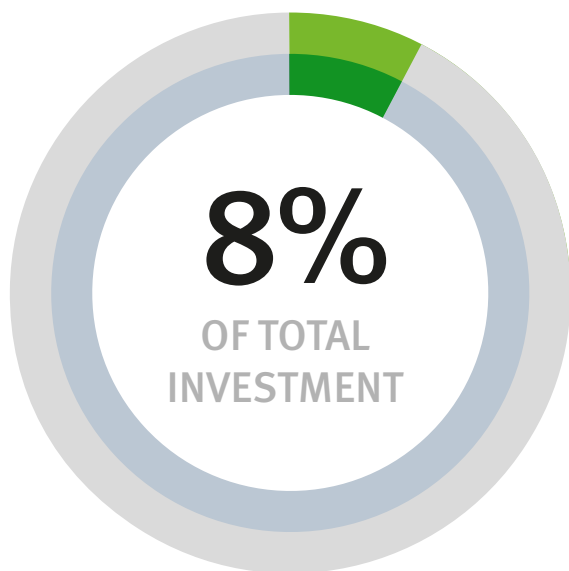
Success will be achieved when we have a flexible and contemporary productivity suite that enables mobility and supports an evolving workforce.

Benefits

- A flexible modern platform for increased user productivity (via device interactions), application modernisation and choice of level of service and device.

Business **systems**

\$100 million

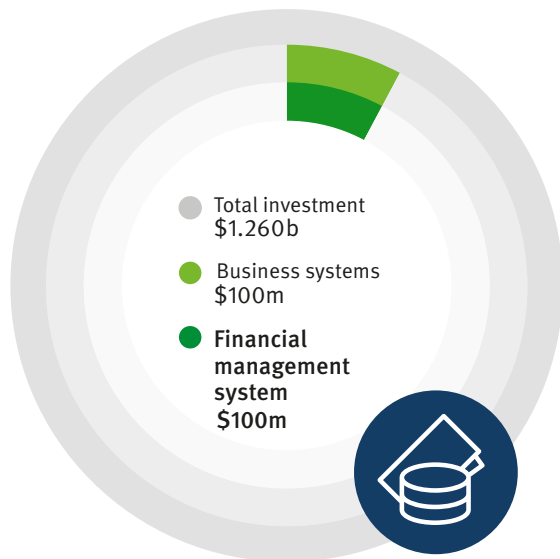


Queensland Health has more than 30 enterprise-wide support systems across the ICT portfolio. High levels of customisation and interfacing have resulted in cumbersome, inflexible systems that no longer support the needs of the health system. A comprehensive review of the risks associated with key systems has prioritised the need for a system wide financial management system.



Renewing and reducing the risk of the financial management system

Financial management system



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Queensland Health uses a customised version of an old Enterprise Resource Planning (ERP) system to support financial and material management functions. The current system is currently provided to all HHSs through a centralised model, but has been unsupported by the vendor under standard support arrangements since 2006.

Implementation of a new financial system provides the HHS network with the ability to access, control, manage and report on their own financial data. This will improve local decision making and mitigate a high strategic system risk within Queensland Health.

The renewal of the financial management system will be a significant investment. Prior to statewide deployment, the solution will be initially implemented at two HHSs and the department.



Success will be achieved when the risk of outdated systems and technology are reduced, and Queensland Health has a proactive plan in place to renew the functions supported by its legacy systems.

Benefits

- Reduced ongoing support and system maintenance costs of legacy systems.
- Increased system integration.

Digital **future**

\$130 million



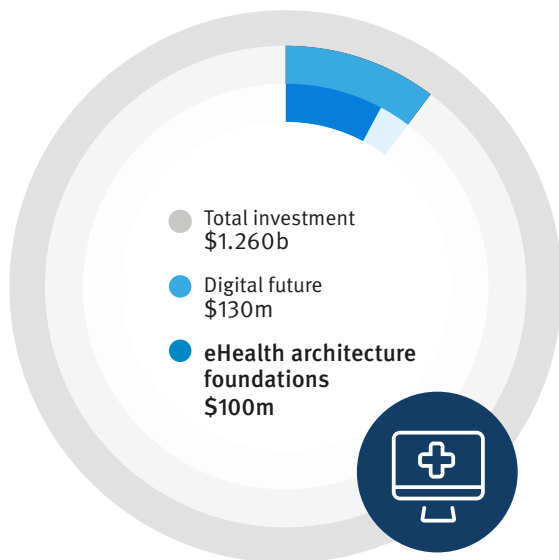
Having access to the right information, at the right time, in the right place is crucial to ensuring quality health service provision and patient safety. Investing in eHealth architecture and information interoperability will develop Queensland Health's ability to accurately, cost-effectively and seamlessly store and share data across the continuum of care.

Digital future

- Information interoperability
- eHealth foundations



eHealth architecture foundations



STATEWIDE ACROSS 16 HHSS

eHealth architecture foundations

Establishment of eHealth foundations to optimise the investment in infrastructure utility and ieMR through associated systems and services, including:

- patient and provider identity
- knowledge hubs
- portals
- business intelligence
- scheduling
- clinical terminology services.

Access to the right information (quality, longitudinal) at the right place (point of care, secure), at the right time (when needed) is key to the provision of high quality, valued healthcare services, improved patient outcomes and reduced patient risk. In addition, the collection, processing, analysis and dissemination of data is fundamental to both operational delivery and health service planning.

Currently, there is a mixed approach to how data is sourced, managed, aggregated and presented for the purpose of analysis and reporting. Many of the processes require manual data handling and manipulation, using standard office tools that detract from time spent on planning and corrective action.

There is a need for clinical data repositories and business intelligence solutions to support research, analytics, and performance monitoring and planning. Contemporary business intelligence solutions coupled with a knowledge hub of health and patient information from multiple sources will enable the capture and analysis of accurate patient, community and healthcare service information. This information will better inform healthcare planning, disease prevention and early intervention with the ability to support disaster and emergency response strategies.



The existence of enterprise data stores and business intelligence solutions will support patient, community and clinician portals by publishing accurate, timely and relevant health information in communities and across the wider health system.

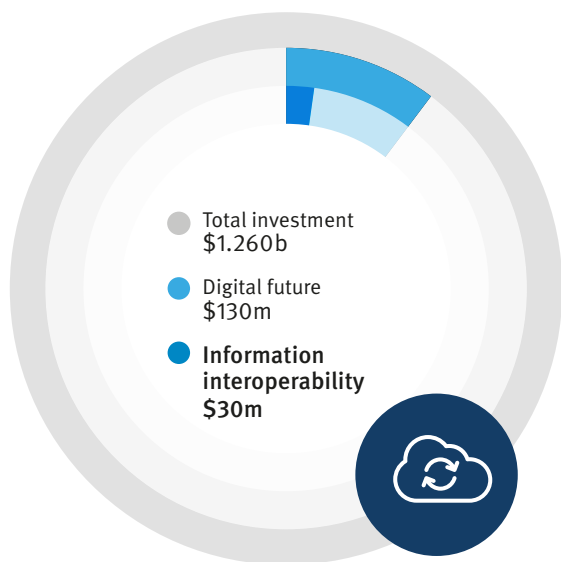
In addition, business intelligence will enhance Queensland Health's ieMR and digital hospital investment by using the large and complex datasets managed by these systems in a meaningful and integrated manner.

Success will be achieved when information to support operational planning and performance reporting is relevant, timely and supports agile operational decision making.

Benefits

- Reduction in labour costs and effort required to manually collect, analyse and report data.
- Proactive and informed decision making based on real time data and predictive analysis.
- Increased access to timely information to support decision making and proactive planning.

Information interoperability



STATEWIDE ACROSS 16 HHSS

Information interoperability

- Introduction of a scalable, reliable and flexible information-sharing capability that allows integration with new and existing systems, across care settings.
- Enhancements to The Viewer application.

Healthcare consumers expect a health system that works cohesively across care settings, between public and private boundaries. This is particularly important when referring or transferring patient care to another provider. Queensland Health needs to build a trusted, secure environment for the sharing of information, images and to consult with others in order to provide higher quality patient outcomes and better quality service provision. Patients will be encouraged to take greater responsibility for their healthcare and planning. In doing so, they will need access to their personal health records, health provider(s) and health service information.

Sharing information between HHSs and other healthcare providers will become increasingly important, as will the consequent need for Queensland Health systems to manage the administration and transfer of patients, clinicians and health information across care settings.



In order to meet current and future information sharing requirements, Queensland Health needs a scalable, information-sharing capability that is open-standards based, reliable, flexible and allows interoperability between new and existing systems (preferably as 'plug-and-play' components). This needs to have minimal fragile and expensive integrations that is also highly-secure to ensure data integrity and protect patient privacy. An information interoperability platform will enable information sharing to be leveraged in a more efficient, flexible and agile manner that will help to reduce costs, improve the quality of patient care, and support technical, corporate and clinical innovation.

Success will be achieved when Queensland Health can share information with individuals, the community and healthcare partners regardless of systems and software.

Benefits

- Improved patient identification and sharing of information with third parties from a trusted source of truth.
- Reduced time and cost to develop and maintain interfaces.
- Improved performance of integration environment by allowing the seamless flow of information between systems.
- Increased ability to share information across the care continuum, including external entities.