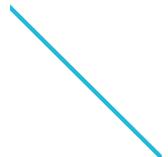


Technology-enabled hospitals of the future



ICT design principles for better clinical outcomes.

Gil Carter, Partner, Cogility

The delivery of health services in Australia and globally is now strongly supported by the use of ICT systems. Technology enables both the clinical and business domains of healthcare, and there is now also an increasing call from health consumers to allow richer interaction with their clinical team through online channels enabled by technology.

However, in all of these developing areas the technical systems must remain as enablers and supporters of better clinical outcomes, and not become an end goal in their own right. To ensure that this balance is kept, it is important to be able to connect proposed technology solutions back to clinical, business or consumer needs, and to align with a benefits equation that leads to better and more efficient health outcomes.

Over many years working in primary and acute care environments, we have developed a set of design principles to capture the approach and thinking on how to select and deliver a solid technical foundation that is reliable, fit for purpose, innovative, cost effective and suits clinical and patient needs into the future.

It is important to be able to connect proposed technology solutions back to clinical, business or consumer needs, and to align with a benefits equation that leads to better and more efficient health outcomes.

Evolutionary, not revolutionary ICT change

Establish an 'evolutionary not revolutionary' trajectory of ongoing ICT change. Take measured steps forward, partnering with vendors of solid products to adopt new technical products that are ready for use in your hospital environments.

Build with a reusable approach.

Hospital facilities are usually built or redeveloped in stages. Make sure that your approach can be replicated, broadened or deepened for additional buildings or redevelopments.

Assess technical needs against current systems

Leverage existing technical capabilities where fit for purpose. How? Develop a brief needs assessment, comparing the delivery/benefit profiles of existing solutions against new systems.

Move proactively towards digital-first

Paper records are a significant issue in healthcare. They can't be easily shared or searched, and they are difficult to store and maintain. A modern hospital should choose digital-first for clinical information, with reduced support for continued scanning of paper records. Clinical ICT systems are a major opportunity for new capabilities in a digital hospital.

Common sharing backbone for information exchange.

Utilise a suitable common information sharing backplane for information exchange. Move towards a simplified set of interfaces and message sharing approaches. Assess whether reducing reliance on proprietary integration engines is feasible, possibly pushing more responsibility of integration to vendors of devices and major platforms.

Simpler technology stack.

Reduce risks with critical systems such as nurse call and duress by moving to a simpler technology stack, or enhance current solution to provide a clearer 'known good' status. Reliably linking up the multitude of technology systems in a hospital can be an ongoing challenge. Consider a simpler ICT approach coupled with a single empowered owner across the systems.

Consumer-centric innovations.

Assess and adopt suitable innovations in high frequency areas such as scheduling of appointments, sharing of results or wayfinding at site. Also consider new channels for communication with the clinical team and patient family members, interfaces and connectivity with community-based care (especially aged care), adoption of new technologies (such as video calls) to allow families to stay in touch with long-stay patients through patient bedsides.

Don't forget Integrated Care.

Plan for ICT systems that are able to support concepts of integrated care with general practice and community care. Consider models such as care pathways that can provide longitudinal coverage of care for older or high needs patients as they move between care settings.

Mobile devices a key part of the technology strategy.

Anticipate and support increased usage of mobile devices, along with a technology strategy that will support and encourage broader use, while maintaining security and privacy. Both clinical and non-clinical information collection and access must be enabled through use of integrated electronic mobile devices.

Let the machines talk.

Medical grade WiFi for more and more connected clinical machines. Expect that the use of wireless networking will continue to rapidly increase, and that future clinical devices such as monitors and pumps will have the capability to robustly share information through suitable medical grade WiFi networks.

End-to-end digital hospital model.

Lead the facility ICT design and implementation planning with an architectural approach that can work to detail in vertical capability areas, such as building management or electronic medical records, but also offer a comprehensive end-to-end model for how the systems will integrate and work together effectively and reliably.

The technical systems must remain as enablers and supporters of better clinical outcomes, and not become an end goal in their own right.



The ongoing lifecycle – technology and systems in action.

Resource an ongoing implementation function that can continue to incrementally develop and refine the technology systems and their operational settings. The intention is to sustain an ongoing capability that will retain knowledge and expertise after commissioning, to work with the design, construction and maintenance partner.

About Cogility

Cogility is a boutique consulting firm that specialises in assisting our clients to develop solutions to complex problems.

Working with large private and public sector organisations, we provide independent trusted advice to the senior executive level in domains ranging from strategy articulation through to program execution.

Our experience spans a broad spectrum of industries, including financial services, digital health, smart cities, utilities and more.

Our work programs have included organisational agility, strategy development, enterprise design, risk management, governance, machinery of government, corporate actions, change and transformation, innovation, digital economy, people, organisation and capability development, sustainability.

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Gil Carter is a partner and principal consultant with boutique consulting firm, Cogility. He is recognised throughout Australia as an expert in the eHealth domain. He has played a key role in a number of projects at the forefront of the design for digital health and hospital services. Gil combines creativity and innovative design thinking with his technical qualifications and has strong skills in major sector reform, program design and delivery. He has spent over twenty years in sectors such as health, education, mining, finance and human service delivery programs.

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