Central Coast Local Health District

Information, Communications and Technology Plan

2016–2020

Version 1.3

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1. Executive Summary

The NSW health sector is undergoing a revolution in the way technology is used to deliver better clinical and operational performance in Local Health Districts. The LHD recognises the need for technology to support improved patient experiences and outcomes.

The last five years have been foundational in the establishment of major clinical systems, such as electronic Medical Records (eMR). The ICT Department has been at the forefront of the delivery of these major clinical systems alongside existing LHD projects and their business as usual (BAU) support of applications and infrastructure.

This is an ideal time to review the way the ICT Department delivers its services to the LHD and reposition the ICT Department as a core enabler for LHD strategic goals. This ICT Plan builds on the foundation of the last five years and defines the technology program of work for the next five years.

The Plan itself is the outcome of extensive consultations and workshops with key ICT users, at all staffing levels and types across a wide range of Clinical and Operational Departments.
The key initiatives will be:

1   Improving how eHealth projects are delivered and received by the LHD;

2   Rationalising service management and project delivery to create more efficiency and greater user satisfaction;

3   Catering for change and providing opportunities for innovation;

4   Creating a more collaborative, responsive and agile ICT Department which aligns and partners with the LHD.

1.1   What has been achieved 2010-2015

The 2010-2015 Plan focused on ICT infrastructure and applications relevant to our LHD's at that time. Over this period ICT has had a focus on strengthening the core/foundational systems and platforms to optimise integration and communication capability across the organisation and enable enhanced care coordination across the Local Health District now and into the future.

The implementation of the series of Cerner electronic Medical Record (eMR applications and Wi-Fi infrastructure capabilities are examples of these core systems). These foundational systems are key strategic priorities at both the state and LHD level.

There is still a dependence on many other smaller systems that provide key services which ICT have continued to support and implement wherever necessary. The ICT Department's core function is to be an enabler in the delivery of care across the organisation. The LHD needs ICT systems and applications to further drive improvements to efficiency, patient safety and the quality of care provided to all patients.

The LHD also requires infrastructure that delivers information and knowledge electronically to empower clinicians and corporate staff to deliver on their work. The ICT Plan 2016-2021 assists in operationalising the LHD's and eHealth's Strategic Plans that also aligns with models of health care delivery and allows flexibility to further improve the patient journey.

Over the past five years many of the planned ICT projects have been implemented, key achievements include:

Clinical Systems

- Core eMR applications in Hospitals: Completed 2011
- Enterprise Imaging Repository: Completed 2013
- Community Health (CHOC): Completed 2014
- HealtheNet (PCEHR): Completed March 2015
- Document Imaging (Medical Record Scanning): Completed 2015

Corporate/Management Systems

- Stafflink: Completed 2012
- Oracle R12: Completed 2013
- HETI Online: Completed March 2015

Infrastructure

- Wi-Fi capability in clinical areas at all sites
- Active Directory: Completed 2014
- Windows 7 Migration: Completed 2015

These foundational systems (both Corporate and Clinical) were key strategic priorities at both the state and LHD level. However, there is still a dependence on many localised systems which provide specialised functionality. These systems as well as the larger applications are all supported by the ICT Department.

The ICT Department has strived (and will continue) to be an enabler in the delivery of care, research and education to the community across both CCLHD and NSLHD. Both organisations need ICT to help improve efficiency, patient safety and the quality of care provided to all patients. They also require infrastructure that delivers information and knowledge electronically to empower clinicians and corporate staff to deliver on their work.

1.2   The Future of Health IT

A number of global trends will coalesce in the Health Sector in the coming five years. The digitisation of both clinical and operational records has been a fundamental precursor to the next stage of evolution in the way that data is used. Data analytics and informatics will combine operational and clinical data to create true Business Intelligence (BI) systems that will enable the improvement of clinical care, efficiency and operational decisions.

Leverage existing innovations and opportunities

Telehealth (already occurring in some areas to differing degrees) will become more prevalent as the technology for remote monitoring and support becomes more effective and business/operating models adapt to this new method of delivering clinical services. This has the potential to increase care in the community, encourage a more mobile medical workforce and as technologies like "The Internet of Things" grows, ensure that accurate data is recorded and integrated into existing systems, allowing Clinicians to make decisions from a distance.

The ICT Department is committed to embracing the potential of these and other new technology trends and a number of initiatives concerning agility and innovation will enable this to occur.

1.3 Key Themes

These themes are the summation of the requirements identified by the LHD in determining the future state for the ICT Department and how it will deliver services to the LHD.

Alignment to LHD Strategy

The ICT Department will be structured and managed in a way that ensures that it meets the LHD's strategic goals in all its activities.

This will improve relationships between the ICT Department and LHD Departments engage key users of systems and infrastructure and allow technology to act as an enabler of business outcomes across the LHD.

The Outcome: An integrated and valuable ICT Department directly contributing to LHD Strategic Goals.
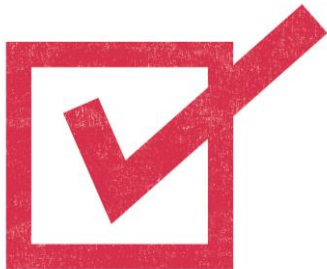
Decision Making

The ICT Department will be **GOVERNED** in a manner that will allow the right people to make decisions more effectively. Decision making will be transparent, easily understood and collaborative with key stakeholders across CCLHD.

The Outcome: Efficient and effective decision making through streamlined prioritisation and governance processes ensuring that the right people are in the right place, with the right information to make the right decisions.
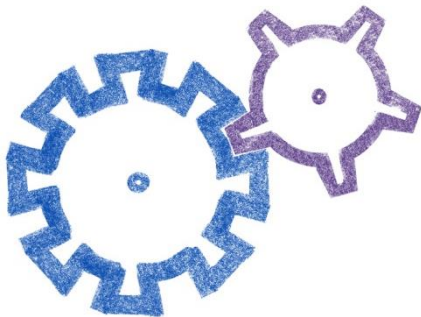
Agility

The ICT Department will be flexible in its response to changing circumstances and user demands. Formalised processes, documentation and systems will encourage agility by building in alternatives for users and free up resources to deliver projects and support more effectively.

The Outcome: A highly responsive and capable ICT Department that can provide users with faster and better solutions and options to enable the LHD to meet their business goals more rapidly.

Efficiency

The ICT Department will operate within its resource constraints. Additionally, the ICT Department will support the LHDs in becoming more efficient. **MOBILITY** is a key goal in driving efficiency.

The Outcome: A lean and efficient ICT Department with reduced double handling and waste, yet capable of scaling to meet demand as it arises. A more efficient and MOBILE workforce across the LHD.

1.4 Alignment to LHD Strategy

This model summarises the ICT strategy in a single diagram. It illustrates the central nature of patient care delivery, with the LHD strategy as the core from which all ICT initiatives originate. Each of the components illustrated are explained in the following pages.
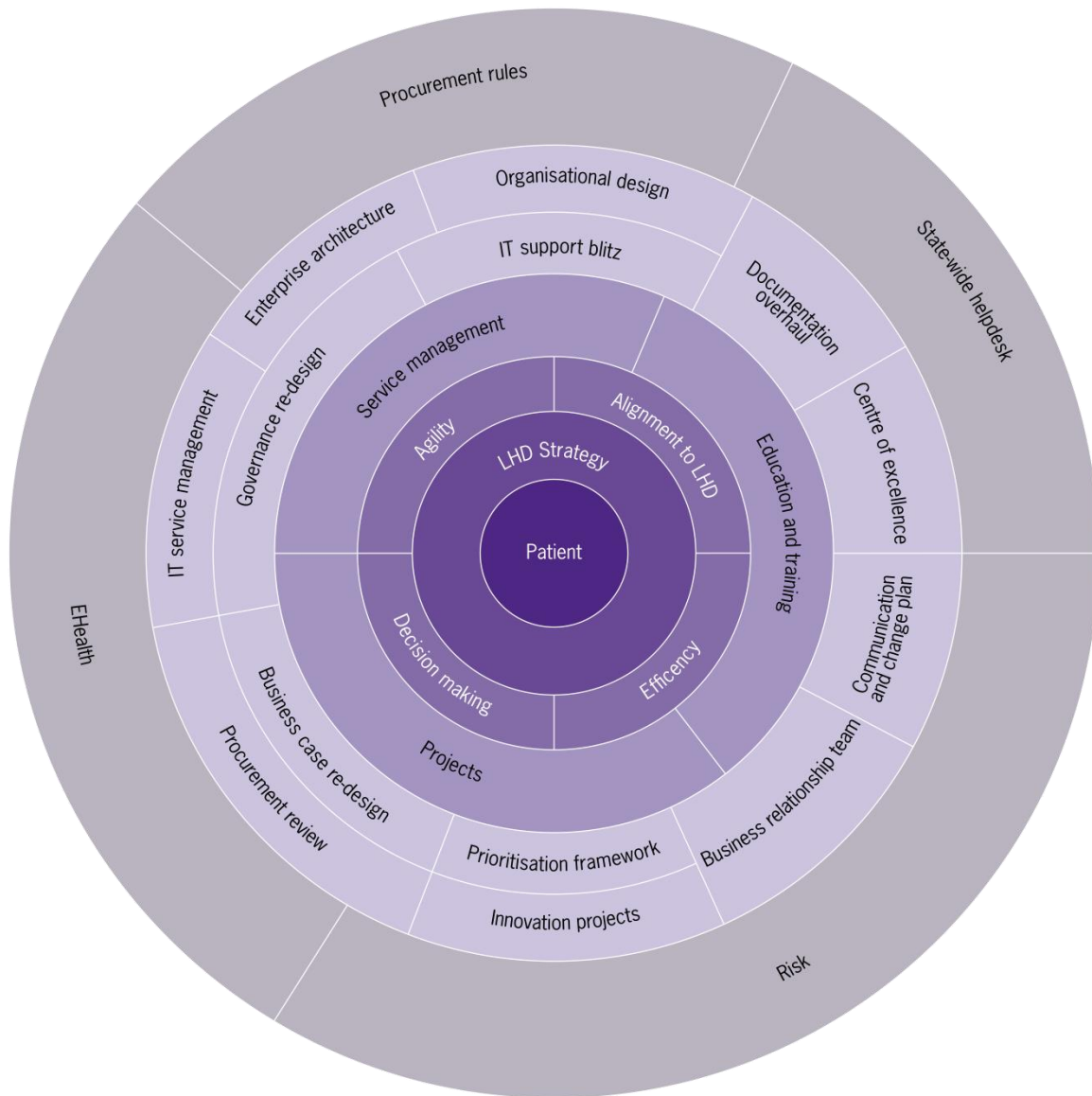
Figure 1: Alignment of ICT Plan with LHD Strategy

1. Patients are central to all service delivery.
2. LHD Strategy wraps around this core function in the second ring. This represents the ICT Department's **Customer**.
3. the third ring contains the four key themes identified in this recommendation. These are the **Principles**.
4. the fourth ring describes the core services of the ICT Department, with support renamed to Service Management. These are the **Functions** of the ICT Department.
5. the fifth ring describes the **Projects** recommended to achieve these core services.
6. the final ring represents the existing operational **Constraints**.

Alignment of ICT to the LHD strategy

Alignment with LHD strategy is central to this plan, which recognises and supports organisational objectives. It is important to note however that as ICT is run as a shared service across both NSLHD and CCLHD we need to have appropriate governance structures in place to allow ICT to deliver against the strategic goals of both LHDs. Each element of this plan supports LHD alignment as the fundamental principle underpinning the ICT Department.

In principle, the ICT Department is part of the organisation and shares its vision. In practice, this requires substantial adjustments as described in this plan. The overall function of ICT in relation to achieving these organisational goals is as follows.

Making better decisions

The key to the ICT department making better decisions is the alignment of the decision making process to the strategic goals of the CCLHD.

The IT Design Principles in guiding the ICT strategy were developed and agreed through consultations with key stakeholders. This alignment has been incorporated into a re-designed business case template and prioritisation framework which will enable the ICT Department to compare and prioritise projects using a standardised, consistent and transparent decision making process. (See section 2.1 – Design Principles)

ICT will be governed to ensure that the right people have control of IT processes and decisions, thereby ensuring that decisions are made consistently and defensibly, in the LHD's best interests.

Creating efficiency

ICT, as with the LHD generally, has significant financial constraints exacerbated by the generally underfunded eHealth initiatives over which there is very limited control.

Projects designed to increase efficiency form a key part of this Plan.

Furthermore, the ICT Department should establish a Centre of Excellence. This is where LHDs agree on specialising in specific areas of focus where the outputs, benefits and lessons can be shared with other partner LHDs across the State. This process will harness existing skills and knowledge in specific areas and avoid duplication of effort across similar entities.

High quality request received

Projects
- external documentation overhaul
- business case re-design
- change management
- business relationship team

Decision and allocation made quickly
- prioritisation framework
- governance re-design
- organisational design

Handled by the most appropriate staff
- organisational design
- internal documentation overhaul
- IT service management

Request actioned rapidly and efficiently
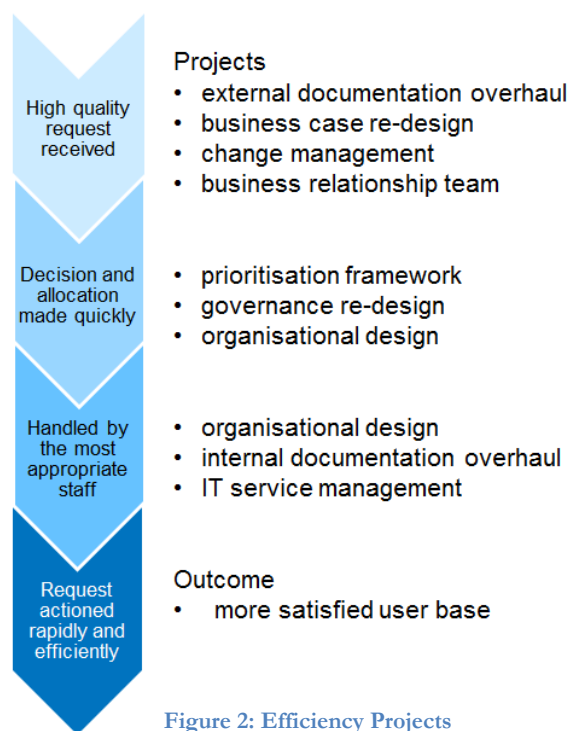
Outcome
- more satisfied user base

Figure 2: Efficiency Projects

Becoming more agile

Agility is the capacity to respond to changing circumstances rapidly. This is an essential function within a modern ICT Department, particularly in the rapidly changing health sector. Agility requires flexibility, in that there are more options available to service the needs of the vast user base. This Plan tackles the need for agility through:

1 Streamlining decisions through the new business case evaluation framework, where simple projects can be assessed quickly;

2 Improving the capacity of the ICT team to deliver services through an organisational redesign, which will include business analysts and project managers capable of engaging contractor and augmented third party resources when required;

3 A front line Business Relationship Partner capable of responding and triaging user needs more quickly and effectively.

4 Incorporation of organisational change and a greater focus on Education and Training;

5 Creating additional avenues for success, through the Centre of Excellence and innovation projects.

> **Streamlined decisions through a new business case and evaluation framework**

> **Business relationship partners building trusting relationships**

1.5   Outcomes

This plan defines a range of ICT strategic activities which will lead to improved ICT service delivery for staff and ultimately deliver improved patient outcomes. The journey will require effort, hard decisions and resourcing, but this will enable the ICT Department to help deliver on the LHD's strategic objectives.

2. IT Demand

The IT Demand section deals with the workloads placed upon the ICT Department and how ICT manages these demands to create business success for the LHD.

The ICT Department operates within the complex **Business Context** of the NSW Health system and is run as a shared service across two LHDs. The ICT Department must manage the sources of demand that come from the CCLHD fairly and equitably.

IT demand management is a key component of the Gartner planning methodology. As can be seen in Figure 3 below, the ICT Department will streamline and categorise support requests to fast track outcomes for users.
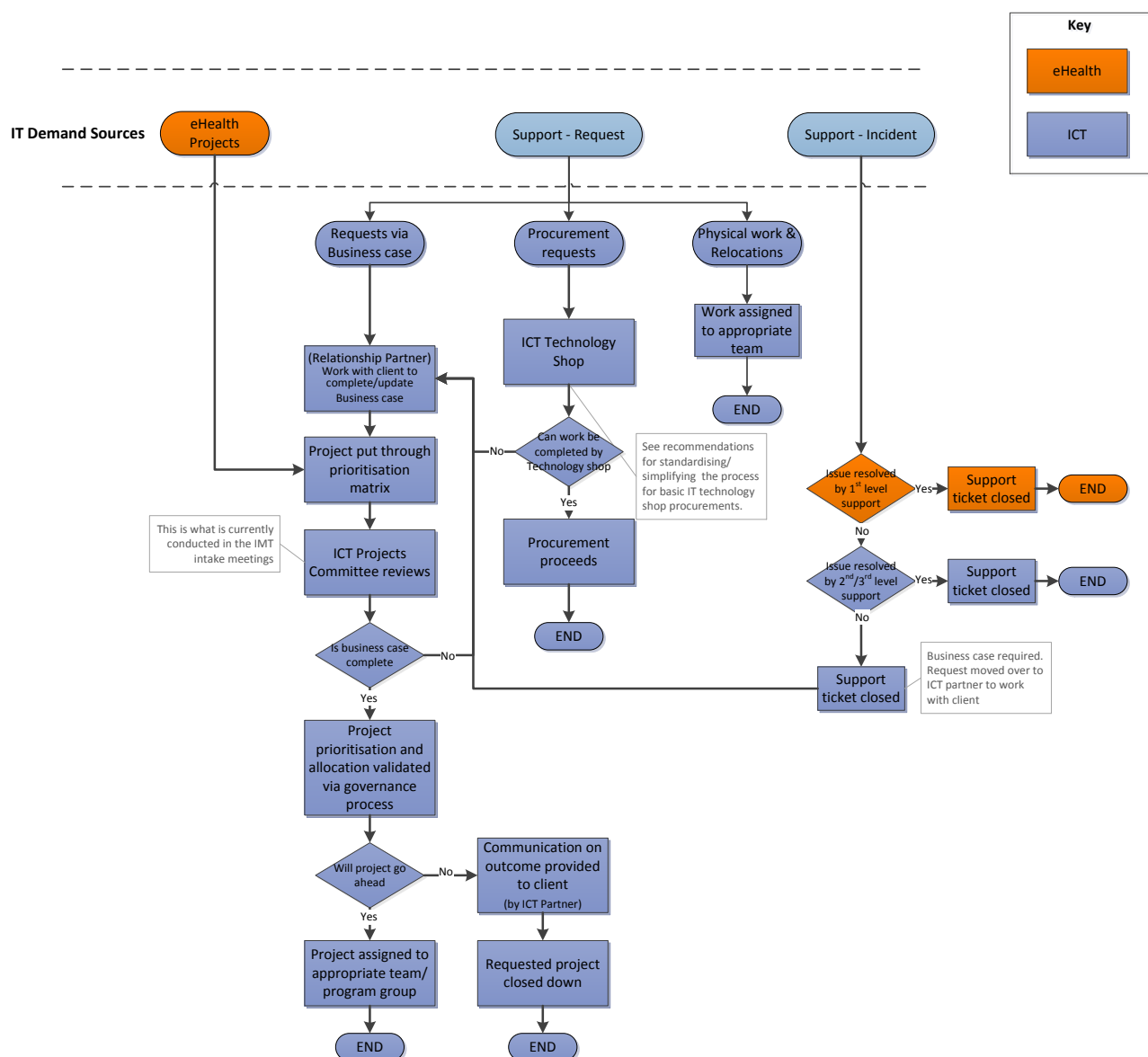

Figure 3 - IT Demand Source Management

The use of IT applications and infrastructure to provide clinical care and operational functioning is now an imperative. The ICT Department operates as the enabler for better business functioning by delivering new and upgraded systems that are fully functional, user-friendly and meet business objectives.

As a shared service governed by an Inter-District Partnership Agreement, the ICT Department is responsible for managing ICT across two LHDs.

The ICT Department will deliver **Business Success** by supplying transparent and collaborative technology projects and support to CCLHD. ICT will be an industry leader in supporting the LHD to provide innovative technology projects, whilst operating within their **Business Capabilities**, particularly the financial and regulatory constraints of the NSW Health system.

The Department provides infrastructure and applications service to the LHD. These can be grouped into business-as-usual service management, projects plus education and training. Given the significance of eHealth projects, the ICT Department's project work has historically been divided into mandated eHealth projects and LHD specific projects.

2.1   Delivery and support of eHealth and Ministry mandated projects

Although these projects are mandated and financed by eHealth and the Ministry, the ICT Department operates as the delivery vehicle and point of contact for system users. Successful implementation of these projects requires more than mere deployment. This plan provides a mechanism to ensure that these projects achieve expected business benefits through appropriate resourcing, identified upfront.

Historically, the ICT Department was constrained in the delivery of these projects with inappropriate expectations, resource underestimations and optimistic timeframes. Previously, eHealth projects had not been financially resourced to sufficiently meet the true cost of implementation. Additionally, although there is some flexibility in the timeframes for delivery, generally, the ICT Department is obliged to implement these projects within the time windows mandated by eHealth. The ICT Department will work within these constraints to communicate with CCLHD as to its obligations and any additional resourcing required to achieve the most effective implementations.

Additionally, the Department will plan its project implementation schedule to meet CCLHD's operational requirements and its own resourcing constraints.

2.2   Delivery of Local Health District specific projects

Mandated eHealth projects do not meet all of the technology needs of CCLHD. Over the next five years CCLHD will continue to need to deliver specialised technology projects that meet the District's strategic goals and improve patient care.

Through the creation of a unified business case prioritisation and governance process, the previous distinction between eHealth projects and LHD specific projects will diminish. This will enable LHD specific projects to be prioritised alongside eHealth projects and provide better support to CCLHD in meeting their strategic goals.

The ICT Department will be business partners for CCLHD Departments in the collaborative deployment of LHD specific projects. The current landscape reveals technology projects that have been implemented without the ICT Department's involvement, due in part to a lack of resources within the ICT Department. As experts in

ICT project delivery, the ICT Department will be consultative and collaborative in delivering these projects and will have scalable capabilities to meet business needs as they arise.

2.3 Business as usual – service management

Today the ICT Department provides a broad range of support to approximately 14,000 users across the two LHDs. This support covers infrastructure, applications and user capability. The support team is on the frontline, interacting with and managing user expectations. The general perception is that this support function is not great, with an avalanche of support calls and limited resources, there can significant delays in actioning support requests.

First level IT support is managed by the state-wide helpdesk (run by eHealth). While in the longer term a newer service management standards compliant service desk application should be looked at, in the short-medium term it is assumed that the current process will be utilised with some minor operational changes regarding the second and further levels of IT support (provided by the LHD ICT department)1.

By moving from a support desk to an Information Technology Infrastructure Library (ITIL) IT Service Management framework, the ICT Department will offer significantly improved levels of support to LHD users.

Implementation of a new IT Service Management Framework

ITIL is a framework/methodology designed to standardise the selection, planning, delivery and support of IT services to business. The ITIL framework will help the ICT department to be a business service partner rather than just provide back-end support.

The Governance and Executive control over the ICT Department will remain the domain of each LHD, ensuring that the shared service requirements of the ICT Department are managed and each LHD retains and enhances their involvement with the LHD to meet their needs.

2.4 Training and Change Management

During the consultation phases conducted prior to the creation of this IT plan it was noted that both LHDs have had issues with the training and change management delivered as part of prior IT projects. Generally speaking IT projects are often correctly implemented but fail in the long run due to inadequacies in the change management, training and handover process to Business as Usual (BAU). The NSLHD and CCLHD Health environment has had similar issues.

There will be a greater focus on education, training and change management, teaching users the WHY as well as the HOW. With the creation of the Business partner roles there will be an increased capability to map future state changes in processes impacted by new IT projects. This will see greater system adoption, increases in efficiency for both clinical and corporate staff and better knowledge and ownership of systems by the teams using them.

These increases in effort during the project planning and implementation stages will reduce pressure on IT support in the long term while also driving greater user satisfaction and uptake as well as decreasing the need for new projects.

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2.5   Financial Sustainability

Underpinning the functions of the ICT Department is the reality of budgetary limitations. The ICT Department must remain lean whilst improving service delivery in the areas identified above. Wherever possible the ICT Department will strive to deliver better value for CCLHD and place high primacy on technology projects that deliver cost savings or financial benefits to CCLHD.

Improving services will require additional resources as and when they are required. The ICT Department will create an approved panel of service providers to assist in the delivery of projects and support to meet short term gaps (an agile workforce).

2.6   Measuring Success

The ICT Department will measure its success as a function of its capacity to assist CCLHD in meeting its strategic goals. ICT as a department and function aligns its strategy to the business strategy through specific and measurable KPIs. When delivering services the ICT Department's success will be measured by end user satisfaction and the capacity of the service to deliver more efficient and higher quality patient care.
A sample set of measure is listed in section 3.4.

3. IT Control

The ICT Department operates within the framework of the CCLHD's business operations and strategic goals. These goals guide the ICT strategy (design principals) and ICT initiatives.

CCLHD Strategic Goals → Technology Design Principles → ICT Department Initiatives

Figure 4: Interaction of IT Design Principles to key initiatives

3.1 Technology Design Principles

These technology design principles directly support the CCLHD strategic goals and should always be considered with CCLHD's strategic goals in mind.

CCLHD Strategic Goals	Technology Design Principles
• Our Patients – Provide best practice care to ensure patient safety and satisfaction • Our Staff – Support and develop our most important resource and provide a safe and rewarding workplace • Our Resources- Use resources effectively and efficiently • Our Community – Invest in better health by promoting a healthy lifestyle and available health services • Our Future – Develop strong and effective partnerships to meet the community's health needs	• We will keep the relationship between patient and clinician at front of mind; • We will align our desired outcomes to the business' goals; • We will offer support that meets users' needs; • We will be engage in user driven innovation projects; • We will measure our success as a function of existing business goals; • We will make decisions based on transparent and comparable data, not based on personal preference.

Figure 5: Design Principles aligning with CCLHD Strategic Goals

3.2 Governance strategies

This section describes key strategies relating to the ICT Department structure, technology governance generally, new project's evaluation and current project oversight.

ICT Department Structure

The current ICT Department structure and Governance model is shown below. The existing distinction between EHealth projects and District specific projects will become an unnecessary distinction and will be removed. This will ensure that experienced and capable project delivery staff will be available for all projects. The support function will be redesigned using an IT Service Management framework and will streamline support requests. Project management, change management and innovation will be supported by the ICT Department but not governed by the ICT Department, thereby providing greater control and flexibility for each LHD.
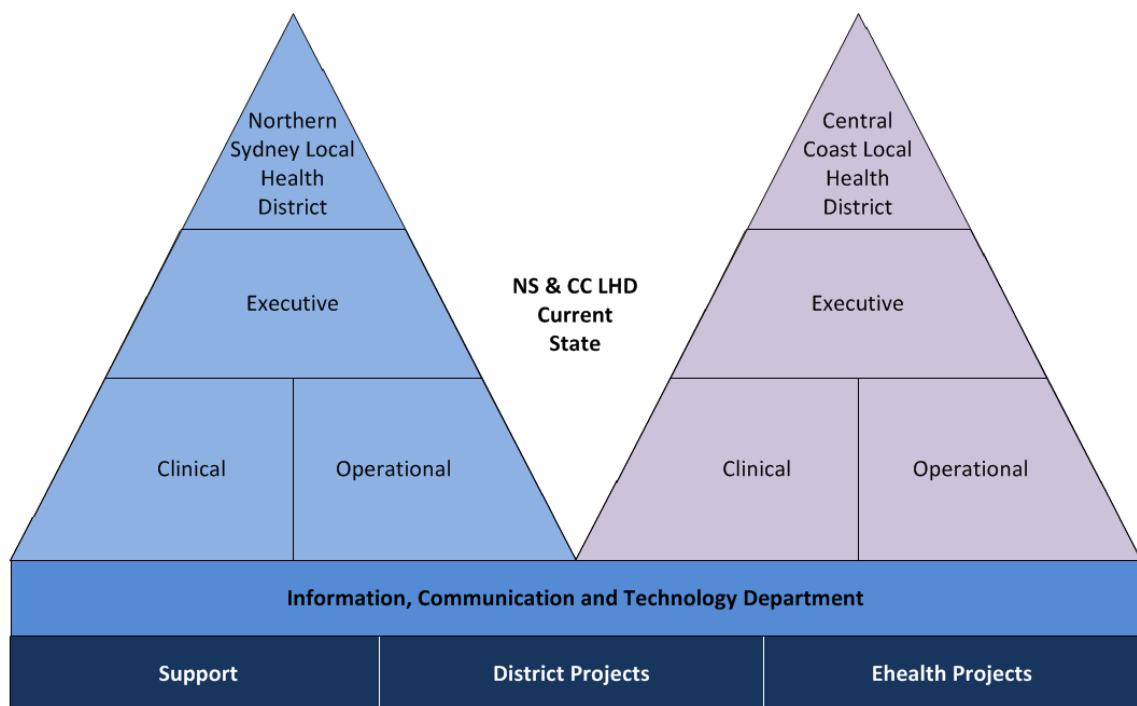
Figure 6: NS and CC LHD Current State
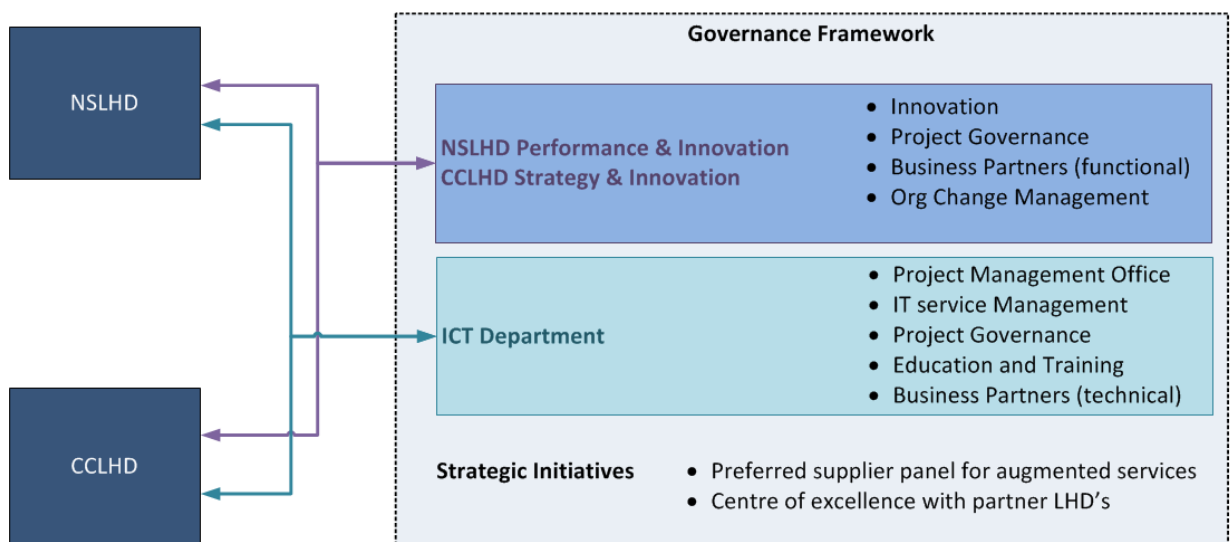
Figure 7: NS and CC LHD Future State

The important distinction between the current and future state defines key areas of responsibility of the ICT department and the Strategy & Innovation directorate (a similar function exists at NSLHD but is called the Performance and innovation directorate) in an overall governance framework.

The proposed ICT structure will allow the team to focus on its core areas of expertise and responsibility, being project delivery managed via the Project Management Office (PMO), IT Service Management plus Education

and Training. While partnering with the Strategy & Innovation team to be the liaison with business areas for business requirements, organisational change management and overall governance.

The NSLHD has commenced the process of creating the Strategy and Innovation functions. This benefits the LHD by allowing the ICT Department to focus on their core competencies and allows major project governance processes to be managed directly by the LHD and supported by a team comprised of some ICT Business analysts and some general LHD business analysts. This Plan recommends that CCLHD work towards the creation of a similar structure over the next 12 months within the Strategy and Innovation (S&I) Directorate that they are creating.

Technology Governance Framework

The ICT Department will be governed by the LHDs as follows. Importantly, separate governance structures for each LHD will ensure that district specific needs are met.

Figure 8: Governance Framework

The following table outlines the governance structures for CCLHD as shown in Figure 8 and provides broad guidance concerning their function, composition and meeting regularity.

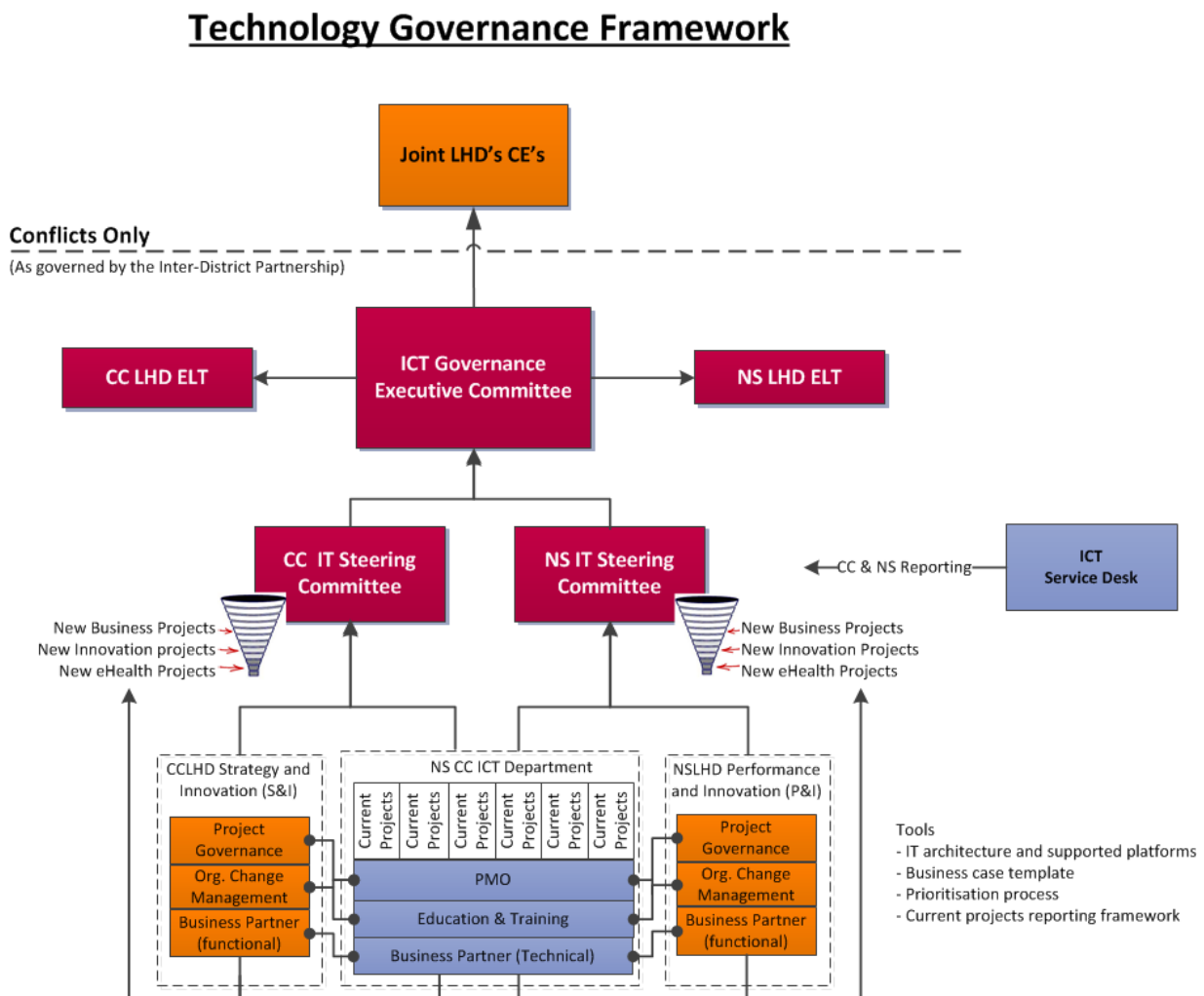| Group	Description	Composition	Frequency
ICT Governance Executive Committee	Senior body with a delegated budget. Responsible for overseeing progress of current projects and approving new projects, rearranging priorities and resolve major conflicts.	▪ NSLHD CE or delegate ▪ CCLHD CE or delegate ▪ Snr Mgrs from the business areas ▪ CIO ▪ Director – Strategy and Innovation (S&I)	Monthly
NSLHD and CCLHD ELTs	ICT Governance Executive Committee minutes and status reports distributed to NSLHD and CCLHD ELT. The ELT agenda should be amended to query items on the list by exception.	No Change	Monthly
Northern Sydney IT Steering Committee and Central Coast IT Steering Committee	Reviews status of current projects, adjudicates on issues and conflicts. Reviews and recommends action on change requests. Reviews business case for new projects.	Multi-disciplinary committee with senior staff from business areas. Includes ICT senior delegates. Includes S&I senior delegates.	Monthly
Core Contributors			
ICT - PMO	Provide status reports on current projects, table change requests and escalate issues.		
ICT – Education and Training	Provides input to the PMO on status of current training, planned training and any recommendations.		
ICT – Business Partner (Technical)	Provides assistance to P&I Business Partner with technical aspects of new project business cases.		
ICT – Service Desk	Provides IT service desk key matrix on performance, provides a set of recommendations regarding root cause rectifications.		
S&I – Project Governance	Provides status reports on current project business outcomes, business process impacts/changes and risk assessment.		
S&I – Organisational Change Management	Provides status reports on current projects organisational change management progress and escalates issues when required.		
S&I – Business Partner (functional)	Supports business areas in defining their functional business needs, evaluate solutions and assists with the preparation of the business case template.		

Figure 9 - Governance Groups

Technology Projects owned by the LHD's

A key component of the Governance re-design outlined here is the re-alignment of projects towards LHD Governance and away from an internally focused IT Department Governance model.

This aligns strongly with the requirements of the LHD that that the ICT Department be an enabler and business partner, working side by side with the LHD to achieve its goals. Importantly, although decision making and project governance will rest with each LHD, the inclusion of the ICT Department from the outset and through

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to implementation of projects is imperative. The ICT Department must have knowledge of and input to, rather than control over, all projects that touch upon technology in order to ensure that they achieve their required business benefits.

IT governance as business as usual

ICT is now of such criticality financially, clinically and operationally that it is appropriate that major technology projects and work form a standing part of Executive Committee meetings for the LHD. In practice this would involve the attendance by the ICT Director at these meetings to discuss technology projects and their impact on the LHD. Unless there is a conflict between LHDs this committee forms the highest level of ICT governance. Decisions at this level will be restricted to projects of the highest concern, as identified by the ICT Governance Executive Committee.

3.3 Financial Management

Major eHealth projects have historically been partially funded by the Ministry of Health with the LHD being required to fund the balance. The LHD also funds district specific projects and business as usual support.

Ministry of Health funding limitations for eHealth projects has resulted in less than optimal outcomes for these projects. The IT Department will more accurately identify full life cycle costs and additional resources required for eHealth Projects so that they deliver to their business objectives in relation to maintenance, support and hardware and end user device life cycles. The same level of cost analysis will be conducted for district specific projects to ensure that they too are delivered in a manner that meets their business objectives.

The ICT Department also acts as s conduit and guide for technology procurement and will offer faster and more effective purchasing processes for the LHD where the procurements can be made through the Technology Shop. Similarly, the ICT Department will be agile in the way it approaches technology investments to encourage innovation. This will include the Centre of Excellence which will collaborate between LHDs to provide excellence in specific areas, leveraging resources and creating financial leverage. The LHD is also actively working to develop projects, groups and governance structures to support innovation.

The ICT Department will balance the competing considerations above by being flexible in the way in which projects are assessed and prioritised. The staged business case process will achieve the following:

- Simple procurements will not need business cases;
- Simpler projects will require less assessment to proceed to the next stage;
- Innovation projects will be directly assessed for potential fast-tracking;
- Complex projects with higher risk, cost and impact on the LHD will require greater assessment and planning to ensure that they meet their objectives.
- The Business Relationship Team will assist the LHD to develop these projects. The LHD may partner with other organisations at each stage of the Technology Project lifecycle to enable faster implementation, for instance by procuring external project implementation resources.

The business case stages are requirements/scoping, evaluation, planning, design, build, deliver & transition and review. The initial stages will ensure that projects are fully costed with identified funding sources and their potential benefits understood so that the LHD can make the best decisions concerning which projects to fund. This in turn increases the likelihood that the technology projects will meet their business objectives.

A prioritisation framework will ensure that all stakeholders have clarity as to what projects are being funded and when.

EHealth projects will go through the same stages. Although the project as a whole is mandated, the timing, method, resourcing, project and change management, training and communications are all flexible and will be planned out to ensure that the projects deliver to their objectives.

Ultimately, the LHD will be able to make better decisions concerning investments in technology projects.

It is expected that the IT Projects identified in this plan will require an investment in funding in 2016-17. Business benefits will start to accrue within 6 months and by 2018, the ICT Department will be providing significantly more effective services to the LHD at modestly reduced cost.

The ICT Department will have the capacity to recover costs both internally and externally. Technology resources will be capable of being utilised by the LHD on a charge-back model. Similarly, work conducted through the Centre of Excellence will be shared across participating LHD's and a partial charge-back will be possible.

3.4 Metrics

As part of the delivery on this IT plan, there will be changes in the way IT projects are assessed and prioritised. The prioritisation framework will help ensure that projects align to the strategic goals of both CCLHD and NSLHD within the shared services environment. While alignment to strategy is important for prioritisation and ensuring that the most significant work is delivered by ICT, it is equally important that there are ways to measure the outcomes following the delivery of those projects.

Defining specific metrics is required to identify the measurable outcomes of a project and to allow the organisation to recognise the aspects of the project for which the ICT Department is responsible. The metrics listed below are tied to the IT design principles and the LHD strategic goals. They are designed to be readily understood by any member of the organisation. These metrics should be listed in all future business cases, while all complex programs will need to tie to one or more of these metrics and be held to account for delivery against.

The following table defines the high level metrics which will enable the LHD to measure the success of the ICT Department and against this Plan.

IT Strategic Metrics
1. Enable more efficient transmission of information between teams/departments/communities.
2. Reduce service desk issue resolution time.
3. Supports hospital avoidance / readmission strategies
4. Reduce length of patient admissions/care
5. Increase clinicians time for patient care
6. Decrease cost of providing current service/function/process
7. Reduce need for divergent IT systems

Figure 10 - IT Strategic Metrics

NSW eHealth has also identified project metrics that align with the LHD's strategic goals.

IT Project Metrics
1. Major project milestones Met
2. Sustainable changes delivered and benefits realised
3. Performance against budget
4. Total amount saved through internal cost reduction initiatives
5. Agreed, integrated investment plans and business cases in place for each project

Figure 11 - IT Project Metrics

Additional Business support

Engaging IT business analysts for all significant process changes across the LHDs is a valuable way of ensuring that the technological implications of change are understood and addressed from the beginning.

To meet this need, the ICT will offer a business analyst resource pool that users can draw upon as required, to assist with the technological aspects of their non-ICT projects. This further links and embeds good IT governance into the business ensuring improved project outcomes.

Service Level Agreements

Clear documentation will be provided to users of ICT services. Governance is no exception. As part of the overall governance structure, the ICT service catalogue and standards will be produced and published.

The current service levels described in the Inter-District Service Partnership Agreement will be expanded to include clear service level standards and metrics aligned to CCLHD's strategic goals.

Tracking of IT Value

Instituting an IT value framework will help the CCLHD to better define the relationship between the ICT Department and the LHD and guide IT investments. The seven key principles are:

- IT-enabled investments will be managed as a portfolio of investments.
- IT-enabled investments will include the full scope of activities that are required to achieve business value.
- IT-enabled investments will be managed through their full economic life cycle.
- Value delivery practices will recognize that there are different categories of investments that will be evaluated and managed differently.
- Value delivery practices will define and monitor key metrics and will respond quickly to any changes or deviations.
- Value delivery practices will engage all stakeholders and assign appropriate accountability for the delivery of capabilities and the realization of business benefits.
- Value delivery practices will be continually monitored, evaluated and improved.

4. IT Supply

The ICT Department supplies technology services through IT service management and projects.

As part of the planning process, the ICT Department will assist CCLHD in scoping and assessing the true cost of an IT project. This will form part of the new Business Case framework. Funding limitations via eHealth for some of these projects is accepted as being inadequate and open dialogues with affected Departments and Senior Leadership concerning the true cost of the project will identify what resources are required and what additional funding is required. This will remove costly rectification work post implementation and improve end user satisfaction.

4.1 IT services

The LHD will have an improved likelihood of successful implementation of IT projects by:

1. Providing initiation stage Business Relationship Team support for the development of technology projects;

2. Streamlining the documentation and processes and providing training in business case development;

3. Improving selection and prioritisation processes;

4. Improving governance and decision making hierarchies for these projects including the potential to fast track innovation projects.

A key piece of the CCLHD's technology strategy over the next five years is the active encouragement of technology innovation to improve efficiency and patient care.

4.2 IT Service Management

The ICT Department's business support provides front line services for the clinical and operational activities of CCLHD. The complex interaction between the state wide support helpdesk and the ICT Department has the potential to result in user confusion and dissatisfaction. User support may address the following issues:

- individual user hardware difficulties;
- individual software or access difficulties;
- systems or applications training or user usage difficulties;
- networking or configuration difficulties;
- Wi-Fi, mobile device and other additional systems difficulties.

The ICT Department will offer responsive, agile and collaborative service support through the following projects:

- implementation of an ITIL based IT Service Management Framework. This will establish the required skills for the delivery of world class service support;
- service support blitz attending to backlogged requests;
- documentation and service request support process clarification.

4.3 Enterprise Architecture

The Enterprise Architecture (both Clinical and Corporate) of the LHD is extremely complex and reflects the diverse functions of the LHD and the systems in place to support those functions. The current state is as follows:
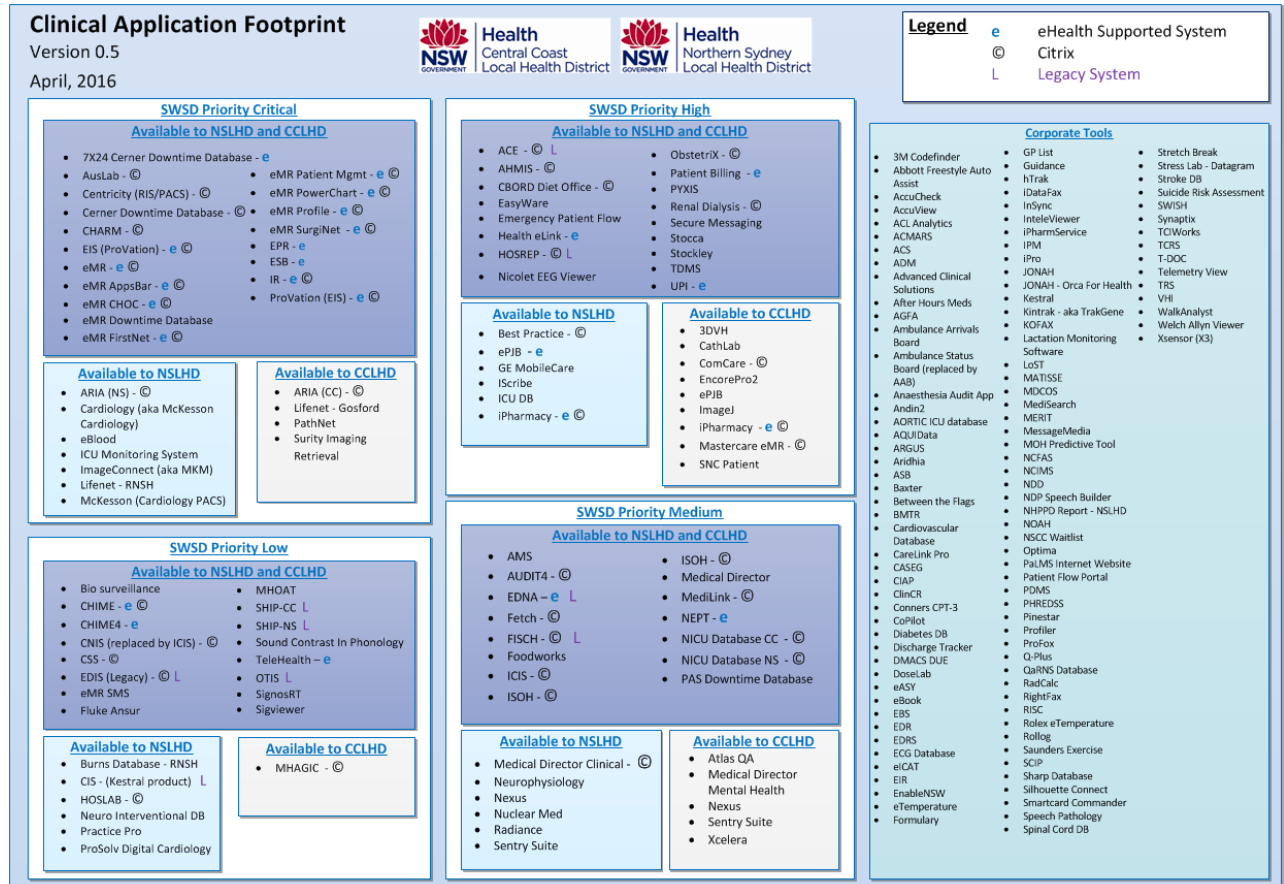
Figure 11 - Application Blueprint (Clinical applications)

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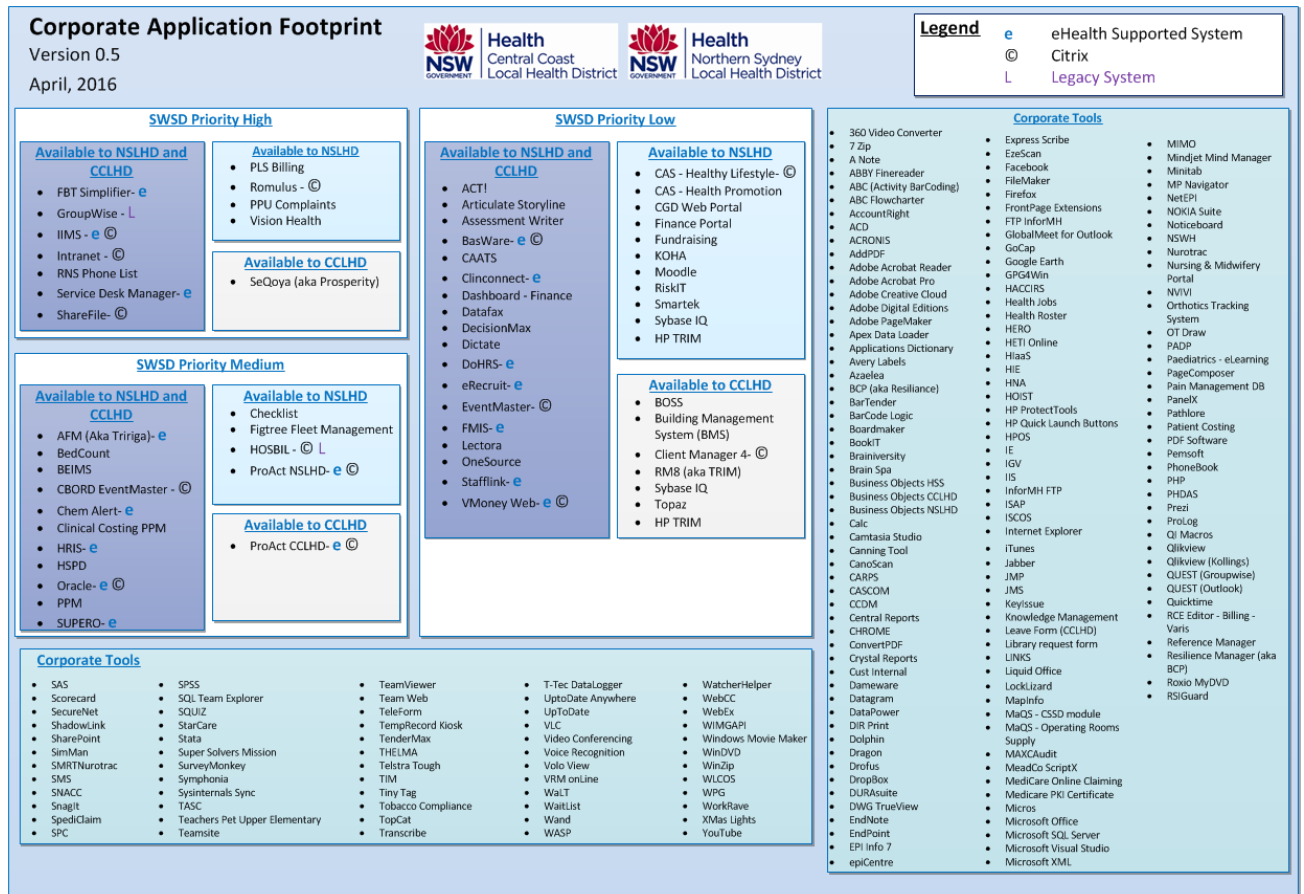
Figure 12 - Application Blueprint (Corporate applications)

The IT Department will engage with the LHD to develop an Architecture Control Board that will manage and rationalise the Enterprise Architecture for the LHD. Benefits of this project will include:

- allowing ICT (and therefore the wider organisation) to understand and baseline its current application, data and infrastructure architecture. ICT can then adequately develop a roadmap to the desired future state architecture.
- the identification, management, transition and removal of legacy and redundant applications.
- identification of internal resource requirements for application portfolio management.
- the ability to review and identify disaster recovery and business continuity plans for critical systems.
- assist in the creation of a Standard Operating Environment, better align skills required and prepare the ground for redundant system removal.

The better understanding of the architectural environment will enable more effective integration and implementation. It will also operate as a precursor to the decommissioning and removal of redundant systems which will greatly improve efficiencies across the LHD, not just within the ICT Department.

As the integrated systems mature, it is expected that data analytics and business intelligence tools will be utilised across the LHD, thereby delivering greater business value.

4.4 People

The current ICT organisational structure reflects the current responsibilities of the ICT Department.
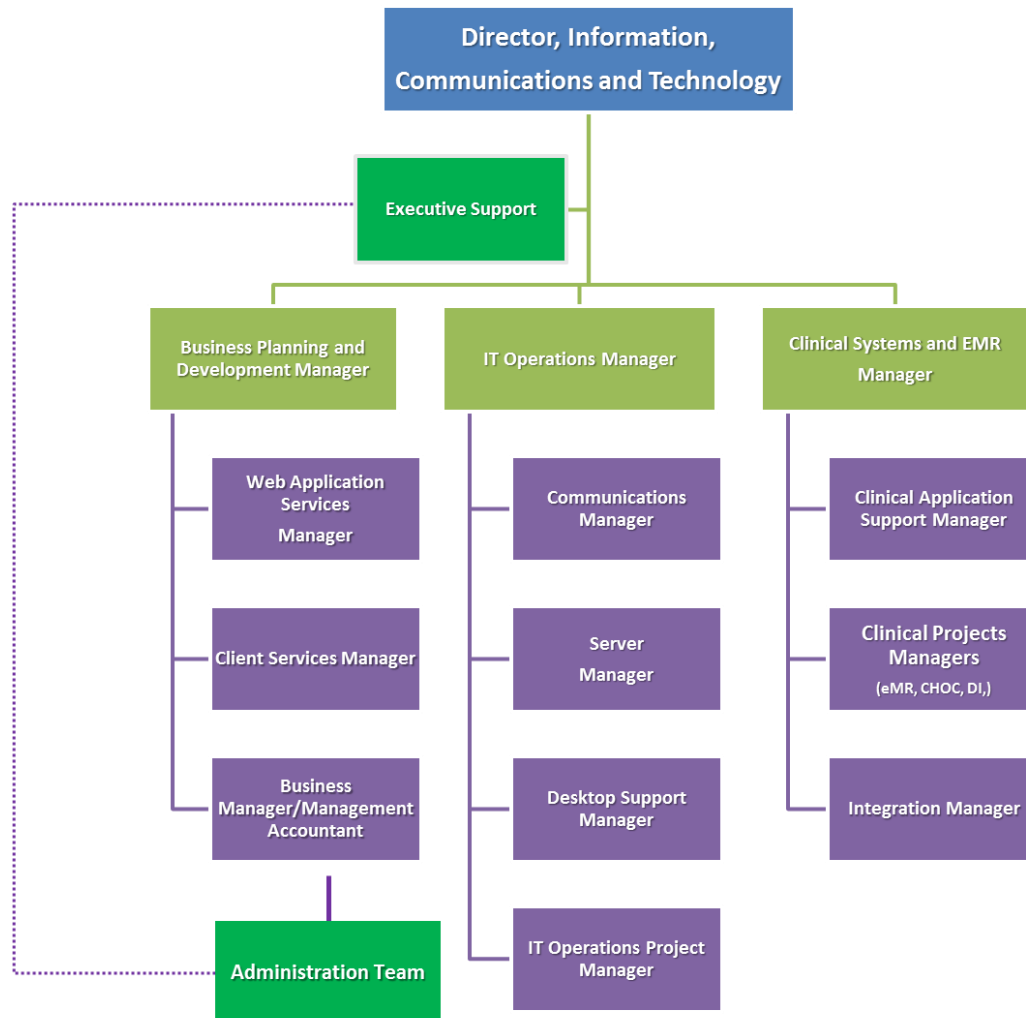
Figure 13: Current High Level IT Organisational Structure

Changes to the governance structures, particularly concerning projects (both eHealth and LHD specific) will necessitate changes in the way the IT Department itself is structured.

There is a need for highly qualified and technically competent staff across a diverse range of activities, including communications, server support, web and applications specialists, project implementation, clinical systems, desktop support and business and account management.

Additional skills in telehealth, data analytics/modelling and Business Intelligence will be required by the organisation as additional systems come online.

This creates pockets of resource constraints as each specialty within the ICT Department has a limited resource pool. The ICT Department will engage in an organisational design review. The purpose of this project is to identify the skills and resources required and the existing capabilities existent within the ICT Department. Gaps will be identified and rectified through training and human resourcing where required.

At its core, the ICT Department must achieve more with its existing human resources. It is for this reason that the Program of Works has such a strong focus on improving ICT Department processes to increase efficiency and service delivery.

4.5 Sourcing

The ICT Department is constrained in much of its sourcing as it stems from State Government Contracts and is governed by the Technology Shop process. These sources are not customised to CCLHD and as a result often fail to address the bespoke needs of users. The ICT Department will identify and address circumstances where either eHealth systems and initiatives or their State-wide support function falls short and efficiently meet this gap with customised in-house sourced solutions.

Principles of sourcing will follow the IT Design principles, themselves derived from CCLHD's strategic goals. To this end they will:

1   Have the end user's needs in mind

2   Provide options for how support, procurement and projects will be delivered

3   Be measured for cost effectiveness, user satisfaction and value for money

The ICT Department will engage in a review of its current procurement processes to establish which existing sourcing relationships must be retained, those that should be retired, and what alternatives exist to better source in the future. This may include collaboration efforts with other LHDs to provide value for money products and services that still meet the specific requirements of CCLHD.

The ICT Department will be proactive in identifying sources for emerging technologies without relying on State Government Contracts to become available. Through collaboration with other LHDs through the Centre of Excellence, the ICT Department will be an industry leader in seeking cloud, digital, telehealth, analytics and business intelligence systems.

The ICT Department will create a hybrid sourcing model for resources it supplies to the LHD. This will enable it to offer a lean footprint whilst having the capacity to scale to the LHD's requirements as necessary. The ICT Department will, in conjunction with the LHD, create an approved supplier panel for human resources that the LHD can rely on to ensure projects can be resourced effectively as required.

5. Risks and Issues

This risk table details the high level risks associated with the IT plan. It is not an exhaustive IT risk register

Risk	Rating	Mitigation Strategies	Residual Rating
Misalignment of shared services ICT Department across LHD's results in outcomes that do not suit one LHD or the other.	High	• Individualised Technology Plans for each LHD aligned to their strategic goals • Business Relationship Team • Streamlined Technology Governance and decision making for each LHD • Unified, consistent business case processes	Medium
Insufficient LHD wide resourcing support for IT Plan results in Action Plan not being delivered or delivered sub-optimally	High	• Technology Plan is communicated to key stakeholders for feedback, comment and development prior to finalisation • Benefits clearly articulated to the LHD • In principle support obtained from Senior Executives	Low
The ICT Department does not have the human resources or structures needed resulting in the Action Plan not being delivered or delivered sub-optimally	High	• Streamlined Governance Structures • Staff capabilities mapping and assessment	Low
Changing circumstances results in the Action Plan no longer being fit for purpose. E.g. Significant change in strategic direction from eHealth or the LHD	Medium	• Iterative Technology Plan and Action Plan, reviewed regularly • KPI's and metrics regularly re-assessed • Open and collaborative communication LHD wide	Low

6. Program of Works

This high level program of works and project list details the specific projects stemming from this IT Review and which will establish the ICT Department to achieve the corporate and clinical projects on the horizon. It does not include projects already underway or contained within the existing project pipeline.

6.1   Strategic / Realignment projects roadmap

The projects contained in Figure 14 below as part of the IT Improvement process have been aligned to the four key themes identified in this Plan (Alignment to LHD Strategy, Decision Making, Agility and Efficiency) and establish their importance to the LHD. These projects have a shorter term timeframe, with expected completion in the 12-18 month range, to enable the efficiencies gained from them to be realised by the LHD for improved overall project delivery and support.
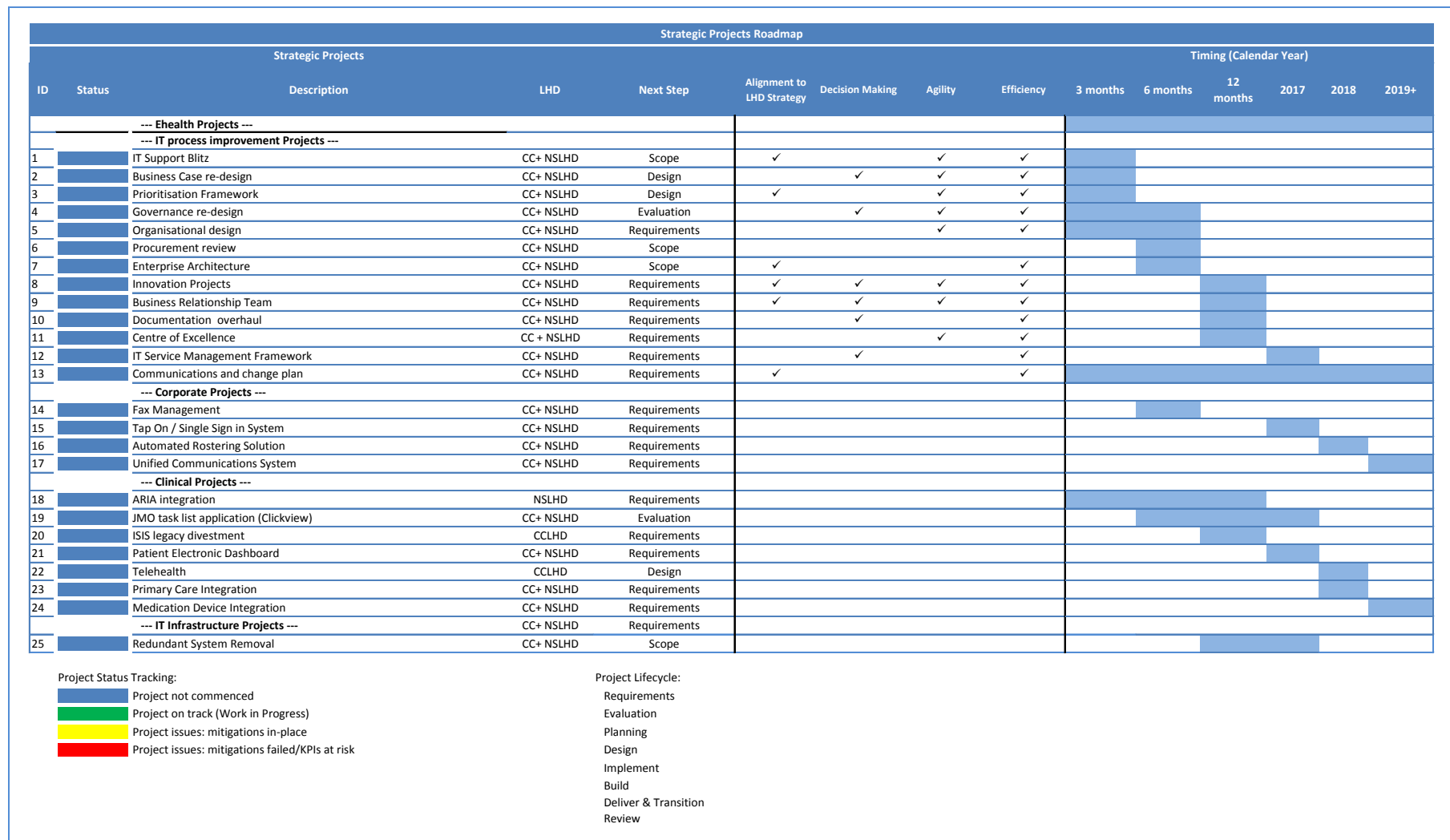
		Strategic Projects Roadmap							Timing (Calendar Year)					
		Strategic Projects												
ID	Status	Description	LHD	Next Step	Alignment to LHD Strategy	Decision Making	Agility	Efficiency	3 months	6 months	12 months	2017	2018	2019+
		--- Ehealth Projects ---												
		--- IT process improvement Projects ---												
1		IT Support Blitz	CC+ NSLHD	Scope	✓		✓	✓						
2		Business Case re-design	CC+ NSLHD	Design		✓	✓	✓						
3		Prioritisation Framework	CC+ NSLHD	Design	✓		✓	✓						
4		Governance re-design	CC+ NSLHD	Evaluation		✓	✓	✓						
5		Organisational design	CC+ NSLHD	Requirements			✓	✓						
6		Procurement review	CC+ NSLHD	Scope										
7		Enterprise Architecture	CC+ NSLHD	Scope	✓			✓						
8		Innovation Projects	CC+ NSLHD	Requirements	✓	✓	✓	✓						
9		Business Relationship Team	CC+ NSLHD	Requirements	✓	✓	✓	✓						
10		Documentation overhaul	CC+ NSLHD	Requirements		✓		✓						
11		Centre of Excellence	CC + NSLHD	Requirements			✓	✓						
12		IT Service Management Framework	CC+ NSLHD	Requirements		✓		✓						
13		Communications and change plan	CC+ NSLHD	Requirements	✓			✓						
		--- Corporate Projects ---												
14		Fax Management	CC+ NSLHD	Requirements										
15		Tap On / Single Sign in System	CC+ NSLHD	Requirements										
16		Automated Rostering Solution	CC+ NSLHD	Requirements										
17		Unified Communications System	CC+ NSLHD	Requirements										
		--- Clinical Projects ---												
18		ARIA integration	NSLHD	Requirements										
19		JMO task list application (Clickview)	CC+ NSLHD	Evaluation										
20		ISIS legacy divestment	CCLHD	Requirements										
21		Patient Electronic Dashboard	CC+ NSLHD	Requirements										
22		Telehealth	CCLHD	Design										
23		Primary Care Integration	CC+ NSLHD	Requirements										
24		Medication Device Integration	CC+ NSLHD	Requirements										
		--- IT Infrastructure Projects ---	CC+ NSLHD	Requirements										
25		Redundant System Removal	CC+ NSLHD	Scope										

Project Status Tracking:

■ Project not commenced
■ Project on track (Work in Progress)
■ Project issues: mitigations in-place
■ Project issues: mitigations failed/KPIs at risk

Project Lifecycle:

Requirements
Evaluation
Planning
Design
Implement
Build
Deliver & Transition
Review

Figure 14: Program of Works

6.2 Project List Summary - 2016/17

The table below articulates the broad rationale behind the projects recommended in this plan and establishes the broad business benefits expected to be achieved. Each of these projects will be subject to the same prioritisation frameworks and governance as other projects, further cementing IT projects as business projects and not independent to or otherwise outside of the normal functioning of the LHD.

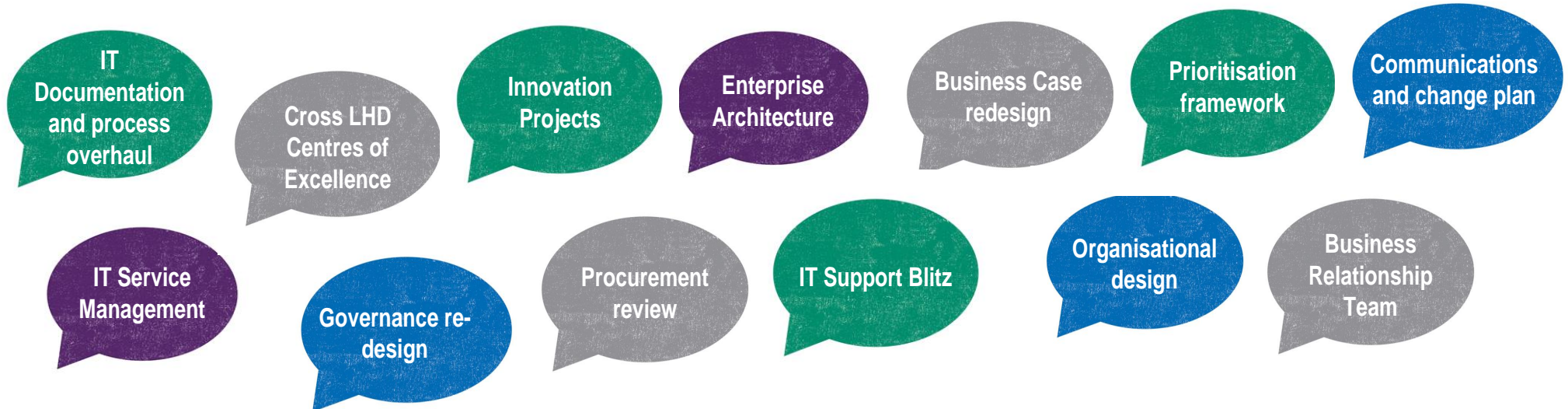| Project	Rationale
IT Support Blitz	- re-engage users and deliver a quick win for the ICT Department. - improve operational efficiency of users by resolving their support issues. - enable a better understanding of the root causes of support issues so they can be reduced in future
Business Case redesign	- provide clarity and transparency to users preparing business cases - align project decisions with LHD objectives - reduce the number or projects that require high level executive involvement - improve the quality of business cases put forward
Prioritisation framework	- be able to evaluate projects against one another quickly and fairly in order to prioritise them - deliver valuable projects more quickly and efficiently - provide transparency of project status
Procurement review	ensure procurement projects and decisions are made in the most efficient and cost effective manner
Governance re-design	- ensure the right people from each LHD are involved in the project decision making process - streamline decision making
Organisational design	improve the effectiveness of the ICT Department's current operating model and structure to support future service plans for the CCLHD.

Enterprise Architecture	• understand baseline and develop roadmap to desired future state architecture • identify, manage, transition and remove legacy and redundant applications • identify internal resource requirements for application portfolio management and enterprise architecture management • review and identify disaster recovery and business continuity plans for critical systems • assist in the creation of a Standard Operating Environment, better align skills required and prepare the ground for redundant system removal.
Innovation Projects	• ensure that balance is achieved between the desire to be innovative and bold with the need to ensure that projects are properly assessed and prioritised
Business Relationship Team	• act as a conduit between the LHDs and the ICT Department • increase user engagement and satisfaction, acting as a first point of contact and streamlining workflow as required, • provide guidance concerning business cases and other matters.
Documentation overhaul	• provide clear, readily accessible documentation for IT processes internally and for external users of IT services. • provide an IT Service Catalogue and standards • ensure consistency in the delivery of IT services • document organisational knowledge and reduce risk of single user points of failure
Centre of Excellence	• drive partnerships and efficiencies across LHDs by leveraging the combined power of the LHDs to share and collaborate on projects, innovation and procurement. The Sydney Health Partners program is a working model of how this can be achieved. • work with eHealth to improve functionality of major clinical applications
IT Service Management	• implement reliable systems and processes to ensure consistent service delivery and iterative improvements • provide transparent, efficient and manageable user support services
Communications and change plan	• ensure continued buy-in from users and that changes receive feedback and due diligence as required • ensure changes are implemented effectively and that users are knowledgeable as to how to navigate their relationship with the ICT Department

7. Conclusion

This IT Plan articulates the need for continual significant change in the way that technology and the ICT Department interact with and support the CCLHD and NSLHD in executing on their business objectives. There are challenges in the coming years for IT in Health, but these can be matched by the opportunities for technology to support and enable the clinical and operational objectives of the LHDs. These changes ultimately will enable better value, better clinical care and better staff support.

The last five years had a focus on the foundational systems and platforms that help allow integration and communication capability across the organisation to better enable care coordination across the Local Health Districts. These foundational systems are key strategic priorities that have allowed for a core system or base to operate from. The focus for the future is to enable ICT to build on this core and start a period of transformation into an IT service delivery team that is set up to allow more agility, and governed so that decisions and direction are focused on the better delivery of frontline care services

A number of projects have been recommended to support this transformation.

- IT Documentation and process overhaul
- Cross LHD Centres of Excellence
- Innovation Projects
- Enterprise Architecture
- Business Case redesign
- Prioritisation framework
- Communications and change plan
- IT Service Management
- Governance re-design
- Procurement review
- IT Support Blitz
- Organisational design
- Business Relationship Team

Appendix 1 – Glossary of Terms

The following table is a list of abbreviations used in this document

Term	Definition
BAU	Business As Usual. Contrasts with projects work.
BI	Business Intelligence. An umbrella term to refer to software that can analyse and organisation's data.
CCLHD	Central Coast Local Health District, one of eight NSW Metropolitan Health Districts
EMR	Electronic Medical Records. This is a major project instituted by Ehealth.
ICT	Information, Communications and Technology. This term is commonly used to describe the technology functions within the Local Health District.
Internet of Things	The concept of connecting any device to the Internet (and/or to each other). This includes everything from phones, coffee makers, washing machines, headphones, lamps or wearable devices. The concept also applies to components of machines, for example a jet engine of an airplane or the drill of an oil rig. Gartner predicts that by 2020 there will be over 26 billion connected devices…
ITIL	Information Technology Infrastructure Library. This is a framework designed to standardise the selection, planning, delivery and support of IT services to an organisation.
LHD	Local Health District. There are eight Metropolitan and seven Regional Health Districts in NSW.
NSLHD	Northern Sydney Local Health District, one of eight NSW Metropolitan Health Districts
S&I	Strategy and Innovation directorate
P&I	Performance and Innovation directorate
PMO	Project Management Office. This is an office that defines and maintains standards for project management.