95	4	MR4	A record of reports issued and data sources: that each six months, a regular stock of data holdings take be conducted by web portal with data analysts/data managers. By area of data system operation/function and also a sample of key data users/dataset holders who create reports and secondary datasets. The surveys would ask four sets of questions outlined in the box below. SIX-MONTHLY UPDATES FOR REGISTER OF DATA REPORTS AND DATA HOLDINGS · What reports and data release provision are you responsible for? To whom? For what purpose? · Who/what is the official point/authority for release of the reports/datasets? Date of releases in past six months – Date of next scheduled/expected release. · What are the data sources for the reports/data releases? Source records? Compiled datasets? Working datasets? – Date of releases in past six months – Date of next scheduled/expected release. · What data holdings do you maintain? How are they stored? Who has access? Under what conditions? What records are there of data release? What is the audit trail from final reports to source records for the data used? – a. Standards and protocols? – b. Compliance assurance/audits? – c. Date of next scheduled audit or review? To minimize repetition, the survey forms can be prepopulated with answers from the previous returns and only require confirmation updating that ideally would be done dynamically as reports and datasets are authorised for release. The survey that would then function as a follow up check and periodic stock take mechanism. a. Reporting obligation under which report was prepared b. Purpose of the report c. Key users of the report d. Data sources and working datasets from which report compiled.	Completed
96	2	MR2	A record of reports issued and data sources: that this register be published via intranet web page in sections with hyper-links or references that identify those reports and data which are for:- a. public access by sale, publication, library or open internet lookup. b. limited public access by registration or fee by restricted access internet (e.g. registration and logon and conditions of access apply). c. ministerial and corporate access by intranet only.	Underway
97	3	MR3	A record of reports issued and data sources: that for each of the reports issued, archive copies of the report be stored in PDF or similar protected document form in an archive repository with folders numbered in a logical order based on the Register of Reports' indexing arrangement.	Completed

98	5	MR5	A record of reports issued and data sources: that data holdings required for replication of key registered reports be indexed and archived in retrievable data storage arrangements as at the date used.	Completed
99	52	MR52	Identification of report authorship and underpinning data status: that reports for Minister, Assembly or Public release have a registration point that documents source data and clearance point and data and version of databases used in their production.	Completed
100	53	MR53	Identification of report authorship and underpinning data status: that information analysis reports should have footnote reports metadata that allows identification of source data and reference data and definitions used that match what would be recorded in the register for more formal analysis reports.	Completed
101	22	PWCR22	Document standards for ETL and other code which produce the metric values reported on the public website or Portal. (This should also include a mapping of data sources through PIP or BIU staging tables back to source datasets, as well clear business logic and a linkage to national rules/standards where applicable).	Underway
102	33	PWCR33	Identify and leverage existing eHealth data initiatives. Confirm ownership of patient index master data (PIM) and any other in-flight master data or metadata project. Assess their data quality and if or how the data warehouse should be integrating them.	Underway
103	12	AG15R12	Distribution of Validation Reports: The Health Directorate should finalise its new business rules for data validation and incorporate these in its data warehouse, then re-commence the distribution of validation reports for the Non-admitted Patient areas at Canberra Hospital and Calvary Public Hospital and for the Calvary Public Hospital Emergency Department.	Underway
104	10	AG15R10	Tracking of Validation Activities: The Health Directorate should review the capability of its data warehouse and develop robust processes to track the validation activities performed by the hospitals. It should also define and promulgate the business rules required in correcting ABF-related data to ensure consistency across hospitals.	Underway
105	11	AG15R11	Key Performance Indicators: The Health Directorate should develop KPIs for the validation of data that can be supported by information from the data warehouse.	Underway

106	3	MPR3	External audits of coding to activity datasets and conformance with costing standards be programmed sequentially for completion within the next twelve months and then followed up with an annual program over a three year cycle. The key purpose and focus of these audits should be to support a culture of data quality and standards conformance.	Underway
107	44	MR44	Data falsification risk management: that coding standards are to be applied and that professional ethics are reinforced relating to correct and even-handed application of coding standards and reports metadata definitions.	Completed
108	43	MR43	Data falsification risk management: that staff involved in the creation, edit and deletion of data are to manage data in an ethically appropriate manner.	Ongoing
109	45	MR45	Data falsification risk management: that feedback to data extraction and coding staff relate to variances from data standards.	Ongoing
110	3	PWCR3	Undertake a review and update where necessary, existing Report metrics against National Standards to improve comparability and align with better practice: · Identify changes to the existing Report structure to present findings accurately and more meaningfully; and · Amend, validate and sign-off Standards which may be updated to address any changes in the intent of the metric.	Underway
111	4	PWCR4	Review and make determination on the inclusion of 'publications' (such as the Report) to be subjected to the formal 'Ministerial Process' for publishing on the Government website.	Completed
112	18	PWCR18	Identify Data Warehouse 'lockdown process' or 'snapshot date' for ongoing Quarter reporting purposes.	No longer relevant
113	25	PWCR25	Apply name and date stamps to reports provisioned via email subscription that contain sensitive information, to reinforce that it is for the use of the recipient only, and not to be shared.	Underway
114	29	PWCR29	Agree to a longer term strategy for delivering ED and ESWL reporting requirements. • PwC recommends option L1 (p 17) to define and prioritise ED and ESWL reporting requirements, build a new data warehouse for regular reporting and leverages data virtualisation for adhoc reporting.	No longer relevant
115	28	PWCR28	Agree short term remediations for ED and ESWL known issues. • PwC recommends option S1 (p 13).	No longer relevant

116	37	PWCR37	Operational reporting (with the exception of live PIP and PIP NEAT reporting) should utilise management reporting from the source system (EDIS) and not from various data warehouse databases.	No longer relevant
117	39	PWCR39	Operational reporting requirements are outstanding and will require consideration once available.	Completed
118	15	SCPAR15	The Committee recommends that the Government of the day should inform the ACT Legislative Assembly, at the earliest possible opportunity, if the emergency access targets under the National Partnership Agreement on Improving Public Hospital Services, will not be reached by the Canberra Hospital for the 2012 calendar year.	Completed
119	4	SCPAR4	The Committee recommends that the Health Directorate in conjunction with Shared Services ICT ensure that appropriate training on every IT related hospital system, with a particular focus on the Emergency Department Information System (EDIS), is provided to all staff at the Canberra Hospital and Calvary Public Hospital.	Completed
120	23	MR23	Help desk: that, in accordance with the Reid/McKay report, within P&I Branch, a help desk function be maintained by data analysis staff (both local and out posted) and a log of queries recorded a. queries should be differentiated according to topic and referred to subject matter experts (SME)s – e.g. epidemiological – ABF – health service performance – coding and reports metadata – data quality issues b. SMEs should make sure that advice is logged so that common themes, standard practice issues and training material can lever convergence to common understanding and skill in data meaning (reports metadata) and quality. c. a running log/newsletter of queries and answers should be maintained on the website – particularly FAQs. d. access to help desk be provided to all staff to enable self-service and knowledge based capacity While not primarily the responsibility of a help desk, questions on the following areas can also be logged and the enquirers directed to appropriate subject matter experts or responsible functional areas by the helpdesk. a. data quality and integrity b. data analysis and interpretation c. data release – system interfacing – data transfers and extraction d. reporting outputs authorization.	Underway
121	22	MR22	Training and support in use and interpretation of data: that a user-friendly on-line library of training materials for data system users be developed or linked to the systems access register.	Completed
122	19	MR19	Training and support in use and interpretation of data: that principles of proper use of information should be defined as an organization value and guideline. Questions that need to be addressed include: is this a values / moral / or purpose based concept? – is it the idea of how to best use systems for efficiently delivering correct observations? – is it the idea of ensuring that information selected for reporting is balanced relevant and reliable and not misleading? – is it a pragmatic construct based on creative selection of facts to achieve an agreed result?	Underway
123	20	MR20	Training and support in use and interpretation of data: that an index of training material be prepared – ideally web-based and linked to training material for online learning and reference.	Completed
124	21	MR21	Training and support in use and interpretation of data: that a training protocol be developed for each information system component and a register of expert users.	Completed
125	46	MR46	Data falsification risk management: that reinforcement from management be directed to timely and accurate reporting of hospital performance rather than favourable performance trends and a culture of emphasis on timely and accurate reporting of performance be reinforced.	Ongoing

126	47	MR47	Data falsification risk management: that data and analytical staff be encouraged to quickly and collaboratively report early indications of variations from normal trends to business areas both for the purpose of checking data integrity and also for early management information feedback, and responds variance from data standards.	Completed
127	13	RR13	Greater utilization should progressively be made of medical records data extraction for incident monitoring rather than dependence on Riskman information.	Underway
128	17	RR17	The ED P&I Branch should work with each Division to improve data analytics.	Completed
129	10	RR10	P&I Branch should review its external liaison arrangements with Divisions to improve engagement with EDs/Clinical Directors on enhancing data quality. As one practical suggestion, the Branch should be present at monthly Divisional meetings to discuss scorecard data. Similarly, the ED of the Branch should be present at that part of the Executive Council meeting which discusses the Directorate scorecard.	Completed
130	20	RR20	The Chief Health Officer should develop a proposal for enhancing data linkages and improved performance measures for Executive consideration, across the Directorate scorecards.	No longer relevant
131	16	RR16	The ongoing improvements to Divisional scorecards, together with the introduction of the data repository and better data linkages provide opportunities to move from process measures to output and outcome measures and these should be exploited.	Completed
132	18	RR18	Each Division should be provided with a monthly whole-of-hospital scorecard to better contextualize their Divisional performance.	Completed
133	19	RR19	A workshop should be held across the Directorate and with relevant external stakeholders to review current priorities for data linkage initiatives within the ACT.	Completed
134	2	MPR2	Metadata management and reference system be established and maintained as the authoritative reference point for reporting data standards citation.	Underway
135	29	MR29	Data audit status and metadata standards: that metadata and messaging interfaces between operational data systems (both business and clinical) and statistical/management information reporting data repositories be documented and audit trail requirements established.	Underway
136	30	MR30	Data audit status and metadata standards: that metadata be identified at each system interface so that the attributes and concepts described in the variable definitions and value labels align and complex mappings are minimized.	Underway
137	58	MR58	Internal data audit and data quality assurance: that the specification of data quality standards and requirements for central data collections be clearly assigned to the Data Standards Unit and associated with the reports metadata specification functions.	Underway
138	8	AG15R8	Guideline for the Non-Admitted patient Data Collection Process: The Health Directorate should finalise and implement the Non-Admitted Patient Activity Data Standards - Data standards for the recording and counting of non-admitted patient activity.	Underway
139	10	PWCR10	Infographics • Define the set of metrics to be reported in the infographics of the 2015-16 Annual Report. • Only 7 of the 37 metrics are included in the main body of the Report. Suggest changing the infographics to use metrics from the body of the Report that are validated. • Validate to source the 32 non-Morbid data extractions.	No longer relevant

140	5	PWCR5	Strategic Indicators – ACT Health • Validate to source the 6 non-Morbid data extractions. Metrics to be Validated: • Percentage of assessed emergency [dental] clients seen within 24 hours • Immunisation rates for vaccines in the national schedule for the ACT indigenous population • The Mean Number of Teeth with Dental Decay, Missing or Filled Teeth at Ages 6 and 12 (DMFT Index) • Reduction in the Rate of Broken Hips (Fractured Neck of Femur) for those aged over 75 years (rate per 1000 people) • Mean percentage of overnight hospital beds in use (total) • Mean percentage of overnight hospital beds in use (by hospital).	Underway
141	6	PWCR6	Statement of Performance • Validate to source the 14 non-Morbid data extractions. Metrics to be Validated: • 1.1g Mean waiting time for clients on the dental services waiting list • 1.1h % of the Women's Health Service Intake Officer's clients who receive an intake & assessment service within 14 working days • 1.2d Proportion of detainees at the Alexander Maconochie Centre with a completed health assessment within 24 hours of detention • 1.2e Proportion of detainees at the Bimberi Youth Detention Centre with a completed health assessment within 24 hours of detention • 1.2f Justice Health services community contacts • 1.2g % of current clients on opioid treatment with management plans • 1.2h Alcohol & Drug Service community contacts • 1.3a Samples analysed • 1.3b Compliance of licensable, registrable and non licensable activities at the time of inspection • 1.3c Response time to environmental health hazards, communicable disease hazards relating to measles and meningococcal infections and food poisoning outbreaks is less than 24 hours • 1.5a Number of nursing (domiciliary and clinic based) occasions of service • 1.5bNumber of allied health regional services (occasions of service) • 1.6b Proportion of clients attending 'Well Women's Check' within the Women's Health Service that are from culturally and linguistically diverse communities • 1.6c Proportion of children aged 0–14 who are entering substitute and kinship care within the ACT who attend to the Child at Risk Health Unit for a health and wellbeing screen.	Underway
142	7	PWCR7	Strategic Indicators – Local Hospital Network • Validate to source the 2 non-Morbid data extractions. Metrics to be Validated: • The 2015-16 Estimated Hand Hygiene Rate (no table identifier) • Historical Hand Hygiene Rate (Table 18).	No longer relevant
143	8	PWCR8	PWCR8: Review the business logic of reported metrics aligns to the intent of the strategic indicator or reporting requirement.	Underway
144	9	PWCR9	Our Workforce • Validate to source the 11 non-Morbid data extractions. Metrics to be Validated: • All 11 tables in the Our Workforce section of the report.	Underway

145	54	MR54	External data audit: that a program of external audits be designed and commenced as soon as possible of the coding and MDS specification conformance of the key MDSs.	Underway
146	55	MR55	External data audit: that an external audit be commissioned to follow the coding audit of the costing data and conformance of the costing data to the NHCDC reporting standards. This audit should also be asked to report on fitness of costing data and system functionality for use of the costing reports for hospital operational management and feedback to clinical units on utilization benchmarking.	Completed
147	56	MR56	External data audit: that a three year rolling audit program be developed and include:- a. Review of internal data quality assurance checks on compliance, completeness and accuracy of data entry for all data flows. These QA processes should be designed to provide: · systematic checking of highest risk variables at least once a year or more frequently according to risk rating – and · random sample checks of lower risk variables. · peer recoding checks and · statistical pattern analysis to identify atypical value distribution patterns by variable · reconciliation of counts against clinical unit throughput management statistics. b. Where atypical patterns are observed in internal recoding studies or statistical analysis, follow up should occur by:- · clinical review of observations against norms and advice on the face validity of the observed patterns · targeted recoding checks · data entry process inspection · notification to external audit for review where discrepancy remains unexplained or uncorrected. · External coding audit by recode of a random sample of coded records · Statistical analysis of data patterns and Other matters that the auditors determine in discussion with the Health Directorate and ACT Government Audit.	Underway
148	15	PWCR15	Provide QA oversight of the Quarterly Performance Report Q4 process.	Completed
149	27	PWCR27	Apply validation controls to subscription reports that enables checking of content prior to distribution for completeness and accuracy.	Completed
150	2	SCPAR2	The Committee recommends that the [ACT] Minister for Health make representations at the appropriate forums to progress the concept of a regular national audit by the Commonwealth Auditor-General of health performance and data integrity as it relates to Commonwealth agreements through the recently amended legislative provisions of the Commonwealth Auditor-General Act 1997.	No longer relevant
151	9	SCPAR9	The Committee recommends that the Government of the day detail to the ACT Legislative Assembly, at the earliest possible opportunity, how it will address and improve issues about achievements against throughput and triage targets as they relate to the Emergency Department at the Canberra Hospital.	Completed
152	2	AG15R2	Outcome Measures: Outcome measures for data quality (including data integrity metrics) should be developed and incorporated into the Health Directorate's Information Strategy 2015-2016. These should be monitored to assure the adequacy of data integrity, particularly for ABF-related data.	Underway

153	3	AG15R3	Evaluation, Corrective Actions and Assurance: The ACT Health Directorate's Information Management Strategy 2015-2016 should clearly articulate the following: a) key data integrity risks associated with ABF-related data and ACT Health Directorate's IHPA data submissions; and b) frequency and scope of controls assessments and other assurance activities that will be undertaken to provide assurance in relation to ABF data integrity. The ABF data integrity risks and controls assessments above will need to be updated from year to year as IHPA's data submission requirements change.	Underway
154	15a	AG15R15a	Risk Based Approach to Investigations: The Health Directorate should undertake further investigation into the inconsistencies and anomalies identified by the data analytics, taking a risk-based approach to the investigation and focussing on the areas that have the potential to materially affect ABF data and funding.	Completed
155	1	AG12R1	The Health Directorate should review its performance indicators for publicly reporting the performance of Canberra's hospitals' emergency departments to include and give a greater emphasis to qualitative indicators relating to clinical care and patient outcomes.	Underway
156	13	AG15R13	Analytical Review of Reporting: The Health Directorate should perform an analytical review to quality assure the six-monthly ABF data submission before it is sent to IHPA.	Completed
157	16	AG15R16	Length of Stay, Overlapping Admissions and Type of Visit a. Canberra Hospital and Calvary Public Hospital should review patient records on a random and weekly basis with a focus on the fields that are included in ABF reporting. b. Canberra Hospital and Calvary Public Hospital should conduct refresher training for Emergency Department clerical staff on how to appropriately classify the 'type of visit' for patients presenting to the Emergency Department.	Completed
158	17a	AG15R17a	Non-Admitted Data and Systems: The Health Directorate and Calvary Public Hospital should investigate the root causes of errors in Non-admitted patient data, including errors in the indigenous status, postcode and funding source fields in the source data and the IHPA submission and develop and implement policies and procedures for improvement.	Underway
159	4	MPR4	Issue and implement the Data Quality Framework as a dataset editing and quality assurance framework and report quality-rating tool. The Data Quality Assurance Framework is attached as Appendix.	Underway
160	39	MR39	Training in values and best practice in data security: that ongoing, unresolved discrepant levels of validation edits be referred for specific audit review in the next data audit.	Underway
161	48	MR48	Implementation of data quality framework: that each dataset be documented in a register with a history of the data validation and data quality checks that have been applied in addition to the data quality report.	Underway
162	49	MR49	Implementation of data quality framework: that the register entry for each dataset include source datasets from which it is extracted and reports metadata used for definitions of variables and value definitions in each variable.	Underway
163	50	MR50	Implementation of data quality framework: that each iteration of each dataset be recorded as cross-referenced a new entry in the register (and/or a clearly marked comment for each minor update).	Underway
164	57	MR57	Internal data audit and data quality assurance: that a clear role that needs to be operating with the Internal Audit Branch that interfaces with and integrates data quality assurance functions and operates as a dedicated Internal Data Audit program. This could be achieved by the role and scope of the current Data Quality Assurance unit be changed manage the internal information audit role and that it be renamed to reflect this function and interfaced in the planning and delivery of this.	Underway

165	59	MR59	Internal data audit and data quality assurance: that the role of the Central Data Repository currently in implementation absorb all core data set data edits and programmed data quality assurance functions for the central data repository and that they be automated within the ETL functions where possible.	Underway
166	7	SCPAR7	The Committee recommends that all ACT Government directorates and agencies should have effective practices and processes in place to review all reports of the Auditor-General, and to assess the relevance of the findings and recommendations to their agency, regardless of whether the agency was involved in a specific audit.	Completed
167	2	RR2	All data sets, which are provided externally, should be 'accredited' by the ED P&I Branch. This accreditation process should be designed to approve the data sources, standards and definitions.	Underway
168	3	RR3	In undertaking this 'accreditation', the ED P&I Branch should assess the appropriateness of the continuation of the external provision of data by Divisions or whether alternative arrangements are proposed. It is expected there will be some circumstances where information, currently distributed within the Directorate and/or to the national agencies without the involvement of the P&I Branch, will need in future to be formally cleared through P&I Branch.	Completed
169	4	RR4	Once the data sets are on the register, accredited and the arrangements are deemed appropriate, the data should continue to be provided by the relevant Division.	Completed
170	16	SCPAR16	The Committee recommends that the 8th ACT Legislative Assembly Standing Committee on Public Accounts should give due consideration to conducting an inquiry into the process of future delivery of health care services across the Canberra Hospital and Calvary Public Hospital.	Completed
171	11	RR11	More regular audits of clinical coding should be undertaken by the Health Directorate to highlight areas for quality improvement. This highlighted focus on accuracy of clinical coding is particularly critical leading up to the advent of ABF.	Ongoing
172	14	RR14	Innovative tools to enable a more cost effective data capture be identified and evaluated by the ICT Management Committee.	Completed
173	15	RR15	The workload of clinical coders' assessed and appropriate adjustments made to ensure the targets proposed for coding timelines are achieved.	Completed
174	3	AG12R3	The Health Directorate should, in conjunction with Shared Services ICT, finalise the draft Business System Support Agreement between Shared Services ICT and the Health Directorate for EDIS.	No longer relevant
175	1	SCPAR1	The Committee recommends that the Minister for Health give consideration to finalising the Government submission to the Standing Committee on Public Accounts in response to Auditor-General's Report No. 6 of 2012: Emergency Department Performance Information earlier than three months after the report being tabled.	No longer relevant

Appendix B – Statement of responsibility

This review has been conducted in accordance with the terms and conditions as defined in the signed Internal Audit Request for Services Form dated 26 May 2017.

In our professional judgement, sufficient and appropriate audit procedures were completed and appropriate evidence gathered to support the conclusions reached and contained in this report. Synergy Group limited the procedures performed to inquiries of relevant personnel, inspection of evidence and observation of, and enquiry about, the new and planned processes, systems and arrangements. Our procedures were designed to provide limited assurance as defined by Australian Standards on Assurance Engagements (ASAE 3000). This standard recognises the fact that absolute assurance is rarely attainable due to the use of judgement in gathering and evaluating evidence and forming conclusions. Due to the nature of the engagement, our process did not test the effectiveness of controls or detect weaknesses in control procedures, rather it assessed the adequacy of the implementation of the recommendations.

Our report was prepared solely for the internal use of the ACT Health Directorate. No responsibility to any third party shall be accepted, as our report was not prepared, and was not intended for any other purpose.

ACT Government

Health

February 2017

Final Report

Review of Patient Safety and Quality Governance Processes and Recommendation Implementation

pwc

Overall report rating

A number of extreme and high priority issues requiring focussed management attention	
Some extreme and / or high priority issues requiring management attention	
Few high priority issues for management to address or high number of medium priority issues	✓
No extreme or high priority issues and small number of medium issues or no issues at all.	

Contents

1. Summary against scope 2

2. Background 3

3. Summary of results 5

4. Management signoff 7

5. Detailed findings 8

Appendices

Appendix A Objectives, scope and approach 15

Appendix B ACT Health's Risk Rating Framework 19

1. Summary against scope

PricewaterhouseCoopers (PwC) was engaged by the ACT Health Directorate (ACT Health) to undertake a program of internal audit assignments as part of the 2016 Strategic Internal Audit Plan. Included in this plan was the review of the Patient Safety and Quality Governance Processes and Recommendation Implementation.

This review recognises the recent internal audit completed by Axiom Associates of the Canberra Hospital & Health Services (CHHS) Clinical Incident Response and Reporting Processes and the resulting agreed recommendations. Following this review and aligned with the broader long–term quality program, the scope for this internal audit included governance processes for documenting, monitoring, implementing and reporting on actions/recommendations from Morbidity & Mortality (M&M) Committee meetings, CHHS Clinical Review Committee (CRC) meetings, and Divisional Quality & Safety meetings.

The overarching objective of this review was to provide assurance that the patient safety and quality governance processes related to the review of patient morbidity and mortality and the current committee structure provides for:

- appropriate responsibility and accountability
- timely and effective discussion to identify issues for improvement
- the development, tracking and implementation of actions and recommendations in a timely manner
- sharing, documenting and escalation of outcomes and lessons.

The focus areas of the review are listed in the table below. Against each area, specific findings have been summarised and, where applicable, linked to relevant sections within the report. This summary should be read in conjunction with the remainder of the report and the background information provided at Appendix A.

Focus area	Summary of key findings	Finding Ref
• Appropriate responsibility and accountability • Timely and effective discussion to identify issues for improvement	Consultations were held with key M&M Committee members who participate across 30 committees, including non-QAC Committees, during the course of the review. The following key findings were noted: • An excessive number of M&M Committees; • Unclear roles and responsibilities; • Incomplete feedback loop; • Untimely, inadequate and inaccurate information provided; and • Inadequate information sharing.	5.1
• Development, tracking and implementation of actions and recommendations in a timely manner • Sharing, documenting and escalation of outcomes and lessons.	A sample of ToRs and completed M&M Feedback Forms were requested. While most of these documents were provided on request, they could not be provided in a timely manner. This may be due to unavailability of information and timely upload of the Feedback Forms to the M&M Library. Based on review of the ToRs and the Feedback Forms, the following issues were noted: • Incompleteness and inconsistency of feedback provided; • Unawareness, unavailability and inaccessibility of information; • Information not being de-identified; • Outdated Terms of References (ToRs); • Insufficient trend analysis of incident data; and • Outstanding actions from previous meetings.	5.2

2. Background

In early 2014, requests were made to clinical units within Canberra Hospital and Health Service (CHHS) to provide de-identified feedback on the issues, lessons learnt and related improvement actions from their Morbidity and Mortality (M&M) Committee activities.

Canberra Hospital and Health Services has a number of identified morbidity and mortality committees (M&Ms) for the purpose of reviewing clinical services relevant to the committee's health care activities. Historically, there has not been a formalised ACT Health framework for M&M committees and a standardised feedback - reporting process. Many of the M&M committees are QAC's and therefore report as required by legislation to the Health Minister annually. The level of detail required in these reports varies significantly as this is not explicitly stated in the legislation.

In March 2015, the electronic Improvement Library was introduced to capture all M&M information in a central repository for ease of access. A component of the Library is the M&M Library which contains the M&M feedback information. The Chair of each M&M committee is responsible to provide the completed feedback template to the HealthCARE Improvement Division (HCID) M&M Coordinator following each M&M meeting who then uploads the forms into the electronic Library. The HealthCARE Improvement Division (HCID) is currently known as Clinical Safety and Quality Unit (CSQU). Adherence to the provision of the feedback documentation varies as M&M (QAC's) under governance of the Health Minister.

The purpose of providing feedback following each M&M meeting is to improve the quality and safety of patient care by assisting the organisation to understand issues, areas for improvement and to support the monitoring of actions and outcomes. All staff have access to the Improvement Library. The outcomes from M&M meetings support the ACT Health Quality and Clinical Governance Framework. There are two main functions in relation to the M&M committees. The CHHS M&M committees are responsible for conducting and reporting on M&M meetings and the CSQU coordinates the feedback and is responsible for the framework to ensure M&M committees are effectively capturing and reporting lessons learned across the Canberra Hospital and Health Services.

1. CHHS M&M committees

CHHS has 34 committees that conduct quality assurance activities related to morbidity and mortality. Of these:

- 30 are an approved Quality Assurance Committee (QAC) under the Health Act 1993;
- Four committees function without legislated approval.

There are another three clinical service areas where it has not been established if they have or participate in a morbidity and mortality review committee.

The committee titles vary and include:

- Quality Assurance Committee
- Morbidity and Mortality Committee
- Audit Committee
- Mortality Review Committee.
- Clinical Review Committee

Clinical representation varies across committees, some are multidisciplinary and membership of others consists of only senior medical officers.

The internal processes for the committees are unclear, for example, case review and data selection, information management, action monitoring and reporting.

2. HealthCARE Improvement Division (HCID)/Clinical Safety and Quality Unit (CSQU) and M&M Committees

In 2014 the expectation for QAC/M&M feedback was communicated to all divisions, along with a request for future M&M meeting dates and the template for feedback from each meeting.

In April 2015, the CSQU M&M Coordinator provided the Executive Directors, Clinical Directors and known QAC/M&M Chairs with information about the Improvement Library, a guide for M&M committees and the revised feedback template.

The required process is for the Chair of the Committees to send the completed template to the generic CSQU M&M mailbox. The M&M Coordinator checks the feedback information for any identifiers or sensitive information prior to loading the form onto the Improvement Library 'M&M Library' section. If the M&M Coordinator considers information needs to be further de-identified or sensitive information removed then the suggestions are sent back to the relevant Chair for their consideration. The form is not to be uploaded onto the Library until approval is received from the Chair. Each M&M committee is expected to separately maintain their own meeting minutes.

The M&M Coordinator also sends relevant death data to the M&M Chair. This has included a progressive monthly run graph of deaths for their unit, the patient URN, the admitting team and whether the death has been referred to the Clinical Review Committee after routine death screening by the clinical reviewers. CSQU also provides any RiskMan incident notifications which may be appropriate for M&M review.

On an annual basis, the information received by HCID from M&M feedback is collated to:

- identify key themes and issues
- monitor action outcomes
- identify compliance with the feedback requirement
- assist with the improvement of processes and outcomes for morbidity and mortality activities.

3. Summary of results

To date, HCID (now CSQU) has implemented processes that guide and support the participation in M&M committee activities. This includes;

- process and information management
- documentation requirements
- tools and templates
- provision of monthly data
- an electronic platform in SharePoint for storing and viewing the feedback information.

As per the July 2016 Morbidity and Mortality Committee Report, over the past 12 months there has been increasing participation and engagement across all clinical divisions in M&M activities and the feedback process. The majority of M&M committees are now engaged and demonstrate a good understanding of morbidity and mortality review processes. The frequency of M&M committee meetings varies as does the feedback and content. A number of committees have embedded the feedback step into their M&M process and the information that is provided identifies themes, lessons learnt and actions.

Between 1 August 2015 and 30 June 2016, CSQU received a total of 127 completed M&M Feedback forms from 28 different M&M committees. There are still a few committees that have not provided any feedback and others have provided minimal feedback and limited information to describe issues identified and actions. In these cases it is unclear how lessons learnt are shared and how any identified patient safety issues are actioned, recorded and monitored.

Some committees have highlighted barriers relating to M&M processes such as limited time and resources to screen all deaths, METs and other referred cases, concern regarding information sharing, managing the recording of meeting minutes and separate feedback information. To assist with some of these barriers the Executive Directors of each division agreed that secretariat support would be offered to each committee. CSQU also offer support by advising on information recording and management.

The processes for screening and reviewing cases within each speciality and M&M committee is not clear, along with how lessons and actions are communicated and followed up. Although, a number of the M&Ms documented internal actions to address issues identified and the monitoring and follow up of these actions.

Findings and areas for improvement

The following findings were identified during the review:

- **Excessive number of M&M Committees**: Multiple M&M Committees were identified that are under the same Division and have similar Terms of References (ToRs) with common members.

- **Unclear roles and responsibilities**: There is some confusion among meeting participants/staff, particularly those who do not have a clearly defined role under the ToRs as to their roles and responsibilities regarding committee participation.

- **Incomplete feedback loop**: Lack of oversight was noted among committee members over implementation of action items and/or recommendations post the M&M meetings.

- **Untimely, inadequate and inaccurate information provided**: Cases referred are often old and/or not relevant to the month for which cases are being reviewed. Concerns have also been raised by several members in relation to the significant delays in getting autopsy reports which are often critical when reviewing certain cases.

  There is often a mismatch of data noted between internal reports prepared by the specialty and data provided within the data bundles by CSQU which usually is due to information being retrieved from

different systems. Information provided prior to meetings also often lacks sufficient detail or is too high level to enable adequate review and classification cases.

- **Inadequate information sharing**: There is a lack of information sharing between Committees where similar cases are discussed. Despite feedback forms being accessible by all staff, due to information being de-identified, inconsistent and often lacking detail, it is hard for readers to make sense of what was discussed in a meeting at another specialty the appropriateness of the actions and how the outcomes were achieved.

- **Incompleteness and inconsistency of feedback provided**: The review noted that not all sections within the forms were complete. The consistency of feedback provided also varied across various Feedback Forms received from different committees. It is also unclear from the Feedback Forms whether all cases referred to the committees through the data bundle provided have been discussed in the meetings and whether any outstanding ones will be discussed in future meetings.

  It was also noted that feedback forms for all QAC and/or non-QAC M&M meetings held are not always provided to CSQU. There were also some committees identified who never provided a feedback form to date as they do not keep any formal record or minutes of the meetings. This may also be attributable to the M&M committees lack of understanding of the application of the responsibility as a QAC.

- **Lack of awareness, unavailability and inaccessibility of information**: Several M&M Committee Members noted that not all staff are aware of where the M&M Feedback Forms are located for later reference. This was also noted due to the Forms not being uploaded in the Library in a timely manner.

- **Information not being de-identified**: Several instances were noted where information provided within the Forms had to be blacked out by the HCID Coordinator prior to uploading to the M&M Library as the information included confidential patient information or sensitive cases.

- **Outdated and Inconsistent Terms of References (ToRs)**: It was noted that some of the ToRs were not dated and there are others which appeared to be out of date (past its review date at the time of this review) and none of those reviewed appeared to be endorsed. There is variations in the responsibilities listed within the TOR.

- **Insufficient trend analysis of incident data**: The review noted that CSQU performs high level trend analysis of incident data over a period of time and sometimes follow-ups are made with relevant committees where it is identified that incident rates are going up or not decreasing over time. However, it is unclear from the review of the Feedback Forms as to how the actions and/or recommendations being implemented from the meetings are impacting the results (if any).

- **Outstanding actions from previous meetings**: The section within the Feedback Forms which requires committees to report progress of actions from previous meetings was often noted to be incomplete. The review noted that outstanding action items is often missed out if not carefully brought up in the following meeting.

- No consistent governance pathway applied for the reporting and monitoring of actions

Further details in relation to each of the above areas are included within Section 5 of this report. Each finding/issue identified during the review has been assigned a risk rating based on the Risk Rating Framework attached as Appendix B.

4. Management signoff

This report has been reviewed and discussed with the following stakeholders who have had the opportunity to express any comments on the findings and recommendations outlined in this report.

_____ _____
Jane Murkin Date
Deputy Director-General Quality Governance and Risk
ACT Health

_____ _____
Johan Pretorius Date
Audit Risk and Compliance
ACT Health

_____ _____
Adrian King Date
Partner
PwC

5. Detailed findings

5.1. Structure of M&M committees and feedback loop

Medium Risk Rating

Finding

A Quality Assurance Committee (QAC) is established and functions as per the *Health Act 1993* (Health Act). The Minister for Health provides the approval of QACs, in accordance with Section 25 of the *Health Act 1993*. An approved QAC is a notifiable instrument under legislation.

The primary purpose of a Quality Assurance Committee (QAC)/Morbidity and Mortality Committee (M&M) is to examine and discuss clinical services relevant to the committee's health care activities. The overarching aim is to facilitate improvement in the quality and safety of health services.

Consultations were held with key M&M Committee members who participate across 30 committees, including non-QAC Committees. The following key findings were noted:

- **Number of M&M Committees:** It was highlighted by several committee members that there are several M&M Committees which are often under the same Division, have similar Terms of References (ToRs) and reviews similar cases. It was noted that several members often sit on multiple committees as well.
- **Defined roles and responsibilities:** The review noted that there is often confusion among meeting participants/staff, particularly those who do not have a clearly defined role under the ToRs as to their roles and responsibilities regarding committees responsibilities and member participation.
- **Feedback Loop:** Several committee members stated that they lack oversight regarding implementation of action items and/or recommendations post the M&M meetings unless they are brought up again in a following meeting. Generally, there is no follow-ups from CSQU as to whether outstanding action items or recommendations have been implemented. There is also a lack of general awareness of outcomes from these meetings by staff at an operational level.
- **Timeliness, adequacy and accuracy of information provided:** Committee members noted that they often get referred cases that are old and/or not relevant to the month for which cases are being reviewed. Concerns have been raised by several members in relation to the significant delays (up to 6 months) in getting autopsy reports which are often critical when reviewing certain cases. Furthermore, there is often mismatch of data noted between internal reports prepared by the specialty and data provided within the data bundles by HCID. As an example, the review noted this has happened when a patient from a certain clinical area passes away in another (e.g. Emergency Department), the case may then be referred to ED rather than clinical area the case originated from. Mismatch of data has often been caused by the various sources of information from various systems. Furthermore, members also noted that sufficient detail is not provided to enable review of the cases and sometimes too many cases are referred to the committees that cannot be all discussed in one meeting.
- **Information sharing:** Several members noted that there is minimal information sharing between Committees where similar cases are discussed. This was also noted as an issue where a committee is reviewing cases that are an ACT Health wide issue rather than being specific to the specialty. Furthermore, despite feedback forms being accessible by all staff, due to information being de-identified, inconsistent and often lacking detail, it is often hard for readers to make sense of what was discussed in a meeting at another specialty whether the actions are appropriate and how the outcomes were achieved.

Implication

With an excessive number committee meetings taking place and in the absence of adequate information sharing between committees, there is a risk that processes including recommendation implementation are being repeated, resulting in inefficient use of staff time and resources. This could lead over time to less engagement in these committees and negatively impact on the goals of improving patient outcomes.

Without clearly defined roles and responsibilities, there is increased risk of staff not carrying out the functions of their specialty appropriately, resulting in not being able to provide quality and safety of health services.

Accurate information relevant to cases not being provided in a timely manner could cause significant delays in resolving cases.

Recommendation 1

It is recommended that ACT Health review the current governance structure, Terms of References, meeting dates and processes of the M&M Committees to ensure that the committees operate efficiently and effectively.

Management Response

Supported.

> *It is recommended that ACT Health review the current governance structure, terms of reference and processes of the M&M Committees to ensure that the committees operate efficiently and effectively sharing safety and quality learnings.*

Responsible Officer: Martin Monaghan, Senior Manager, Patient Safety Team.

Implementation Date: Proposed date March 2018.

To be determined following the current review of the clinical governance structure by the Deputy Director General, Quality Governance & Risk. Actions against each recommendation will be part of the Incident Management Improvements and Workplan.

5.2. Monitoring and documentation of feedback provided

Medium Risk Rating

Finding

The Improvement Library (located via the SharePoint intranet site) offers a single point of record for capturing information from multiple sources related to CHHS safety and quality issues and improvements. It supports improvement through the identification of shared problems, associated themes, actions, solutions and shared learning's. The Library of information demonstrates accountability and the tracking of outcomes. It also assists with governance requirements that support quality and safety management systems. The Canberra Hospital and Health Services (CHHS) has ownership of the Library information and the CSQU is responsible for its governance.

The M&M Library component contains information related to morbidity and mortality clinical review activity. Quality Assurance Committees, which include M&M Committees who are required to provide de-identified information to the CSQU after every meeting. The information is completed on the QAC/M&M Feedback Form for inclusion in the Improvement Library. This information assists with quality improvement and includes any findings or issues identified from case reviews, lessons learnt and any related actions. The M&M Library component also contains run charts of mortality numbers per month per speciality. The monitoring of this data can assist specialities to identify triggers and the need for further analysis of the data.

Data bundles consist of the preceding month's deaths, MET calls and incidents that may be relevant to the M&M speciality, along with Infection Prevention and Control Unit (IPCU) data, unplanned returns to the operating theatre and unplanned readmissions indicator data. CSQU provides monthly data bundles, via ACT Health email, to M&M committee Chair's with a copy to the relevant Executive, Clinical and Unit Director, Quality Officer and nominated secretariat.

A sample of QAC/M&M and Divisional Quality & Safety meeting minutes, actions and recommendations were requested to confirm implementation of the Terms of Reference (ToR) and processes related to action/recommendation management. However, as meeting minutes contained privileged information an alternative sample of ToRs and completed M&M Feedback Forms (containing de-identified information) were requested. While most of these documents were provided on request, they could not be provided in a timely manner. This may be due to unavailability of information and timely upload of the Feedback Forms to the M&M Library and willingness to share information due to a lack of confidence in the governance structures or an interpretation of CSQU responsibilities.

Based on review of the ToRs and the Feedback Forms, the following issues were noted:

- **Completeness and consistency of feedback provided:** While all Feedback Forms provided were ones accepted by CSQU, not all sections within the forms were complete. In particular, it was noted that sections relating to the list of actions to be undertaken, progress of actions from previous meetings, referral to other specialties and whether issues related to a relevant National Standards were not filled out or completed for all samples tested. The consistency of feedback provided also varied across various Feedback Forms received from different M&M Committees. There were Forms where the information provided was too high level and did not reflect the extent of discussions held and outcomes achieved from the meetings. It is also unclear from the Feedback Forms whether all cases (including deaths) referred to the committees through the data bundle provided were discussed in the meetings and whether any outstanding cases will be discussed in future meetings. Based on discussions with staff, all cases are not always reviewed at the meetings due to time and resource constraints.
  The M&M Committee Report prepared by CSQU report provides information on process participation and the primary issues and themes identified by M&M committees via feedback to CSQU. Based on review of the July 2016 report, it was noted that feedback forms for all QAC and/or non-QAC M&M meetings held are not always provided to CSQU. There were also some committees identified who have not provided a feedback form to date as they do not keep any formal record or minutes of the meetings.

- **Awareness, availability and accessibility of information:** Based on discussions held with several M&M Committee Members, it was noted that not all staff are aware of where the M&M Feedback Forms are located for later reference. This was also noted due to the Forms not being uploaded in the Library in a timely manner.
- **De-identification of information:** Several instances were noted where information provided within the feedback forms had to be blacked out by the CSQU Coordinator prior to uploading to the M&M Library as the information consisted of confidential patient information or sensitive cases.
- **Currency of Terms of References (ToRs):** From the sample of ToRs reviewed some of them were not dated and there are others which appeared to be out of date (past its review date at the time of this review) and none of those reviewed appears to be endorsed. There is also a variation in the responsibilities of the M&M committees.
- **Trend analysis:** The review noted that HCID performs high level trend analysis of incident data over a period of time and sometimes follow-ups are made with relevant committees where it is identified that incident rates are going up or not decreasing over time. However, it is unclear from the review of the Feedback Forms as to how the actions and/or recommendations being implemented from the meetings are impacting the results (if any).
- **Progress of actions from previous meetings:** As highlighted above, not all sections of the Feedback Forms are being completed by committees when providing to CSQU for upload in the Library. The section within the form which requires the committees to report progress of actions from previous meetings is often noted to be incomplete. Based on discussions, the review noted that outstanding action items is often missed out if not carefully brought up in the following meeting. However, the review did note some good practice examples where a committee clearly listed all outstanding items from previous meetings, their current status, if closed, when it was closed and if still outstanding when it will be actioned.

Implication

With incomplete Feedback Forms being provided, there is risk that insufficient information is being provided on process participation and the primary issues and themes identified by M&M committees via feedback to the CSQU which in turn can lead to proper actions not being undertaken to resolve the issues.

Outdated ToRs may lead to staff not performing their roles and responsibilities as required and diminished understanding of responsibilities of reporting.

Inability to link impact of actions on incident trends may mean key issues are remaining unsolved or without appropriate focus.

Recommendation 2

It is recommended that ACT Health implement a process to ensure documentation is uploaded promptly and the recommendations are tracked, monitored and closed appropriately.

Management Response

Supported with amendments as follows:

> *It is recommended that ACT Health implement a process to ensure morbidity and mortality review information is provided in a timely manner and any endorsed recommendations are tracked, monitored and closed appropriately.*

Responsible Officer: Martin Monaghan, Senior Manager, Patient Safety Team

Implementation Date: Proposed date December 2017.

To be determined following the current review of the clinical governance structure by the Deputy Director General, Quality Governance & Risk. Actions against each recommendation will be part of the Incident Management Improvements and Workplan.

Recommendation 3

It is recommended that ACT Health establish a standard reporting process to facilitate the identification of themes and monitoring of actions. This should include a process of education and support to improve awareness of the importance of reporting.

Management Response

Supported with the following amendments:

> *It is recommended that ACT Health establish a standard reporting process to facilitate the timely identification of themes, lessons learnt and monitoring of actions.*

Responsible Officer: Martin Monaghan, Senior Manager, Patient Safety Team

Implementation Date: Proposed date December 2017.

To be determined following the current review of the clinical governance structure by the Deputy Director General, Quality Governance & Risk. Actions against each recommendation will be part of the Incident Management Improvements and Workplan.

Appendices

Appendix A Objectives, scope and approach 15

Appendix B ACT Health's Risk Rating Framework 19

Appendix A: Recommendations Implementation Plan

Objective

Area Audited:	Review of the Patient Safety and Quality Governance Processes and Recommendation Implementation
Date of Audit:	February 2017

	Audit Recommendation	Management Comments and Implementation plan	Responsible Officer	Estimated Completion Date
1	It is recommended that ACT Health review the current structure, Terms of References, meeting dates and processes of the M&M Committees to ensure that the committees operate efficiently and effectively.	Supported with the suggested amendments. *It is recommended that ACT Health review the current governance structure, terms of reference and processes of the M&M Committees to ensure that the committees operate efficiently and effectively sharing safety and quality learnings.* Proposed plan: 1. Review the requirement for 'privileged' Quality Assurance Committees locally and the use of 'privileged' Quality Assurance Committees in other jurisdictions, to understand and optimise the application of these committees. 2. Review the existing Morbidity and M&M Committees including their terms of references. 3. Establish clear standardised expectations of the M&M committees to provide assurance on the investigation, reporting of clinical incidents and sharing of patient safety learnings.	Martin Monaghan, Senior Manager, Patient Safety Team	March 2018 December 2017 March 2018

	Audit Recommendation	Management Comments and Implementation plan	Responsible Officer	Estimated Completion Date
2	It is recommended that ACT Health implement a process to ensure documentation is uploaded promptly and the recommendations are tracked, monitored and closed appropriately.	Supported with amendments as follows: *It is recommended that ACT Health implement a process to ensure morbidity and mortality review information is provided in a timely manner and any endorsed recommendations are tracked, monitored and closed appropriately.* 1. Build on and further enhance the Sharepoint M&M repository with M&M review outcomes, lessons learnt and actions. 2. Establish clear roles and responsibilities for action management, including the process for monitoring actions.	Martin Monaghan, Senior Manager, Patient Safety Team	December 2017
3	It is recommended that ACT Health establish a standard reporting process to facilitate the identification of themes and monitoring of actions. This should include a process of education and support to improve awareness of the importance of reporting.	Supported with the amendments, as follows: *It is recommended that ACT Health establish a standard reporting process to facilitate the timely identification of themes, lessons learnt and monitoring of actions. The reporting process should be supported by a system of 'good governance' and clear expectations.* 1. Establish and implement a standard reporting and analysis process to identify patient safety themes. 2. Develop an educational framework to improve the awareness of patient safety information reporting and shared learnings.	Martin Monaghan, Senior Manager, Patient Safety Team	December 2017

Appendix B: Objectives, scope and approach

Objective

The overarching objective of this review was to provide assurance that the patient safety and quality governance processes related to the review of patient morbidity and mortality and the current committee structure provides for:

- appropriate responsibility and accountability
- timely and effective discussion to identify issues for improvement
- the development, tracking and implementation of actions and recommendations in a timely manner
- sharing, documenting and escalation of outcomes and lessons.

Scope and Approach

The proposed scope and approach to the review involved:

- Discussions with staff and management, including teams with key responsibility for functions related to morbidity and mortality review processes, to obtain an overview of the current processes for identifying, managing and implementation of actions/recommendations.
- Review of *The Quality & Clinical Governance Framework 2015 – 2018* in relation to QACs, M&M committees, and Divisional Quality & Safety meeting governance reporting expectations.
- For the specified committees, review current terms of reference and supporting processes that outline responsibility and accountability, facilitate timely discussion, documentation, escalation and implementation of actions/recommendations
- Meeting with relevant Executive Directors, Committee members and appropriate CHHS staff to confirm:
  - Meetings achieve the desired objectives and outcomes.
  - Actions/recommendations are meaningful and appropriate.
  - Whether lessons learned from the meetings are communicated to relevant staff and available, where appropriate, to other ACT Health staff.
  - Actions/recommendations are captured, allocated appropriately and tracked internally through committee minutes and more broadly through governance processes.
- Consultation with ACT Health stakeholders to select a sample of QAC, M&M and Divisional Quality & Safety meeting minutes, actions and recommendations. Examine the samples to confirm the implementation of the terms of reference and processes related to action/recommendation management.
- Review and analyse a selection of minutes, outcomes, action plans and recommendations from QACs, M&Ms, and Divisional Quality & Safety meetings for whether the desired objectives and outcomes have been achieved. More specifically:
  - Meetings are occurring according to the terms of reference or agreed process and frequency.
  - Actions/recommendations are being documented, managed, escalated and actioned appropriately

  - Reasons for any delays in implementing actions/recommendations are identified and recommended improvements are made

  - Outcomes from meetings that may affect other departments are communicated to the relevant committee/s using standardised processes/pathways.

- Examination of the processes to collate information and report on patient safety issues, themes and risks related to morbidity and mortality review outcomes at an organisational level.

- Providing an update to responsible management on key findings following completion of audit.

- Making recommendations based on discussions, documentation and the results of the review, in relation to addressing any outstanding recommendations and key risks.

- Preparation of a draft report for management review.

- Finalising the report to include management feedback.

Disclaimer / limitation

Our Internal Audit work was limited to that described in this report. It was performed in accordance with the International Standards for the Professional Practice of Internal Auditing from the Institute of Internal Auditors, and in accordance with the ACT Government Internal Auditing Service Panel Deed – Contract Number 20929.220, dated 10 June 2013, between PricewaterhouseCoopers and the ACT Health Directorate. It did not constitute an 'audit' or 'review' in accordance with the standards issued by the Auditing and Assurance Standards Board, and accordingly no such assurance under those standards will be provided in this report.

This report and PricewaterhouseCoopers deliverables are intended solely for the ACT Health Directorate's internal use and benefit and may not be relied on by any other party. This report may not be distributed to, discussed with, or otherwise disclosed to any other party without PricewaterhouseCoopers prior written consent. PricewaterhouseCoopers accepts no liability or responsibility to any other party who gains access to this report.

Appendix C: ACT Health's Risk Rating Framework

LIKELIHOOD

Descriptor	Probability of Occurrence	Indicative Frequency
Almost certain	Occurs more frequently than 1 in 10 tasks.	Is expected to occur in most circumstances.
Likely	1 in 10 – 100	Will probably occur.
Possible	1 in 100 – 1,000	Might occur at some time in the future.
Unlikely	1 in 1,000 – 10,000	Could occur but doubtful.
Rare	1 in 10,000 – 100,000	May occur but only in exceptional circumstances.

CONSEQUENCE

	Insignificant	Minor	Moderate	Major	Catastrophic
Business Process and Systems	Minor errors in systems or processes requiring corrective action, or minor delay without impact on overall schedule.	Policy procedural rule occasionally not met or services do not fully meet needs.	One or more key accountability requirements not met. Inconvenient but not client welfare threatening.	Strategies not consistent with Government's agenda. Trends show service is degraded.	Critical system failure, bad policy advice or ongoing non-compliance. Business severely affected.
Clinical	No injury No review required No increased level of care	Minor injury requiring: • Review and evaluation • Additional observations • First aid treatment	Temporary loss of function (sensory, motor, physiological or intellectual) unrelated to the natural course of the underlying illness and differing from the expected outcome of patient management.	Permanent loss of function (sensory, motor, physiological or intellectual) unrelated to the natural course of the underlying illness and differing from the expected outcome of patient management. A number of key events or incidents.	Patient death unrelated to the natural course of the underlying illness and differing from the immediate expected outcome of the patient management. All national sentinel events.
Environment (Broadly defined as the surroundings in which ACT Health operates, including air, water, land, natural resources, flora, fauna, humans and their interrelation)	Some minor adverse effects to few species / ecosystem parts that are short term and immediately reversible.	Slight, quickly reversible damage to few species / ecosystem parts, animals forced to change living patterns, full, natural range of plants unable to grow, air quality creates local nuisance, water pollution exceeds background limits for short period.	Temporary, reversible damage, loss of habitat and migration of animal population, plants unable to survive, air quality constitutes potential long term health hazard, potential for damage to aquatic life, pollution requires physical removal, land contamination localised and can be quickly remediated.	Death of individual people / animals, large scale injury, loss of keystone species and habitat destruction, air quality 'safe haven' / evacuation decision, remediation of contaminated soil only possible by long term programme, e.g. off-site toxic release requiring assistance of emergency services.	Death of people / animals in large numbers, destruction of flora species, air quality requires evacuation, permanent and wide spread land contamination, e.g. caused by toxic release on-site; chemical, biological or radiological spillage or release on-site.

	Insignificant	Minor	Moderate	Major	Catastrophic
Financial	1% of budget or <$5K	2.5% of budget or <$50K.	5% of budget or <$500K.	10% of budget or <$5M.	25% of budget or >$5M.
Information	Interruption to records / data access less than ½ day.	Interruption to records / data access ½ to 1day	Significant interruption (but not permanent loss) to data / records access, lasting 1 day to 1 week.	Complete, permanent loss of some ACT Health or Divisional records and / or data, or loss of access greater than 1 week.	Complete, permanent loss of all ACT Health or Divisional records and data.
People (Staff, Patients, Clients, Contractors, OH&S)	Injuries or ailments not requiring medical treatment	Minor injury or First Aid Treatment required	Serious injury causing hospitalisation or multiple medical treatment cases.	Life threatening injury or multiple serious injuries causing hospitalisation.	Death or multiple life threatening injuries.
Property and Services (Business services and continuity)	Minimal or no destruction or damage to property. No loss of service Event that may have resulted in the disruption of services but did not on this occasion.	Destruction or damage to property requiring some unbudgeted expenditure. Closure or disruption of a service for less than 4 hours- managed by alternative routine procedures. Reduced efficiency or disruption of some aspects of an essential service.	Destruction or damage to property requiring minor unbudgeted expenditure. Disruption to one service or department for 4 to 24 hours - managed by alternative routine procedures Cancellation of appointments or admissions for number of patients. Cancellation of surgery or procedure more than twice for one patient.	Destruction or damage to property requiring major unbudgeted expenditure. Major damage to one or more services or departments affecting the whole facility – unable to be managed by alternative routine procedures. Service evacuation causing disruption of greater than 24 hours, e.g. Fire/ flood requiring evacuation of staff and patients/clients (no injury); or Bomb threat procedure activation, potential bomb identified, partial or full evacuation required (+/- injury).	Destruction or damage to property requiring significant unbudgeted expenditure. Loss of an essential service resulting in shut down of a service unit or facility. Disaster plan activation.
Reputation	Internal review.	Scrutiny required by internal committees or internal audit to prevent escalation.	Scrutiny required by external committees or ACT Auditor General's Office or inquest, etc.	Intense public, political and media scrutiny e.g. front page headlines, TV stories, etc.	Assembly inquiry or Commission of inquiry or adverse national media.

RISK MATRIX

			Consequence →				
			Insignificant	Minor	Moderate	Major	Catastrophic
			1	2	3	4	5
Likelihood ↑	5	Almost Certain	Medium (11)	High (16)	High (20)	Extreme (23)	Extreme (25)
	4	Likely	Medium (7)	Medium (12)	High (17)	High (21)	Extreme (24)
	3	Possible	Low (4)	Medium (8)	Medium (13)	High (18)	Extreme (22)
	2	Unlikely	Low (2)	Medium (5)	Medium (9)	High (14)	High (19)
↓	1	Rare	Low (1)	Low (3)	Medium (6)	Medium (10)	High (15)

The following management action is prescribed by ACT Health to address the above categories or risk:

- **Extreme risk** – all possible action is taken at Executive level to avoid and insure against these risks.
- **High risk** – general managers are accountable and responsible personally for ensuring that these risks are managed effectively.
- **Medium risk** – accountability and responsibility for effective management of these risks is delegated to line managers at an appropriate level.
- **Low risk** – these risks are managed in the course of routine procedures, with regular review and reporting through management processes.

www.pwc.com.au

ACT Government Health

Internal Audit & Risk Management Branch
Level 4, 2-6 Bowes Street, Woden ACT 2606
GPO Box 825 Canberra ACT 2601
Website: www.health.act.gov.au
ABN: 82 049 056 234

Internal Audit of Disaster Recovery Arrangements

June 2017

Audit conducted by Callida Consulting

Table of Contents

1 Executive summary 3
Introduction 3
Background 3
Objective 3
Overall Findings 3
Key findings 5
Timeline 6
2 Summary of Findings 8
2.1 Risk assessment of findings 14
Appendix A Recommendations Implementation Plan 15
Appendix B Scope and approach 16
Appendix C Personnel Consulted 17
Appendix D Risk Rating Framework 18

1 Executive summary

Introduction

Callida Consulting were engaged by ACT Health to conduct an internal audit of Disaster Recovery Arrangements as part of the ACT Health 2014-16 Strategic Internal Audit Plan (SIAP).

Background

IT recovery strategies has been developed for ACT Health Information technology (IT) systems, applications and data and include IT systems hosted by Shared Services. This includes networks, servers, desktops, laptops, wireless devices, data and connectivity. Priorities have been set for IT recovery and are consistent with the priorities for the recovery of business functions and processes that were developed in the business impact analysis.

Information technology systems require hardware, software, data and connectivity. Therefore, the recovery strategies developed include the loss of one or more of the following system components:

- Data centre environment (secure data centre with climate control, conditioned and backup power supply, etc.)
- Hardware (networks, servers, desktop and laptop computers, wireless devices and peripherals)
- Connectivity to a service provider (fibre, cable, wireless, etc.)
- Software applications (electronic data interchange, electronic mail, enterprise resource management, office productivity, etc.)
- Data and restoration

Objective

The review objective was to provide assurance to ACT Health regarding the robustness of the IT disaster recovery (DR) processes (including back-up recovery processes for data and availability management) and procedures that are in place internally and in conjunction with Shared Services.

The approved scope and approach are included at Appendix B. Key personnel consulted are at Appendix C.

Overall Findings

Review of Disaster Recovery Arrangements at ACT Health confirmed that each system sampled was recoverable in the event of a disaster, based on review of the system design and architecture. This has been further demonstrated by a number of the systems having to be recovered following actual events. These recoveries have involved with varying periods of down time, but minimal overall impact on the integrity or completeness of data following an event. However, the following key risks and issues were identified:

- Two systems sampled (CHARM and CV5) have a business expectation for 24/7 availability, however both systems are not high availability due to the requirement for manual failover in the event of a disaster. Both are rated as 'Business Critical', whereby continuous availability is required, however short

breaks in service are not catastrophic[1]. However, there is a potential misalignment between business expectations and the recoverability of the system.

- The Pathology system is Government Critical and requires 24/7 availability, whereby *breaks in service are intolerable and are immediately and significantly damaging*[2]. However, the system is old technology and requires regular scheduled downtime, and events have occurred requiring the system to be recovered. Whilst the system was able to be recovered, these events cause significant disruptions. Although significant costs are involved in updating the system; in accordance with the *ACT Government ICT Disaster Recovery Plan* (ACT Government DR Plan), *the cost of meeting high availability requirements is not a key business driver* for Government Critical Systems.

- Two of the Government Critical systems reviewed have both servers located onsite at TCH. This includes the Pathology system (which due to the age of system is not capable of running on a WAN), and Nurse Call system in Building 1 (whilst highly available both servers are located Building 1). The ACT Government DR Plan requires Government Critical systems to be *designed with High Availability principles* and outlines *replication of system components across geographically separate locations* as a key characteristic of High Availability.

  However, it should be noted that risks related to the onsite servers for the Nurse Call systems are somewhat reduced as disasters affecting both servers may also require an evacuation of patients. Therefore the system would not be needed in these instances.

- There is limited formal and logged DR exercises undertaken over the systems reviewed. Whilst DR activities have been undertaken due to disaster events or planned maintenance activities; regular, planned exercises, and updates to systems and processes based on lessons learnt in response to these activities are not undertaken, documented and communicated as per the ACT Government DR Plan.

- Audit was unable to obtain relevant documentation to review DR arrangements relating to the Whole of Government Oracle Financials system (Government Critical). Oracle was replaced in the sample by the financial reporting system used by ACT Health, TM1.

A summary of findings for each system sampled is included at Section 2 of this report, including further details on the design and recoverability of each system.

[1] System criticality is defined in the *ACT Government ICT Disaster Recovery Plan* (December 2016)
[2] As described for Government Critical systems in the *ACT Government ICT Disaster Recovery Plan* (December 2016)

Key findings

#	Section	Findings	Risk	Recommendations
1	*1.4 & 2*	*Refer above Summary (Section 1.4) and details at Section 2.*	*Medium*	1. Due to the nature of the findings, it is recommended that ACT Health review the current state of each systems Disaster Recovery arrangements and determine whether they continue to meet the expectations of ACT Health. If expectations and current arrangements are misaligned, ACT Health should undertake appropriate remedial activities based on an assessment of risk and cost/benefit.
			Medium	2. ACT Health should ensure that Government Critical and Business Critical systems are subject to regular DR exercises in accordance with the *ACT Government ICT Disaster Recovery Plan*.
			Low	3. Due the difficulty in obtaining information relating to the Finance system (Oracle) as part of this audit, ACT Health should undertake further investigations to ensure these DR arrangements are appropriate. In addition, ACT Health should work with Shared Services to ensure that information relating to Whole of Government systems and infrastructure is readily available and accessible to ACT Health for future planning and review purposes.

Note: An implementation plan for the recommendations has been attached in Appendix A.

Timeline

	Activity	Date (per Scope)	Date Completed
Phase 1 – Planning			
1.1	Research and planning	20 January 2017	10 February 2017
1.2	Entry meeting	10 February 2017	10 February 2017
1.3	Finalise TOR	30 March 2017	7 April 2017
Phase 2 - Fieldwork			
2.3	Commence fieldwork	24 March 2017	27 March 2017
2.4	Complete fieldwork	24 April 2017	31 May 2017
Phase 3 – Reporting			
3.1	Draft Discussion Paper	5 May 2017	9 June 2017
3.2	Exit Meeting	17 May 2017	19 June 2017
3.3	Draft Audit Report distributed (management comments coordinated)	22 May 2017	19 June 2017
3.4	Final Report	2 June 2017	TBC

Management sign off

This report has been reviewed and discussed with management of the ACT Health Directorate. Management has had the opportunity to express any comments on the findings and recommendations outlined in this report.

Peter O'Halloran, Chief Information Officer

Digital Solutions Division

ACT Health

Shaun Strachan, Deputy Director-General

Corporate 7.7.17.

ACT Health

Johan Pretorius

Internal Audit

ACT Health

Paul Allen

Partner

Callida Consulting

2 Summary of Findings

The following section details a summary of each system reviewed as part of the sample. Included in the summary is a Criticality rating. In accordance with the *ACT Government ICT Disaster Recovery Plan* (December 2016), the Criticality ratings are as follows:

- **Government Critical** (require continuous availability e.g. Health Services)
- **Business Critical** (require continuous availability, however short breaks in service are not catastrophic e.g. agency websites)
- **Business Operational** (contributes to efficient business operation but out of direct line of service to customers e.g. document management systems)

BRIEF OVERVIEW	CRITICALITY / AVAILABILTY REQUIREMENTS	INFRASTRUCTURE	RESILIENCE	RECOVERABILITY	SUMMARY
CHARM – CANCER INFORMATION SYSTEM					
• Stores patient scheduling, consultation, treatment and other clinical information and is used by clinical and administrative staff members in the Capital Region Cancer Service principally for Outpatient management. • Interfaces with a number of ACT Health applications to reduce	• **BUSINESS CRITICAL** • Required for outpatients during business hours, and inpatients and after-hours consultant access 24/7.	• Two separate physical data centre locations backed up via SAN replication (Health Geocluster). • Only have a single application on a virtual server.	• The system is not High Availability. There is one application server hosted on the TCH data centre. However, this is a business decision based on the ability to restore the virtual server if required. • Data layer is resilient, however requires manual failover. This is a business decision to maintain data	• Good recoverability • Data (including transaction logs) are replicated daily to network storage allowing recoverability, including fortnightly backups to tape. • No formal tests however have been undertaken • No issues have occurred requiring the system to be	• Whilst recoverable, is not high availability due to the single application layer and manual database failover • However, application can be replicated on a new virtual server within a day.

BRIEF OVERVIEW	CRITICALITY / AVAILABILTY REQUIREMENTS	INFRASTRUCTURE	RESILIENCE	RECOVERABILITY	SUMMARY
the duplication of information and eliminate manual processes.			integrity.	recovered	
CV5 – RENAL SYSTEM					
• Provides a centralised view of renal patient medical records • Interfaces with internal ACT Health Directorate systems and external providers (such as private pathology laboratories) to source data. • Receives data from dialysis machines located at sites on and off the central Canberra Hospital campus.	• **BUSINESS CRITICAL** • Required 24/7 due to interfaces with dialysis machines	• Two separate physical data centre locations backed up via SAN replication. • Two application server locations backed up by SAN replication	• Data layer is resilient due to two data centres and automated failover • However, application layer requires manual failover. This is a business decision to maintain data integrity.	• Good recoverability • Data is replicated allowing recoverability, including backups to tape • Application layer duplicated and recoverable • No formal tests have been undertaken. • No past issues requiring system recovery.	• Whilst recoverable is not high availability due to the application layer requiring manual failover

BRIEF OVERVIEW	CRITICALITY / AVAILABILTY REQUIREMENTS	INFRASTRUCTURE	RESILIENCE	RECOVERABILITY	SUMMARY
KESTRAL – PATHOLOGY SYSTEM					
The Kestral system consists of three complimentary systems. • **Pathology Laboratory System (PLS)** - the pathology system for recording tests and results. Used by pathology laboratory staff. • **Clinical Information System (CIS)** - a read-only front-end interface to PLS used by other hospital staff to check test results. • **HL7Connect** - an interface between PLS and other systems	• **GOVERNMENT CRITICAL** • ACT Pathology operates 24/7 and the business requirement is for a system that is available 24/7.	• Two separate duplicated application servers which are in different locations at Canberra Hospital. • However, both access the same physical SAN storage system so only one application server can be active at any time. • The servers must be located at the hospital as the system is designed for a LAN and is not capable of running across a WAN.	• The system is not High Availability. There is a manual process to swap from one application server to another. The application architecture is old and does not support High Availability. • The system is regularly down for scheduled updates. • Users report there have been instances of unexpected downtime as a result of server overheating, and data corruption issues due to simultaneous SAN activation. • The application is old technology, ageing and in need of replacement. This system is not capable of meeting the needs for 24/7 availability.	• Transactions are logged from the application to databases • There are backups of the databases to disk daily and the Transaction log every hour. • The system and data was able to be recovered after the database corruption incident. • Issues such as previous server overheating have been remediated (i.e. via additional air-conditioning in communications room) • No formal tests have been undertaken.	• The system can be recovered. • It is not sufficiently resilient for the 24/7 needs of ACT Pathology, which has to resort to paper-based recording when the system is down and do data-entry later.

BRIEF OVERVIEW	CRITICALITY / AVAILABILTY REQUIREMENTS	INFRASTRUCTURE	RESILIENCE	RECOVERABILITY	SUMMARY
ACTPAS – PATIENT ADMINISTRATION SYSTEM					
• ACTPAS is the central patient administration system for The Canberra Hospital and Calvary Public Hospital Bruce. • It is a two-tier application consisting of client software (DXC) along with a back-end database. • The database holds demographics along with scheduling information, it is the key hospital wide administration system.	• **GOVERNMENT CRITICAL** • The Canberra Hospital and Calvary Public Hospital Bruce operate 24/7 and the business requirement is for a system that is available 24/7.	• Two separate physical data centre locations backed up via SAN replication. • Two application server locations backed up by SAN replication	• The system is high availability due to dual application servers and data centres • Automatic application and database failover	• Utilises the Windows Database SQL Native (Disk-Dump) Backup model • Back up remains on same server until daily scheduled basic backup to tape to an offsite location • No formal tests have been undertaken – BCP exercise undertaken in relation to ACTPAS user access • However, there are regular recoveries from test / development environments which are complete system replications as part of routine maintenance.	• The system can be recovered and is high availability

BRIEF OVERVIEW	CRITICALITY / AVAILABILTY REQUIREMENTS	INFRASTRUCTURE	RESILIENCE	RECOVERABILITY	SUMMARY
TM1 – FINANCIAL REPORTING SYSTEM					
• TM1 is a database server used to implement finance planning, budgeting and forecasting solutions, as well as analytical and reporting applications. • Data is accessed via a WebTM1 client on the enabled workstation which runs the application on the server.	• **BUSINESS OPERATIONAL** • Required Monday to Friday, during business hours (08:00 to 18:00)	• Application resides on the Health TM1 Virtual Server. • Single virtual server • Data extracted from the WoG Oracle E-Business Suite and Chris 21 is transferred to TM1 and held in the TM1 database server.	• System is not high availability. If there is an issue would require downtime while virtual server restored • Reliant on Oracle resilience and interface for data quality • Data is copied from Oracle daily (midnight) and at 10 minute intervals	• Utilises the default Windows Application Backup Model, utilising Microsoft Windows Volume Shadow Copy (VSS) processes • Oracle Recovery Manager (RMAN) is used to replicate Oracle database changes to the remote RMAN server at TCH daily. This content is held on the RMAN server for an extended period and is backed up to tape by DataProtector NDMP of the RMAN server on a fortnightly basis. • No formal tests have been undertaken.	• The system can be recovered, however would be without functionality in the event of an issue due to single virtual server set up • Not high availability, however not required due to level of criticality. Application can be replicated on a new virtual server in an event.

BRIEF OVERVIEW	CRITICALITY / AVAILABILTY REQUIREMENTS	INFRASTRUCTURE	RESILIENCE	RECOVERABILITY	SUMMARY
TACERA – NURSE CALL SOLUTION FOR WOMEN'S AND CHILDREN'S, LEVEL 4 & 5, BUILDING 1					
• The Tacera Nursecall system is an appliance-based system that provides patient's access to the health care personnel such as nurses. • The system provides communication with an annunciator and displays calls received from a patient bed to the Nurse-call station	• **GOVERNMENT CRITICAL** • Building 1 operates 24/7 and the business requirement is for a system that is available 24/7.	• Infrastructure is all based on site at TCH • Two servers are located on level 4 and 5 (one on each level in active/standby mode). Each server room contains an IPnet router and vendor switch • Communications from Nurse call button is via connection to one of the IPnet routers (i.e. either Level 4 or 5 communications room – but not both). • There is also a single point of communication to each annunciator • Cabling, hardware and logical redundancy is provided to Building 1 to support high overall availability.	• Physical location redundancy is provided through active servers installed in level 4 communications room and standby servers in the level 5 communications room. IPnet router and vendor switches are installed in each room. • However, there are no backup communications from Nurse call buttons or to annunciators. If these failed there would be specific downtime for these components (rather than the whole system) • Issues have been noted in the past with messages not being received from buttons	• Systems are configured to failover from primary to secondary automatically with no intervention • Failure in communications from buttons to IP router, or to the annunciators could cause downtime relevant to those buttons or annunciators • No formal tests have been undertaken. • Have had a server go down in the past – with users unaffected while restored	• The system is high availability and highly resilient in the event of a level 4 communications room disaster due to redundant servers • However, issues have been encountered with communications from the Nurse call buttons

2.1 Risk assessment of findings

Findings The finding identified in section 1.5 of this report was allocated a risk rating in accordance with risk rating definitions in ACT Health Integrated Risk Management Guidelines. Further details are provided at Appendix D. The following table provides the level of management action required for each risk rating category:

Rating scale for individual findings	
Extreme Risk	All possible action is taken at Executive level, to avoid and insure against these risks.
High Risk	Generally managers are accountable and responsible personally for ensuring that these risks are managed effectively.
Medium Risk	Accountability and responsibility for effective management of these risks is delegated to line managers at an appropriate level.
Low Risk	These risks are managed in the course of routine procedures, with regular review and reporting through management processes.

Appendix A Recommendations Implementation Plan

Area Audited:	Internal Audit of Disaster Recovery Arrangements
Date of Audit:	19 June 2017

	Audit Recommendation	Management Comment	Responsible Officer	Estimated Completion Date
1	Due to the nature of the findings, it is recommended that ACT Health review the current state of each systems Disaster Recovery arrangements and determine whether they continue to meet the expectations of ACT Health. If expectations and current arrangements are misaligned, ACT Health should undertake appropriate remedial activities based on an assessment of risk and cost/benefit.	Agreed ACT Health through the Digital Solutions Division will undertake this review and undertake any required remediation activities – noting that potentially these actions may need to be considered as part of the 2018/2019 ACT Government Budget,	Director, Technology Operations, DSD	Review to be completed by 31 December 2017. Remediation activities to be completed based on funds availability.
2	ACT Health should ensure that Government Critical and Business Critical systems are subject to regular DR exercises in accordance with the *ACT Government ICT Disaster Recovery Plan*.	Agreed ACT Health through the Digital Solutions Division and Shared Services ICT will establish a formal disaster recovery testing regime in accordance with the *ACT Government ICT Disaster Recovery Plan*.	Director, Technology Operations, DSD	Testing regime to be established by 31 October 2017 and DR tests of all systems to be completed by 30 June 2018.
3	Due the difficulty in obtaining information relating to the Finance system (Oracle) as part of this audit, ACT Health should undertake further investigations to ensure these DR arrangements are appropriate. In addition, ACT Health should work with Shared Services to ensure that information relating to Whole of Government systems and infrastructure is readily available and accessible to ACT Health for future planning and review purposes.	Agreed ACT Health through the Digital Solutions Division will work with Shared Services ICT to obtain, assess and promulgate this information.	Director, Technology Operations, DSD	31 October 2017

Appendix B Scope and approach

The audit used a sample of key applications to check whether the processes for management of availability of systems and data are consistent with business continuity management planning, including business impact analysis, and that the selected systems have been designed to meet applicable availability and maximum allowable outage targets.

Systems, applications and data holdings were reviewed on a sample basis, and included 3 Government Critical, 2 Business Critical and 1 Business Operational systems, including internally hosted applications (including key biomedical systems) and applications hosted by Shared Services.

The internal audit was undertaken with the cooperation of ACT Shared Services and, where applicable, included consideration of Shared Services processes undertaken on behalf of ACT Health.

The approach to audit included:

- Conducting an entry meeting with audit sponsor to understand existing disaster recovery arrangements and identify relevant stakeholders
- Reviewing relevant documentation including ACT Health's existing disaster recovery plan and procedures
- Through consultation with the audit sponsor and key stakeholders, agreeing systems, applications and data holdings for sampling
- Holding interviews with relevant stakeholders who have responsibility for implementation of the disaster recovery plan and performance of procedures
- Reviewing sampled systems, applications and data holdings to assess the degree to which procedures and processes are designed to ensure that the system will meet agreed availability and maximum allowable outage targets. Evidence was sought which demonstrates that the system can be recovered within the agreed maximum allowable outage.
- The standard *ISO/IEC 27031:2011 – Guidelines for information and communication technology readiness for business continuity* was used as appropriate.
- Upon completion of fieldwork, holding an exit meeting with audit sponsor to communicate and confirm findings
- Preparing a draft internal audit report including recommendations for management comment
- Finalising the draft internal audit report based on feedback from management
- Presenting the final audit report to audit committee

Appendix C Personnel Consulted

The following personnel were consulted as part of this audit.

We are appreciative of their assistance.

Name	Title
ACT Health	
Shaun Strahan	Deputy Director-General, System Innovation Group
Peter O'Halloran	Chief Information Officer
Janine McMinn	Director, Audit, Risk and Compliance
Chris Jeffrey	Systems Support Manager, Operations, Digital Solutions
Denise Lamb	Executive Director, Cancer, Ambulatory and Community Health Support
Matthew Goldrick	Senior Manager, Operations and Systems Support, Cancer, Ambulatory and Community Health Support
Linda Taylor	Operations and Systems Support, Cancer, Ambulatory and Community Health Support
Girish Talaulikar	Director, Renal Services
Marcelo Aguanta	System Administrator CV5 (Renal EMR), Operations, Digital Solutions
Sean Benfield	Financial Controller, Strategic Finance
Andrew Hewat	Strategic Finance
Prof Peter Collignon	Executive Director, Pathology
Monica Brady	Pathology
Shared Services, Chief Minister, Treasury and Economic Development	
Peter Jeffrey	ICT Manager, Shared Services
Patrick Premnath	Critical Systems' Administrator, Shared Services
Mark Woodward	Pathology Systems Support, Shared Services
Justine Spina	Shared Services

Appendix D Risk Rating Framework

RISK MATRIX

			Consequence →				
			Insignificant	Minor	Moderate	Major	Catastrophic
			1	2	3	4	5
Likelihood ↑	5	Almost Certain	Medium (11)	High (16)	High (20)	Extreme (23)	Extreme (25)
	4	Likely	Medium (7)	Medium (12)	High (17)	High (21)	Extreme (24)
	3	Possible	Low (4)	Medium (8)	Medium (13)	High (18)	Extreme (22)
	2	Unlikely	Low (2)	Medium (5)	Medium (9)	High (14)	High (19)
↑	1	Rare	Low (1)	Low (3)	Medium (6)	Medium (10)	High (15)

LIKELIHOOD

Descriptor	Probability of occurrence	Indicative Frequency
Almost certain (5)	Occurs more frequently than 1 in 10 tasks.	Is expected to occur in most circumstances.
Likely (4)	1 in 10 – 100	Will probably occur.
Possible (3)	1 in 100 – 1,000	Might occur at some time in the future.
Unlikely (2)	1 in 1,000 – 10,000	Could occur but doubtful.
Rare (1)	1 in 10,000 – 100,000	May occur but only in exceptional circumstances.

CONSEQUENCE

	Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
People (Staff, Patients, Client, Contractors, OH&S)	Injuries or ailments not requiring medical treatment	Minor injury or First Aid Treatment required	Serious injury causing hospitalisation or multiple medical treatment cases.	Life threatening injury or multiple serious injuries causing hospitalisation.	Death or multiple life threatening injuries.
Clinical	No injury No review required No increased level of care	Minor injury requiring: Review and evaluation Additional observations First aid treatment	Temporary loss of function (sensory, motor, physiological or intellectual) unrelated to the natural course of the underlying illness and differing from the expected outcome of patient management.	Permanent loss of function (sensory, motor, physiological or intellectual) unrelated to the natural course of the underlying illness and differing from the expected outcome of patient management. A number of key events or incidents.	Patient death unrelated to the natural course of the underlying illness and differing from the immediate expected outcome of the patient management. All national sentinel events.
Property and Services (Business services and continuity)	Minimal or no destruction or damage to property. No loss of service Event that may have resulted in the disruption of services but did not on this occasion.	Destruction or damage to property requiring some unbudgeted expenditure. Closure or disruption of a service for less than 4 hours- managed by alternative routine procedures. Reduced efficiency or disruption of some aspects of an essential service.	Destruction or damage to property requiring minor unbudgeted expenditure. Disruption to one service or department for 4 to 24 hours - managed by alternative routine procedures Cancellation of appointments or admissions for number of patients. Cancellation of surgery or procedure more than twice for one patient.	Destruction or damage to property requiring major unbudgeted expenditure. Major damage to one or more services or departments affecting the whole facility – unable to be managed by alternative routine procedures. Service evacuation causing disruption of greater than 24 hours, e.g. Fire/ flood requiring evacuation of staff and patients/clients (no injury); or Bomb threat procedure activation, potential bomb identified, partial or full evacuation	Destruction or damage to property requiring significant unbudgeted expenditure. Loss of an essential service resulting in shut down of a service unit or facility. Disaster plan activation.

	Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
				required (+/- injury).	
Financial	1% of budget or <$5K	2.5% of budget or <$50K	5% of budget or <$500K.	10% of budget or <$5M.	25% of budget or >$5M
Information	Interruption to records / data access less than ½ day.	Interruption to records / data access ½ to 1day	Significant interruption (but not permanent loss) to data / records access, lasting 1 day to 1 week.	Complete, permanent loss of some ACT Health or Divisional records and / or data, or loss of access greater than 1 week.	Complete, permanent loss of all ACT Health or Divisional records and data.
Business Process and Systems	Minor errors in systems or processes requiring corrective action, or minor delay without impact on overall schedule.	Policy procedural rule occasionally not met or services do not fully meet needs.	One or more key accountability requirements not met. Inconvenient but not client welfare threatening.	Strategies not consistent with Government's agenda. Trends show service is degraded.	Critical system failure, bad policy advice or ongoing non-compliance. Business severely affected.
Reputation	Internal review.	Scrutiny required by internal committees or internal audit to prevent escalation.	Scrutiny required by external committees or ACT Auditor General's Office or inquest, etc.	Intense public, political and media scrutiny e.g. front page headlines, TV stories, etc.	Assembly inquiry or Commission of inquiry or adverse national media.
Environment Broadly defined as the surroundings in which ACT Health operates, including air, water, land, natural resources, flora, fauna, humans and their interrelation.	Some minor adverse effects to few species / ecosystem parts that are short term and immediately reversible.	Slight, quickly reversible damage to few species / ecosystem parts, animals forced to change living patterns, full, natural range of plants unable to grow, air quality creates local nuisance, water pollution exceeds background limits for short period.	Temporary, reversible damage, loss of habitat and migration of animal population, plants unable to survive, air quality constitutes potential long term health hazard, potential for damage to aquatic life, pollution requires physical removal, land contamination localised and can be quickly remediated.	Death of individual people / animals, large scale injury, loss of keystone species and habitat destruction, air quality 'safe haven' / evacuation decision, remediation of contaminated soil only possible by long term programme, e.g. off-site toxic release requiring assistance of emergency services.	Death of people / animals in large numbers, destruction of flora species, air quality requires evacuation, permanent and wide spread land contamination, e.g. caused by toxic release on-site; chemical, biological or radiological spillage or release on-site.

Internal Audit & Risk Management Branch
Level 4, 2-6 Bowes Street, Woden ACT 2606
GPO Box 825 Canberra ACT 2601
Website: www.health.act.gov.au
ABN: 82 049 056 234

Internal Audit of the University of Canberra Public Hospital (UCPH) Project Governance Review

Final Report

14 September 2017

Audit conducted by Callida Consulting

Table of Contents

1 Executive summary 3
1.1 Introduction 3
1.2 Background 3
1.3 Objective 3
1.4 Overall Conclusion 4
1.5 Timeline 4
2 Detailed Findings 6
2.1 Risk assessment of findings 6
2.2 Findings and Recommendations 7
Appendix A Recommendations Implementation Plan 11
Appendix B Approved objectives, scope and approach 14
Appendix C Personnel Consulted 15
Appendix D Risk Rating Framework 16

1 Executive summary

1.1 Introduction

Callida Consulting was engaged by ACT Health to conduct this internal audit as part of the ACT Health Strategic Internal Audit Plan (SIAP). Included in this plan is an internal audit of the University of Canberra Public Hospital (UCPH) Project Governance.

1.2 Background

Construction of the UCPH commenced in 2016 on the north-western corner of the University of Canberra campus as part of the ACT Government's Health Infrastructure Program.

The 140-bed (at full capacity in stage 3) rehabilitation hospital, which will have an additional 75-day places and outpatient services, has been designed as a sub-acute care facility – the first of its kind in the ACT. When complete, it will provide Canberrans with better access to rehabilitation, aged care, and mental health services.

Operated by ACT Health, the UCPH will also be a research and training facility, providing students with work-integrated learning opportunities and access to state-of-the-art educational spaces when it opens in July 2018.

Planned features for the new hospital include specially designed therapy and support spaces, including gyms and a hydrotherapy pool.

The construction of UCPH is being undertaken by the Sydney based international construction company Multiplex. Multiplex has significant experience in health sector construction projects including the $2 billion Fiona Stanley Hospital in Perth and a $385 million clinical research and education hub at the University of Sydney's Camperdown campus.

1.3 Objectives

The review included the following objectives:

a) Provide an independent assurance of project status and progress to date
b) Quality assurance on the risk register and risk mitigation treatments
c) Highlight the preparedness and adequacy of resources to deliver the forward projection of milestones, and
d) Ensure that the alignment of project milestones meet the expectations of the Director-General ACT Health.

The outcome of the review will provide the Project Executive team with areas of concern where the team should develop, implement and monitor strategic controls and focus management attention. This internal audit is the first of a series of reviews planned throughout the life-cycle of project.

A copy of the approved objectives, scope and approach for the review are included within this report at Appendix B. Key personnel consulted are listed at Appendix C.

1.4 Overall Conclusion

The internal audit team made the following observations in relation to the status of the UCPH project:

- Key decisions pending - there are a number of key decisions and final approvals pending which are delaying the UCPH project key deliverables and project tasks. This is impacting on the project's ability to achieve the desired outcomes and objectives. Ideally these actions should have been made some time ago, however will become critical if not made before October 2017.
- UCPH Workforce and Culture - the UCPH Workforce Working Group are in the process of engaging external consultants to produce key UCPH Workforce project deliverables which are yet to be finalised, these include: Industrial Relations Strategy, Workforce Strategy, detailed Workforce Plan, recruitment activities. In addition, the following activities of the UCPH Workforce working group have not yet been completed and require immediate attention: no decision has been made on whether Calvary Hospital staff are considered private staff or ACT Health employees, volunteer structure within the existing workforce has not been discussed or developed, possible changes to nurses' work expectations have not been discussed with the Union or the Minister.
- Governance and Change Management - a number of the Executive Directors on the UCPH Steering Committee indicated that the UCPH governance arrangements were not clearly defined and there was a lack of communication between the working groups. In addition, detailed working group reports were not always provided to the UCPH Steering Committee or regular attendance at UCPH Steering Committee meetings by working group leads. Working groups were unclear on the upward reporting requirements from the UCPH Steering Committee and the need for approvals on any deliverables.
- Budget Financial Management - a recent draft report by Paxton Partners which was commissioned to assist ACT Health with the UCPH recurrent budget, commissioning budget and financial modelling has not yet been distributed to the UCPH Steering Committee.
- University of Canberra Car Park - there is a risk that the multi-story car park being built by the University of Canberra will not be completed before the planned opening of the UCPH. Without a completed car park and sufficient car parking facilities for the UCPH a certificate of occupancy for the UCPH will not be provided and staff will not be allowed to take possession of the building.

1.5 Review Timeline

	Activity	Date Completed
Phase 1 – Planning		
1.1	Research and planning	15 May 2017
1.3	Entry meeting	18 May 2017
Phase 2 - Fieldwork		
2.3	Commence fieldwork	22 May 2017
2.4	Complete fieldwork	4 July 2017
Phase 3 – Reporting		
3.1	Draft Discussion Paper	13 July 2017

	Activity	Date Completed
3.2	Exit Meeting	28 July 2017
3.3	Draft Audit Report distributed (management comments coordinated)	31 July 2017
3.4	Final Report	14 September 2017

This report has been reviewed and discussed with management of the ACT Health Directorate. Management has had the opportunity to express any comments on the findings and recommendations outlined in this report. Management comments were sought, however not provided.

2 Detailed Findings

The following section details the key findings of the internal audit with associated recommendations and management responses.

2.1 Risk assessment of findings

The findings were allocated risk ratings in accordance with the risk rating definitions in ACT Health Integrated Risk Management Guidelines (details in Appendix D). The following table provides the level of management action stipulated by the Guidelines for each risk rating category:

Rating	Action	Time Frame
Extreme	For tier 1 and 2 risks, treatment should be brought to the attention of EDC. For tier 3 risks, treatment should be brought to the attention of relative EDs' or DDGs'. All possible treatments must be put in place to reduce the risk to an acceptable level as soon as reasonably practical.	Immediate action
High	Must be managed by senior management, with detailed planning, allocation of implementation responsibilities, resources and regular monitoring of progress by the relevant Risk Management Committee.	2 Weeks
Medium	Set-up a treatment plan to ensure the risk is being appropriately managed. Identify management responsibility, monitor and review response action as necessary. Where the consequence is high ensure that appropriate contingency plans are in place and working, perhaps through independent review. If the likelihood is high ensure that day-to-day procedures make sure that appropriate management processes are in place, either through self-assessment or independent review.	4 Weeks
Low	Manage through existing processes and procedures. Set-up an action plan to ensure the risk is managed appropriately.	8 Weeks

2.2 Findings and Recommendations[1]

#	Findings	Risk Rating	Recommendations
1	**Key decisions pending** There are a number of key decisions and final approvals pending which are delaying the UCPH project key deliverables and project tasks, which is impacting on the project's ability to achieve its desired outcomes and objectives. Ideally these actions should have been made some time ago, however will become critical if not made before October 2017. These include the following: • the UCPH Communication and Engagement Strategy is yet to be approved by the various stakeholders • the actual final number of beds the UCPH will cater for and is budgeted for has not yet been agreed within the UCPH Steering Committee • the Rehabilitation, Aged and Community Care (RACC) model of care is yet to be approved • no agreement has been reached on the pathology model of care • the UCPH model of service delivery is yet to be approved • the governance structures of UCPH within the existing ACT Health governance and corporate structure is unclear and not yet finalised. The likely consequences of these decisions not being made promptly may include: • public confusion about the primary purpose of UCPH as a sub-acute care facility, resulting in complaints and/or delayed treatment as emergency patients incorrectly presenting to UCPH	High	To ensure the UCPH project deliverables, key decision points and major interdependencies are fully understood by all UCPH working groups and ACT Health Executives, it is recommended that a critical decision path is developed, approved and implemented, to assign accountability and formal responsibility of UCPH decisions. This governance framework should include a clear pathway for critical decision making, escalation processes and category timelines through the approved UCPH Steering Committee and ACT Health Executive governance structure.

[1] Please refer to Appendix A for management comments, responsible officers and completion dates.

#	Findings	Risk Rating	Recommendations
	• public confusion about future of Brian Hennessy House and the current hydrotherapy pool at the Canberra Hospital • poor clinical outcomes for patients as models of care not completed. • increased costs and unforeseen budget items as the model of service delivery not finalised.		
2	**UCPH Workforce and Culture** The UCPH Workforce Working Group are in the process of engaging external consultants to produce key UCPH Workforce project deliverables which are yet to be finalised, these include: • Industrial Relations (IR) Strategy • Workforce Strategy • detailed Workforce Plan • recruitment activities. In addition, the following activities of the UCPH Workforce working group have not yet been completed and require immediate attention: • no decision has been made on whether Calvary Hospital staff are considered private staff or ACT Health employees (which impacts on workforce transition treatment) • volunteer structure within the existing workforce has not been discussed or developed • possible changes to nurses' work expectations have not been discussed with the Union or the Minister.	High	It is recommended that a UCPH Workforce working group performance review is undertaken to ensure: • the working group has appropriate membership (skills and experience), statement of work and terms of reference • the working groups governance framework is consistent with the project's • the working group has sufficient resources, momentum, direction and quality of deliverables • clarification of the employment status of Calvary Hospital staff.

#	Findings	Risk Rating	Recommendations
	The likely consequences of further delays in the above deliverables and activities include: • UCPH workforce disengaged and / or undertake industrial action • delayed development of Workforce and IR strategies will impact on the project's ability to achieve its desired outcomes and objectives, e.g. defining the model of service delivery • increased costs and unforeseen budget items.		
3	**Governance and Change Management** A number of the Executive Directors on the UCPH Steering Committee indicated that the UCPH governance arrangements were not clearly defined and there was a lack of communication between the working groups. In addition, detailed working group reports were not always provided to the UCPH Steering Committee or regular attendance at UCPH Steering Committee meetings by working group leads. Working groups were unclear on the upward reporting requirements from the UCPH Steering Committee and the need for approvals on any deliverables. There appears to be a lack of an overall UCPH change management strategy and which working group has ownership of this deliverable, e.g. Operational Readiness, Communications or Workforce. The likely consequences of a lack of clear governance of the UCPH Project may include: • poor processes surrounding communication, obtaining approvals and maintaining appropriate records are impacting timeliness, quality and consistency of decision making and achievement of deliverables	Medium	Recommendation 1: To ensure the UCPH project deliverables, key decision points and major interdependencies are fully understood by all UCPH working groups and ACT Health Executives, it is recommended that a critical decision path is developed, approved and implemented, to assign accountability and formal responsibility of UCPH decisions. This governance framework should include a clear pathway for critical decision making, escalation processes and category timelines through the approved UCPH Steering Committee and ACT Health Executive governance structure. In addition, assign ownership for the overall UCPH change management program and monitor change plans and actions.

#	Findings	Risk Rating	Recommendations
	• working groups are relying on imperfect or out of date information resulting in work being duplicated and / or overlooked which increases the risk profile of the project overall. • UCPH project working groups not meeting key project deliverables / activities within agreed scope, schedule, quality and / or cost tolerances which impact on the delivery of UCPH outcomes, deliverables and benefits.		
4	**Budget Financial Management** The UCPH financial working group has been removed from the UCPH Steering Committee governance structure and reintegrated with the ACT Health Finance Team. A recent draft report by Paxton Partners which was commissioned to assist ACT Health with the UCPH recurrent budget, commissioning budget and financial modelling has not yet been distributed to the UCPH Steering Committee. There is a risk that potential savings from other ACT Health initiatives might not be realised, for e.g. closure of both Brian Hennessy House and wards at Canberra Hospital, resulting in the redirection of the scope of clinical services provided at UCPH due to the recurrent budget profile being unaffordable.	Low	It is recommended that the UCPH recurrent budget, commissioning budget and financial modelling are reviewed and firmed up using recommendations coming from the Paxton Partners report. In addition, ensure risk mitigation treatments identified in the UCPH Risk Register are achievable and resourced.
5	**University of Canberra Car Park** There is a risk that the multi-story car park being built by the University of Canberra will not be completed before the planned opening of the UCPH. Without a completed car park and sufficient car parking facilities for the UCPH a certificate of occupancy for the UCPH will not be provided and staff will not be allowed to take possession of the building.	Low	It is recommended that a contingency plan is developed and agreed to mitigate the risk that the University of Canberra (UC) Car Park is not completed on time.

Note: An implementation plan for the recommendations has been attached in Appendix A.

Appendix A Recommendations Implementation Plan

Area Audited:	Internal Audit of the University of Canberra Public Hospital (UCPH) Project Governance Review
Date of Audit:	Draft report 31 July 2017, Final report 14 September 2017

	Audit Recommendation	Management Comment	Responsible Officer	Estimated Completion Date
1	To ensure the UCPH project deliverables, key decision points and major interdependencies are fully understood by all UCPH working groups and ACT Health Executives, it is recommended that a critical decision path is developed, approved and implemented, to assign accountability and formal responsibility of UCPH decisions. This governance framework should include a clear pathway for critical decision making, escalation processes and category timelines through the approved UCPH Steering Committee and ACT Health Executive governance structure.	No management comments were provided.		
2	It is recommended that a UCPH Workforce working group performance review is undertaken to ensure: • the working group has appropriate membership (skills and experience), statement of work and terms of reference • the working groups governance framework is consistent with the project's	No management comments were provided.		

	Audit Recommendation	Management Comment	Responsible Officer	Estimated Completion Date
	• the working group has sufficient resources, momentum, direction and quality of deliverables • clarification of the employment status of Calvary Hospital staff.			
3	Recommendation 1: To ensure the UCPH project deliverables, key decision points and major interdependencies are fully understood by all UCPH working groups and ACT Health Executives, it is recommended that a critical decision path is developed, approved and implemented, to assign accountability and formal responsibility of UCPH decisions. This governance framework should include a clear pathway for critical decision making, escalation processes and category timelines through the approved UCPH Steering Committee and ACT Health Executive governance structure. In addition, assign ownership for the overall UCPH change management program and monitor change plans and actions.	No management comments were provided.		
4	It is recommended that the UCPH recurrent budget, commissioning budget and financial modelling are reviewed and firmed up using recommendations coming from the Paxton Partners report. In addition, ensure risk mitigation treatments identified in the UCPH Risk Register are achievable and resourced.	No management comments were provided.		

	Audit Recommendation	Management Comment	Responsible Officer	Estimated Completion Date
5	It is recommended that a contingency plan is developed and agreed to mitigate the risk that the University of Canberra (UC) Car Park is not completed on time.			

Appendix B Approved objectives, scope and approach

The engagement involved reviewing documentation and holding consultations with each of the deliverable streams which form the full scope of the project program. This process involved examination and assessment of evidence and the testing of assumptions.

Note: The structure of the project team relies upon co-ordination, active management, monitoring and implementation of the assigned suite of outputs/deliverables to the Project's Strategic Partners. The Strategic Partners, are typically Executive Directors, who have the capability, capacity and delegation to engage human and organisation resources to complete the deliverables.

The key components of project planning, governance and management of the UCPH relevant at the time of the review. At a minimum, this was expected to include:

- The business case and stakeholder engagement, including governance arrangements
- Project management, scope management, budget management, schedule management and quality management mechanisms
- Assessment of the accountability and responsibilities of resources, particularly as they relate to governance, costs and schedules, and
- Identification and management of risks and issues.

The review considered the arrangements in place at the point in time at which the review was happening, with anticipation of further lifecycle assessments to measure progress.

Assessment of planning, governance and management was against better practice models for major capital projects and took into consideration the point-in-time at which the project is at.

Appendix C Personnel Consulted

The following ACT Health personnel were consulted as part of this audit.

We are appreciative of their assistance.

Name	Title
Colm Mooney	Executive Director – Health Infrastructure Services
Elizabeth Tobler	Executive Director – Communications & Marketing
Janine McMinn	Director - Audit, Risk and Compliance
Katrina Bracher	Executive Director - Mental Health, Justice Health and Alcohol and Drug Services
Linda Kohlhagen	Executive Director – Rehabilitation, Aged and Community Care
Lisa Gilmore	Project Director – Collaboration Partnership
Liz Sharp	Director Strategic Projects & Health Services Planning
Peter O'Halloran	Chief Information Officer
Rosemary Kennedy	Executive Director – Business Support Services
Vanessa Brady	Executive Director – University of Canberra Public Hospital Project
Jackie Laws	Senior Manager – Special Projects & Executive Recruitment
Patrick Wells	Project Officer HIP
Martin Roberts	Project Director HIP
Belinda Carrington	Operations Manager
Todd Kaye	Director of Allied Health
Rhonda Maher	Director of Nursing
Chris Katsogiannis	Director of Rehabilitation Medicine
John Catanzariti	Commercial Contract Advisor HIP
Liz Campbell	UCPH Administration Support
Trevor Vivian	Chief Finance Officer
Sean Benfield	Financial Controller
Jean-Paul Donda	Manager, Budget Management Unit
Sarah Norton	Program Manager - UCPH Digital Solutions Program

Appendix D Risk Rating Framework

RISK MATRIX

Likelihood			Consequence →				
			Insignificant	Minor	Moderate	Major	Catastrophic
			1	2	3	4	5
↑	5	Almost Certain	Medium (11)	High (16)	High (20)	Extreme (23)	Extreme (25)
	4	Likely	Medium (7)	Medium (12)	High (17)	High (21)	Extreme (24)
	3	Possible	Low (4)	Medium (8)	Medium (13)	High (18)	Extreme (22)
	2	Unlikely	Low (2)	Medium (5)	Medium (9)	High (14)	High (19)
↑	1	Rare	Low (1)	Low (3)	Medium (6)	Medium (10)	High (15)

LIKELIHOOD

Descriptor	Probability of occurrence	Indicative Frequency
Almost certain (5)	Occurs more frequently than 1 in 10 tasks.	Is expected to occur in most circumstances.
Likely (4)	1 in 10 – 100	Will probably occur.
Possible (3)	1 in 100 – 1,000	Might occur at some time in the future.
Unlikely (2)	1 in 1,000 – 10,000	Could occur but doubtful.
Rare (1)	1 in 10,000 – 100,000	May occur but only in exceptional circumstances.

CONSEQUENCE

	Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
People (Staff, Patients, Client, Contractors, OH&S)	Injuries or ailments not requiring medical treatment	Minor injury or First Aid Treatment required	Serious injury causing hospitalisation or multiple medical treatment cases.	Life threatening injury or multiple serious injuries causing hospitalisation.	Death or multiple life threatening injuries.
Clinical	No injury No review required No increased level of care	Minor injury requiring: Review and evaluation Additional observations First aid treatment	Temporary loss of function (sensory, motor, physiological or intellectual) unrelated to the natural course of the underlying illness and differing from the expected outcome of patient management.	Permanent loss of function (sensory, motor, physiological or intellectual) unrelated to the natural course of the underlying illness and differing from the expected outcome of patient management. A number of key events or incidents.	Patient death unrelated to the natural course of the underlying illness and differing from the immediate expected outcome of the patient management. All national sentinel events.
Property and Services (Business services and continuity)	Minimal or no destruction or damage to property. No loss of service Event that may have resulted in the disruption of services but did not on this occasion.	Destruction or damage to property requiring some unbudgeted expenditure. Closure or disruption of a service for less than 4 hours- managed by alternative routine procedures. Reduced efficiency or disruption of some aspects of an essential service.	Destruction or damage to property requiring minor unbudgeted expenditure. Disruption to one service or department for 4 to 24 hours - managed by alternative routine procedures Cancellation of appointments or admissions for number of patients.	Destruction or damage to property requiring major unbudgeted expenditure. Major damage to one or more services or departments affecting the whole facility – unable to be managed by alternative routine procedures.	Destruction or damage to property requiring significant unbudgeted expenditure. Loss of an essential service resulting in shut down of a service unit or facility. Disaster plan activation.

	Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
			Cancellation of surgery or procedure more than twice for one patient.	Service evacuation causing disruption of greater than 24 hours, e.g. Fire/ flood requiring evacuation of staff and patients/clients (no injury); or Bomb threat procedure activation, potential bomb identified, partial or full evacuation required (+/- injury).	
Financial	1% of budget or <$5K	2.5% of budget or <$50K.	5% of budget or <$500K.	10% of budget or <$5M.	25% of budget or >$5M.
Information	Interruption to records / data access less than ½ day.	Interruption to records / data access ½ to 1day	Significant interruption (but not permanent loss) to data / records access, lasting 1 day to 1 week.	Complete, permanent loss of some ACT Health or Divisional records and / or data, or loss of access greater than 1 week.	Complete, permanent loss of all ACT Health or Divisional records and data.
Business Process and Systems	Minor errors in systems or processes requiring corrective action, or minor delay without impact on overall schedule.	Policy procedural rule occasionally not met or services do not fully meet needs.	One or more key accountability requirements not met. Inconvenient but not client welfare threatening.	Strategies not consistent with Government's agenda. Trends show service is degraded.	Critical system failure, bad policy advice or ongoing non-compliance. Business severely affected.

	Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
Reputation	Internal review.	Scrutiny required by internal committees or internal audit to prevent escalation.	Scrutiny required by external committees or ACT Auditor General's Office or inquest, etc.	Intense public, political and media scrutiny e.g. front page headlines, TV stories, etc.	Assembly inquiry or Commission of inquiry or adverse national media.
Environment Broadly defined as the surroundings in which ACT Health operates, including air, water, land, natural resources, flora, fauna, humans and their interrelation.	Some minor adverse effects to few species / ecosystem parts that are short term and immediately reversible.	Slight, quickly reversible damage to few species / ecosystem parts, animals forced to change living patterns, full, natural range of plants unable to grow, air quality creates local nuisance, water pollution exceeds background limits for short period.	Temporary, reversible damage, loss of habitat and migration of animal population, plants unable to survive, air quality constitutes potential long term health hazard, potential for damage to aquatic life, pollution requires physical removal, land contamination localised and can be quickly remediated.	Death of individual people / animals, large scale injury, loss of keystone species and habitat destruction, air quality 'safe haven' / evacuation decision, remediation of contaminated soil only possible by long term programme, e.g. off-site toxic release requiring assistance of emergency services.	Death of people / animals in large numbers, destruction of flora species, air quality requires evacuation, permanent and wide spread land contamination, e.g. caused by toxic release on-site; chemical, biological or radiological spillage or release on-site.

ACT Government
Health

Audit, Risk & Compliance
Lvl 3, 2-6 Bowes Street, Woden, Canberra 2606
GPO Box 825 Canberra ACT 2601
Website: www.health.act.gov.au

ABN: 82 049 056 234

Internal Audit of

Asset Stocktaking

November 2017

Audit conducted by Axiom Associates Pty Ltd

Table of Contents

1	Executive summary	3
1.1	Introduction	3
1.2	Background	3
1.3	Objective	4
1.4	Overall Conclusion	4
1.5	Key findings	5
2	Management sign off	7
3	Detailed Findings	8
3.1	Risk assessment of findings	8
3.2	Asset policies and procedures	9
3.3	Asset register and management systems	13
3.4	Asset approval processes	18
3.5	Stocktaking and tracking of assets	21
Appendix A	Recommendations Implementation Plan	25
Appendix B	Approved audit objective, scope and methodology	29
Appendix C	Personnel Consulted	31
Appendix D	Risk Rating Framework	32
Appendix E	ACT Health - Assets Profile	37
Appendix F	Standard Asset Management Cycle	38
Appendix G	ACT Health Asset Management Lifecyle	39
Appendix H	Audit Sample Analysis	40
Appendix I	RTLS use in Health Services	43
Appendix J	Management Suggestions	44
Appendix K	Statement of Responsibility	45

Executive summary

1.1 Introduction

Axiom Associates has been engaged by ACT Health to conduct this internal audit of Asset Stocktaking as part of the 2015/16 Strategic Internal Audit Plan.

1.2 Background

Health services require many items of equipment to operate and it is critically important that this equipment performs in an optimal manner and failures are avoided. Failures can have major ramifications for patient safety, quality of care, and the reputation of the health service as well as financial cost implications. Consequently, assets must be well maintained as there may be significant clinical and financial risks associated with managing assets.

It is important that entities take a disciplined approach to asset management that is commensurate with their investment in assets for operational requirements and outcomes. Assets should be managed in a strategic way which accords with the legislative, policy and budgeting framework.

ACT Health requires that all assets be effectively managed and maintained in accordance with legislation and relevant ACT Government policies. Asset management is the process of guiding the acquisition, use and disposal of assets in order to manage the related risks and costs throughout the asset's lifecycle. ACT Health policy is that the primary objectives of an asset management system within a Healthcare environment are to support clinical services and to minimise organisational risk through proactive and efficient planning, acquisition, use and disposal.

There is a principles-based *Strategic Asset Management Framework* for ACT Health currently in final draft form, and together with associated strategic asset plans yet to be developed, are intended to address systemic issues to improve asset accounting, procurement planning and lifecycle management for major assets. ACT Health Finance has plans to introduce new asset monitoring controls within its processes as part of a 'Financial Reform Framework'. This audit examines the current arrangements in relation to stocktaking and recording of equipment assets.

In accordance with the ACT Health *2015-16 Annual* Report, the value of property, plant and equipment assets under management as at 30 June 2016 was $944.8 million. These assets make up 72.5 per cent of all assets held by ACT Health (refer **Appendix E**).

1.3 Objective

To provide assurance to ACT Health that key controls associated with the stocktaking and recording of fixed assets in the asset register are operating effectively in accordance with relevant legislation and ACT government policies and guiding procedures.

To assess whether assets in-scope are appropriately accounted for and recorded in the ACT Health asset register the following criteria was utilised:

- acquisition/commissioning and recording occurs prior to deployment;
- impaired, obsolescent or removed from service assets are promptly reflected in asset registers; and
- missing, disposed of or otherwise decommissioned assets are appropriately approved.

A copy of the approved objective, scope and approach for the review are included within this report at **Appendix B**.

1.4 Overall Conclusion

ACT Health does not have an accurate and complete record of its assets due to gaps in capitalisation processes. Further in-depth work (outside the audit scope) would be required to determine the exact quantum of this inaccurate reporting. This is the result of a disconnected asset management lifecycle which:

- lacks clear accountability for asset management,
- has many disparate systems, asset registers and asset management processes operating across ACT Health, and
- has an incomplete stocktake process.

The weaknesses identified include:

- deficiencies in policies and procedures,
- incorrect and inaccurate recording of assets in the asset registers and systems, and
- no comprehensive reconciliation between the Asset Register and the Asset financial records.

The risk associated with the in-effective management of assets is that assets may not be available, easily located and/or properly maintained. Unnecessary procurement or potential fraud can also occur causing significant financial loss to ACT Health due to the lack of controls found.

Considerable improvements are required to improve Asset Management in ACT Health and four recommendations are made (both medium and high risks). Appendix J contains a list of management suggestions for ACT Health to consider. Significant savings could be achieved through streamlining the asset procurement and recording system.

We would like to take this opportunity to thank ACT Health staff for their Assistance during our audit.

1.5 Key findings

Nr	Report Section	Findings	Risk Rating	Recommendations
1	3.2	Audit found that in relation to policies: a) There is no formal clear and up-to-date policy that clearly identifies which areas of ACT Health are currently accountable for recording and managing assets. b) There is no formal policy for emergency procurement of assets to streamline acquisition and ensure these assets are appropriately recorded. c) There is no clear policy for stocktake and management of portable and attractive items.	Medium	It is recommended that ACT Health update the Asset Management DGFI's to: a) Identify clear roles and responsibilities for updating asset records. b) Provide the key approval points for emergency procurement of critical items. c) Outline clearly how portable and attractive items are to be recorded and monitored. d) Reference the *Strategic Asset Management Policy for Major Equipment* as a subsidiary policy.
2	3.3	Audit found that in relation to recording assets in the asset register and systems: a) There is no complete asset register in relation to existing assets and no centralised asset management system. b) Assets are not always appropriately labelled and recorded in the asset register upon acquisition and removed on disposal. c) Purchased portable and attractive items are not recorded on the asset register. d) Asset values are not updated through-life based on reliable information. e) Reconciliations between asset addition and disposal forms, accounting records and the asset register are not being routinely completed.	High	2. It is recommended that ACT Health implement: a) A complete asset register in an appropriately controlled ICT system. b) A procedure that identifies the critical path for asset recognition, accounting and lifecycle management. c) A portable and attractive items register. d) Annual asset impairment and obsolescence reviews in conjunction with key asset maintenance areas of ACT Health. e) Routine reconciliations between asset movement forms, transaction records and the asset register.

Nr	Report Section	Findings	Risk Rating	Recommendations
3	3.4	Audit identified in relation to approval processes that: a) There is no clearly identified segregation of duties for purchase and disposal of portable and attractive items. b) Any officer in the health system is able to approve disposal of assets deemed to have 'zero net book value'.	Medium	3. It is recommended that ACT Health: a) Implement a central procurement process that segregates purchasing from disposal activities. b) Procurement areas should receive input from asset management areas on any decision to procure assets that require testing or maintenance. c) Assign the final approval for disposal of assets with reported 'zero net book value' to Finance and the relevant Asset Management Area.
4	3.5	In relation to knowledge of asset stock, Audit found: a) There is inadequate visibility and tracking of assets and portable and attractive items. b) Stocktakes are not appropriately resourced and do not ensure all assets are complete on the asset register. c) Stocktake and asset recording processes are not well understood by staff and managers.	Medium	4. It is recommended that ACT Health: a) Consider whether implementing a passive RFID Real-time locating system could provide a viable asset tracking system without undue risk of interference to medical equipment. b) Involve personnel with strong knowledge of ACT Health assets, particularly medical equipment, in the stocktake process. c) Train clinical and other asset management area managers in the appropriate lifecycle management of assets and portable and attractive items.

Note: An implementation plan for the recommendations has been attached in **Appendix A**.

Management sign off

This report has been reviewed and discussed with management of the ACT Health Directorate. Management has had the opportunity to express any comments on the findings and recommendations outlined in this report.

Karen Doran, Deputy Director-General
General Corporate

Peter Pierre
Director Audit Risk and Compliance

Dom Susic
Partner
Axiom Associates