

Phase Two Implementation Plan

March 2019 System-Wide Data Review



ACKNOWLEDGMENT OF COUNTRY

ACT Health acknowledges the Traditional Custodians of the land, the Ngunnawal people. ACT Health respects their continuing culture and connections to the land and the unique contributions they make to the life of this area. ACT Health also acknowledges and welcomes Aboriginal and Torres Strait Islander peoples who are part of the community we serve.

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Background

ACT Health undertook a System-Wide Data Review (the Review) in 2017-2018 to address underlying issues around data and reporting, after it was unable to provide data on emergency department performance, elective surgery waiting times and mental health data for the 2017 Report on Government Services.

The Review examined ACT Health's data management and quality assurance processes, with the final Outcomes Report presented to the Legislative Assembly by the Minister for Health and Wellbeing on 21 August 2018. The Outcomes Report outlined key findings and recommendations and set out a three-year program of activities to improve and contemporise data management for the ACT Health Directorate, now and into the future.

In response to the Outcomes Report, ACT Health published an Implementation Plan outlining the activities and expected outputs in the first six-month phase to achieve the program outlined in the Outcomes Report. Rolling six-monthly updates to the Implementation Plan will continue to be published, providing status updates for previous phases and outlining the program of work for the next six-month period.

This Implementation Plan continues on from the System-Wide Data Review Phase One Implementation Plan and represents the next stage of the three-year program of work, informed by the activities identified through the Review. The projects identified in this Plan consist of ongoing activities commenced during Phase One as well as activities commencing during the first half of 2019.

The three-year program is aligned with nine informatics domains, representing an end-to-end solution to address the recommendations arising from the Review. The informatics domains were developed as part of the Review through a combination of research on best practice from leading state and territory health agencies and The Data Management Association International (DAMA) Data Management Body of Knowledge (DMBOK). They are:

DOMAIN	DESCRIPTION
D1 – Data management	The design and architecture of the systems and processes, which store and prepare ACT Health data for analysis and reporting.
D2 – Data governance	The structures and rules in place to provide direction, oversight and accountability to the use of ACT Health data and the reporting of information.
D3 – Data quality	The accuracy, reliability, validity and timeliness of ACT Health data.
D4 – Metadata management	Documenting ACT Health data so that there is a common understanding of how it is defined and how it should be interpreted.
D5 – Data security and privacy	The secure storage and access to sensitive information, as well as the measures put in place to ensure that the information is maintained in accordance with all privacy requirements.
D6 – Workforce	Organising teams working with data and enabling successful data management practices through training and communication.

D7 – Communication	The channels through which ACT Health staff can get information and assistance.
D8 – Change management	The rules, procedures and policies put in place to ensure that changes to ACT Health data or reporting of information are communicated, approved and implemented in a consistent and structured manner.
D9 – Information and insights	The wide range of reporting and analytics capabilities for ACT Health. It includes mandatory reporting to external bodies, as well as the delivery of insightful analytics and reporting capable of driving strategic and operational decision-making.

Implementation Phases and Activities

The System-Wide Data Review Phase One Implementation Plan was released in August 2018, representing the first phase of an ongoing program of work to implement the activities scheduled to commence in the period to December 2018.

In addition to continuing the Phase One activities, a number of activities have been identified to commence during Phase Two. All activities are grouped into the relevant Domain and outlined in the following tables.

Activities and Outputs

D1 – Data Man	agement	
Recommendation	Build a new data repository, which will collect, store, extract and transform quality data to deliver better insights to the community.	
Key Findings	There are over 250 different systems in place across ACT Health that hold patient data. This is a complex environment to collect, store, transform and report consistent information on the 1.5 million episodes of care that ACT Health provides each year. Technologies and best practice data management activities are not embedded, limiting innovation and efficiencies.	
Activities	D1.1 Data submission specifications 1.1.1 Align data repository with local and national data submissions specifications D1.3 New data repository 1.3.1 Commence development of a new data repository with well documented and validated processes 1.3.2 Build the new data repository D1.5 Upgrade/reduce the number of data collection systems 1.5.1 Implement a single patient management system across priority datasets and standardise data management policies and procedures	
Phase	Outputs	Status
One	For data elements feeding from systems that relate to Emergency Department, Elective Surgery, Walk-in Centres and Bed Occupancy:	
	 documented source system meta-data elements, the source system data entry requirements, business/clinical processes and business rules; 	 Completed Completed Elective Surgery Waiting List, Emergency Department and Walk-in Centres Commenced – for completion June 2019 Commenced Bed Occupancy
	 raw data extracted and imported into the data repository based on source system meta-data elements; 	 Completed Completed Elective Surgery Waiting List, Emergency Department and Walk-in Centres Commenced – for completion June 2019 Commenced Bed Occupancy

	 extracted data transformed into usable data, based on business rules and requirements; 	 Completed Completed Elective Surgery Waiting List, Emergency Department and Walk-in Centres Commenced – for completion June 2019 Commenced Bed Occupancy
	data loaded into the repository ready for use for reporting purposes;	 Completed Completed Elective Surgery Waiting List, Emergency Department and Walk-in Centres Commenced – for completion June 2019 Commenced Bed Occupancy
	 defined outputs from the data repository, including mapping source system metadata to output metadata; 	 Completed Completed Elective Surgery Waiting List, Emergency Department and Walk-in Centres Commenced – for completion June 2019 Commenced Bed Occupancy
	 detailed report specifications for external submissions, internal operational reports and data exposed to internal users; and 	 Completed Completed external submission requirements Commenced – for completion June 2019 Commenced internal operational reports Commenced data exposure to internal users
	the translation of source system metadata to output metadata standards.	 Completed Completed Elective Surgery Waiting List, Emergency Department and Walk-in Centres Commenced – for completion June 2019 Commenced Bed Occupancy
Two	For data elements feeding from systems that relate to admitted patients, workforce, mental health and non-admitted allied health:	 Commenced Completed significant work on admitted care
	 documented source system meta-data elements, the source system data entry requirements, business/clinical processes and business rules; 	due to the common data elements within the Elective Surgery Waiting List dataset
	 raw data extracted and imported into the data repository based on source system meta-data elements; 	 Drafted data definitions for allied health professionals

 extracted data transformed into usable data, based on business rules and requirements; 	 Held preliminary discussions with workforce and allied health business areas
 data loaded into the repository ready for use for reporting purposes; 	
 defined outputs from the data repository, including mapping source system metadata to output metadata; 	
 detailed report specifications for external submissions, internal operational reports and data exposed to internal users; and 	
 the translation of source system metadata to output metadata standards. 	

D2 – Data Governance		
Recommendation	Embed new governance structures to delineate roles and responsibilities in relation to data across ACT Health, ensuring accountability and transparency is a priority.	
	Support data activities through data policy and procedures.	
Key Findings	Data governance structures, roles and responsibilities, policies, standards and processes are not consistently applied in ACT Health.	
	There was not a single area responsible for the coordination of the 1200 requests for data each year.	
	There are no documented policies and procedures to govern data and data activities across ACT Health, including data stewardship/custodianship, data quality, data integrity, data requests, data access, data release, data validation, data standards and metadata documentation.	
Activities	D2.2 Governance committees	
	2.2.1 Identify appropriate data governance committees	
	2.2.2 Continuous oversight and review from governance committees	
	D2.4 Root cause analysis	
	2.4.1 Action findings and recommendations of the root cause analysis	
	D2.5 Data Governance and Management framework	
	2.5.1 Finalise and embed the Data Governance and Management Framework	
	2.5.2 Finalise and embed data custodian and ownership policies	
	D2.6 Data policies and procedures	
	2.6.1 Develop and implement data policies and procedures	
	D2.7 Data management plans for service areas	
	2.7.1 Roll out data management plans for all business units	
	2.7.2 Commence pilot to embed data management plans across business units in ACT Health	

Phase	Output	Status
One	Appropriate data governance committees, including a tier 1 committee, established with defined terms of reference and accountabilities that will facilitate improved data management and quality from collection to reporting.	Completed
	A finalised Data Governance and Management Framework that clearly articulates the roles and responsibilities of data management, which will be widely communicated and embedded into day to day operations at all levels, through an education program.	 Commenced – for completion June 2019 Reviewed the Data Governance and Management Framework following the transition of ACT Health to two directorates
	Finalised data custodian and stewardship policies to support the collection and management of data and that the data collection process meets business, operational or legislative requirements.	 Commenced – for completion June 2019 Reviewed all data policies following the transition of ACT Health to two directorates
	Key data policies and procedures to support data quality, assurance, access control, data requests and data clearance developed and implemented utilizing the Communication Strategy and Stakeholder Engagement Plan to ensure that staff are kept up to date with any policy and procedure changes.	 Commenced – for completion 2019 Reviewed all data policies following the transition of ACT Health to two directorates
	Data management education package developed and implemented.	 Commenced – ongoing Developed a data education package for allied health clinicians
Two	A draft data management plan developed for Canberra Health Services.	Not Commenced

D3 – Data Qua	lity		
Recommendation	Continually improve the accuracy of data through robust data quality assurance activities.		
Key Findings	Data definitions used in ACT Health were not always consistent across the organisation or with national standards.		
	The impact of poor or inaccurate data entry was not fully understood by certain users		
	Data quality practices were not fully embedded across ACT Health, or the data lifecycl	e.	
Activities	D3.4 Develop an audit program across source systems		
	3.4.1 Develop a rolling annual audit program to assess the quality of data across core systems and ensure traceability from initial entry to reporting		
D3.6 Clinical Coding Strategy			
	3.6.1 Embed the clinical coding strategy		
	3.6.2 Develop a clinical coding strategy with a range of strategies to optimise the clinical coding process		
	D3.8 Data quality framework and strategy		
	3.8.1 Continue development of a Data Quality Framework in line with the ACT Government Office of the Chief Digital Commence development of a Data Quality Strategy		
	3.8.2 Finalise and embed the Data Quality Framework and Strategy		
	D3.11 Data resubmissions 3.11.1 Resubmit data for past years if gaps are identified in collection processes (noting some data sets may be subject to r business rules and processes)		
Phase	Output	Status	
One	Draft Coding Strategy will be finalised with a supporting implementation plan.	Not Commenced – for completion 2019	
	Draft Data Quality Framework and Strategy developed in line with ACT Government Office of the Chief Digital Officer.	 Commenced – for completion 2019 Held initial discussions with the Office of the Chief Digital Officer to establish a way forward and ensure a consistent approach across ACT Government 	

Two	Audit program developed to assess the quality of data transitioning to the data	Commenced
	repository.	Developed draft audit program ready to piloting
	Submit missing 2015-16 datasets to the AIHW.	Commenced
		Completed mental health

Recommendation	Improve the understanding of how data is defined and how it should be interpreted through the documentation of data definitions, data models and data flows.	
Key Findings	Data dictionaries were not always accessible, resulting in low visibility of data definitions to front line ACT Health data entry staff.	
Activities	D4.3 Development of AIHW metadata registry 4.3.1 Ongoing development and rollout of AIHW data definitions 4.3.2 Publish definitions online for user ease of accessibility D4.4 Metadata model 4.4.1 Continue work to establish and maintain a metadata model to support the consistent interpretation of data from source system to usage	
Phase	Output	Status
One	For data elements that relate to the Emergency Department, Elective Surgery, Walk-in Centres and Bed Occupancy: • work with AIHW to adopt national data definitions and standards, revising as appropriate for local level data collections and reporting while ensuring they also meet national reporting requirements; and	Completed
	definitions published online ensuring all staff have access.	 Commenced – for completion 2019 Developed definitions and working with the data repository capability to embed definitions on-line
	Development of a metadata model that ensures stakeholders can interpret the meaning of the data from source systems to usage.	 Commenced – for completion 2019 Commenced a metadata model that is consistent
		with the new data repository
Two	For data elements that relate to admitted patients, workforce, mental health and non-admitted allied health:	
Two	For data elements that relate to admitted patients, workforce, mental health and	with the new data repository Commenced

D5 – Security and Privacy		
Recommendation	Maintain security and privacy of the data held by ACT Health.	
Key Findings	dings The application of policies and protocols were not well understood across ACT Health.	
	Data repository access rights need to be reviewed so that access is only granted to dat officers.	ta repository officers and not all data reporting
Activities	 D5.1 Security and access policies 5.1.1 Continue to revise data and access policies and protocols 5.1.2 Continue to build the new data repository and embed data access protocols, including a data security management system to: a) log and register history of database access and record search, extraction, entry, completion and change actions b) restrict write access to report files to the team that manages the reports 5.1.3 Continue to undertake rolling data access audits D5.2 Staff training package for security, access and privacy 5.2.1 Commence development of a staff training program to guide staff on the appropriate methods to access, store and disseminate data 	
Phase	Output	Status
One	For source systems that relate to the Emergency Department, Elective Surgery, Walk-in Centres and Bed Occupancy we will embed data access protocols. A data security management function (a part of the data repository) will log and register:	Commenced – for completion 2019 Commenced the security plan assessment for the new repository Commenced – for completion 2019 Commenced the security plan assessment for the new repository
	 history of database access, record search, record extraction, record entry, record completion and record change actions; and 	
	 write access to report files will be restricted to the team (DSD Information Management Hub) that actively manages the reports (after the new data repository is built). 	
	A rolling audit program will be undertaken which will include a review of unusual patterns of access particularly systematic record changes.	

Two	Embed data access protocols for source systems that relate to admitted patients,	Not commenced
	workforce, mental health and non-admitted allied health.	

Recommendation	Continually improve internal workforce capabilities around data to build a strong data and analytics team, and train the health workforce to leverage the use of data for decision-making.		
Key Findings	There was no formal training program for staff to understand why certain data is collected and the importance of accurate and complete data entry.		
Activities	D6.2 Performance, Reporting and Data Management Strategy		
	6.2.1 Continue to embed and implement the strategic plan for the performance	e, reporting and data function	
	D6.3 Staff performance plan processes and communication		
	6.3.1 Ensure that staff continue to have performance plans in place, in line with the strategic objectives of the Performance, Reporting and Data Management Strategy		
	D6.4 Performance, reporting and data training and orientation package		
	6.4.1 Further develop training packages, including e-learning, for staff accessing data and improve completion rates for training packages		
	(Includes: 6.6.1 Develop an ACT Health data management training package for security and ethics and the appropriate collecting, storage, access and release of information)		
	D6.5 Benchmark internal workforce requirements		
	6.5.1 Analyse existing Commissioning and Performance Division position descriptions to determine mandatory skillsets/qualifications and current data management training requirements		
	D6.6 ACT Health Data Management Training Package		
	6.6.1 Develop ACT Health Data Management Training Package plan		
Phase	Output	Status	
One	Finalised and endorsed Performance, Reporting and Data Management Strategy which identifies the capabilities required for the Commissioning and Performance Division to support the organisational requirements around data reporting and analytics.	Completed	
	Data management training needs analysis undertaken and documented. This will focus on each part of the data management process to ensure that the correct training is provided.	Not Commenced – for completion 2019	

Two	A gap analysis of the workforce requirements for the Commissioning and	Commenced – for completion 2019
	Performance Division.	 Recruited new staff to fill capability gaps

D7 – Commun	cation		
Recommendation	Improve communication about data across ACT Health, mobilising a cultural shift around data management, with the intent of creating a new relationship between data, the community and stakeholders.		
Key Findings	The benefits of having quality data were not well communicated to ACT Health staff.		
	Changes to data collections were not well communicated.		
	Access to data analysts for advice was not readily available, limiting understanding of data, reporting and performance matters.		
Activities	D7.1 Communications Strategy and Stakeholder Engagement Plan		
	7.1.1 Continue to develop a comprehensive communications strategy and stakeholder engagement plan		
	7.1.2 Continue to plan for the rollout of the communications strategy and stakeholder engagement plan		
	7.1.3 Develop and distribute regular communications		
	D7.3 SharePoint site and intranet portal		
	7.3.1 Continue development of an online workspace for Commissioning and Performance Division and an intranet portal with information for ACT Health staff to submit data requests to the Reporting Coordination Unit		
	7.3.2 Complete development of the online site with a data queries log linked to the data request site to target and refine FAQs		
Phase	Output	Status	
One	Finalised Communications Strategy and Stakeholder Engagement Plan that promotes a structured and agreed approach to communicate to all stakeholders.	Commenced – for completion 2019	
		 Reviewed the Communication Strategy and Stakeholder Engagement Plan to align with the transition of ACT Health into two 	
		directorates	
	Identification of operational reporting suitable for delivery via online portals.	Commenced – ongoing	
	Identification of operational reporting suitable for delivery via online portals.	***************************************	

D8 – Change Management		
Recommendation	Embed change management practices as business needs evolve and ensure these enhancements are appropriately governed.	
Key Findings	There was no formal change control process in place to manage new data activities, for example new data items or reports.	
Activities	D8.1 Change management process 8.1.1 Continue to socialise the change control policies and processes D8.2 Change Control Board 8.2.1 Continue to maintain ongoing oversight of change control requests via the Change Control Board	
Phase	Output	Status
One	Finalised and communicated policies and procedures in relation to Change requests that flow from the data governance and data quality frameworks.	Completed

D9 – Information and Insights		
Recommendation	Be transparent within and outside ACT Health, by meeting regulatory requirements as well as deliver insights and intelligence about the healthcare services delivered throughout ACT.	
Key Findings	The majority of clinical data provided for operational purposes was not real-time (up to six to eight weeks old) and was not influencing patient outcomes or achieving efficiencies.	
	There was not a consolidated reporting program in place to meet external reporting requirements.	
	Although consumers have access to a large number of public reports, these are not readily accessible in a timely manner, do not directly inform consumer health care choices, or assist with understanding performance, quality and safety of the care provided by ACT Health.	
Activities	D9.4 Consumer reporting	
	9.4.1 Continue to liaise with the Health Care Consumers' Association (HCCA) to define their reporting requirements	
	9.4.2 Identify options for improved consumer reporting	
	D9.6 Activity Based Funding Framework	
	9.6.1 Continue to review the existing Activity Based Funding Framework	
	9.6.2 Design and embed the Activity Based Funding Framework	
	D9.8 Measurement framework to support the ACT Health Quality Strategy	
	9.8.1 Continue drafting a measurement framework to support the ACT Health Quality Strategy	
	D9.9 Automate standardised reporting functions	
	9.9.1 Assess the options to automate standardised reporting functions	
	D9.10 Design new performance reports	
	9.10.1 Continue to design new operational performance reports for Activity Based Funding to inform clinical operations, costing and workforce	
	D9.11 Analytics Framework and Strategy	
	9.11.1 Commence developing the Analytics Framework	
	9.11.2 Design and embed an Analytics Strategy including an Analytics Framework	

D9.12 AIHW data linkage

- 9.12.1 Progress discussions with AIHW to collaborate with national data linkage processes
- 9.12.2 Continue to establish the linkage of ACT Health data with national processes
- D9.14 Recommend new local strategic indicators using the Performance Measurement Framework
 - 9.14.1 Conduct a review of current indicators to provide a recommendation for new local strategic indicators
- D9.15 Business intelligence platform and associated change management strategy
 - 9.15.1 Select and deploy a visual toolset and business intelligence platform and develop an associated change management strategy

Phase	Output	Status
One	Draft requirements developed by HCCA.	Completed
	Requirements reviewed to ensure alignment with the ACT Health Quality Strategy 2018-2028.	Completed
	Preferred consumer reporting requirements determined in consultation with HCCA.	Commenced – for completion 2019
		 Completed initial work for the three ACT Health Quality Strategy priority areas. Agreed with HCCA that all six quality dimensions be considered
	Community consultation undertaken regarding draft consumer reporting requirements.	Not commenced – for completion June 2019
	Reports for consumers established online through data.act.gov.au.	Not commenced – for completion 2020
	Endorsed Activity Based Funding Framework, with supporting implementation plan for	Commenced – for completion 2019
	Activity Based Management within the Health Directorate, Canberra Hospital and Health Services and other service providers.	Drafted an Activity Based Funding Framework
	2018-19 Calvary Performance Plan developed on an Activity Based Funding model, in line with the Calvary Network Agreement requirements.	Completed
	Education programs on Activity Based Funding developed.	Not commenced – for completion 2019
	Development of internal operational reports that support the management of activity and resource usage.	Not commenced – for completion 2019

	Development of a draft high-level Measurement Framework to support and	Commenced – for completion 2019	
	operationalise the ACT Health Quality Strategy 2018-2028, which will provide a structure for what, why, how and when quality will be measured across ACT Health.	 Developed draft Measurement Framework in consultation with clinicians and HCCA. The Framework is being reviewed following the transition of ACT Health into two directorates 	
	Draft quality indicators specifications which align with the approach taken to specify other ACT Health performance indicators and metrics. Measurement Framework endorsed by the appropriate governance committee.	Commenced – for completion 2019	
		 Commenced drafting quality indicators consistent with ACT Health standards 	
		Commenced – for completion 2019	
		 Being reviewed post the of ACT Health into two directorates 	
	Review, endorse, and publish quality indicators. The quality indicators will undertake a review period and be endorsed by the appropriate governance committee. The indicators will then be published for access by staff and consumers.	Commenced – for completion 2019	
		 Being reviewed post the of ACT Health into two directorates 	
	Roll out the Measurement Framework and quality indicators to all clinical units, including an education process.	Commenced – for completion 2019	
		 Reviewing the Measurement Framework post the transition of ACT Health into two directorates 	
Two	Consumer reporting requirements agreed.	Commenced	
	Automated reports available for datasets transitioning to the new repository.	Developed some automated reports for	
	Recommendations developed for new local strategic indicators.	datasets transitioning to the new repository	
	A visual toolset and business intelligence platform is identified and implemented.		

Appendix A - Ongoing External Governance

While the SWDR outlined a 3 year forward work program to improve data management, it also recognised the work that had been undertaken, was underway or proposed to address recommendations from previous reviews of health data undertaken over the period 2012-16. Monitoring progress against these 175 recommendations has been an ongoing activity and five audit reports have been commissioned by an independent consultancy.

Of the 175 recommendations:

- 106 have been completed;
- 23 are no longer relevant;
- 29 are underway; and
- 17 are ongoing business as usual activities.

The status of recommendations and progress made between June 2017 and February 2019 is represented in Figure 1.

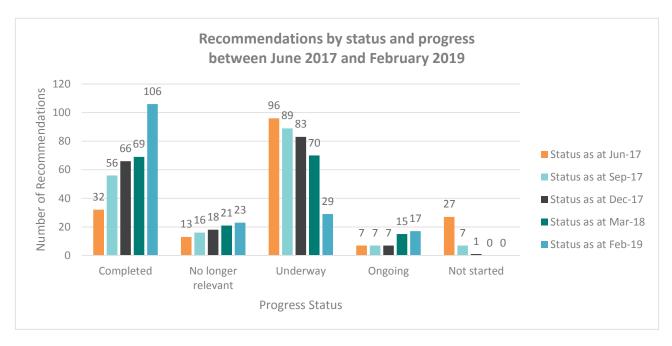


Figure 1 - Status and Progress of Implementation of Recommendations, June 2017 to February 2019