



ACT
Government
Health

TERMS OF REFERENCE OF THE SYSTEM-WIDE DATA REVIEW

*Leading Data Reform: The Way Forward –
Outcomes of the ACT Health 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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TERMS OF REFERENCE OF THE SYSTEM-WIDE DATA REVIEW

Addressing the Terms of Reference

Outlined below are the Terms of Reference as tabled in the ACT Legislative Assembly on 28 March 2017. A response has been included to describe the actions taken to address each of the Terms of Reference.

Terms of Reference	Response
1. A summary of the extent, and where possible, the root cause of the current data issues	<ul style="list-style-type: none"> ✓ Completed with 14 key recommendations encompassing strategy, data governance, communication and collaboration, and change management ✓ Activities allocated to each recommendation
2. Establish revised governance processes and protocols for data management, reporting and analysis.	<ul style="list-style-type: none"> ✓ Implemented new data governance processes ✓ Meeting timeframes for reporting obligations ✓ Compliant with national reporting standards ✓ Reviewed all existing reports and prioritised external and internal reports ✓ Developed new change management processes ✓ Improved quality assurance processes ✓ Implemented appropriate access controls ✓ Developed a framework for a new data repository with significant capabilities
3. Develop a Framework for the provision of essential data reports derived directly from source systems as an interim process. This will ensure that ACT Health internal and external reporting requirements can be maintained.	<ul style="list-style-type: none"> ✓ Established a Reporting Coordination Unit for all data requests and releases ✓ Consulted with external and internal stakeholders to develop an essential reports register ✓ Maintained automated operational reports ✓ Embedded compliance activities to meet external reporting obligations ✓ Mapped data definitions against reports ✓ Identified a data repository solution to host definitions and standards ✓ Identified source systems for reporting items ✓ Developed technical specifications for the new data holdings ✓ Developed business requirements for reports
Replacement of the ACT Health data warehouse, reporting and analysis systems and functions.	<ul style="list-style-type: none"> ✓ Collaborated with the ACT Government's Chief Digital Officer to define a new data repository that is consistent with the Whole of Government approach ✓ Designed the data repository to have significant capabilities to provide end to end assurance of the data management lifecycle ✓ Developed, implemented and tested a 'proof of concept' for the emergency department real time waiting times data ✓ Ensured new capabilities support the Territory's Whole of Government Data Lake
4. Implementation of all Framework outcomes	<ul style="list-style-type: none"> ✓ Developed and implemented a range of frameworks to guide development activities
5. Provide a detailed roadmap to address existing recommendations from the Auditor-General and ACT Health external advisers.	<ul style="list-style-type: none"> ✓ Consolidated the 175 external review recommendations into a single report ✓ Reviewed each recommendation for acceptance [or not], prioritisation, and allocated estimated date of completion ✓ Engaged external independent auditor who baselined the status of each recommendation and reviewed quarterly ✓ As at March 2018, 69 recommendations are complete, 70 underway, 15 ongoing and 21 are no longer relevant
6. Provide advice on the publication of data for consumers that facilitates improved understanding of ACT Health information, performance, quality and safety, including options for real-time provision.	<ul style="list-style-type: none"> ✓ Reviewed the current state of information currently published by ACT Health ✓ Reviewed other states and territories and Commonwealth agencies for the quantity and type of data published ✓ Partnering with the Health Care Consumers Association to define a rolling program of work to improve access and understanding of ACT Health data ✓ Developed an ACT Health Measurement Framework consistent with the national performance reporting frameworks ✓ Commenced the Measurement Framework to support the ACT Health Quality Strategy 2018-2028 ✓ Seeking external independent advice regarding best practice leading performance measures ✓ Exploring best practice technical capabilities for consumers to access our data

Key Actions to Address the Terms of Reference

Outlined below are the Terms of Reference as tabled in the ACT Legislative Assembly on 28 March 2017. A key action response has been included to describe the immediate actions taken or recommended future activities planned to address each of the Terms of Reference.

Terms of Reference	Due	Response
1. A summary of the extent, and where possible, the root cause of the current data issues	September 2017	✓ An independent root cause analysis (RCA) was undertaken. The recommendations from the RCA have assisted in finalising the scope of the activities in the Performance, Reporting and Data Management Strategy.
2. Establish revised governance processes and protocols for data management, reporting and analysis. Features of these processes and protocols will include:		✓ See below.
2.1 Defined work schedules and steps for key reporting obligations	June 2017	<ul style="list-style-type: none"> ✓ There was significant work to consolidate the vast quantum of existing reports produced across ACT Health. ✓ A list of mandatory external reporting obligations were developed in consultation with external agencies, with a similar process for internal stakeholders. ✓ Key activities for work schedules were defined including scheduling of activities to ensure timeframes were met.
2.2 Formalised change processes for source systems, datasets and data queries to ensure that the impact of changes to any source systems are identified and addressed within the datasets	June 2017	<ul style="list-style-type: none"> ✓ A formalised change management process has been developed to ensure all data changes are managed and approved appropriately. ✓ Changes are categorised into one of five classifications: <ul style="list-style-type: none"> – Metadata (technical and functional) – Outputs (report or submission) – Extraction Processes – Source System Changes – Business/Operational Changes (ward/clinic). ✓ Resources allocated to the Change Management process include managing the establishment of a new Change Control Board. The Change Control Board will have oversight and approve all system and data changes moving forward.
2.3 Clear delineation of responsibility for managing different stages of the extraction, transformation and reporting and analysis of data	March 2018	✓ A roles and responsibilities matrix for data management was defined to provide clear lines of responsibility across the data management life cycle.
2.4 Clearly defined quality assurance and clearance steps for all data reporting and analysis	March 2018	✓ Data quality assurance processes have been reviewed and refined across the data life cycle phases.
<i>In parallel with the determination of a framework for the rebuilding of the ACT Health data warehouse, reporting and analysis systems and functions will include:</i>		
2.5 Appropriate access controls and audit information for all data sets	March 2018	✓ The Framework includes a system management zone that defines how the system is secured, access provisions and provides user and service monitoring capabilities.

Terms of Reference	Due	Response
2.6 Establishing standardised queries for reporting purposes that are to be used at all times for report generation	March 2018	✓ The Framework for the Operational Data Hub provides tools to consistently produce curated data sets for consumption both internally and externally to ACT Health.
2.7 Establish a framework for publication of datasets for each time period	March 2018	✓ The Framework for the Operational Data Hub provides tools to consistently produce curated data sets for consumption both internally and externally to ACT Health.
3. Develop a Framework for the provision of essential data reports derived directly from source systems as an interim process. This will ensure that ACT Health internal and external reporting requirements can be maintained and will comprise of:		✓ See below.
3.1 Identifying the range of essential internal and external reports, and ceasing any reports that are not essential	June 2017	<ul style="list-style-type: none"> ✓ A list of mandatory external reporting obligations were developed in consultation with external agencies, with a similar process for internal stakeholders. ✓ A number of automated reports were continued for operational purposes. These reports have continued unless there were technical issues, and then each report was assessed individually to understand the impact on operations prior to ceasing any reports.
3.2 Confirming the priority order and timeframes for external reporting	June 2017	<ul style="list-style-type: none"> ✓ Due dates for all data submissions were agreed with external agencies to ensure each report could be prioritised. ✓ A program of work has been embedded to ensure compliance with external reporting obligations.
3.3 Mapping the data definitions against the source systems to identify the systems required to generate reports	June 2017	✓ Data definitions have been mapped against reports that are derived directly from source systems. This work will be ongoing as the data repository is rolled out and work commences with the Australian Institute of Health and Welfare to use their online data registry for all definitions and standards.
3.4 Replicating systems for reporting purposes and writing queries to generate reports from the replicated data	June 2017	<ul style="list-style-type: none"> ✓ Identification of source systems for replication commenced and has been undertaken in accordance with the essential internal and external reporting priorities. This work contributed to defining the technical specifications of the interim data holdings for the production of reports. ✓ Further to the technical specification, an understanding of the structure and relationships (including business processes) of source system data allowed for the mapping of report elements to source systems and implementation of extract, transform and load (ETL) processes to populate the required data elements. The output of these processes are validated against the replication to ensure all appropriate events have been captured. ✓ Documentation has been developed with data definitions aligned with each data set to inform a data dictionary and register of reports. These definitions include calculation methodologies in alignment with national definitions and common aggregation points. The reporting data sets are quality assured against the data definitions and calculation methodologies. Further data validation steps are undertaken to ensure that the data is internally consistent and logical. ✓ Queries are written against the reporting data sets according to the business requirements for individual reports and checked against the coding standards for compliance. The queries result in the production of the reports.

Terms of Reference	Due	Response
3. Replacement of the ACT Health data warehouse, reporting and analysis systems and functions. This will include how we propose to:		✓ See below.
3.5 Reconstruct the warehouse to ensure that it accurately extracts and transforms data from source systems	September 2017	✓ The establishment of a Data repository and reporting hub provides repeatable ETL/ELT capabilities and data lineage to trace back to source systems.
3.6 Deliver and publish datasets for each time period	September 2017	✓ The Framework for the Operational Data Hub provides tools to consistently produce curated data sets for consumption both internally and externally to ACT Health.
3.7 Develop Application Programming Interfaces (APIs) to publish data in real-time for required data sets (such as Emergency Department waiting times)	September 2017	✓ The Framework of the Operational Data Hub provides capabilities to support APIs and tools to provide real time data to feed outputs like the Emergency Department waiting times.
3.8 Integrate relevant de-identified data into the ACT Government Data Lake	September 2017	✓ The Framework for the Operational Data Hub provides tools to produce appropriate data sets for the Territory's whole of Government Data Lake.
3.9 Re-write the data queries required to accurately generate reports	September 2017	✓ The establishment of a Data repository and reporting hub provides repeatable ETL/ELT (extract transform load/extract load transform) capabilities and all queries will be rewritten against business processes and rules in this new capability.
4. Implementation of all Framework outcomes	March 2017	✓ A number of frameworks were developed to guide the activities of System-Wide Data Review.
5. Provide a detailed roadmap to address existing recommendations from the Auditor-General and ACT Health external advisers. This will comprise of:		✓ See below.
5.1 A single report outlining all recommendations	September 2017	<p>✓ In June 2017, ACT Health Directorate's Internal Audit team engaged a suitably experienced internal audit service provider to conduct an independent assessment of the 175 data integrity recommendations resulting from reviews over the period 2012 to 2016.</p> <p>✓ The recommendations from the external reviewers were consolidated into a single report and have been used as the basis of the independent audit reviews.</p>
5.2 ACT Health's acceptance, or not, of each recommendation	September 2017	<p>✓ Each recommendation was reviewed by ACT Health and the acceptance, or not has been identified. Seven recommendations were classified as 'Not Accepted' and these relate to recommendations that:</p> <ul style="list-style-type: none"> - were not accepted at the time - are no longer relevant or superseded by the System-Wide Data Review, or - are not relevant to the System-Wide Data Review and should be dealt with more broadly.
5.3 Prioritisation of each recommendation, including an estimated date of completion	September 2017	✓ Each recommendation was prioritised and the estimated date of completion allocated upon commencement of the independent audit assessment.

Terms of Reference	Due	Response
5.4 A report detailing progress status against each recommendation	September 2017	<ul style="list-style-type: none"> ✓ The independent audit assessment was conducted in four phases, with the first phase allowing for a baseline of the status of the recommendations to be established. The next three phases occurred in September 2017, December 2017 and March 2018 with an update of the progress made and validation of the effectiveness of implementation of the recommendations. ✓ The audit process included meeting with a range of staff across ACT Health and each recommendation was updated based on information obtained and provided from staff during these meetings. ✓ Refinement of the categorisation of the recommendations based on the Informatics Strategy domains (i.e. data management, performance reporting, security and privacy, communication, workforce, metadata, governance, change management and quality) was also performed by the Independent Auditor.
6. Provide advice on the publication of data for consumers that facilitates improved understanding of ACT Health information, performance, quality and safety, including options for real-time provision.	September 2017	<ul style="list-style-type: none"> ✓ ACT Health are partnering with the Health Care Consumers Association and have agreed this is a journey of continual improvement that is enduring and not a one off solution. To date current work has included: <ul style="list-style-type: none"> – Reviewed the current state of information currently published by ACT Health – Reviewed other states and territories and Commonwealth agencies for the quantity and type of data published – Considered local and national work including a Measurement Framework to support the ACT Health Quality Strategy 2018-2028 and the new Australian Health Performance Reporting Framework – Reviewed three external reports to ensure any new proposed metrics are aligned with local policy issues – Seeking external independent advice regarding best practice leading performance measures – Liaising with the Health Care Consumers Association to define their reporting requirements for Health Information and Insights including exploring options for best practice technology to access the data.