



DATA GOVERNANCE FRAMEWORK

Adelaide PHN and Country SA PHN Data Management


[Abstract](#)

A joint data Governance Framework developed for Country SA PHN and Adelaide PHN

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Approval

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Overview

The Data Governance Framework proposed for Country SA PHN and Adelaide PHN is based on the principles defined in the Data Management Association (DAMA) Data Management Body of Knowledge (DMBOK).

Country SA PHN and Adelaide PHN intend to perform joint activities where appropriate, therefore this framework has been proposed using roles from within each organization.

Organisation Structure

The following diagram shows the suggested Data Governance organisational structure, and where it fits within the overall corporate structure.

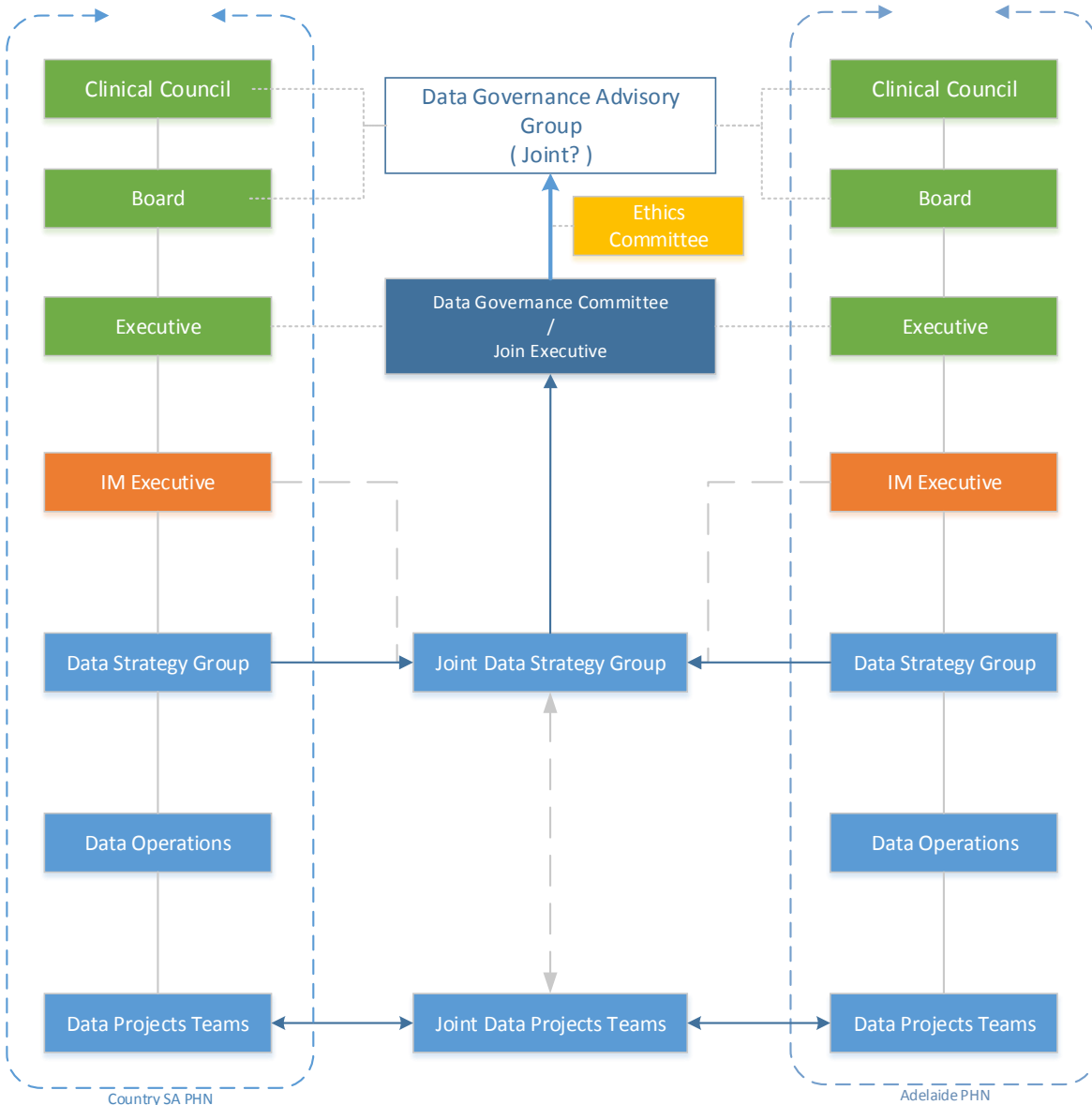


Figure 1 Data Governance Structure

There are some important points to note in this structure:

Data Governance Advisory Group

The Data Governance Advisory Group is to be a listing of resources (both internal and external) that have specialist skills. In cases where the Data Governance Committee decide that they require more specialist advice on a topic before endorsing a decision, they will consult the Data Governance Advisory Group list and seek advice from appropriate resources. The Ethics Committee does not exist in its own

right, instead those resources that have specialist skills in dealing with ethics will be listed on the Data Governance Advisory group list. Specialists included on the Data Governance Advisory group list may include expertise in the following disciplines:

- Legal
- Privacy
- Ethics
- Clinical

Data Governance Committee

The Data Governance Committee is the group that has oversight of the entire Data Management process and will consult and/or report into the Executive teams as required. This group will comprise resources from both organisations.

The duties of the Data Governance Committee are:

1. Endorsing Data Policies, Procedures, Plans, Strategies, Resources, Initiatives and Projects.
2. Sponsoring and Championing new initiatives within each organisation.
3. Fostering a culture of collaboration between organisations related to Data Management.
4. Providing advice or feedback to the Joint Data Strategy group when required.
5. Review Data Management Issues including compliance with Data Policies.
6. Communication between the Data Governance Committee and Executive within each organisation as required.
7. Seek specialist guidance from resources on the Data Governance Advisory Group list in cases where the Data Governance Committee are not able to make decisions based on their existing skillset.

Joint Data Strategy Group

The Joint Data Strategy Group is the group that is more concerned with the management of Data related projects and ensuring compliance with data related policies and procedures.

The duties of the Joint Data Strategy Group are:

1. Definition of Joint Data Projects (Scope, Business Case).
2. Reviewing progress of joint Data Projects against schedule.
3. Preparation of Data Policies, Procedures, Plans, Strategies, Resources and Initiatives.
4. Seek Endorsement from the Data Governance Committee for projects that are considered to be of high risk or cost.

Joint Data Projects Teams

Joint Data Projects Teams will be formed on a needs basis, as projects that have been endorsed by the Joint Data Strategy Group are launched.

The duties of the Joint Data Projects teams are:

1. Implementation of Joint Data Projects (Schedules, Tasks, Deliverables)

It is recognized that within each organization there will be ongoing Data Management activity that is outside of the scope of joint activity. These activities are performed by staff within their own Data Strategy, Data Operations or Data Projects groups.

Framework

The Data Governance Framework is a matrix of activities that need to be performed to ensure that there is adequate governance in place to ensure safe, accurate and consistent use of data and information assets.

Interpreting the Framework

Each activity produces one or more deliverables and the following questions are asked to assign appropriate roles and review periods:

Responsibility: Who is responsible for performing the work to achieve the deliverable?

Approval: Who approves the deliverable? Or phrased another way, who is accountable for the deliverable?

Contributing: Who contributes effort to ensure that the deliverable is completed?

Informed: Who needs to be informed that the deliverable is completed. Who is the audience of the deliverable?

Frequency: How often should the deliverable be reviewed for accuracy? How often should the activity be reviewed to determine if additional deliverables are required?

The matrix approach is very useful as it can be looked at in different ways. For example if you need to know what the Data Governance Committee's roles are and how often they should be performing them you can determine this subset using the matrix.

Roles

During the workshops, a number of roles have been defined that mirror the roles defined in the DAMA-DMBOK, but use terms more familiar to the organisation. These roles are critical to the success of applying the framework. The table below defines the roles, what the DAMA-DMBOK term is and indicates which roles within the organization structure perform the function.

Role	DAMA-DMBOK Term	CSAPHN Role(s)	APHN Role(s)
Joint Data Strategy Group	DM Executive	Data Analyst CIO	Data and Governance Officer Health Planning and Analysis Officer ICT Manager
Data Governance Committee	Data Governance Council	CIO Health Integration and Service Delivery Manager	ICT Manager Development and Commissioning Manager

Role	DAMA-DMBOK Term	CSAPHN Role(s)	APHN Role(s)
Executive	DM Executive	CEO CIO Health Integration and Service Delivery Manager	CEO ICT Manager Development and Commissioning Manager
Data Stewards	Executive Data Stewards	CIO Health Integration and Service Delivery Manager	Development and Commissioning Manager
	Business and Technical Data Stewards (roles combined)	Data Analyst	Data and Governance Officer Health Planning and Analysis Officer
Data Set Managers	Data Management Professionals	Data Analyst	Data and Governance Officer
CIO	CIO	CIO	ICT Manager
Population Health Team	n/a	Data Analyst	Research and Evaluation Service Delivery and Commissioning Innovation and Design
Information Management Team	n/a	CIO Data Analyst	ICT Manager
Board	n/a		
Population Health Manager	n/a	Population Health Manager	Development and Commissioning Manager
Compliance Officer	n/a		Privacy Officer

Table 1 Data Governance Roles

Activity Matrix

The table below is a summary of the Data Governance Framework proposed. It defines the activities that should be performed, who is accountable, who needs to know about them and how often they should be reviewed.

Each activity is either a Planning activity (P), or a Control activity (C).

Activities	Deliverables	Responsible Roles	Approving Roles	Contributing Roles	Informed	Frequency
Understand Strategic Enterprise Data Needs (P)	Strategic Enterprise Data Needs	Pop Health Team, IM Team	Population Health Manager	Pop Health Team, IM Team	Executive, Board, All Staff, Everybody	Annual and Ad Hoc as required
Develop and Maintain the Data Strategy (P)	Data Strategy — Vision, Mission, Bus. Case, Goals, Objectives, Principles, Components, Metrics, Implementation Roadmap	Joint Data Strategy Group	Data Governance Committee	Pop Health Team, IM Team	Executive, Board, All Staff	Annual
Establish Data Management Professional Roles and Organizations (P)	Data Management Services organizations and staff	Joint Data Strategy Group	Data Governance Committee	Pop Health Team, IM Team	Executive	Ad-Hoc as required
Establish Data Governance and Stewardship Organizations (P)	Data Governance Committee, Joint Data Strategy Group, Data Governance Advisory Group list	CIO, Population Health Manager	Executive	CIO, Population Health Manager	Board, All Staff	Annual
Identify and Appoint Data Stewards (P)	Executive Data Stewards, Business Data Stewards	CIO, Population Health Manager	Data Governance Committee	Population Health Team, Information Management Team	Executive, All Staff	Annual

Activities	Deliverables	Responsible Roles	Approving Roles	Contributing Roles	Informed	Frequency
Develop, Review and Approve Data Policies, Standards, and Procedures (P)	Data Policies, Data Standards, Data Procedures	Joint Data Strategy Group	Data Governance Committee	Population Health Team, Information Management Team	All Staff	Annual
Review and Approve Data Architecture (P)	Enterprise Taxonomy	Data Set Manager	Joint Data Strategy Group	Population Health Team, Information Management Team	All Staff	Ad-Hoc as required
Plan and Sponsor Data Management Projects and Services (P)	Data Management Projects, Data Management Services	Joint Data Strategy Group	Data Governance Committee	Population Health Team, Information Management Team	Executive	Ad-Hoc as required
Estimate Data Asset Value and Associated Costs (P)	Data Asset Value Estimates, Data Management Cost Estimates	Data Stewards	Joint Data Strategy Group	Population Health Team, Information Management Team	Executive	Annual
Supervise Data Professional Organizations and Staff (C)	Data Management Services Organisations and Staff	CIO, Population Health Manager	Executive	CIO, Population Health Manager	Population Health Team, Information Management Team	Ad-Hoc as required
Coordinate Data Governance Activities (C)	Data Governance Activities, Meetings, Agendas, Documents, Minutes	CIO, Population Health Manager	Data Governance Committee	Data Set Manager	Joint Data Strategy Group, Data Governance Committee	Bi Monthly
Manage and Resolve Data Related Issues (C)	Issue Log, Issue Resolutions, Quality, Access	CIO, ICT Manager	Joint Data Strategy Group, Data Governance Committee	Population Health Team, Information Management Team	Joint Data Strategy Group, Data Governance Committee	Ad-Hoc as required

Activities	Deliverables	Responsible Roles	Approving Roles	Contributing Roles	Informed	Frequency
Monitor and Ensure Regulatory Compliance (C)	Compliance Reporting, Non-compliance Issues against the following: <ul style="list-style-type: none"> • Privacy Act • Research Ethical Standards • Research Data Standards • PHN Deed of Funding 	Compliance Officer	Data Governance Committee	All Staff	Joint Data Strategy Group, Data Governance Committee	Bi Monthly
Communicate, Monitor and Enforce Conformance with Data Policies, Standards, Procedures, and Architecture (C)	Policy / Standards / Arch / Procedure Communication, non-conformance issues	Data Stewards	Data Governance Committee	Data Stewards	Joint Data Strategy Group, Data Governance Committee	Bi Monthly
Oversee Data Management Projects and Services (C)	Taxonomy, Document Control/Records Management	Data Set Manager, Data Stewards	Joint Data Strategy Group	Data Stewards	Data Governance Committee	Ad-Hoc as required
Communicate and Promote the Value of Data and Data Management (C)	Data Management Website, articles in newsletter, blogs	CIO, ICT Manager, Joint Data Strategy Group	Data Governance Committee	CIO, ICT Manager, Joint Data Strategy Group, Data Stewards, Data Set Manager	All Staff	Monthly

Table 2 Data Governance Activity Matrix

Governance Meetings

Data Governance Committee Scheduled Meetings

Meetings should be held on the following frequency and should include agenda items listed.

Item	Description
Frequency	Bi Monthly
Standing Agenda Items	<ul style="list-style-type: none"> Review previous meeting action items Review Data related issues arisen since last meeting Review Compliance related issues since last meeting Review Data Project Updates Approve changes to structure of Data Management Service staff
Annual Agenda Items	<ul style="list-style-type: none"> Review and Approve Data Strategy Review and Approve Data Steward appointments Review and Approve Data Policies and Procedures

Table 3 Data Governance Schedule Meetings

Data Governance Committee Ad-Hoc Meetings

Ad-Hoc meetings should be held for the following agenda items. These meetings do not need to be face to face, it may simply be an email distribution requesting approval.

Item	Description
Frequency	As needed
Ad-Hoc Agenda Items	<ul style="list-style-type: none"> Approve communications for internal consumption

Table 4 Data Governance Committee Ad-Hoc Meetings

Joint Data Strategy Group Scheduled Meetings

Meetings should be held on the following frequency and should include agenda items listed.

Item	Description
Frequency	Monthly
Standing Agenda Items	<ul style="list-style-type: none">• Review previous meeting action items• Review Data Project projects progress against schedules and deliverables• Review Data Related issues arisen since last meeting and identify actions to resolve
Annual Agenda Items	<ul style="list-style-type: none">• Review estimated Data Asset values and associated costs

Table 5 Joint Data Strategy Group Scheduled Meetings

Joint Data Strategy Group Ad-Hoc Meetings

Meetings should include the agenda items listed.

Item	Description
Frequency	As needed
Ad-Hoc Agenda Items	<ul style="list-style-type: none">• Review and Approve Data Architecture

Table 6 Joint Data Strategy Group Ad-Hoc Meetings

Tools

Data Asset Value Calculator

Estimating Data Asset value is a difficult exercise, but it is worth doing to ensure that the most highly valued assets are given the appropriate attention. Pure financial values are simple to apply (eg Historical Cost of the asset), but do not take into account the different factors that uniquely affect data. These factors are:

1. Information is shareable (but also duplicated – duplicated data has no value)
2. The value of information increases with use
3. Information is perishable
4. The value of information increases with accuracy

A number of factors can be taken into account to estimate the value of a data asset. A simple model below proposes three data asset values (low, medium and high) based on assessing the data asset against the following factors:

Cost of the information: Apply a standard cost to each item, for example \$0.01 per record, irrespective of whether the record is entered manually or from an electronic import – the importance is that we have a record.

Deduct the **unused data** records (if the data is not being used, there is no value)

Deduct the **duplicated data** records (there is no value in duplicated data)

Multiply by the **Number of users** and **number of accesses** (the more people that use the data and the more often it is used makes it more valuable)

Depreciate the data where it has a shelf life. Operational data (eg which practice a GP works in) can have a shelf life, population data (eg census data from 10 years ago) is not likely to have a shelf life.

Discount for **inaccuracy:** Estimate the accuracy of the data. If it's only 80% accurate, then its value should be discounted by 20%.

The formula to calculate Data Asset Value is:

$$\begin{aligned} &(((\text{Standard Cost} * (\text{number of items} - \text{Number of unused items} - \text{Number of duplicate items})) * \\ &\text{Number of users} * \text{Number of accesses}) * \text{Depreciation} * \text{accuracy} \%) \end{aligned}$$

Example:

We have a data set containing 2000 records. Consider the following:

- Upon investigation of the records, we find that 100 of the records already exist in another data set.

- Talking to users, we found that the data set was used in creating infographics 2 times in the last year.
- We estimate that the infographics we loaded onto our website from this data have been viewed 5000 times.
- As the data is historical health data we decide that it should not be depreciated as it can always be used in longitudinal analysis
- The accuracy of the data set has been challenged after the infographic was published on our site. We are only 75% confident of its accuracy now.

Therefore the value of the data is:

$$(0.01 * (2000 - 100)) * 2 * 5000 * 75\% = \mathbf{\$142,500}$$

Now suppose that the infographic was never published on the website, instead just looked at internally a dozen times and then not looked at again (and hence we did not realise it was only 75% accurate). Adjusting for this scenario, the value is now:

$$(0.01 * (2000 - 100)) * 2 * 12 * 100\% = \mathbf{\$456}$$

So in these two scenarios, we can see that the same information has significantly different value to the organisation, and importantly, this value can change over time.

Data Project Approval Matrix

A suggested method for who approves a data project is to use the matrix below that considers the estimated Data Asset Value (each project will be creating or modifying a data asset) and the intended Audience for the data.

Data Asset Value vs Audience	Low < \$10,000	Medium \$10,001 - \$49,999	High >\$50K
Internal Use Only	Joint Data Strategy Group	Joint Data Strategy Group	Data Governance Committee
Internal and External Use	Data Governance Committee	Data Governance Committee	Data Governance Committee

Table 7 Data Project Approval Matrix