



# NSW Health Data and Analytics Strategy

# Acknowledgment of Country

NSW Health acknowledges Aboriginal people as the traditional custodians of the lands and waters of NSW and pays respect to Elders past, present and future. In this strategy, Aboriginal and Torres Strait Islander people are referred to as Aboriginal people in recognition that Aboriginal people are the original inhabitants of NSW.

# Forewords



**The Hon Ryan Park MP**  
Minister for Health and  
Minister for Regional Health

Having the right information in the hands of the right people at the right time is powerful in health care. Whether it's managing emergency department flow, planning services in regional areas, or improving access to care for those who need it most – data are the threads that connect our decisions to real-world impact.

That's why I'm proud to support the launch of NSW Health's first-ever Data and Analytics Strategy, which reflects our government's broader commitment to innovation, equity, and evidence-based reform.

This strategy will guide our ongoing efforts to move from reactive to proactive, to create stronger connections and, ultimately, how we continue to strengthen our health system to provide the best experiences and outcomes of care for everyone, no matter where they live or what challenges they face.



**Susan Pearce AM**  
Secretary, NSW Health

The launch of our Data and Analytics Strategy marks a transformative milestone for NSW Health – a clear, shared vision for how we use data to support our people, improve care, and help us make better decisions every day.

Having access to timely and trusted data is vital to delivering safe, high-quality and patient-centred care. This strategy reflects our commitment to using data-driven insights to ensure we continue to provide world-class care to the people of NSW. It also reflects who we are as a health system: thoughtful, connected, and always striving to innovate and improve.

Across the NSW Health system, data and analytics are already making a meaningful difference, from helping to save lives, improving experiences and outcomes of care, and driving innovation. This strategy will help empower our people with the information and insights they need to continue to do what they do best: care for our communities with skill, compassion and purpose.



**Sharon Smith PSM**  
NSW Health Chief Data  
Officer

NSW Health's first-ever Data and Analytics Strategy marks a bold step toward a more connected, informed, and continuously learning healthcare system.

This strategy is built on a clear and powerful vision, one that reflects our deep commitment to patient-centred care, operational excellence, and system-wide transparency. This strategy is not just about technology or infrastructure. It is about creating a culture of insight, where data are trusted, shared, and used to inform better decisions every day.

I want to thank the many people and teams across NSW Health whose generosity with their time and expertise shaped this strategy. This strategy will serve us well into the future – one where data are not just a resource, but a catalyst for meaningful change.



**Richard Taggart**  
NSW Health Chief Information  
Officer

Technology in health is no longer a future ambition – it's a present-day necessity. We've already seen what's possible – from virtual hospitals to statewide vaccination systems – and this strategy builds on that momentum.

As Chief Information Officer for NSW Health, I'm proud to support the first, system-wide Data and Analytics Strategy, which sets a clear direction for how we harness digital capability, artificial intelligence, and data-driven insights to innovate and inform continuous improvements across NSW Health.

This strategy reflects a commitment to technology for purpose, and I look forward to working with teams right across NSW Health to bring this strategy to life for the benefit of our staff and the communities we serve.

# Welcome

## A note to the reader



### About this document

This document outlines a strategic vision and direction for how data and analytics are used, managed and shared across the NSW Health system and externally. It is a Strategy that has been shaped and shared with people from all across our health system, including over 1,300 NSW Health staff (across local health districts and specialty health networks, pillar organisations, statewide health services, shared services and NSW Ministry of Health); 150 organisations and partners external to NSW Health; and over 800 patients, carers, and community members.

This document was approved in December 2025 and reflects a point in time ambition that may evolve over time. To view a current version of the Strategy, visit [www.health.nsw.gov.au/data/strategy](http://www.health.nsw.gov.au/data/strategy).

### How to navigate within this document

Click on any hyperlinks (they will look like this example: [Executive Summary](#)). You can also click on any of the quick navigation options that appear at the bottom of each page.

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# Executive Summary

## The value of data and analytics to NSW Health



NSW Health is privileged to hold large volumes of data about individuals, health services and populations, often about some of the most vulnerable moments in people's lives. Our ability to consistently deliver safe, high quality care to patients and improve population health relies on all of us across our health system **harnessing the power of the data** that we hold.



With data comes great **opportunity and responsibility**: the opportunity to use data and analytics to improve ways of working, drive research and innovation, or leverage new, emerging techniques; and the responsibility to uphold NSW Health's duty and obligations to the people and populations that we serve – legally, ethically and morally. Getting the **balance right** is key if we are to uphold people's **trust and confidence** in NSW Health. It is also key to leveraging the full potential of data and digital tools so that we deliver health care and services effectively, efficiently and equitably, in ways that improve health experiences and outcomes for the people of New South Wales (NSW).

## Why do we need a Data and Analytics Strategy?



NSW Health is a **dynamic and complex health system**. Like other health systems around the globe, we face pressures from population growth and ageing, workforce and supply chain challenges, climate change and adaptation imperatives, emerging techniques and technologies such as artificial intelligence (AI) and emerging risks that arise as a result. Our priorities around **Aboriginal Data Sovereignty and Governance** initiatives in support of Closing the Gap and the **Single Digital Patient Record implementation** are also changing how our people use and share data across the NSW Health system and externally.



**Data and analytics already deliver meaningful impact across our health system** – helping our people to save lives, improve experiences and outcomes, and drive innovation that benefits individuals and the wider community. These successes are often the result of the **focus, drive and dedication of local champions** who step up to fill gaps in the absence of a coordinated, enterprise-wide approach. In a federation like NSW Health, this can lead to duplicated effort, fragmented infrastructure, and teams independently solving similar problems. The result can be inconsistent experiences and outcomes for our patients, carers, and communities.



The NSW Health Data and Analytics Strategy is our response to the dynamic and complex pressures impacting our health system. It defines **a unified vision for data and analytics for all of us across the NSW Health system**. It is a Strategy that empowers each of us to better leverage and share what already exists and is working well across our health system, enabling us to better harness our collective strengths in data and analytics, reduce inefficiencies and deliver more consistent, equitable and impactful results.



This Strategy is also a **call to action for each of us across the NSW Health system** to take a more collaborative, coordinated approach to data and analytics. One that is led by the needs of our health system, informed by the expectations of our patients, carers, and communities and enabled by technology. For our external partners (other health providers, researchers, other governments and more), it signals our commitment to work in partnership with you and the communities we serve to be more transparent, coordinated and connected so that data are used, managed and shared for the benefit of our patients, carers, and communities.

## How will the Data and Analytics Strategy make a difference?



**Better insights, experiences and outcomes** for our patients, carers, and communities



Working better together to uphold **trust and confidence** in NSW Health



**More of us are engaged, equipped and empowered** to use data and analytics safely, responsibly, and to best practice standards



**More time** for our people to focus on what matters most



Enabling a more **effective, efficient and equitable** health system

# The NSW Health Data and Analytics Strategy on a Page



**Responsible for driving change:**

**and also benefiting:**



All of us across the NSW Health system



Our patients, carers, and communities



Other service providers including General Practice, Allied Health, non-government organisations, Aboriginal Health Services, etc.



Other partners and government agencies, universities, Aboriginal Health and Medical Research Council (AH&MRC), etc.

## Vision

# The right information to the right people at the right time

to generate knowledge, make better informed decisions, improve patient care and safety, and drive better health outcomes across NSW

## Goals: Higher order outcomes - the change we want to see delivered

### Goal 1. Capability and Culture



A data culture that equips, empowers and expects our people to use data and information

### Goal 2. Data and Analytics Ecosystem



A modern data and analytics ecosystem that delivers value, safely

### Goal 3. Analytics and Innovation



Timely and fit for purpose analytics inform our decisions, actions and innovation

### Goal 4. Trust



The community and our people trust how we use and share data

### Goal 5. Data Governance



Transparent and responsive data governance that is consistently applied

## Guiding Principles: The philosophies that will inform strategic choices, decisions and actions

### Safe and Ethical

We prioritise the delivery of safe, quality care to patients. In the same way, we prioritise the privacy, security and ethical use of the data that we hold about patients and staff.

### Transparent and Trustworthy

We are open about what we do with data. We use data and information to build trust between the community and NSW Health.

### Fit for Purpose

We adapt our approach to data and analytics based on who it's for, what they need, and why they need it.

### Outcomes Focused

We focus on the data and analytics that help us to deliver the insights, experiences and outcomes that matter.

### One NSW Health, Connected to its Ecosystem

We connect data and analytics systems across NSW Health. We work together with partners and providers to deliver better health and care across NSW.

### Sustainable

Our data and analytics efforts and solutions can be scaled and sustained into the future. We think about operational, financial and environmental sustainability – to set us up for success now and into the future.



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Introduction

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# Roadmap

## Prioritised, focused effort over three horizons

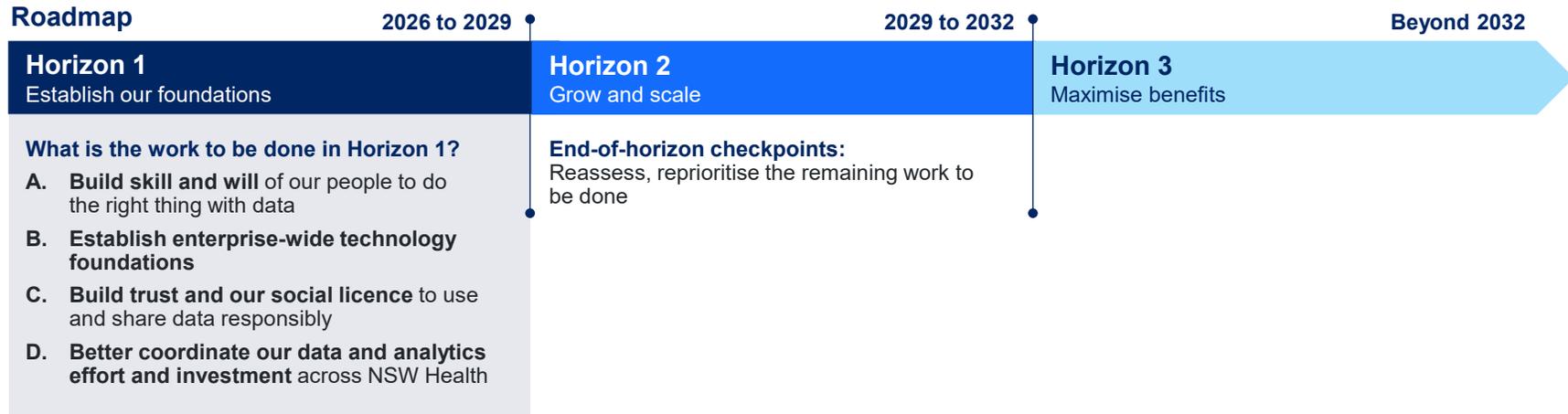
Successful implementation of the NSW Health Data and Analytics Strategy relies upon prioritised, focused effort. The roadmap phases implementation over three horizons, with Horizon 1 focusing on the foundational initiatives to set us up for future success. The work to be done 2026 to 2029 was prioritised by the NSW Health Chief Data Officer in collaboration with key stakeholders across the NSW Health system. Detailed planning and scoping is underway to prepare for implementation of this Strategy.

### Future Health:

A sustainable health system that delivers outcomes that matter most to patients and the community, is personalised, invests in wellness and is digitally enabled.

### NSW Health Data and Analytics Strategy:

The right information to the right people at the right time - to generate knowledge, make better informed decisions, improve patient care and safety, and drive better health outcomes across NSW.



### How will the Data and Analytics Strategy make a difference?



**Better insights, experiences and outcomes** for our patients, carers, and communities



Working better together to uphold **trust and confidence** in NSW Health



**More of us are engaged, equipped and empowered** to use data and analytics safely, responsibly, and to best practice standards



**More time** for our people to focus on what matters most



Enabling a more **effective, efficient and equitable** health system

# Success Factors

## Realising our vision for data and analytics

Successful implementation of the NSW Health Data and Analytics Strategy hinges upon:

### Executive Sponsorship and Governance



Senior executive buy-in is key to support effective, consistent strategy execution across NSW Health, particularly given the differing maturity levels and risk appetites within our federated health system. Clear accountabilities are needed to support effective governance across NSW Health.

### Prioritised, Focused Action



Realising our vision for data and analytics requires prioritised, focused effort and action – including as new priorities emerge and our operating context shifts. Some actions are foundational to being able to deliver upon other elements of the Strategy and need to start before others, other actions could occur later or together. Multiple factors have been considered in defining the proposed work to be done in Horizon 1, including: reach and impact, value, capability, implementation complexity, cost, strategic alignment, and risk.

### Change Management and Training



For many of us, this Strategy describes a step change from our current ways of working. Effective change management and training are needed to support all of us, no matter where we are on our journey, to embed new ways of working with data and analytics across NSW Health.

### Aligning with NSW Health Priorities and Programs



Ongoing alignment with in-progress and planned NSW Health programs needs to be considered to ensure the Strategy's intended outcomes and benefits are realised. One notable example is the Single Digital Patient Record implementation, but many more exist across the NSW Health system.

### Funding, Resourcing and Monitoring



In this fiscally and resource-constrained environment, we need to review and reprioritise investments across the NSW Health system to ensure that ongoing funding and resourcing are in the places where we need it, before considering new or alternate funding and resources. We also know that defining governance, accountabilities and success measures are an important first step to delivering meaningful, sustainable impacts.

### Legislation, Regulation and Policy



NSW Health needs to stay flexible and adaptable to what is happening internally and externally. We may be required to lead, influence or adapt in response to changes in legislation, regulation or policy.

# One NSW Health, Connected to its Ecosystem

## Audience

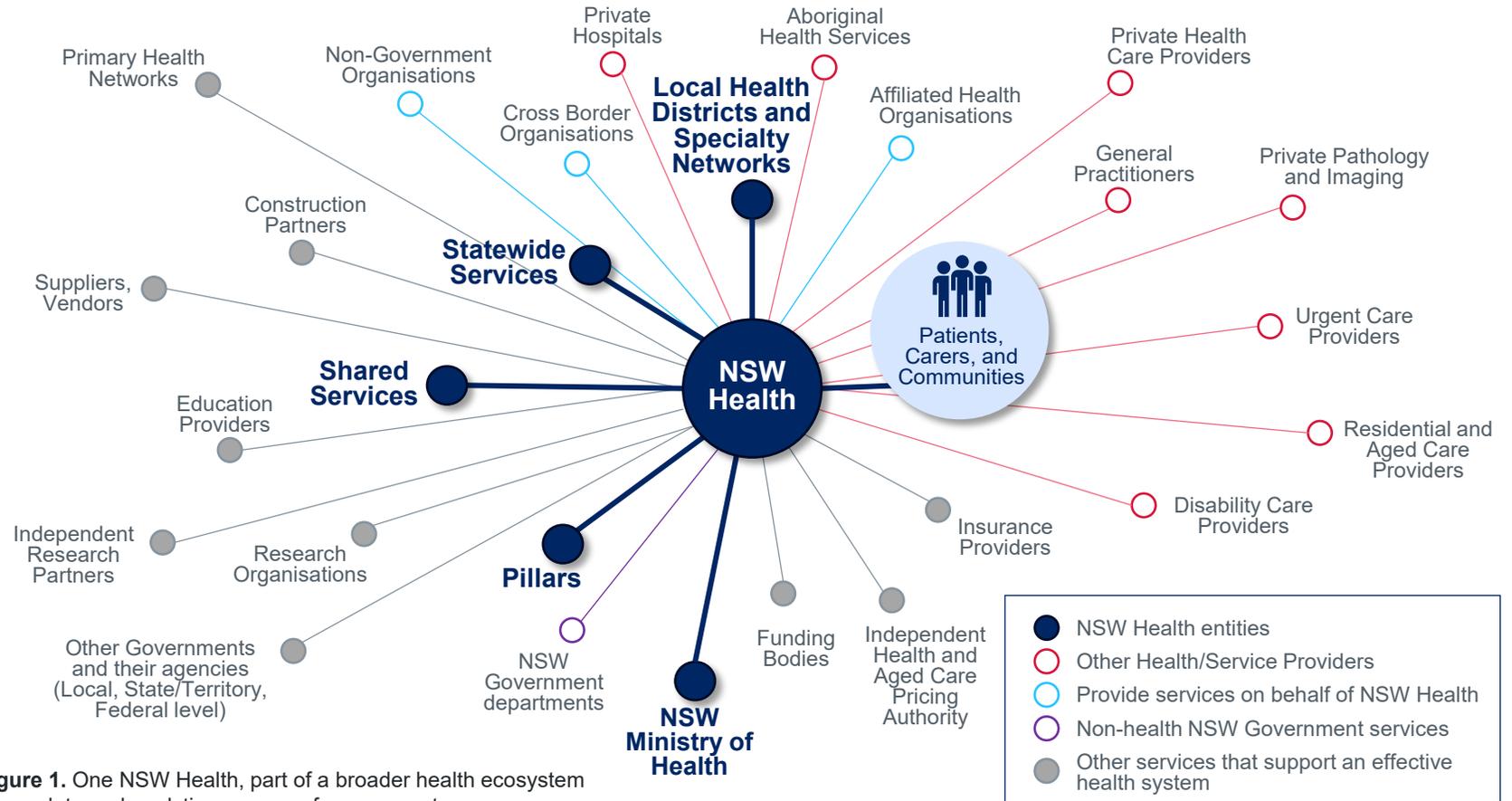
Ultimately, the Strategy is for **all of us across the NSW Health system** ('us', 'we', 'our'; see Figure 1, NSW Health entities) – because we all use or share insights and information in our roles, and data and analytics are the foundations that make those insights possible.

The Strategy will also impact **the people whose data we (i.e. the NSW Health system) hold and those that any of us share data and information with**, including other health and service providers, policymakers, industry partners, researchers and governments.

## Strategic Alignment

This Strategy supports and aligns with many of the priorities identified in **Future Health, NSW Regional Health Strategic Plan, NSW Aboriginal Health Plan, NSW Health Workforce Plan, and NSW Health Research and Innovation Strategy**. It also aligns with other enterprise-wide initiatives such as the **Single Digital Patient Record implementation**.

Beyond NSW Health, this Strategy supports other data, digital and AI related strategies, frameworks and priorities at the state/territory and federal levels.



**Figure 1.** One NSW Health, part of a broader health ecosystem where data and analytics are one of our connectors

# About the Strategy

## Scope

The scope of this Strategy is **all data held, created or collected by NSW Health entities and the analytics performed on these data to generate insights – across all stages of the data lifecycle and covering all types of analytics.** ‘Data domains’ are one of the ways to think about the data that the NSW Health system holds (see Figure 2).

## Timeframe

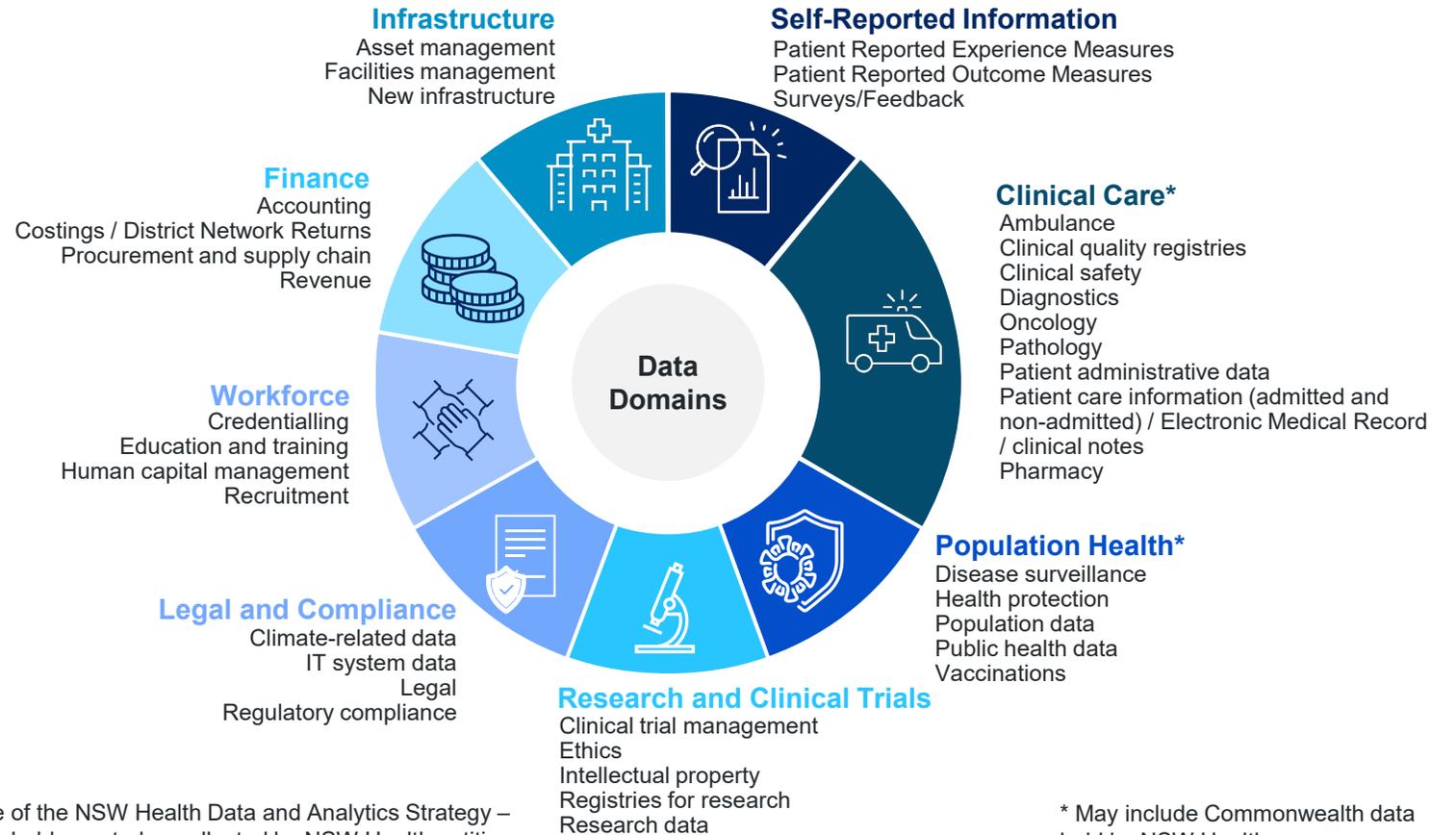
This Strategy is intended to support NSW Health’s journey towards a sustainable health system by 2032 and beyond.

We recognise that strategic priorities may shift or evolve, particularly as new innovations emerge or our operating context changes. As such, we will regularly assess and review our progress, also looking ahead to spot future trends and risks and adapting accordingly.

The roadmap phases implementation over three horizons, with checkpoints at the end of each horizon to reassess, review and reprioritise the remaining work to be done.

## Development

The Strategy has been **developed iteratively and in collaboration** with stakeholders across NSW Health, using a staged, multi-method approach.



**Figure 2.** Scope of the NSW Health Data and Analytics Strategy – all data domains held, created or collected by NSW Health entities

\* May include Commonwealth data held by NSW Health

# Our Stakeholders

The NSW Health system operates within a complex health ecosystem with many and diverse stakeholders who have different information wants and needs. Many of us will identify with more than one stakeholder group and each stakeholder group is more diverse than what is described in the captions.



## The right information to the right people at the right time

to generate knowledge, make better informed decisions, improve patient care and safety, and drive better health outcomes across NSW

### The 'right information' means...

Information and insights are:

- **FIT FOR PURPOSE:** Of meaningful, practical value to its intended audience and accurate for the purposes it will be used
- **ACCESSIBLE:** In plain language, can be found, used and shared
- **RELIABLE:** Outputs can be reproduced by others, are within an acceptable range of error
- **RESPONSIBLE AND EQUITABLE:** Considers legal, ethical and moral obligations; does not perpetuate inequity or cause harm

### The 'right time' means...

Available at a useful or opportune time to inform decision making and drive action

### The 'right people' means...



Our people from all across the NSW Health system



Patients, carers, and communities



Other health / service providers etc.



Other partners and government agencies etc.

# Delivering on the Vision

## 5 Goals and 19 Key Objectives



The NSW Health Data and Analytics Strategy describes Goals (higher order outcomes; the change we want to see), Key Objectives (areas of focused effort) and Actions (the work to be done).

 <b>Goal 1. Capability and Culture</b> A data culture that equips, empowers and expects our people to use data and information	 <b>Goal 2. Data and Analytics Ecosystem</b> A modern data and analytics ecosystem that delivers value, safely	 <b>Goal 3. Analytics and Innovation</b> Timely and fit for purpose analytics inform our decisions, actions and innovation	 <b>Goal 4. Trust</b> The community and our people trust how we use and share data	 <b>Goal 5. Data Governance</b> Transparent and responsive data governance that is consistently applied
<p><b>KO1.1 Data and Analytics Capability:</b> Uplift data and analytics capability across the data lifecycle and the NSW Health system</p> <p><b>KO1.2 Data and Analytics Talent:</b> Develop strategic approaches to attract, grow and retain data and analytics talent across the NSW Health system</p> <p><b>KO1.3 Data Culture:</b> Embed a positive data culture across the NSW Health system</p> <p><b>KO1.4 Data and Analytics Operating Models:</b> Define optimised operating model options for coordinating data and analytics effort across the NSW Health system, with clear accountabilities at the system-wide and local levels</p> <p><a href="#">Click to read more</a></p>	<p><b>KO2.1 Data and Analytics Architecture:</b> Design and implement an enterprise-wide, interoperable data and analytics ecosystem for NSW Health</p> <p><b>KO2.2 Integrated Data Landscape:</b> Establish a connected and rationalised data and reporting landscape</p> <p><b>KO2.3 Secure, Central Access and Request:</b> Establish a centralised place to find, request and share NSW Health data, data products and insights</p> <p><b>KO2.4 Common, Fit For Purpose Tools:</b> Adopt a strategic approach to implementing contemporary, fit for purpose data and analytics tools</p> <p><a href="#">Click to read more</a></p>	<p><b>KO3.1 Advanced Analytics and AI:</b> Continuously identify, prioritise and deploy scalable advanced analytics techniques that address challenges and opportunities across the NSW Health system</p> <p><b>KO3.2 Precision Medicine and Care:</b> Use advanced analytics and AI to support personalised, safe, precision medicine and health care</p> <p><b>KO3.3 Fit for Purpose Analytics:</b> Democratise analytics by providing user-friendly, responsibly governed, on-demand self-service data analytics and insights that inform decision making and actions</p> <p><b>KO3.4 Research and Innovation:</b> Use data and analytics to support local and enterprise-wide research and innovation, leveraging partnerships to maximise impact</p> <p><a href="#">Click to read more</a></p>	<p><b>KO4.1 Social Licence:</b> Co-design and coordinate strategic approaches and methods to understand community expectations about how NSW Health collects, uses and shares data</p> <p><b>KO4.2 Data Sharing:</b> Realise opportunities to improve data and information sharing in line with stakeholder expectations</p> <p><b>KO4.3 Making Data Available, Responsibly:</b> Improve how NSW Health uses and shares data – internally across the NSW Health system and externally</p> <p><a href="#">Click to read more</a></p>	<p><b>KO5.1 Enterprise-wide Data Governance:</b> Uplift and coordinate data governance, including data governance for AI, across NSW Health</p> <p><b>KO5.2 Aboriginal Data Sovereignty and Governance:</b> Work with NSW Government and NSW Coalition of Aboriginal Peak Organisations (CAPO) to embed Aboriginal Data Sovereignty and Governance across NSW Health</p> <p><b>KO5.3 Data Lifecycle Management:</b> Standardise and automate data and analytics systems and processes across the data lifecycle</p> <p><b>KO5.4 Coordinated Data and Analytics Investment:</b> Invest in and coordinate our data and analytics effort to return value to the NSW Health system and the public</p> <p><a href="#">Click to read more</a></p>

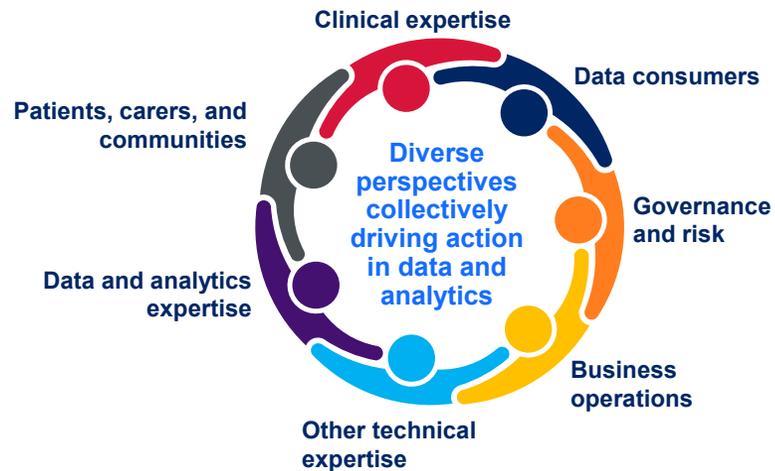
# Goal 1

## A data culture that equips, empowers and expects our people to use data and information

### What will this mean?

Across the NSW Health system:

- Our people have the skills, capabilities, and culture that empower individuals and teams to get the right information to the right people at the right time.
- We attract, develop and retain data and analytics talent, giving our people opportunities to grow and develop their data and analytics expertise. Our culture empowers and expects the responsible use of data and information.
- There are clear roles and responsibilities for data and analytics. We optimise how we organise and deploy our data and analytics expertise so that local innovation, agility and leadership can flourish, and efforts are coordinated centrally where this adds value.



**Figure 3.** Transdisciplinary teams – diverse perspectives coming together and collectively driving action in data and analytics across the NSW Health system.

### What is the work to be done?

- KO1.1** **Data and Analytics Capability:** Uplift data and analytics capability across the data lifecycle and the NSW Health system
- KO1.2** **Data and Analytics Talent:** Develop strategic approaches to attract, grow and retain data and analytics talent across the NSW Health system
- KO1.3** **Data Culture:** Embed a positive data culture across the NSW Health system
- KO1.4** **Data and Analytics Operating Models:** Define optimised operating model options for coordinating data and analytics effort across the NSW Health system, with clear accountabilities at the system-wide and local levels

### Why does this matter?

Each of us relies on data and information in our day-to-day work, whether it's documenting care, making clinical decisions in real-time, reviewing performance data, or deciding what, where and how best to act. In this sense, we are all "data consumers". This means that each of us has a role to play in ensuring the data we use are meaningful, actionable, and handled responsibly (technically, legally, ethically, etc).

NSW Health data are complex – because of the different purposes for which we collect data and the different ways that data and information are used and shared across our health system and externally. Understanding this context is critical to knowing what can and cannot be done with the data and information that we hold. This means we need to equip our people with the right skills and capabilities. We also need to have the right perspectives at the table to collectively drive action in data and analytics across NSW Health (see Figure 3).

Attracting, growing and retaining specialist data and analytics expertise is also key if NSW Health is to harness emerging opportunities in advanced analytics. We know that we need to define and build a positive data culture – to encourage innovation, 'failing fast', and taking personal responsibility for using and sharing data and information more confidently, competently and collaboratively.

**Goal 1 is about enabling and empowering our people across NSW Health to contribute to better decisions, better outcomes, and a more connected health system.**

# Goal 1

## A data culture that equips, empowers and expects our people to use data and information



### What is the work to be done?

#### KO1.1 Data and Analytics Capability

Uplift data and analytics capability across the data lifecycle and the NSW Health system

##### A1.1.1 Data literacy

Implement a system-wide data literacy approach, supported by role-appropriate and system-wide training programs, guidance, and access to specialist advice across the NSW Health system

##### A1.1.2 Data and analytics training

Uplift training and professional development so that NSW Health staff can continuously build their data and analytics skills

#### KO1.2 Data and Analytics Talent

Develop strategic approaches to attract, grow and retain data and analytics talent across the NSW Health system

##### A1.2.1 Current and future skills needs

Identify the data and analytics skills and knowledge required across the NSW Health system, now and into the future, aligned with current and emerging tools, technologies, and system needs

##### A1.2.2 Educational partnerships

Strengthen and grow strategic partnerships with educational providers so that graduates are equipped with role-appropriate data and analytics skills

##### A1.2.3 Workforce planning

Develop and implement a strategic workforce planning approach to ensure the right data and analytics skills are in place to meet current and future health system needs

##### A1.2.4 Talent development pipeline

Develop and implement tailored, accessible programs and pathways to attract, grow and retain our data and analytics talent (such as graduate trainees) across the NSW Health system

#### KO1.3 Data Culture

Embed a positive data culture across the NSW Health system

##### A1.3.1 Best practice incentives

Incentivise and recognise teams for applying best practice and sharing knowledge in data and analytics across the NSW Health system

##### A1.3.2 Data integrity as a shared responsibility

Promote understanding that data are an asset and its collection, integrity, use and quality is everyone's responsibility

##### A1.3.3 Transdisciplinary teams

Utilise transdisciplinary teams for data and analytics activities so that diverse perspectives collectively drive action

#### KO1.4 Data and Analytics Operating Models

Define optimised operating model options for coordinating data and analytics effort across the NSW Health system, with clear accountabilities at the system-wide and local levels

##### A1.4.1 Roles and responsibilities

Develop clearly defined roles and responsibilities for data and analytics, across the entire data lifecycle and across the NSW Health system

##### A1.4.2 Data and analytics operating models

Review, define and implement optimised data and analytics operating models, coordinated across the NSW Health system and enabling local flexibility and innovation

##### A1.4.3 Strategic change management

Develop and implement a strategic change management approach to support implementation of this Strategy and change hearts, minds and behaviours across the NSW Health system

KO = Key Objective; A = Action



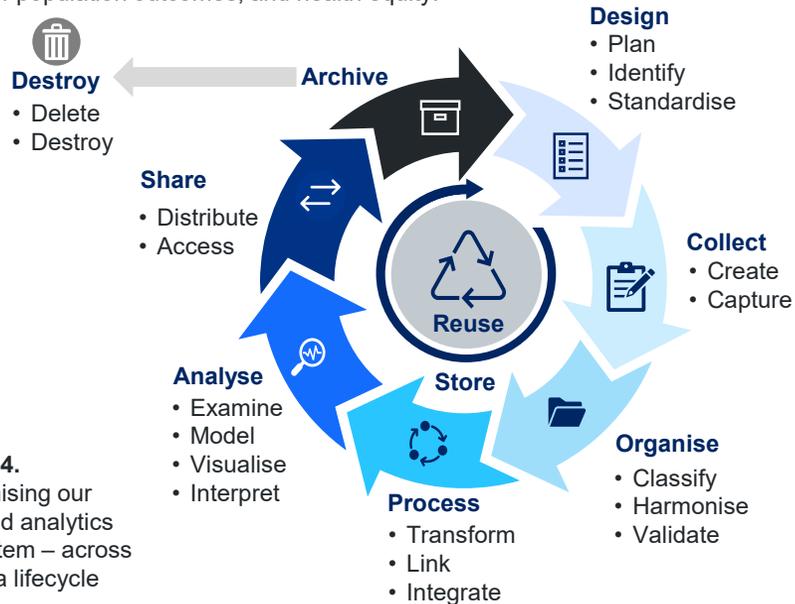
# Goal 2

## A modern data and analytics ecosystem that delivers value, safely

### What will this mean?

Across the NSW Health system:

- Our data and analytics ecosystem enables us to work in a more connected, joined up way and with the right tools in place, so that the simple is easier and the difficult is possible.
- Data are organised and structured in standardised and streamlined ways. Where possible, data are collected once and used multiple times.
- Data sharing is streamlined so that the right people have access at the right time, enabling us to focus on what matters most: safe, high-quality health care, an efficient and effective health system, better population outcomes, and health equity.



**Figure 4.** Modernising our data and analytics ecosystem – across the data lifecycle

### What is the work to be done?

- KO2.1 Data and Analytics Architecture:** Design and implement an enterprise-wide, interoperable data and analytics ecosystem for NSW Health
- KO2.2 Integrated Data Landscape:** Establish a connected and rationalised data and reporting landscape
- KO2.3 Secure, Central Access and Request:** Establish a centralised place to find, request and share NSW Health data, data products and insights
- KO2.4 Common, Fit For Purpose Tools:** Adopt a strategic approach to implementing contemporary, fit for purpose data and analytics tools

### Why does this matter?

NSW Health holds data about: individuals, services and populations; our workforce and operations (including corporate, infrastructure, finance, legal and compliance); and much more. From this data, we can generate powerful insights and valuable information – but this currently requires great manual effort from our people.

Data currently exists in siloes, meaning that our people spend significant effort trying to find, access, then integrate and connect different data sources – something that could be more streamlined and automated with the right governance in place.

Across NSW Health, we use different definitions, tools and technologies to make sense of data. This can result in different or contradictory outputs that then require additional time and effort to verify. In turn, this can mean inconsistent insights, experiences and outcomes for our people, patients, carers, and communities.

**Goal 2 is about modernising our data and analytics ecosystem so that it is both fit for purpose and future fit.**

# Goal 2

## A modern data and analytics ecosystem that delivers value, safely



### What is the work to be done?

#### KO2.1 Data and Analytics Architecture

Design and implement an enterprise-wide, interoperable data and analytics ecosystem for NSW Health

##### A2.1.1 Architecture

Co-design a future-fit, adaptable data, analytics and AI architecture for the NSW Health system – incorporating privacy by design and robust data protection

##### A2.1.2 Common data models and products

Define and implement common data models and data products by setting consistent standards across the NSW Health system that align with the broader health ecosystem

##### A2.1.3 Enterprise meta and master data management

Implement enterprise-wide meta and master data management, supported by effective governance

##### A2.1.4 Data collection

Innovate and streamline data collection with a focus on new, high value data

#### KO2.2 Integrated Data Landscape

Establish a connected and rationalised data and reporting landscape

##### A2.2.1 Consolidate data and reporting landscape

Map and maintain a current data and reporting landscape across the NSW Health system, starting with critical assets so we can better govern, rationalise and leverage the data that exist

##### A2.2.2 Integration

Integrate and connect critical existing and future data sources in alignment with relevant standards and protections

##### A2.2.3 Data linkage

Develop a strategic approach to data linkage that supports diverse purposes while ensuring compliance with ethical and legal standards

##### A2.2.4 Data operations

Implement best practice for developing products that utilise data, ensuring data are appropriately used, managed and governed across development, testing and production environments

#### KO2.3 Secure, Central Access and Request

Establish a centralised place to find, request and share NSW Health data, data products and insights

##### A2.3.1 Data, analytics and reporting catalogue

Implement a scalable enterprise-wide catalogue to enable discovery and understanding of data, analytics, data products, and reports

##### A2.3.2 Access request system

Coordinate a centralised place to request access to data assets, dashboards and reports, with federated governance and starting with critical assets

##### A2.3.3 Secure data transfer

Develop transparent, ethical and efficient mechanisms for data sharing, especially for research and external collaboration

##### A2.3.4 Secure data environments

Establish secure data environments to enable safe data sharing for secondary purposes with internal and external stakeholders

#### KO2.4 Common, Fit For Purpose Tools

Adopt a strategic approach to implementing contemporary, fit for purpose data and analytics tools

##### A2.4.1 Approved tools

Maintain a contemporary, fit for purpose suite of data and analytics tools by curating, evaluating, and consolidating solutions based on user needs and priorities across the NSW Health system

##### A2.4.2 Strategic vendor management

Mature our strategic partnerships with vendors, leveraging our scale to return value to the public and the NSW Health system

KO = Key Objective; A = Action



# Goal 3

## Timely and fit for purpose analytics inform our decisions, actions and innovation

### What will this mean?

Across the NSW Health system:

- We unlock the power of data – with the appropriate guardrails in place – to shape a more proactive, forward-looking health system for all. Strong governance keeps outputs fair, clear, and checked for harm.
- We embed fit for purpose analytics in our day-to-day, applying descriptive, diagnostic, predictive or prescriptive analytics techniques where appropriate to strengthen our ability to anticipate future needs, respond to evolving challenges, and deliver more effective and equitable care.
- We work in partnership with clinicians, researchers, policymakers, industry and communities, using data and analytics safely, responsibly and in ways that support local and enterprise-wide research and innovation to be translated into new solutions and models of care.



Figure 5. Types of analytics and example applications

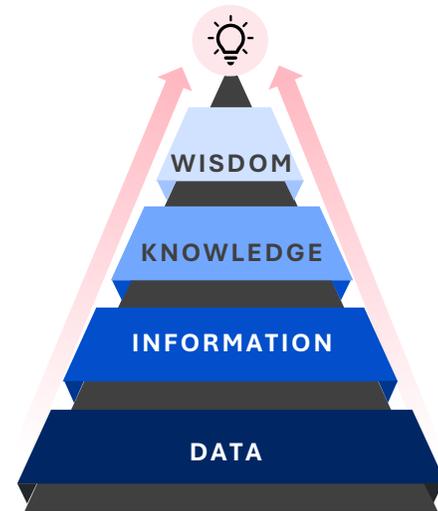


Figure 6. Applying timely, fit for purpose analytics to transform data into wisdom

### What is the work to be done?

- KO3.1 Advanced Analytics and AI:** Continuously identify, prioritise and deploy scalable advanced analytics techniques that address challenges and opportunities across the NSW Health system
- KO3.2 Precision Medicine and Care:** Use advanced analytics and AI to support personalised, safe, precision medicine and health care
- KO3.3 Fit for Purpose Analytics:** Democratise analytics by providing user-friendly, responsibly governed, on-demand self-service data analytics and insights that inform decision making and actions
- KO3.4 Research and Innovation:** Use data and analytics to support local and enterprise-wide research and innovation, leveraging partnerships to maximise impact

### Why does this matter?

Changing expectations, technological advancements, and innovation are driving demand for more personalised healthcare. Advanced analytics and artificial intelligence could help us turn complex health data into clear, timely insights that support better decisions, actions and innovation. They help us design and deliver the healthcare and wellbeing services of the future – like precision medicine, clinical decision support – and to discover opportunities for improving how we work, streamline routine tasks and more.

Across the NSW Health system, we are already seeing how advanced analytics and AI are enabling deeper insights, generating new knowledge, or transforming our practices and service delivery. Our people and those external to NSW Health understand the immense potential of the data that NSW Health holds. Our opportunity lies in better leveraging data and analytics to enable research and innovation to flourish in ways that align with stakeholder expectations, better scaling our most impactful and value-adding innovations system-wide, and returning value back to the public and the NSW Health system.

**Goal 3 is about using the right data, analytics tools and techniques to improve health outcomes, experiences and system performance, while meeting our responsibilities and obligations to the public.**

# Goal 3

## Timely and fit for purpose analytics inform our decisions, actions and innovation



### What is the work to be done?

#### KO3.1 Advanced Analytics and AI

Continuously identify, prioritise and deploy scalable advanced analytics techniques that address challenges and opportunities across the NSW Health system

##### A3.1.1 AA and AI maturity

Mature advanced analytics (AA) and artificial intelligence (AI) capabilities across the NSW Health system, in line with this Strategy's guiding principles and with support for our people through the transition

##### A3.1.2 Prioritise high impact use cases

Create a systematic framework that identifies and prioritises high impact use cases for advanced analytics

##### A3.1.3 Implement high impact use cases

Test, deploy and scale high impact use cases safely across the NSW Health system

#### KO3.2 Precision Medicine and Care

Use advanced analytics and AI to support personalised, safe, precision medicine and health care

##### A3.2.1 Data-enabled precision medicine

Establish scalable, secure and ethically governed infrastructure to support high quality and safe precision medicine

##### A3.2.2 Personalised care

Use advanced analytics to enhance patient experience and inform personalised care

##### A3.2.3 Clinical decision making

Augment clinical decision making using advanced analytics and AI

##### A3.2.4 Diagnostics and laboratory efficiencies

Improve operational efficiencies and diagnostic accuracy through advanced analytics and AI-enabled automation

#### KO3.3 Fit for Purpose Analytics

Democratise analytics by providing user-friendly, responsibly governed, on-demand self-service data analytics and insights that inform decision making and actions

##### A3.3.1 Service planning

Leverage and scale data and analytics to support system-wide service planning

##### A3.3.2 Self-service platforms

Develop intuitive, self-service analytics platforms and support for interpretation of data

##### A3.3.3 Data visualisation

Create shared guidelines and templates to help people across the NSW Health system to communicate data and insights in a clear, consistent, and accessible way

##### A3.3.4 Benchmarking

Use data and analytics to understand NSW Health's performance and outcomes (including safety and quality of care) by strengthening internal benchmarking and relative to external peers

#### KO3.4 Research and Innovation

Use data and analytics to support local and enterprise-wide research and innovation, leveraging partnerships to maximise impact

##### A3.4.1 Innovation partnerships

Develop and coordinate strategic partnerships, including with industry and professional bodies, to leverage data and analytics in new ways and deliver sustainable value to the NSW Health system

##### A3.4.2 Sandbox environments

Establish sandbox environments to enable internal and external stakeholders to research and innovate across the data lifecycle

##### A3.4.3 Innovation pathways

Define and socialise pathways for accelerated data and analytics innovation across the NSW Health system

KO = Key Objective; A = Action



# Goal 4

## The community and our people trust how we use and share data

### What will this mean?

Across the NSW Health system:

- Our patients, carers, and community perspectives shape and inform how data and analytics are used and shared within NSW Health and externally.
- We are clear and transparent about how, why and with whom data and information are used and shared. We explain this clearly, in ways that everyone can understand.
- We work together to understand and remove any unnecessary barriers so that data can be shared safely and responsibly. This includes working better together across sectors (primary care, aged care, community services, etc.) to ensure data are connected and insights are shared, supporting more coordinated care, better outcomes, and a stronger health system overall.

### Data and information about...

#### ... Populations

E.g. Number of local residents who received Procedure Y last year

#### ... A Service

E.g. Number of Procedure Ys conducted at Hospital Z last quarter



#### An individual...

E.g. Patient X receives Procedure Y at Hospital Z



### ... are shared safely, securely and responsibly with:



Clinicians



Data and analytics talent



Other Health / Service Providers



Government and Other Partners



Patients, Carers, and Communities



Researchers and Innovators



Senior Executives



Operational Leads



Data consumers

**Figure 7.** NSW Health uses and shares data and information transparently, partnering with stakeholders to drive better care and outcomes

### What is the work to be done?

#### KO4.1

**Social Licence:** Co-design and coordinate strategic approaches and methods to understand community expectations about how NSW Health collects, uses and shares data

#### KO4.2

**Data Sharing:** Realise opportunities to improve data and information sharing in line with stakeholder expectations

#### KO4.3

**Making Data Available, Responsibly:** Improve how NSW Health uses and shares data – internally across the NSW Health system and externally

### Why does this matter?

Every day, millions of people in NSW, including thousands in contact with NSW Health services every day, put their trust in NSW Health to deliver quality health care and services that make a difference. With this trust comes a responsibility to use and share data safely, responsibly, and respectfully in ways that meet community expectations. To do this well, we need to seek feedback from the communities we serve, listen to understand expectations, and be open and clear about how data are used and shared. This is the essence of our social licence as one NSW Health system – our promise to the communities we serve to use and share data in ways that protect privacy, reduce risks and avoid harms.

There are many reasons for which our people use and share data and analytics. Knowing what can be shared, with whom, when and for what purposes can be challenging to navigate, particularly given the many legal and regulatory requirements, frameworks and other guidelines that apply. Goal 4 builds upon Goal 2 by focusing on the non-technical supporting structures that will improve data sharing within and beyond NSW Health.

**Goal 4 is about working together with communities and other stakeholders to improve our systems, processes and technologies so that the right information is available for the right people when it is needed.**

# Goal 4

## The community and our people trust how we use and share data

### What is the work to be done?

#### KO4.1 Social Licence

Co-design and coordinate strategic approaches and methods to understand community expectations about how NSW Health collects, uses and shares data

#### KO4.2 Data Sharing

Realise opportunities to improve data and information sharing in line with stakeholder expectations

#### KO4.3 Making Data Available, Responsibly

Improve how NSW Health uses and shares data – internally across the NSW Health system and externally

##### A4.1.1 Consumer expectations

Coordinate multi-modal, enterprise-wide initiatives that involve patients and stakeholders to build and maintain NSW Health's social licence

##### A4.1.2 Transparency with consumers and communities

Ensure there is visibility of responsible sharing and use of data in ways that sustain public trust

##### A4.2.1 Legislation and policy

Identify opportunities to reform legislation and modernise policies to improve data sharing in line with evolving stakeholder expectations

##### A4.2.2 Cross-border sharing

Collaborate with other NSW agencies, jurisdictions and the Commonwealth to realise opportunities for streamlining data sharing across borders

##### A4.2.3 Safe data sharing

Develop streamlined policies, processes and technologies to enable a more coordinated approach to how NSW Health shares data securely and ethically

##### A4.3.1 Open data

Define and implement a strategic approach to open data for the NSW Health system that meets public needs and aligns with the NSW Government Open Data Policy

##### A4.3.2 Complex data sharing requests

Co-design solutions with multidisciplinary teams to enable high value, complex data sharing requests

KO = Key Objective; A = Action

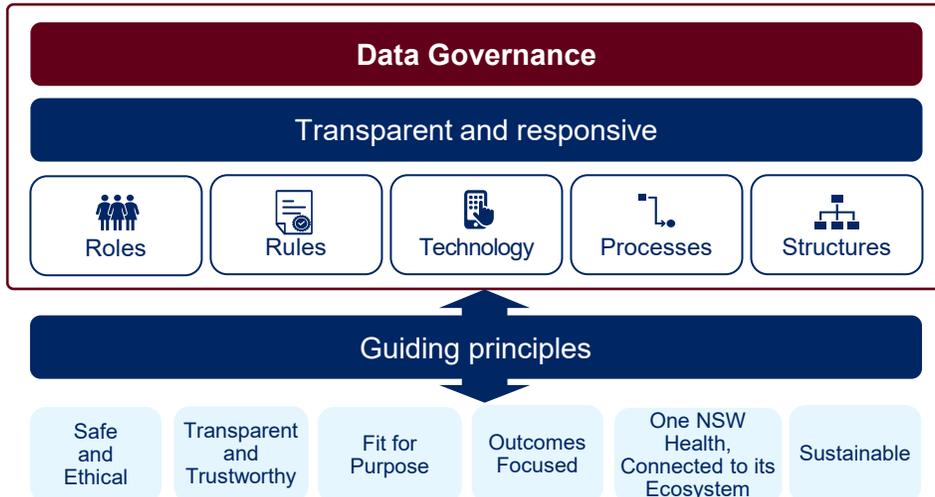
# Goal 5

## Transparent and responsive data governance that is consistently applied

### What will this mean?

Across the NSW Health system:

- We establish and embed more transparent, responsive and consistent guidelines, processes and frameworks for data and analytics. Data governance is streamlined and enabling, in support of the safe and responsible use of data and analytics.
- We adopt principles of Aboriginal Data Sovereignty and Governance, in accord with the National Agreement on Closing the Gap priorities, so that there is shared decision-making in matters that impact the lives of Aboriginal peoples and communities.
- Data and analytics effort and investment is more consistent and coordinated, enabling a more connected, efficient NSW Health system.



**Figure 8.** Transparent and responsive data governance across people, process and technology enabling and informed by the guiding principles

### What is the work to be done?

- KO5.1 Enterprise-wide Data Governance:** Uplift and coordinate data governance, including data governance for AI, across NSW Health
- KO5.2 Aboriginal Data Sovereignty and Governance:** Work with NSW Government and NSW Coalition of Aboriginal Peak Organisations (CAPO) to embed Aboriginal Data Sovereignty and Governance across NSW Health
- KO5.3 Data Lifecycle Management:** Standardise and automate data and analytics systems and processes across the data lifecycle
- KO5.4 Coordinated Data and Analytics Investment:** Invest in and coordinate our data and analytics effort to return value to the NSW Health system and the public

### Why does this matter?

One of the advantages of our federated health system is that it enables us to respond to local needs and priorities. A wealth of examples exist where local teams have used data and analytics in innovative ways that provide rich insights and address specific demands at the local level. These initiatives have relied on local champions to identify challenges and improvement opportunities, scope and define solutions, and forge a path forward to deployment and implementation. To maximise impact, we must better adapt and scale successful local innovations across the NSW Health system and not reinvent the wheel.

There are multiple points where blockers can arise – for example we don't have the data we need or can't access it, the right people haven't been involved along the way, investment wanes, priorities shift, or key people move on. We need to align, strengthen and modernise our data governance across the NSW Health system. This is key to using, managing and sharing data in more consistent ways, with the right guardrails in place, and ensuring ongoing investment is in the places where we need it.

**Goal 5 is about strengthening data governance and better coordinating data and analytics investments across our health system, better leveraging and scaling what we already do well, minimising risks and returning value from data and analytics efforts.**

# Goal 5

## Transparent and responsive data governance that is consistently applied



### What is the work to be done?

#### KO5.1 Enterprise-wide Data Governance

Uplift and coordinate data governance, including data governance for AI, across NSW Health

##### A5.1.1 Advice and guidance

Establish a central data governance enablement function to provide coordinated guidance and guardrails for data and analytics across the data lifecycle for the NSW Health system

##### A5.1.2 Best practice

Promote best practice in data and analytics across the NSW Health system, for example by better coordinating existing Communities of Practice and collaborating across data domains

##### A5.1.3 Policies and guidelines

Develop and implement contemporary policies and guidelines for data governance, including for AI, across NSW Health

##### A5.1.4 Audits and compliance

Conduct regular audits and monitoring of data and analytics across the data lifecycle to ensure compliance with evolving legislative, regulatory and policy requirements

#### KO5.2 Aboriginal Data Sovereignty and Governance

Work with NSW Government and NSW Coalition of Aboriginal Peak Organisations (CAPO) to embed Aboriginal Data Sovereignty and Governance across NSW Health

##### A5.2.1 Aboriginal data sovereignty

Adopt and implement principles of Aboriginal Data Sovereignty and ensure NSW Health Data Governance Frameworks and processes reflect Aboriginal cultural values and priorities

##### A5.2.2 Partnerships with Aboriginal organisations

Strengthen partnerships with NSW Coalition of Aboriginal Peak Organisations (CAPO) and other Aboriginal peak bodies and community organisations

##### A5.2.3 Aboriginal data and research

Support and enable research that benefits Aboriginal peoples and communities, ensuring ethical oversight of Aboriginal Data

#### KO5.3 Data Lifecycle Management

Standardise and automate data and analytics systems and processes across the data lifecycle

##### A5.3.1 Data lifecycle approach

Establish a standardised data lifecycle approach across the NSW Health system, aligned with best practices for consistent data management

##### A5.3.2 Archiving and destruction

Develop and implement a strategic approach to archiving, decommissioning and destroying data

##### A5.3.3 Data quality

Define and implement best practice data quality management across the data lifecycle

#### KO5.4 Coordinated Data and Analytics Investment

Invest in and coordinate our data and analytics effort to return value to the NSW Health system and the public

##### A5.4.1 Data and analytics investment

Develop a transparent governance approach to prioritise and evaluate data and analytics investment and effort across the NSW Health system

##### A5.4.2 Procurement and data sharing agreements

Update procurement processes and data sharing agreements to reflect NSW Health information and privacy requirements, including interoperability, data sharing, security and environmental sustainability

##### A5.4.3 Value realisation

Develop a strategic approach to realise and return value generated by data and analytics innovation

##### A5.4.4 Financial model

Develop a financial model to support sustainable data and analytics development and maintenance across the NSW Health system

KO = Key Objective; A = Action



Exec Summary

Introduction

The Strategy

Glossary

**Artwork:** "Working together on Country (Closing the Gap)" by Jenni McEwan, © State of New South Wales, Aboriginal Affairs NSW, used under CC BY 4.0 / Cropped and titled from original

# Glossary of Key Terms (1/2)

See [NSW Health Data Governance Glossary](#) (NSW Health staff only)

Term	Definition
<b>Aboriginal Data</b>	In Australia, 'Indigenous Data' refers to information or knowledge, in any format or medium, which is about and may affect Indigenous peoples both collectively and individually. We also recognise that data can include lore, knowledges, stories, customs, art and ways of life – and much more, including any information or knowledge in any format or medium which belongs to or is about Aboriginal peoples collectively and individually.
<b>Aboriginal Data Governance</b>	The enactment of Aboriginal Data Sovereignty. It refers to the mechanisms that support Aboriginal decision making on how data are controlled, collected, interpreted, accessed and stored. This includes the principles, processes, and frameworks established to ensure the ethical, legal, and culturally appropriate management and use of data pertaining to Aboriginal peoples.
<b>Aboriginal Data Sovereignty</b>	Refers to the right of Aboriginal people to exercise ownership over Aboriginal data. Ownership of data can be expressed through the creation, collection, access, analysis, interpretation, management, dissemination and reuse of Aboriginal data.
<b>Advanced Analytics (AA)</b>	Advanced Analytics uses sophisticated techniques and tools, typically beyond those of traditional business intelligence (BI), to discover deeper insights, make predictions, or generate recommendations.
<b>Analytics</b>	The process of manipulating data in different ways with the goal of discovering insights. Within this, we recognise different 'types of analytics': Descriptive analytics (What happened? What is happening?); diagnostic analytics (Why did it happen? Why is it happening?); predictive analytics (What might happen?); prescriptive analytics (What should we do about it?)
<b>Artificial Intelligence (AI)</b>	The ability of a computer system to perform tasks that would normally require human intelligence, such as learning, reasoning, and making decisions. AI encompasses various specialised domains that focus on different tasks.

Term	Definition
<b>Data</b>	'Data' is a broad term, the definition of which is heavily impacted by context. Data generally refers to facts and figures that can be represented as numbers, text, graphics, sound or video, as well as how these are interpreted. Data can also take different forms e.g. digital and can pertain to a range of topics or areas e.g. people, systems and the environment.
<b>Data and analytics ecosystem</b>	A data ecosystem is the entire interconnected environment of people, processes, technologies, and governance where data is generated, managed, exchanged, and transformed into insights across systems and users.
<b>Data and analytics operating model</b>	A data and analytics operating model outlines how an organisation organises its people, processes, technology, and governance to effectively coordinate data and analytics efforts, drive accountability, and deliver strategic value.
<b>Data culture</b>	A positive data culture refers to an organisational environment where data are valued, respected, and effectively used and shared across all levels to drive decision making, innovation, and operational efficiency. Data are seen as valuable assets; data collection, integrity, use and quality is everyone's responsibility.
<b>Data domains</b>	A logical grouping of related data assets within an organisation in a meaningful way, making it easier to manage, govern, and use data.
<b>Data governance</b>	Data governance is about implementing a set of policies, processes, structures, roles and responsibilities to ensure that an agency's data are managed effectively, and that it can meet both its current and future business requirements.
<b>Data integrity</b>	Data integrity refers to the accuracy, consistency, completeness, and reliability of data throughout its lifecycle, ensuring it remains trustworthy and fit for purpose in decision-making and operations.
<b>Data lifecycle</b>	The sequence of stages through which data is managed over time, starting from its design, creation, and collection, followed by active use, analysis, and sharing, archiving and concluding with destruction.

# Glossary of Key Terms (2/2)

See [NSW Health Data Governance Glossary](#) (NSW Health staff only)

Term	Definition
<b>Data linkage</b>	Data linkage (often referred to as data matching, record linkage) is a method of bringing together information from different sources but relating to the same individual or event.
<b>Data literacy</b>	Data literacy is the ability to read, write and communicate data in context, with an understanding of data sources and constructs, analytical methods and AI techniques – as appropriate to a person’s role. Data literacy helps people identify, understand, interpret and act on data within a business context to influence business value or outcomes
<b>Data management</b>	Data management is the coordinated process of overseeing data throughout its lifecycle to ensure data integrity, protection and appropriate accessibility, while aligning data practices with organisational goals and governance requirements.
<b>Data operations (DataOps)</b>	Data operations is a collaborative data management practice focused on improving the communication, integration and automation of data flows between data managers and data consumers across an organisation. The goal of DataOps is to deliver value faster by creating predictable delivery and change management of data, data models and related artifacts. DataOps uses technology to automate the design, deployment and management of data delivery with appropriate levels of governance, and it uses metadata to improve the usability and value of data in a dynamic environment.
<b>Information</b>	Data that has been processed into a form (physical, oral or electronic) that is meaningful to the recipient. Knowledge concerning objects such as facts, events, things, processes or ideas including concepts that within a certain context have a particular meaning.
<b>Insight</b>	Meaningful and actionable findings emerging from processed data, that can be leveraged to optimise decision making processes.

Term	Definition
<b>Integration</b>	Integration is the process to connect and share information between applications and systems to co-ordinate complex processes and enable improved user experiences
<b>Interoperability</b>	Interoperability is the way that systems support integration and sharing of information and data through standardised communication protocols to allow seamless connectivity
<b>NSW Health or ‘the NSW Health system’</b>	All NSW Health entities. This includes NSW Ministry of Health as the ‘system manager’ of the public health system in NSW; health organisations that deliver statewide or specialist health services; local health districts and specialty networks; pillar organisations; and affiliated health organisations. “We” or “our” as used in this document means the NSW Health system.
<b>Report</b>	A structured document or visualisation that presents collected data or information in an understandable format. Reports typically include tables, charts and graphs to summarise findings, trends and key metrics.
<b>Social licence</b>	A dynamic and fluid concept and is subject to change over time often influenced by societal and contextual factors. In the context of data, it refers to approval or consensus from the community to use health data as desired or accepted under certain conditions.
<b>Transdisciplinary team</b>	A group of professionals from diverse disciplines (including clinical, technical and business) who collaborate beyond their individual expertise to create integrated solutions. Transdisciplinary teams work collectively to develop new methodologies, frameworks, and insights.

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