

Artificial Intelligence in NSW Health

Jun 2024

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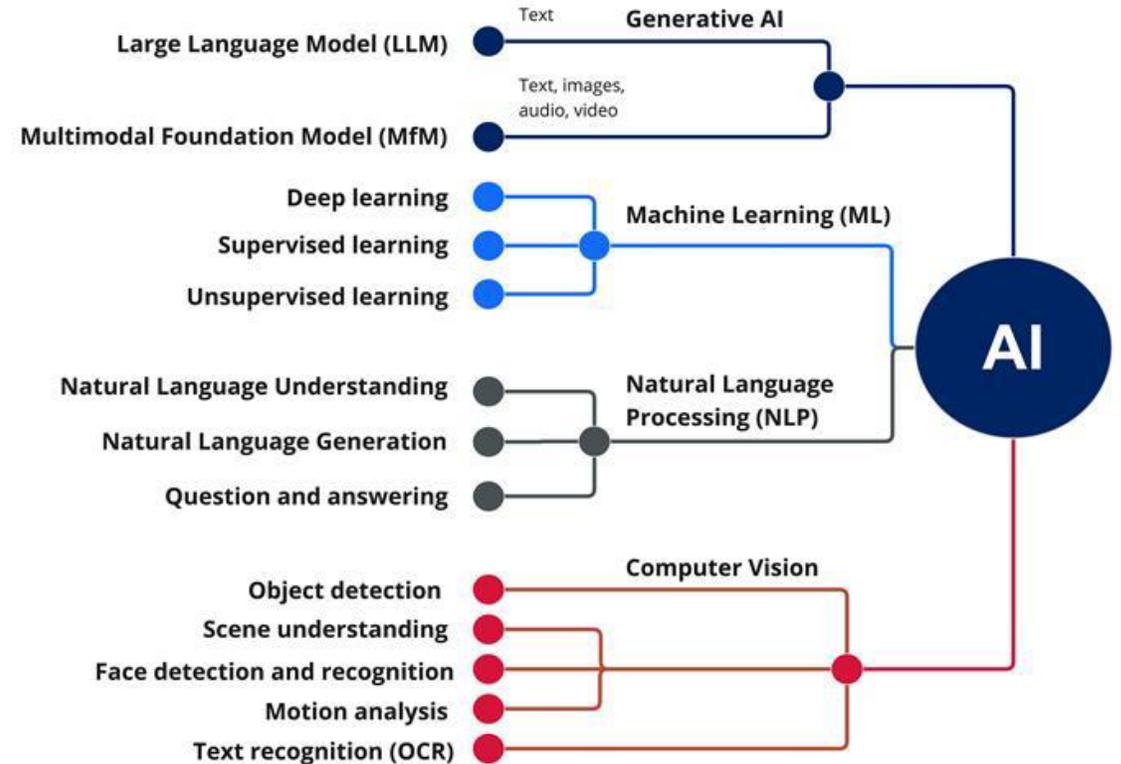
Transitional Research Grant Scheme
Round 9

AI Rx: Prescribing AIAF
for Smarter Healthcare
Risk Management

What is Artificial Intelligence

Artificial Intelligence (AI) is 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. Examples include Machine Learning, which enables computers to learn from data; Computer Vision, allowing them to interpret visual information; and Natural Language Processing, for understanding and generating human language.



Ref: A common understanding: simplified AI definitions from leading standards | Digital.NSW

Artificial Intelligence

And managing the prevalence of AI in NSW Health...



Artificial intelligence (AI) development and use within NSW has been increasing and is now in use across multiple agencies.

NSW Government is committed to ensuring the safe, ethical, and responsible deployment of AI across NSW.

As NSW Health continues to harness the potential of AI, NSW Health also remains committed to managing its risks.

NSW Health has adopted the mandated NSW AI Assessment framework (AIAF)

In applying the AIAF, opportunities for improvement have been identified around clinical use of AI, especially in the areas of clinical safety, governance, data, ethics, and legal.

NSW Health has established a time-limited AI Taskforce to develop an operation and strategic framework to guide the use of AI across the health system.

NSW Health Alignment to AI Framework



Australian Government

Australia's Artificial Intelligence Ethics Framework

National framework for the assurance of artificial intelligence in government
(UNDER REVIEW)

Voluntary AI Safety Standard
(UNDER REVIEW)



NSW Artificial Intelligence Strategy

NSW Artificial Intelligence Ethics Policy

NSW Artificial Intelligence Assurance Framework



NSW Health

1. NSW Health AI Taskforce
2. Inputs to support an AI risk assessment
 - a) NSW Government AI Self Assessment Checklist
 - b) NSW Health Extended AI questions
3. Support for conducting an AI risk assessment
 - a) eHealth NSW AI Request Submission Form
 - b) eHealth AI review and advisory service
4. Guidance on AI use across NSW Health (under development)

eHealth NSW AI Advisory Service Overview



From experimentation to execution-delivering outcomes through targeted, scalable AI solutions

About the eHealth Interim AI Advisory Service

Provides advice and guidance to NSW Health on the NSW Health specific AI considerations in addition to the mandated NSW AI Assessment Framework.

Comprising of representatives from relevant eHealth directorates, eHealth Interim AI advisory service provides the following:

- **Responds to customer request for advice** on AI projects, including on matters of AI model design, use of health datasets, ethics and legal implications etc.
 - **Reviews and triages** incoming AI request submissions with advice from relevant NSW Health SMEs.
 - Guides and advices project teams on AI **self-assessment and submission of documentation** to NSW Government.
 - **Enabling Proof of Concept** across NSW Health for common AI requests.
 - Operationalisation of the **NSW government AI Assessment Framework** to meet compliance.
-

NSW Health AI Centre of Excellence



*From experimentation to execution-delivering outcomes through targeted, scalable AI solutions**

As we look ahead to the coming year, NSW Health will focus on establishing an AI Centre of Excellence (CoE) dedicated to advancing the implementation of high-priority, high-impact AI solutions across our system.

The CoE will balance innovation, governance, and equitable healthcare delivery while ensuring scalability and ethical AI adoption.

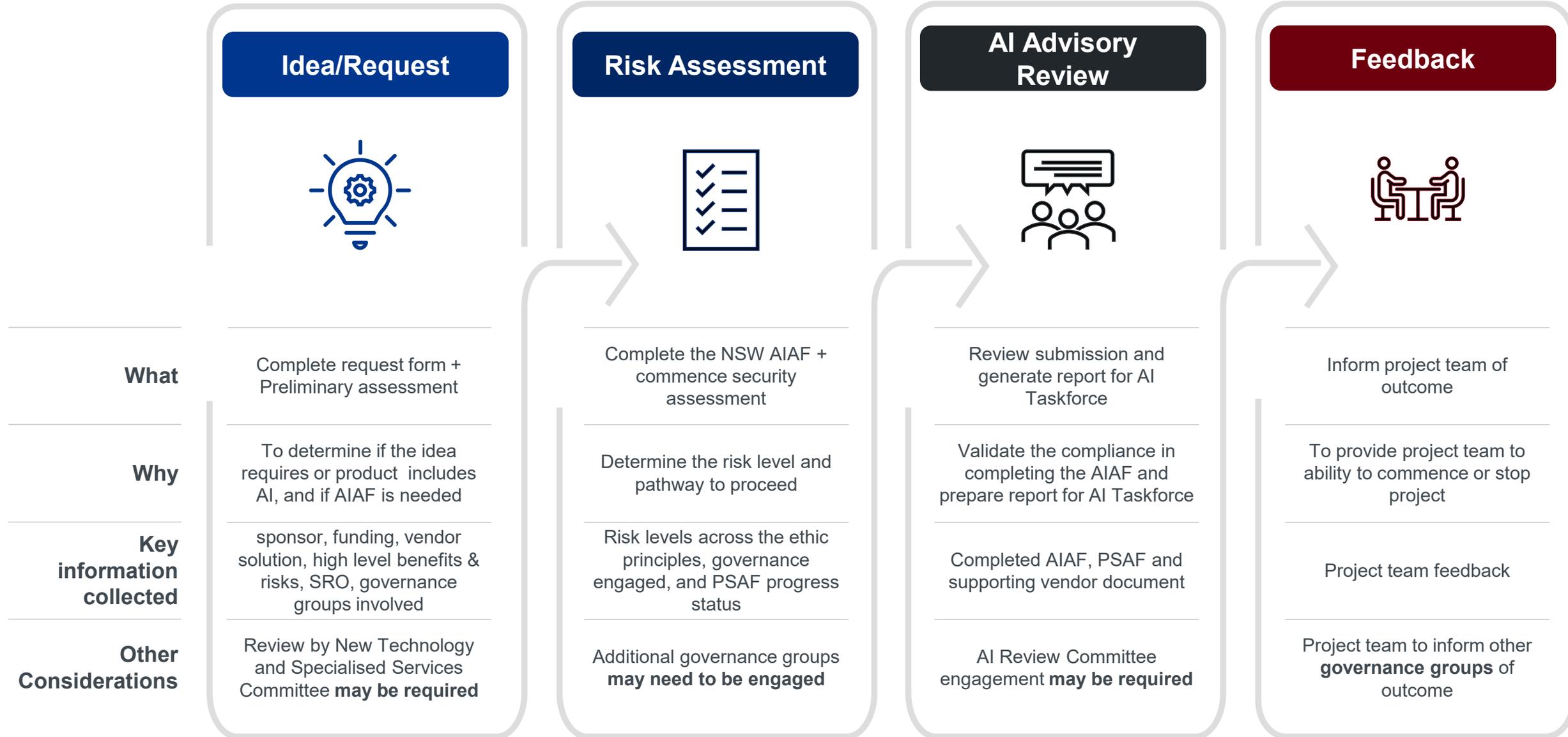
The CoE will specifically:

- **Prioritise & Scale:** Focus on high-value AI use cases with system-wide benefits.
- **Build Capability:** Develop internal skills, tools, and frameworks for sustainable AI adoption.
- **Ensure Quality:** Promote best practices, governance, and ethical AI standards.
- **Foster Collaboration:** Connect teams, share learnings, and reduce duplication.

eHealth NSW AI Advisory Service Process



While we establish future governance state...



Thank you

Questions?

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Appendix

A1

Overview of AI Taskforce

NSW Health AI Taskforce

As NSW Health continues to harness the potential of Artificial Intelligence (AI), NSW Health also remains committed to managing its risks.

NSW Health has adopted the mandated NSW AI Assessment framework (AIAF) which assists stakeholders to analyse AI system risks, implement mitigation controls, and establish accountabilities.

In applying the AIAF, opportunities for improvement have been identified around clinical use of AI, especially in the areas of clinical safety, governance, data, ethics, and legal.

NSW Health has established a time-limited AI Taskforce to develop an operation and strategic framework to guide the use of AI across the health system



NSW Health AI Taskforce (con't)



NSW Health AI Taskforce

- In early 2024, NSW established a time-limited Taskforce of senior leaders / experts to guide AI use in healthcare.
- The Taskforce meets every two months and reports to the Ministry of Health Executive.
- It aims to adapt a whole-of-government approach to the healthcare context.
- Responsible for developing a **strategic and operational framework** to guide the use of AI in the public health system.

Working Groups

- Four Working Groups were established, each allocated with developing specific components of the Framework:
 1. Ethics, legal and workforce
 2. Data assurance, policy, governance, and procurement
 3. Clinical safety and governance
 4. Communication, change management, consumer awareness and expectations, training and education

A2

Overview of NSW Health AI Framework

Development of the NSW Health AI Framework



AAAIH Roadmap

Provides guidance
for AI priority areas in
healthcare



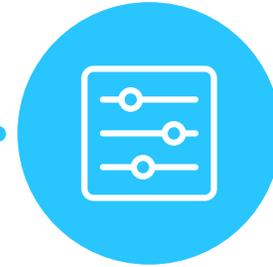
Taskforce Working Groups and Workshops

Consultation provided
recommendations
from across NSW
Health for
consideration by the
Taskforce



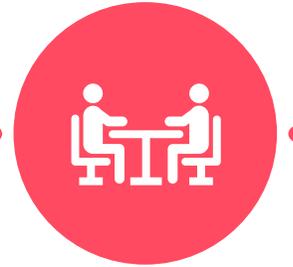
Latest Evidence

CIU continues to
gather latest evidence
on AI supporting
healthcare



Principles Policy and Practice

Applying guidance,
recommendations and
latest evidence to the
NSW Health context

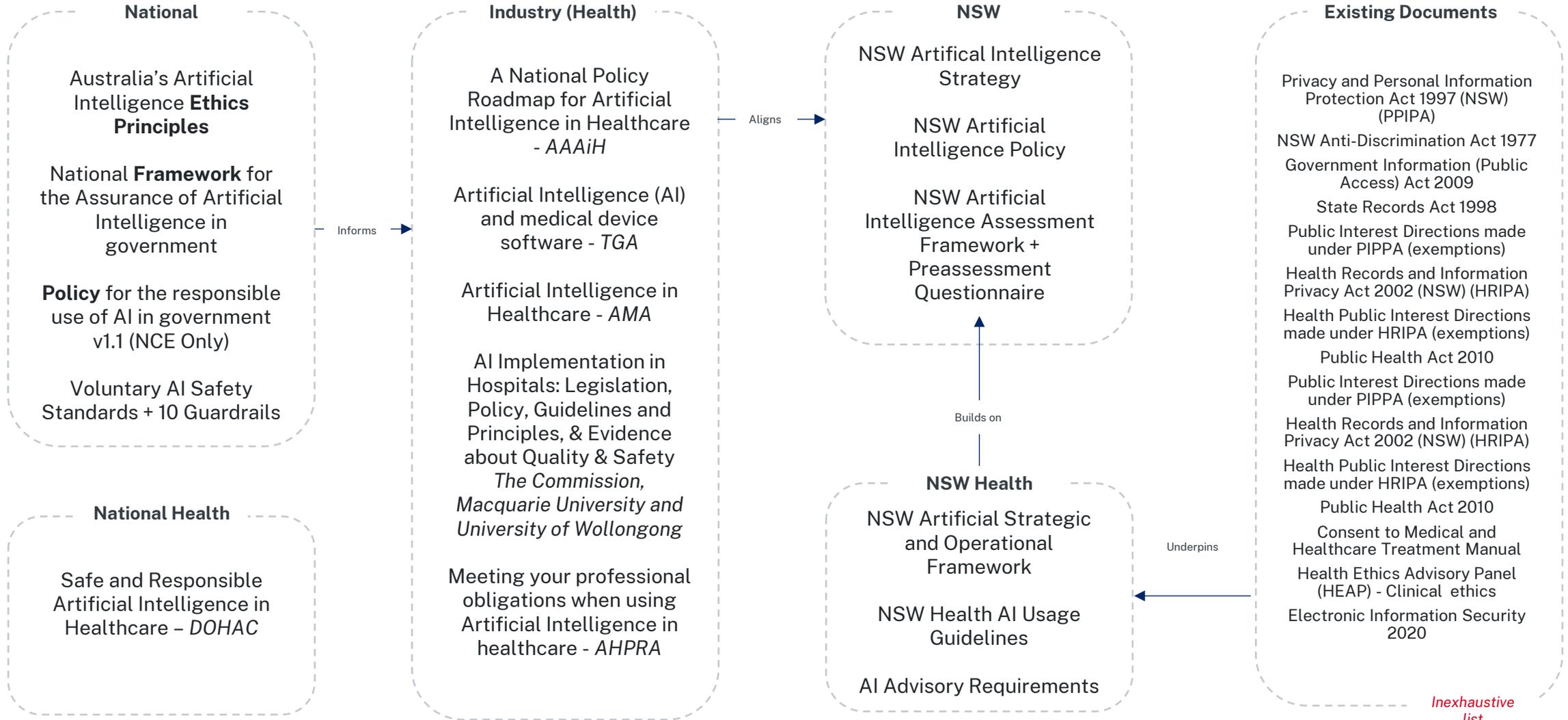


Taskforce Review and Targeted Consultation

*Feedback and
guidance from the
Taskforce and key
governance groups*

Relevant Documents

For NSW Health to consider....



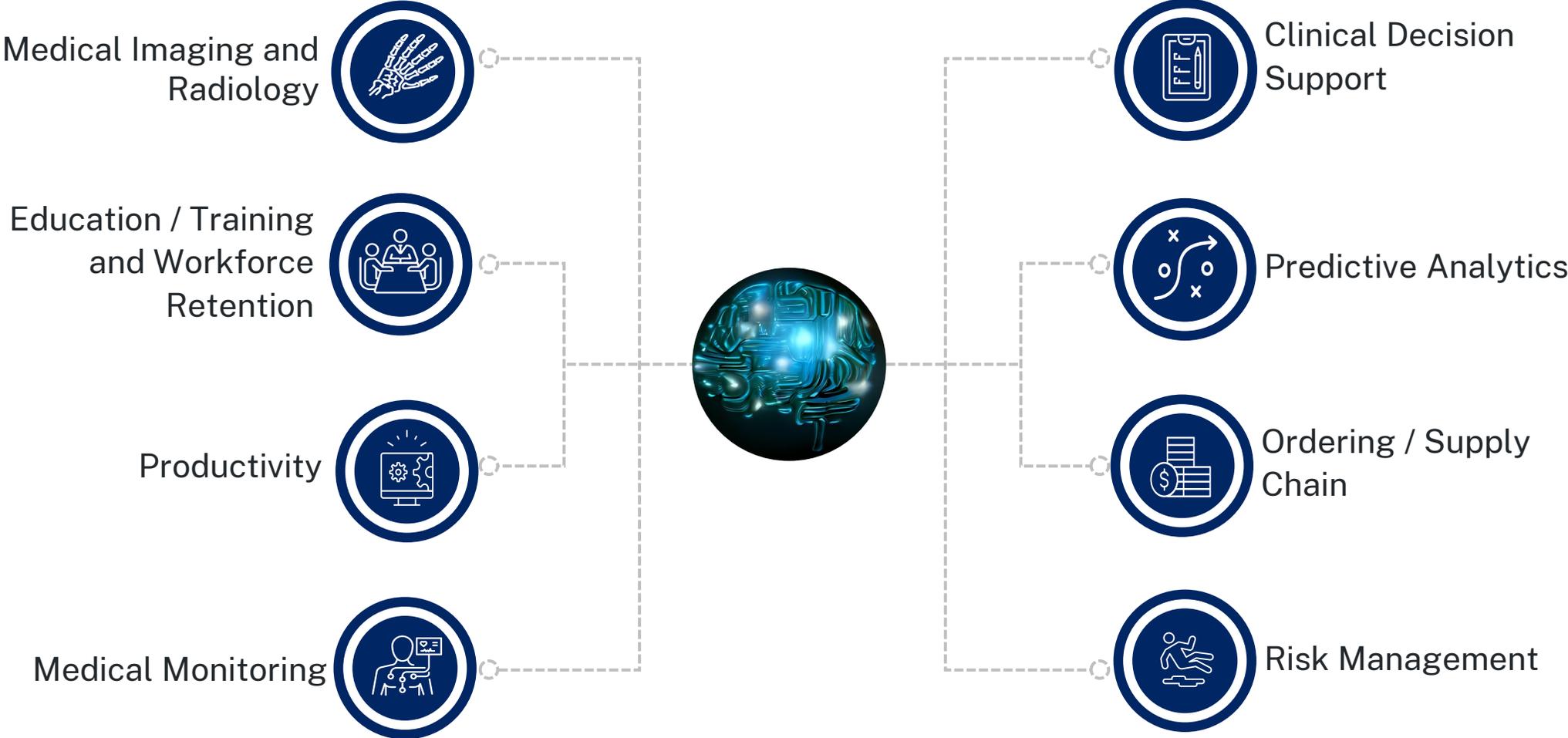
	Safety, ethics and quality	Privacy and security	Governance and regulation	Research and development	Workforce	Consumers	Industry
Principles	<ul style="list-style-type: none"> Human-centred values Fairness Inclusiveness & equity Transparency & explainability Balance benefits & harms 	<ul style="list-style-type: none"> Safeguard patient privacy Secure data 	<ul style="list-style-type: none"> Accountability Intersectoral / interjurisdictional / international cooperation and coordination 	<ul style="list-style-type: none"> Harness expert guidance in AI development and implementation Foster an AI research ecosystem Transparency and explainability in new models 	<ul style="list-style-type: none"> Democratise AI Understand knowledge and skills gaps Build trust Build human capacity 	<ul style="list-style-type: none"> Help all citizens benefit from AI / Equity Build trust Patient rights and choice Contestability 	<ul style="list-style-type: none"> Support local industry to develop clinical and economic benefits
Policy	<ul style="list-style-type: none"> Invest in human capacity Foster AI risk / benefit mgt Policy mapping and testing Legal protections Consumer / social licence 	<ul style="list-style-type: none"> Cybersecurity Codify developer minimum standards Guide data governance and use Procurement standards Intellectual property 	<ul style="list-style-type: none"> Embed distributed leadership Foster enabling policy environment / digital ecosystem for AI Regulation / Standards Financial models Leverage NSW Health data assets 	<ul style="list-style-type: none"> Support creation and translation of new technologies Engage R&D ecosystem Advocate for funding programs Access to secure data 	<ul style="list-style-type: none"> AI literacy framework Career enhancements / pathways / skillmix Accredit training programs Codify clinical accountability 	<ul style="list-style-type: none"> Foster AI literacy Agree social licence Foster equity measurement Require user testing 	<ul style="list-style-type: none"> Engage with whole of government innovation strategies Provide support and incentives to invest Industry standards Procurement policy Timely assessment
Practice	<ul style="list-style-type: none"> NSW assurance framework + health lens Risk assessment Clinical governance Incident management Validation Disclosures Training / Education 	<ul style="list-style-type: none"> Assessment for model bias Training and education SOPs Privacy preserving models 	<ul style="list-style-type: none"> Thinktanks Communities of Practice Post marketing surveillance Steering Committees AI Clinical guidance 	<ul style="list-style-type: none"> AI fellowship program Establish AI lab AI pipeline Support clinician researchers Implementation support 	<ul style="list-style-type: none"> Communication and culture change Training / Education Job enrichment Time for care Change management Clinical and non-clinical decision support 	<ul style="list-style-type: none"> Foster self-care Socialise use of safe chatbots Communication Demonstration 	<ul style="list-style-type: none"> Provide access to data in secure environment Facilitate safe access to the health ecosystem Procurement processes Partnerships

A3

Overview of AI Initiatives

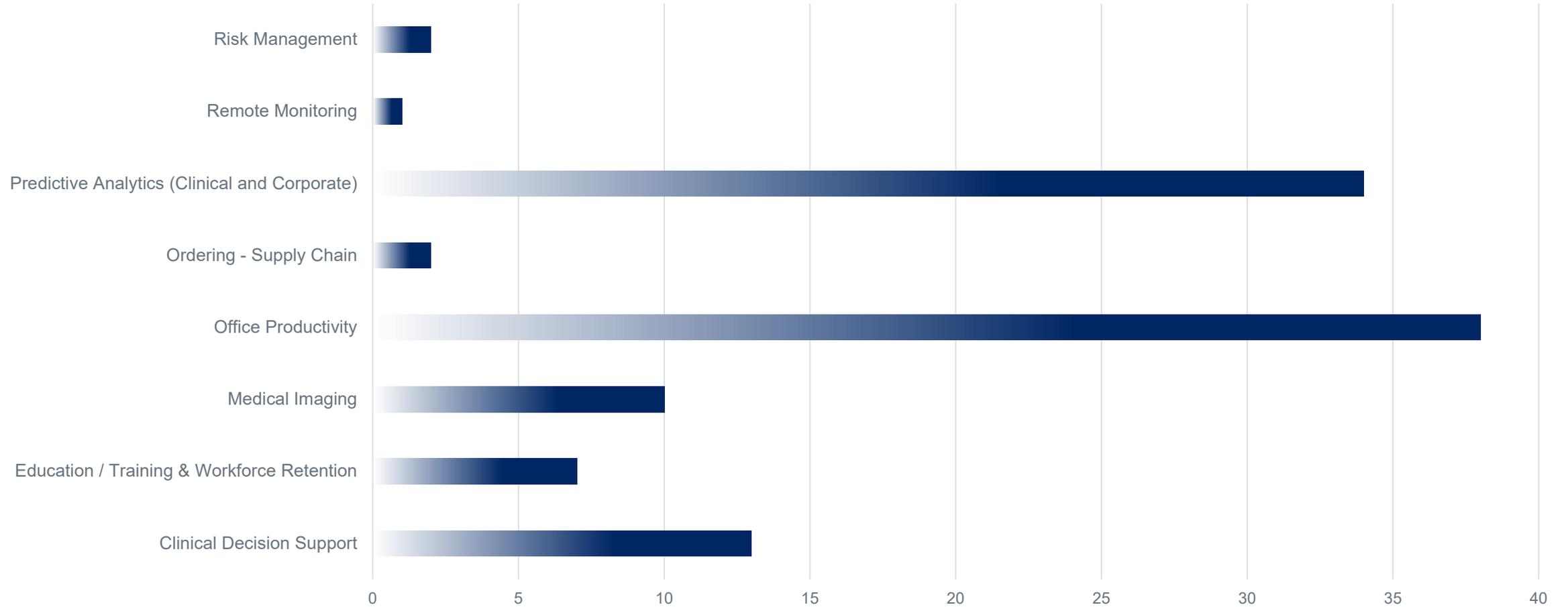
NSW Health Use Case Themes

Driving improved health outcomes...



What is the spread of requests

Who is really asking for what...



NSW Health AI Initiative

That have navigated the AIAF...



SEPSIS

Clinical decision support tool (CDST) that combines relevant information from EMR. Using an algorithm trained on historic data concerning patients with sepsis to create a risk score for clinicians to be able to identify people at the greatest risk of sepsis.



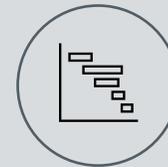
Breast Screening

Digital product which uses the latest developments using deep learning derived algorithms in image recognition technology to detect early cancers in screening mammograms.



Telestroke

A cloud-based service for automating the ingestion, transformation, analysis, and consumption of Telestroke data sources too automate and modernise the operational reporting for assessing the NSW Telestroke Service's.



Tissue Analytics

App that specialises in virtual assessment and monitoring of wounds. Uses AI to measure wound size, progression, and records this as a photograph and pdf that is uploaded into the electronic medical record (EMR).



CoPilot

To enhance productivity by simplifying document creation, information gathering, and review processes by acting as a “personal assistant” to streamline support functions and content delivery.

A4

Early Lessons Learnt

What we have learnt so far

And continue to learn...

<p>Interpretation of questions on the NSW Gov AI Assurance Framework is subjective. For example, understanding de-identified health data; non-sensitive data; public datasets</p>	<p>De-identification of any data is complex. How will data be de-identified? Using the IPC NSW Guidelines? Further, will metadata also need to be de-identified?</p>	<p>There is confusion about Governance and reporting requirements for different types of projects (In-application release by vendor, PoCs, Pilots, Research, Scaled roll-outs, Private Uni led projects etc.)</p>
		
<p>Research and Innovation projects are reluctant to complete documentation before outcome of the trial is known.</p>	<p>Are all sections relevant for all projects? For example, if project uses public non-sensitive data, and does not integrate with systems, is the complete documentation still required?</p>	<p>Do I require a HRIA (Human Rights Impact Assessment)? Is there advice around who determines this? When to apply? What specific Acts are applicable?</p>