Australian Government
Department of Health and Aged Care

CIO - Back Pocket Brief

Artificial Intelligence

Overview

- "Artificial Intelligence" (AI) is a type of technology that can perform tasks that would typically require human intelligence to perform. These tasks include decision-making, language processing, and pattern recognition.
- One of the key advancements in the field of AI is the creation of "Generative AI", which is a technology that understands, generates, and interprets human language in an efficient and advanced way.
- A Generative AI system is capable of learning, and is trained using massive bodies of data, which helps it improve its ability to perform sophisticated tasks like text summarisation, sentiment analysis, and natural language conversation.
- In the field of health and aged care, Generative AI poses opportunities to explore new and better ways to engage with patients and citizens, undertake and make use of clinical research, support improvements to population health, and enhance internal departmental operations. There is also opportunity for AI to improve well-documented challenges within the health system associated including increased demand on health services, increased cost of care and increased complexity of care required for individuals with chronic diseases.
- The development of safe and responsible frameworks is a high priority for the Australian Government and a risk-based approach is being taken to the regulation of AI in healthcare which considers the safety impacts on the Australian public.
- On 17 January 2024, Minister Husic released the government's response to the **Safe and Responsible AI in Australia consultation**[1]. The Government is now considering mandatory guardrails for AI development and deployment in high-risk settings, whether through changes to existing laws or creation of new AI specific laws.

Whole of Government (WofG) context

- The Digital Transformation Agency (DTA) and the Department of Industry, Science and Resources (DISR) are leading the way in developing policy and AI guidance for Commonwealth agencies.
- To foster whole-of-government alignment, and harvest learnings from across the APS, these two agencies operate the AI in Government Taskforce, whose mission is to help the APS to engage with and deploy AI in a way that is safe, ethical, and responsible.
- The Department of Health and Aged Care is one of 11 agencies participating in the

[1] https://www.minister.industry.gov.au/ministers/husic/media-releases/action-help-ensure-ai-safe-and-responsible

Taskforce in advisory capacity. Representatives of the department participate regularly in Taskforce engagements.

- The Department is supporting the AI Taskforce through providing two of our Departmental staff on secondment to work with the taskforce. The Department will benefit from these secondments in being able to shape the agenda to support the Department's outcomes.
- In July 2023, the department contributed a **public submission**[2] to DISR's Supporting responsible AI discussion paper, providing the department's views on how the Australian Government could mitigate potential risks of AI and support safe and responsible AI practices within the health and aged care portfolio.

AI usage across the department, and the sector

- The department anticipates AI will help support its business priorities and achieve productivity gains.
- The department is implementing a **cloud-based Enterprise Data and Analytics capability** that provides a robust platform for AI. We are currently implementing phase 1 that will enable foundational capability. The platform will be expanded in upcoming phases to support identified uses of AI.
- As part of the wider AI in Government Copilot trial, the Department is currently undertaking **a trial of Microsoft 365 Copilot** to explore ways in which it can support work tasks and enhance productivity. The trial is being run between February and June 2024 and includes 300 users across the department. See section "**AI Technology Implementation**" for further details.
- Copilot is a real-time intelligent assistant, that works alongside the M365 apps that are used every day, such as Word, PowerPoint and Excel. It combines Large Language Models (LLMs) and accessible data to help it understand, summarise, predict and generate content and data. This technology combined with M365 allows for many features from generating text, creating presentations and summarising meetings, which is all prompted by the User.
- Listed below are some identified candidate **Health business priority** uses for AI:
    - Chronic condition modelling – developing complex models to infer chronic health conditions in individuals, using administrative data.
    - Synthetic data generation – increasing the processing speed and accuracy of synthetic population samples.
    - Complex workforce scenario simulation modelling.
- Some identified uses of AI that provide **productivity gains** for the department include:
    - Reducing help desk calls and supporting help desk through creating searchable knowledge stores using natural language processing.
    - Microsoft 365 Copilot is being trialled as part of the AI in Government Copilot Trial to test the to test the ways that AI can enhance productivity and efficiency.

Guardrails for safe, responsible, and ethical use of AI

- To disseminate an internal baseline understanding of AI, the Chief Information Officer (CIO) has commissioned and distributed a paper called **"Art of the Possible",** which:

[2] https://consult.industry.gov.au/supporting-responsible-ai/submission/view/501

  - describes the nature of AI
  - performs a "Political, Economic, Sociocultural, Technological, Legal, and Environmental (PESTLE)" scan of AI's impacts on the department
  - Flags uses of AI in the fields of policy design and implementation, compliance, and data and analytics
  - Notes general opportunities for AI usage in the department.
- To assist with funnelling requests for AI usage through the right channel in the department, the CIO has commissioned and distributed a paper called **"CIO Guidance on Use of AI"**, which instructs staff to:
  - Inform themselves of DTA and DISR's published AI principles and guidelines, using specific links to specific online resources, and then,
  - Engage the department's established internal process for implementing new or non-standard technologies (of which AI is one).
- **AI Internal Working Group** – In November 2023, in collaboration with DHMBD and ITD, established the internal AI Working Group to identify opportunities and risks arising from broader, whole-of-economy approaches to the regulation and use of AI. This group is composed of Band 1 and Band 2 SES, co-chaired by Kayla Jordan (Data and Analytics Branch, HERD) and Sam Peascod (Digital Services and Design).
- As part of its guidance on the use of AI, the department should also develop instructions for service providers who may want to use AI while delivering services in support of the department. DTA has been queried about this scenario, and currently the department has seen no such external-facing guidance developed, which could pose potential security concerns.
- AI technologies often analyse large amounts of personal data, raising data privacy and security issues. The department recognises the need to consider the ethical and legal use of data to protect patient privacy and maintain data security, and, to this end, is promoting DTA's Principles of AI Use, which address Privacy Protection and Security matters.
- The Australian Alliance for Artificial Intelligence in Healthcare has sought input on their updated recommendations for their Roadmap for AI in Healthcare for Australia. This effort is led by Enrico Coeria, an "AI in Health" academic and expert from Macquarie University. Alliance membership includes researchers, clinicians, government, industry specialists, peak bodies and consumer groups.

AI Technology Implementation

Microsoft 365 Copilot

- As a part of the AI in Government Copilot Trial, the department is taking part in the Microsoft 365 Copilot between February and June, to document and measure the ways that Generative AI (specifically Copilot) can enhance productivity and efficiency.
  - Copilot is a real-time intelligent assistant, which combines Large Language Models (LLMs) and accessible data to help it understand, summarise, predict and generate content and data.
    - Microsoft M365 Copilot works alongside the M365 apps that are used every day, such as Word, PowerPoint, and Excel.
    - AI working with the M365 apps introduces many capabilities from generating text, creating presentations, and summarising meetings, all based on the user's prompts and inputs.

- The trial project was initiated in December 2023, and consisted of:
  - Copilot trial participant nominations were requested from Group heads. Nominations have been received, with approx. 300 participants participating in the trial.
  - The project team sought guidance from the DTA to establish guardrails and provide mandatory training and a knowledge quiz, ensuring trial participants use Copilot in a safe and compliant manner.
  - DoHAC security team have reviewed the IRAP and approved for use.
  - The technical requirements to enable Copilot in the DoHAC environment have been identified and successfully configured, including trial participants being on the Microsoft Office monthly update ring (as opposed to semi-annual).
  - Copilot licenses successfully went live for trial participants from ITD and DTD on the 12th of February.
  - Remaining trial participants have a scheduled Copilot go-live date of the 19th of February.
- The project team has ensured that support and training is available to all trial participants:
  - A Copilot SharePoint site has been developed to include training for Copilot in all the M365 applications, information on the trial and Frequently Asked Questions (FAQs).
  - A Microsoft Teams channel has been set up, so trial participants can communicate, ask questions, and receive tips and tricks.
  - Daily virtual drop-in sessions have been established for as a forum for trial participants to ask questions and raise issue or concerns.

Enterprise Data and Analytics Platform

- The Department is implementing a cloud-based Enterprise Data and Analytics Platform (Google Cloud Platform) that provides a robust, scalable, secure data and analytic environment that will extend our AI capability and tools.
- ITD is currently implementing phase 1 in partnership with BID and HERD. Phase 1 will enable foundational capability and compliance data.
- The platform will be expanded in upcoming phases to support identified uses of AI.

AI security advice from Home Affairs

- As AI powered tools and technologies continue to develop, new security risks may emerge. One example is generative AI models like ChatGPT and growing concerns over potential mass data breaches.
- In line with guidance from the Department of Home Affairs, the department is in the process of considering the cyber security and data protection implications of using such technologies.
- The Protective Security Policy Framework (PSPF) requires Commonwealth entities to implement protective security arrangements and controls to safeguard data and ICT systems to support the secure and continuous delivery of government business. Application control is one of the most effective mitigation strategies in ensuring the security of systems. It forms part of the Essential Eight and is mandated in PSPF policy 10: Safeguarding data

from cyber threats.

- In addition, the department is aware that Commonwealth entities must consider the level of data shared with AI-powered tools in order to utilise them, along with the classification of that data. PSPF policy 9: Access to information, mandates that entities control access, including remote access, to supporting ICT systems, networks, infrastructure, devices and applications. To reduce the risk of unauthorised disclosure, there should be a clear understanding of the information held on such systems/applications, and effective authentication practices.

Attachments:

Attachment A: DAB's FAS Brief Placemat: See section AI Project Activity In HERD and Key AI Activities Outside of HERD
Attachment B: Link to the latest Copilot Status Report: 2024_02_08 - Copilot Trial Status Report.pptx

Artificial Intelligence in the Health Economics and Research Division (HERD) (as of 8 February 2024)

Background

- "Artificial Intelligence" (AI) is a type of technology that can perform tasks that would typically require human intelligence to perform. These tasks include decision-making, language processing, and pattern recognition.
- One of the key advancements in the field of AI is **"Generative AI",** a technology that understands, generates, and interprets human language in an efficient and advanced way.
- In the field of health and aged care, Generative AI poses opportunities to explore new and better ways to engage with patients and citizens, undertake and make use of clinical research, support improvements to population health, and enhance internal departmental operations. There is also opportunity for AI to improve well-documented challenges within the health system associated including increased demand on health services, increased cost of care and increased complexity of care required for individuals with chronic diseases.
- Potential for AI systems and applications to improve wellbeing, quality of life and grow the economy are well-known. It has been estimated that adopting AI and automation could add an additional $170 billion to $600 billion a year to Australia's Gross Domestic Product by 2030[1].
- However, there is recognition of the potential risks of AI including patient safety, information security and privacy, ethical implementation and management, and fairness and transparency.
- The development of safe and responsible frameworks is a high priority for the Australian Government and a risk-based approach is being taken to the regulation of AI in healthcare which considers the safety impacts on the Australian public.
- On 17 January 2024, Minister Husic released the government's response to the **Safe and Responsible AI in Australia consultation**[2]. The Government is now considering mandatory guardrails for AI development and deployment in high-risk settings, whether through changes to existing laws or creation of new AI specific laws.

AI in Government Taskforce

- The Digital Transformation Agency (DTA) and the Department of Industry, Science and Resources (DISR) are leading the way in developing policy and AI guidance for Commonwealth agencies.
- To foster whole-of-government alignment, and harvest learnings from across the APS, these two agencies operate the *AI in Government Taskforce*, whose mission is to help the APS to engage with and deploy AI in a way that is safe, ethical, and responsible. The second version of Interim Generative AI Guidance was issues by DTA on 22 November 2023[3].
- The Department of Health and Aged Care is one of 11 agencies participating in the Taskforce in an advisory capacity. Representatives of the Department participate regularly in Taskforce engagements.
- The AI in Government Taskforce has been extended until June 2024. It will focus on securing sustainable funding through the 2024 Budget. They are seeking more secondees. The Department currently has a part-time secondee from Health Workforce Division.

Governance and Committees

s47E(d)

AI Project Activity in HERD

Project Type	Name	Detail	Timeline
Medical Research Future Fund (MRFF)	**Research Related to AI**	From its inception in 2015 to 31 December 2023, the MRFF has invested $96.3 million in 35 grants with a focus on research related to AI in health research. The MRFF provides funding for research related to AI in health through two Initiatives in particular: • The National Critical Research Infrastructure Initiative will provide $650 million over 10 years from 2022-23 for research infrastructure that will be used to conduct world-class health and medical research. Stream 2 of this Initiative is focused on digitisation of health care – developing and translating into practice digital therapeutics, AI enabled health interventions and technologies (e.g., wearables), applications or other software for use in clinical practice. The Research Data Infrastructure initiative will provide $100 million over 10 years from 2022–23. It will fund the creation or extension of national research data infrastructure with a focus on data registries, biobanks and data linkage platforms, including the use of AI, to support Australian medical research.	Ongoing
Health Modelling Partnerships and Evaluation	**Predictive Modelling**	Machine learning is being used as a technique for predictive modelling tasks (e.g., demand projections, probability estimates). No deep neural network-based models are being used **(not publicly known)**.	Ongoing

s47E(d)

[1] https://www.mckinsey.com/featured-insights/future-of-work/australias-automation-opportunity-reigniting-productivity-and-inclusive-income-growth
[2] https://www.minister.industry.gov.au/ministers/husic/media-releases/action-help-ensure-ai-safe-and-responsible
[3] Interim guidance on government use of public generative AI tools - November 2023 | aga (digital.gov.au)
[4] https://consult.industry.gov.au/supporting-responsible-ai/submission/view/501

Microsoft 365 Copilot

Status Report 08 February 2024

Australian Government
Department of Health and Aged Care

Overall Project

- Business Readiness
- OCM
- Technical

Key Risks and Issues

Risk + Issue register

Risk 14 -> Issue 03: [OPEN] *Unforeseen technical / security requirements or obstacles which may have an impact.*
Users have been added to the monthly update group, however the duration for the changes take effect on their machines is unpredictable.
Impact – If user is not on the monthly channel, Copilot for desktop apps would not work.
Mitigation – All users have been added (selected few are excluded) to the monthly channel weeks in advance of their go-live and monitoring the users being added, manual intervention is an option

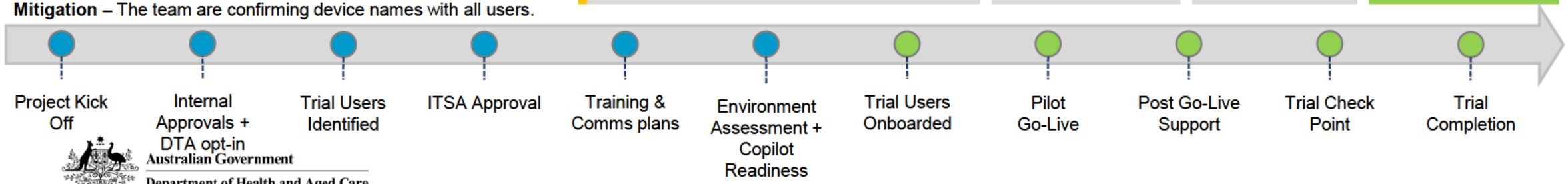
Risk 15 -> Issue 04 [Low Impact]: *Device names of trial users may not be accurate*
The project team initially reached out to a sample size of users to determine the accuracy. We found there was a sufficiently low accuracy % to warrant confirming the device names with all users.
Impact – If the incorrect device name is added to the monthly channel, Copilot for desktop apps would not work for that specific user.
Mitigation – The team are confirming device names with all users.

Snapshot of Current Key Tasks

Business Readiness Tasks	Owner	Date Due	Status
Completion of internal update comms / artifacts	s22	On-going	On Track

Organisational Change Management	Owner	Date Due	Status
Updates to Comms, onboarding and training collateral	s22	On-going	On Track
Confirmation of device names		02-Feb	Complete
Prepare Champions pack		09-Feb	On Track
Preparing for Cohort 2 onboarding		12-Feb	On Track
Cohort 1 Go-Live		12-Feb	On Track

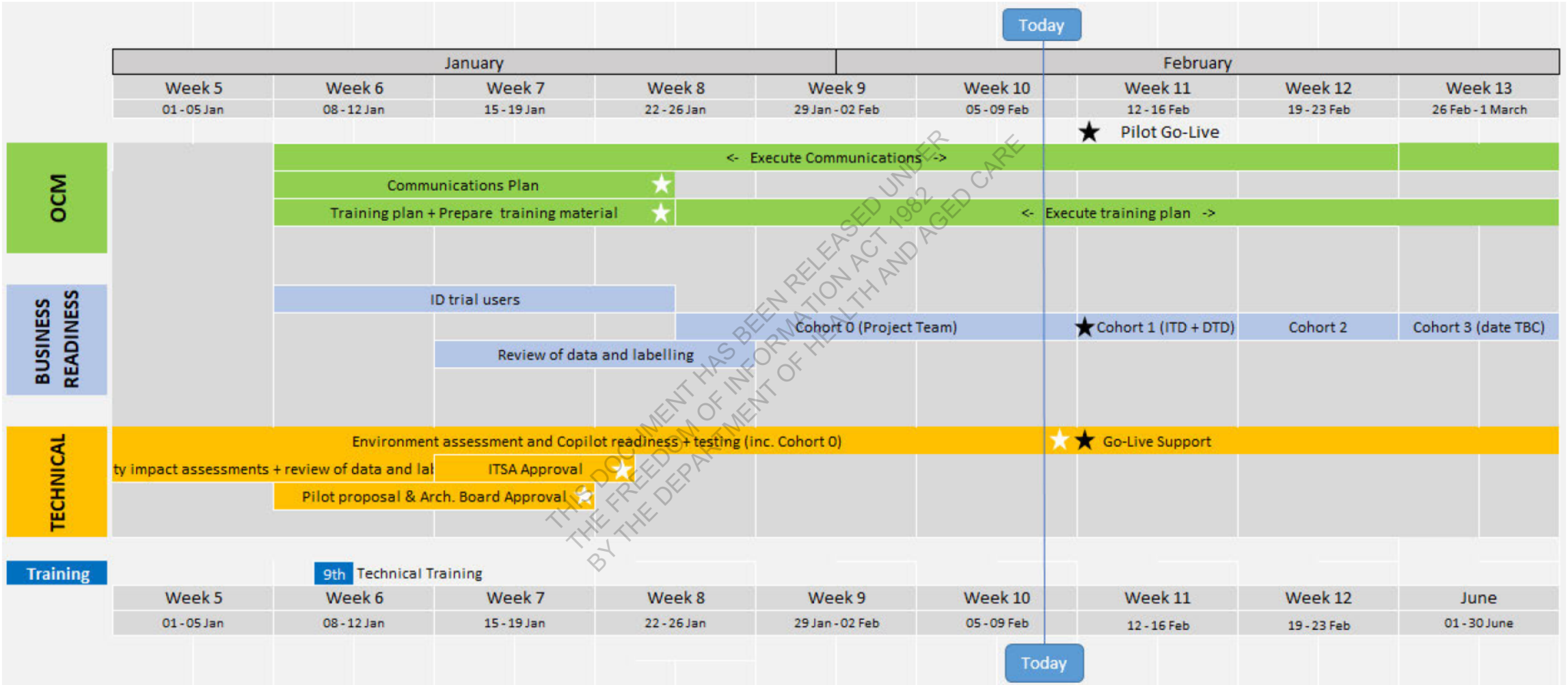
Technical	Owner	Date Due	Status
Cohort 1 technical onboarding	s22	05-Feb	Complete
Cohort 2 technical onboarding		12-Feb	On Track
Working on resolving Issue #3		12-Feb	Monitoring
Proxy change to enable data protection in Edge Copilot		16-Feb	On Track



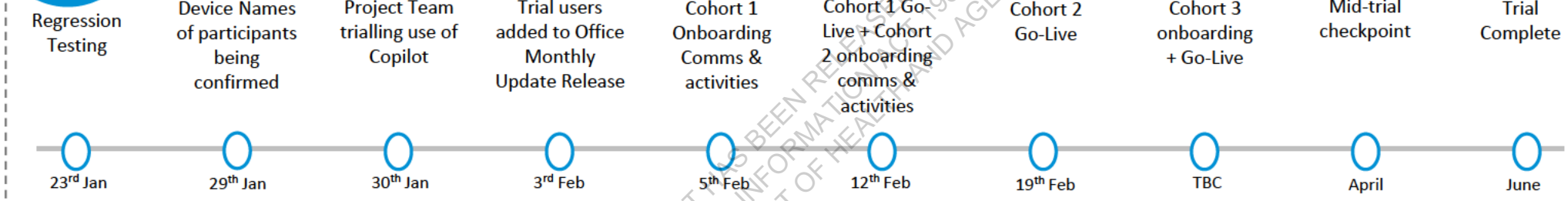
Australian Government
Department of Health and Aged Care

High Level Timeline

*There is pending Technical considerations + information from the DTA which may affect this timeline. It will be updated on a weekly basis.



Timeline



ID #	Key Decisions and Actions - Decisions and Actions Log	Owner	Date / Closed	Status
6	Supporting MS Teams for the trial users - Users will be supported by the Copilot project team, which includes shared resources from the MS Teams project team. Users will also have access to the MS Teams project's training material	s22	25-Jan	Closed
7	Is a use case required to be documented for the ministerial user? Or can we ask them to self-document via our use case template?		30-Jan	Closed
8	All trial users have been added to the monthly channel group			Closed
9	Cohort 1 (ITD + DTD) technical go-live complete + OCM onboarding has commenced			Closed
10	Define the ad-hoc onboarding / offboarding process (also added a risk)			Open
11	Explore the use of Viva Insights for Copilot dashboard / metrics reporting			Open

Notes

Please could all project team members use Copilot as much as possible so that we can quickly up skill and identify any issues. Report your findings back to the MS Team Delivery channel. Please complete the Knowledge Test !

Communications / Onboarding Plan

Copilot Trial - Communications on a Page

Channel	Description	Purpose	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri
Go-Live Day																												
Email	Microsoft Copilot Trial - ready to take a flight?	Informing user they are nominated for the trial and to provide comms links + mandatory training & test																										
MS Teams Channel	Add users to MS Team channel	Used for all Project Comms																										
MS Teams Channel	Welcome post	Welcome the users to the trial, how to navigate the channel and SPO site																										
MS Teams Channel	Mandatory training + knowledge quiz reminder	Post to push users to complete the training + quiz																										
PDF + MS Form	Mandatory training + knowledge quiz	Required to be assigned a Copilot licence																										
Email	Copilot licence activated!	Informing users that the licence has been activated, ready to use within 5 days																										
Email Invite	Invite for drop in sessions																											
MS Teams Meeting	Daily MS Teams meeting for support	Daily remote drop in sessions will be hosted to provide support to users post go-live																										
Email	Weekly Tips & Tricks																											
MS Teams	Weekly Tips & Tricks																											
Email	Request for use case																											
MS Teams Channel	Request for use case																											

Department of Health & Aged Care Microsoft Copilot Trial

Australian Government
Department of Health and Aged Care

Welcome to the Copilot for M365 Program

What is the Copilot for M365 trial?

The Copilot for Trial is a program designed to help users onboard, adopt, and engage with the Copilot for M365 tool. The program includes communication, onboarding, training, and support to help users successfully integrate Copilot into their daily work.

What are the program goals?

The primary goal of the program is to provide access to Copilot to understand how it can change the way we work inside our Department and to give our people firsthand experience with the capability to become more productive.

The program aims to achieve this goal by providing users with the resources, support, and guidance they need to successfully adopt and engage with Copilot as well as conducting surveys and research to gather input from users, to determine the success of the trial.

What are the asks/expectations for participants?

Participants are expected to engage with the program by sharing your Copilot experiences, insights, issues and tips & tricks through the MS Teams Channel. We also expect users to respond to any surveys and/or focus group invites.

Getting started: Onboarding pre-requisites, self-paced Copilot training and knowledge quiz.

Weekly expectations: Use Copilot for M365 and post/engage with others in our MS Teams Channel.

Monthly expectations: Regularly use at least 1 Copilot for M365 tool, share your experience on the MS Teams channel and respond to any surveys.

A key outcome of the trial is to understand how/ what you use Copilot for. Please help make the trial a success by documenting your use case here

All participants are encouraged to try out different scenarios or Copilot features, share their experience and ways they leverage Copilot, and provide informal feedback to help improve the program and capture the value Copilot adds to our people.

Access

Copilot for 365 license activation includes access to Copilot across Excel, Word, OneNote, PowerPoint, Teams, Loop and Whiteboard.

Initially, users will be accessing the Copilots according to the chart below (some via desktop applications and some via web applications).

Copilot	Desktop	Web
M365 Chat	✓	✓
Excel	✓	✓
OneNote	✓	
PowerPoint	✓	✓
Teams	✓	✓
Whiteboard	✓	✓
Word	✓	✓

**Copilot for Outlook is not yet available in the DoHAC environment*

Welcome to the Copilot for M365 Program

How will we support you?

We offer the following optional touchpoints to support your enablement and experience during this initiative:

- M365 Copilot Trial MS Team channel as the trial forum to discuss anything Copilot
- SharePoint Copilot Home for all Copilot information, training material and news
- Email us for any issues or feedback regarding the trial.

Points of contact

s22 Copilot Project Manager

s22 Training and Enablement

Primary Communication Channels

MS Teams Channel

Email: s22, s47E(d) @health.gov.au

What's in it for you?

By participating in this initiative, you will:

- Experience a new and innovative way of working
- Identify opportunities to enhance your productivity and creativity
- Influence the Departments strategy in regards to AI and M365 Copilot
- Have access to the latest in Microsoft's AI technology in the form of Copilot

What are the guiding principles for experimentation?

As you use Copilot in M365, please keep the following principles in mind:

- Be curious and exploratory: Try out different features and scenarios that are relevant to your work and interests
- Be honest and constructive: Share your opinions and impressions, both positive and negative, with us
- Contribute and collaborate: Share and learn from other trial participants and their experiences and feedback

Copilot capabilities matrix

WHAT IS POSSIBLE WITH COPILOT THROUGHOUT M365 APPS?

	Draft content	Understand and analyze	Catch up	Ask for information	Create graphics
Copilot in M365 Chat	✓		✓	✓	
Copilot in Teams	✓		✓	✓	
Copilot in PowerPoint	✓	✓	✓	✓	✓
Copilot in Word	✓	✓		✓	
Copilot in Excel		✓		✓	✓
Copilot in OneNote	✓	✓			
Copilot in WhiteBoard	✓	✓			

TGA & swissmedic Federated Learning Pilot

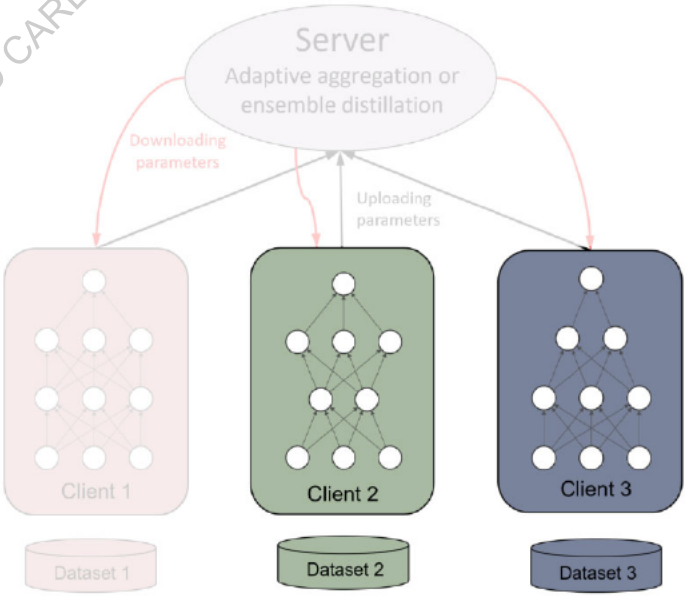
Initial notes

DRAFT – FOR DISCUSSION v1

4 June 2024

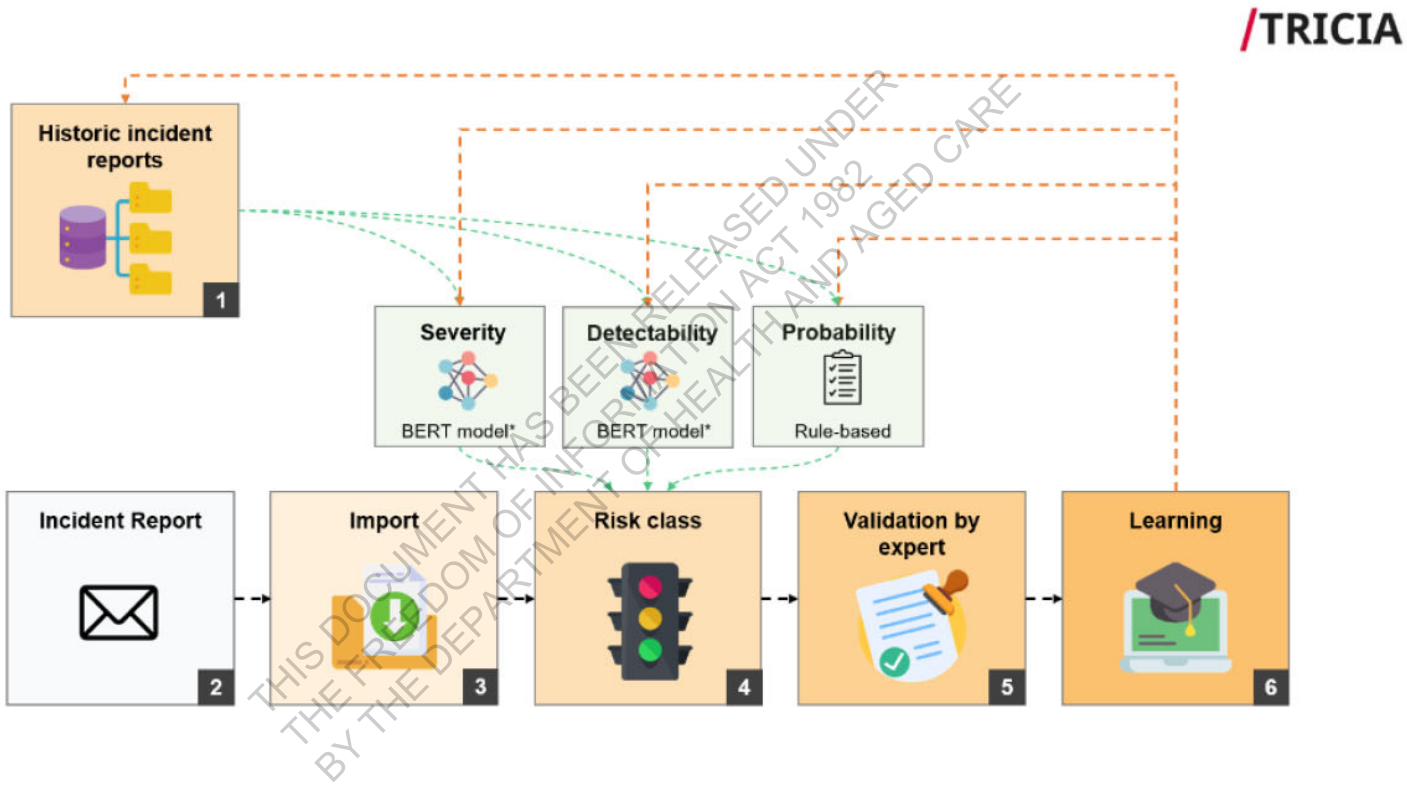
Introduction

- Swissmedic has developed a prototype Large Language Model (LLM) and associated software they believe can assist their triaging / risk classification of adverse events for medical devices
- This model and software suite is called Tricia
- Through their Federated Learning Project, swissmedic are seeking other international regulators to trail the joint training and assessment of a shared model for risk assessment that is shared across regulators
- swissmedic want the platform to allow collaborative training of models, overcoming challenges such as data sparsity and the need to disclose confidential data
- This paper has been prepared following an initial discussion with swissmedic. The aim of the paper is to help inform TGA considerations of the swissmedic work and the investment that may be required if the TGA elects to participate in the trial



DRAFT – FOR DISCUSSION

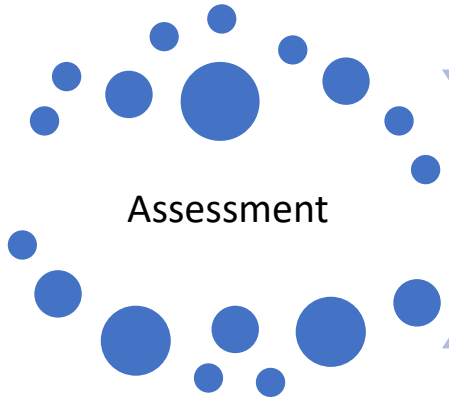
swissmedic's Tricia



The "BERT models" are a LMM that assesses the free text in each incident report to determine a risk score (out of 10). The 3 scores (Severity, Detectability, Probability) are multiplied to create an overall risk score (Risk Class). Different actions are taken based on the overall risk score.

DRAFT – FOR DISCUSSION

The investment



Assessment

- Obtain IT endorsement
- Establish IT environment
- Resource & stand-up team

~ 8 weeks

Project Lead – 1
IT specialist (ITD) – 0.5

Learning

- Undertake project
- Engage with swissmedic & support Federated Learning
- Other medical devices models and opportunities

~ 12 weeks

Project Lead – 1
IT specialist (ITD) – 0.1
Subject Matter Expert – AE business – 0.5
Subject Matter Expert – Data & Technical – 1
Data Scientist / Model Expert - 1

Wrap-up & Retrospective

- Finalise project & report
- Lessons Learned
- Recommendations for next steps

~ 4 weeks

Project Lead – 1
IT specialist (ITD) – 0.1
Subject Matter Expert – AE business – 0.1
Subject Matter Expert – Data & Technical – 1
Data Scientist / Model Expert - 1

- ✓ *Learning and input into medical devices (and TGA) analytics strategy*
- ✓ *Learning on the suitability of LMM for risk assessment of AE data*
- ✓ *A (potential) model for future development and opportunities for continued evolution with other regulators*
- ✓ *A TGA capability for advanced intelligence and insight*

DRAFT – FOR DISCUSSION

Next steps

CRITICAL DEPENDENCIES

1. TGA decision on readiness and viability of engagement on Federated Learning
2. Engage with ITD to ascertain viability (& cost)
3. Identify source of data science expertise

- Set out plan and resources for internal consideration

- Keep swissmedic informed