

Partnership Powered Standards, Interoperability and Digital Innovation

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CSIRO Australian e-Health Research Centre
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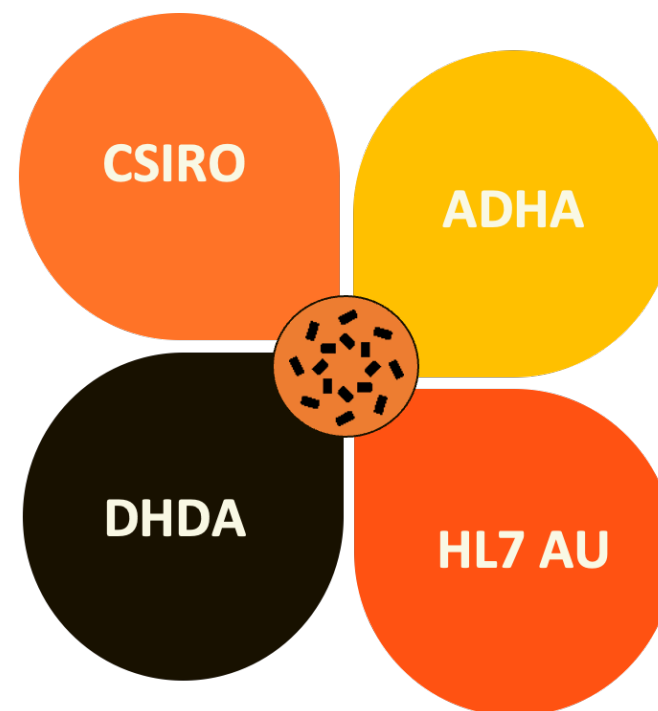
THE AUSTRALIAN NATIONAL SCIENCE AGENCY'S DIGITAL HEALTH RESEARCH PROGRAM

Australia's leading national digital health research program with capabilities in precision medicine, analytics, AI, virtual care and interoperability.

We host the National Clinical Terminology Service (NCTS)

Governed by the Australian Digital Health Agency, operated by us

We are also delivering Sparked – Australia's first Fast Healthcare Interoperability Resources (FHIR) accelerator



Our world leading suite of terminology tools and services:



Terminology server - [Ontoserver](#)[®]



Online browser - [Shrimp](#)



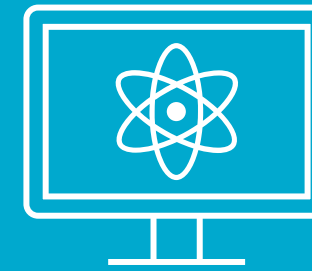
Mapping and authoring platform - [Snapper](#)



[National Syndication Server](#)

The Strengthening Standards Capability Project (SSCP)

- DFAT-CSIRO-Countries partnership for capacity development to accelerate adoption of standards and interoperability
- Technical guidance and collaboration with international agencies such as, WHO, UNICEF, ITU and standards development organisation (SDO) such as, HL7 International
- Industry Support from global and development partners such as, Google, AWS, SMILE Digital Health



Enhanced capacity and localised expertise in digital health standards and Interoperability



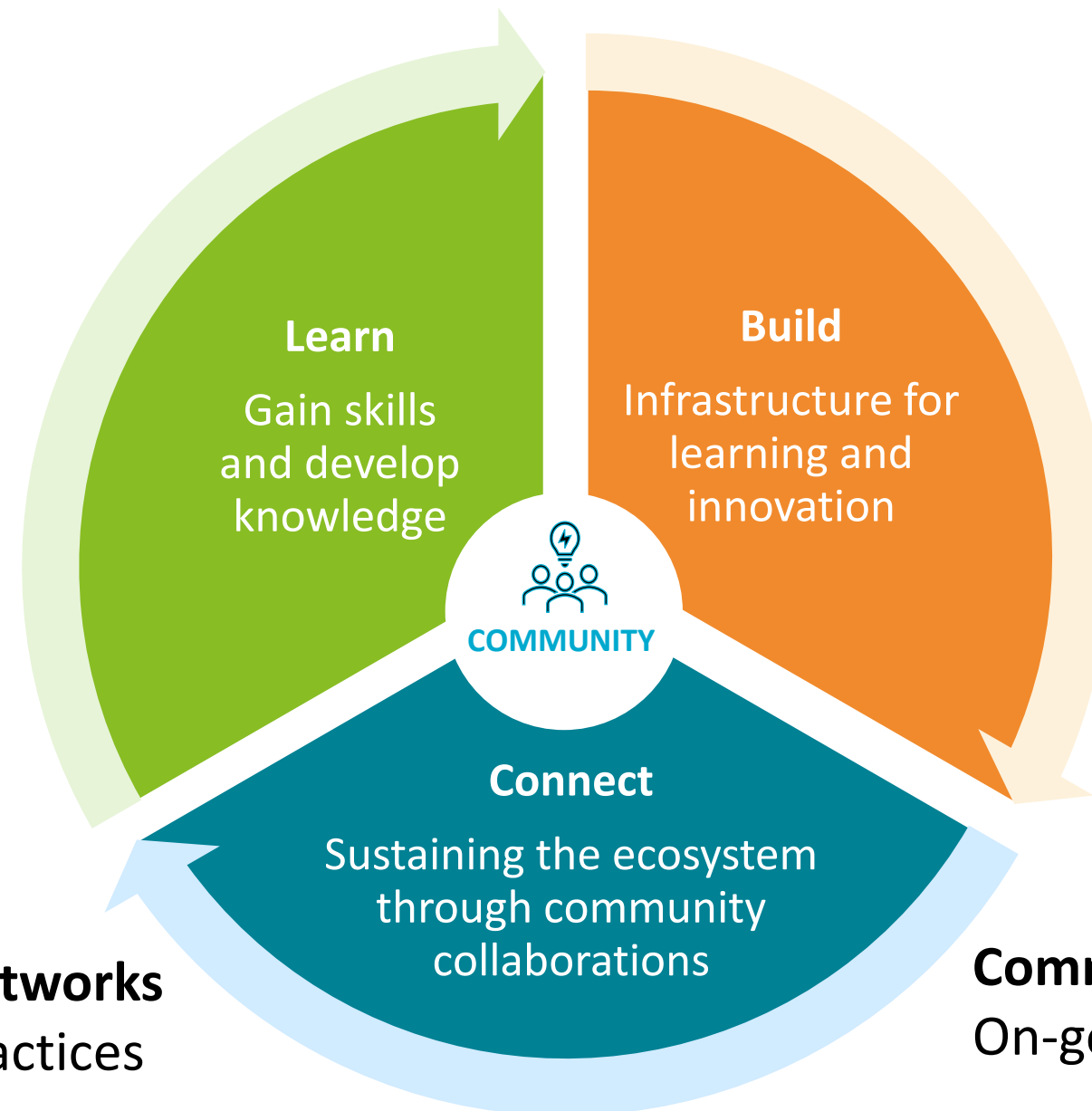
Improved technical tools to reduce barriers to entry for developers and implementers



Improved access to electronic health data for disease surveillance and to inform public health decision making

Co-Design of Strengthening Standards Framework for National Capacity Development

- Localised Training**
competency based training programs
- Academic Collaborations**
life-long learning and micro-credentialing
- Industry Collaborations**
Technical support and expert guidance



- Sandbox**
For advocacy, learning and testing
- Developer Tools**
To reduce barriers to entry
- Synthetic Workflow Development**
For real-world public health use cases

Regional Knowledge Exchange Networks
Collaborations and shared best practices

Communities of Practice
On-going learning, and support

Community Events
Locally-led Workshops, connectathons, bootcamps

LEARN – Cultivating a Shared Technology Language

The Goal:

- Transition from reliance on external experts to building local competency

Approach:

- Competency-Based structured pathways to grow local talent, and not just one-off workshops
- Contextualized training, in-person, and virtual, tailored to local context, and audiences from developers to policymakers
- Leadership alignment through study tour, for national leadership alignment, peer-peer knowledge exchange for best practices



FHIR Fundamentals Training, Manila, 2024



FHIR Master Class, Nadi, Fiji 2025



Philippine Leadership Study Tour, Brisbane, 2024



Interoperability Workshop
Manila, 2024

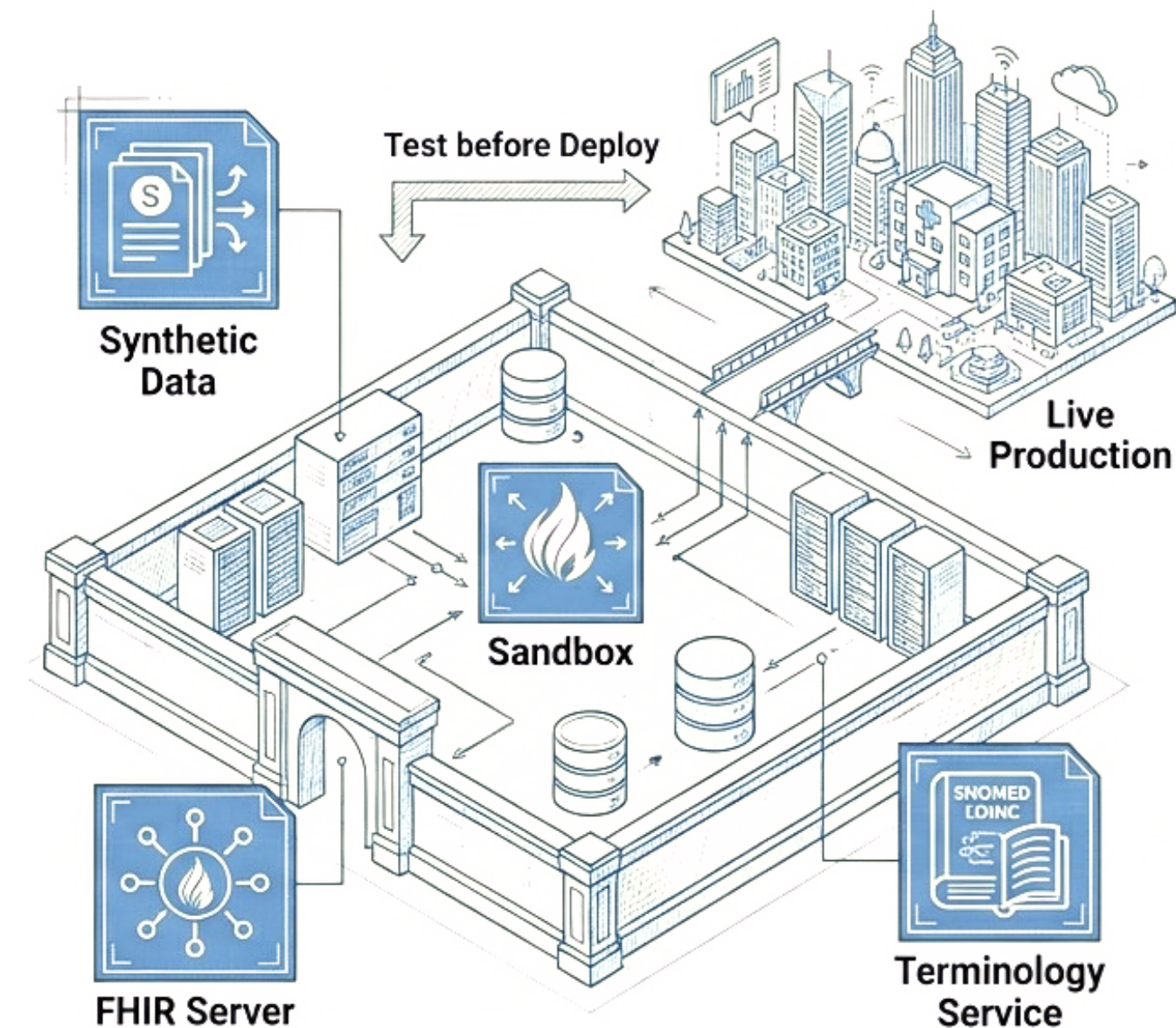
BUILD – FHIR®Lab, a Sandbox for countries to enable learning beyond theory

The Core Concept:

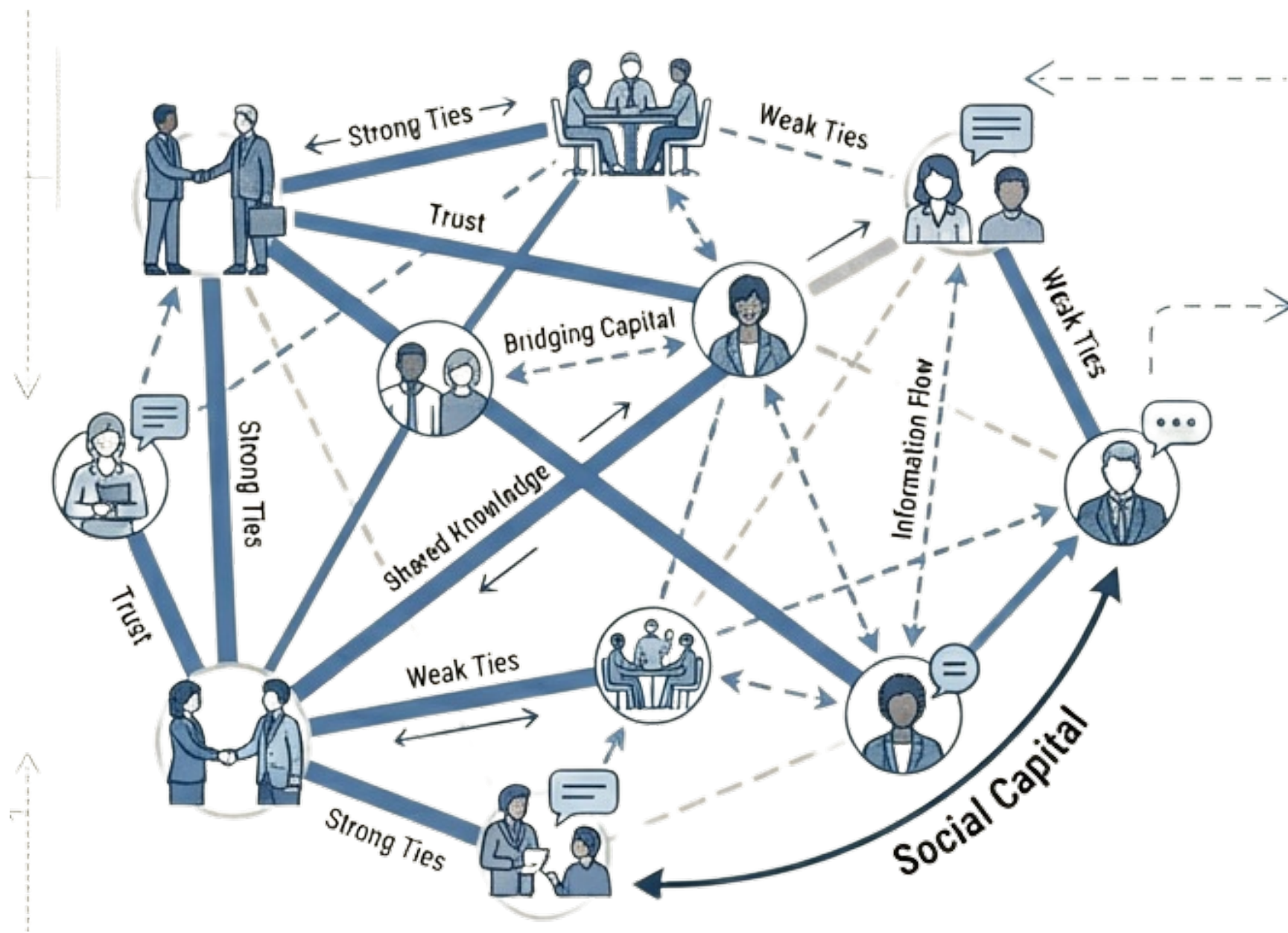
- A safe, non-production technical environment to test ‘big-ideas’ before national rollout.

Why Sandbox Matter:

- Apply theory and knowledge in a simulated environment to test real world use cases
- Develop Proof-of-concept to showcase meaningful use of standards and interoperability
- “Build before you buy”. Test big-ideas in safe space before making national investment decisions
- Accelerated development, of standards-based digital health solutions and debug issues early



CONNECT – Sustaining the Ecosystem Through Community



The Challenge:

- Technology evolved rapidly; static systems fail. Communities ensure the systems adapts

The Mechanism: Communities of Practices (CoPs)

- **Peer Mentorship:** Moving away from external consultants towards local networks and collaborations
- **Safe Spaces:** Creating forums for dialogues, feedback and joint problem-solving (Wenger, 1998)

CoPs foster collective learning and shared resources, acting as living repositories of knowledge

CONNECT in Action: Platforms for Collaboration



FHIR Connectathons

Hackathon style events where developers and implementers test system interoperability against HL7 standards in real time



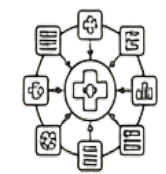
Roundtable and Convergence Workshops

Regular regional gatherings of digital health leaders to share policy experience and align on standards



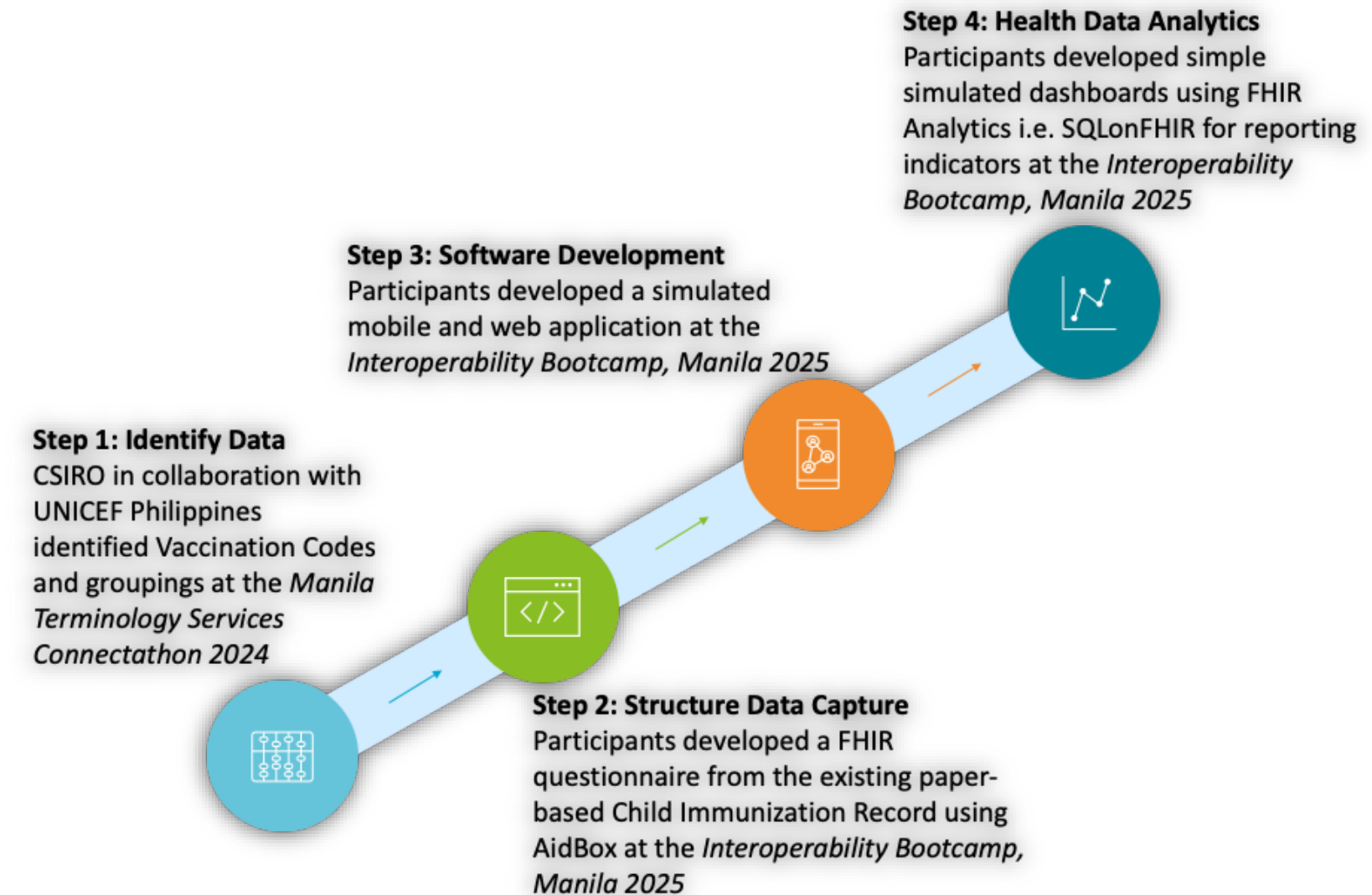
Interoperability Bootcamps

Collaborative learning program bringing policy, clinical, and technical stakeholders together to build interoperability capability



Communities of Practice

Ongoing collaborative network where stakeholders share knowledge, experiences, and practical solutions to support standards adoption



Case Study: Development Workflow for Immunization Use Case, Interoperability Bootcamp, Manila, 4-6 February 2025

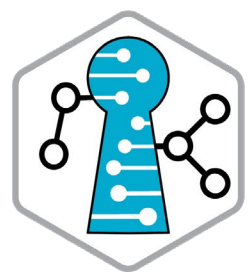
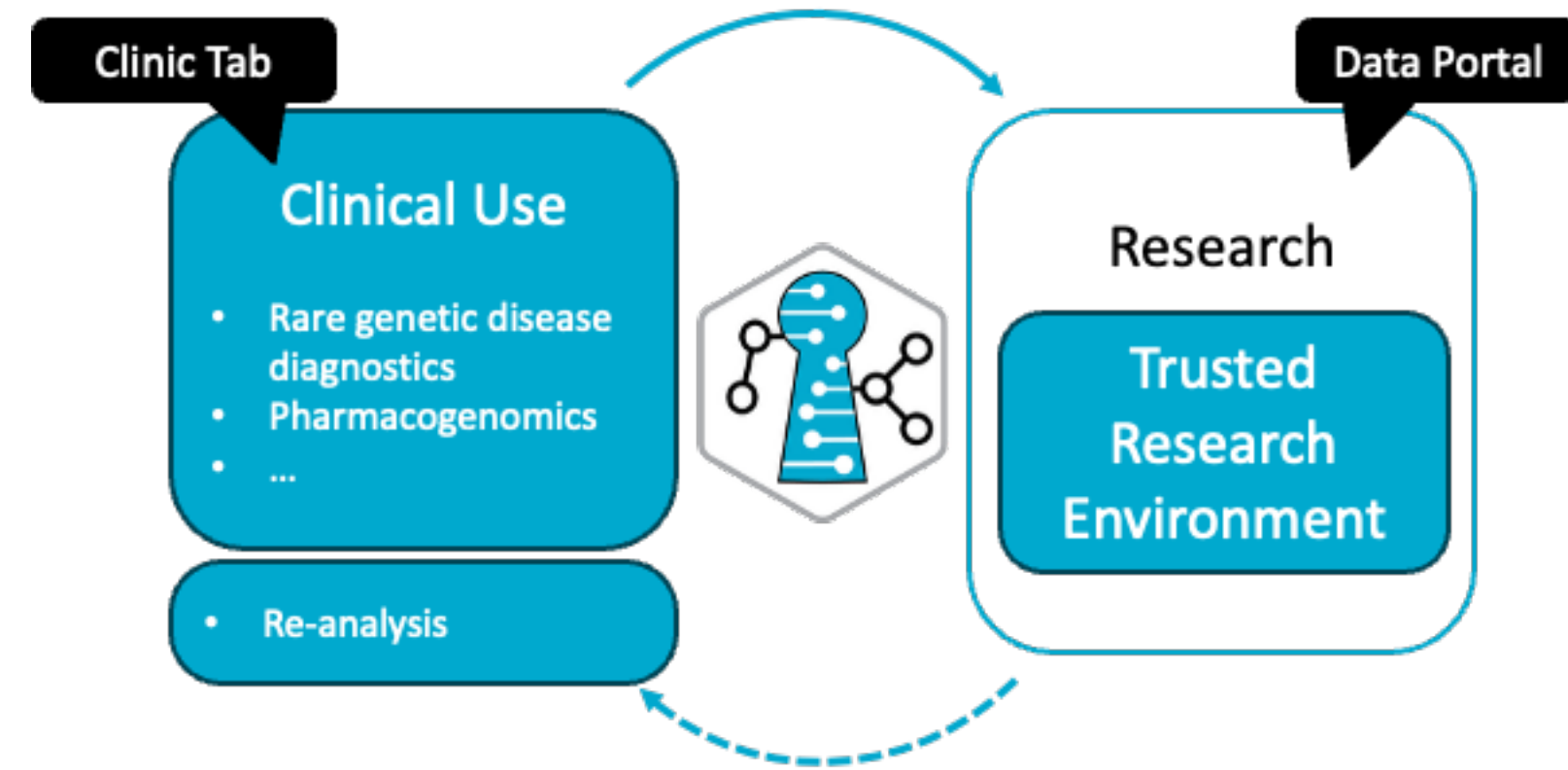
Immunization use case was demonstrated for the development of a simulated Mobile and Web Application using FHIR SDC, Google Open Health Stack and AidBox platform for Data Capture and Data Analytics

TRECA – Trusted Research Environment and Clinical Applications

A trusted research environment designed to put researchers and clinicians at the center of decision-making freeing them from the constant concerns of data security, sensitivity and integrity. A TRECA instance is operated by the Indonesian Ministry of Health (MoH)'s Biomedical and Genome Science Initiative (BGSI) and delivered in collaboration with two Indonesian start-ups (GSILab and Xapiens).

AI Use Cases: Biomedical and Genome Science Initiative:

- Reduce the diagnostic odyssey for atherosclerotic cardiovascular disease (ASCVD)
- Enable the early detection of familial hypercholesterolemia (FH)
- Increase rare genetic disease diagnostics



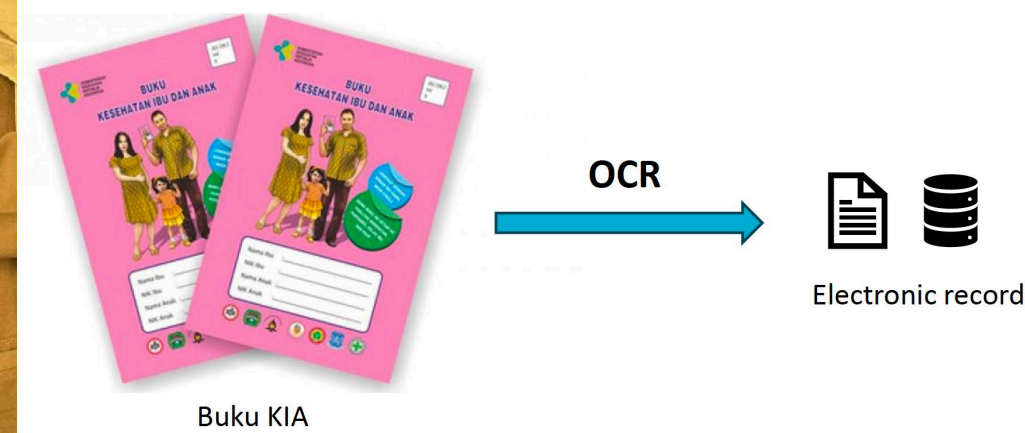
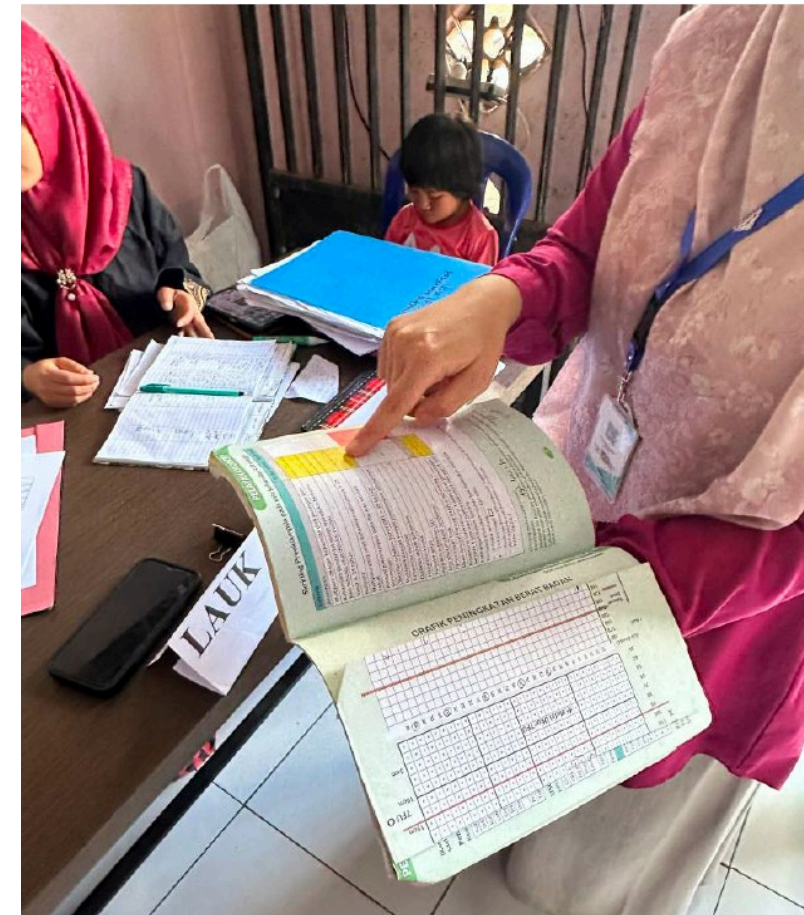
TRECA

Trusted research environment
and clinical applications



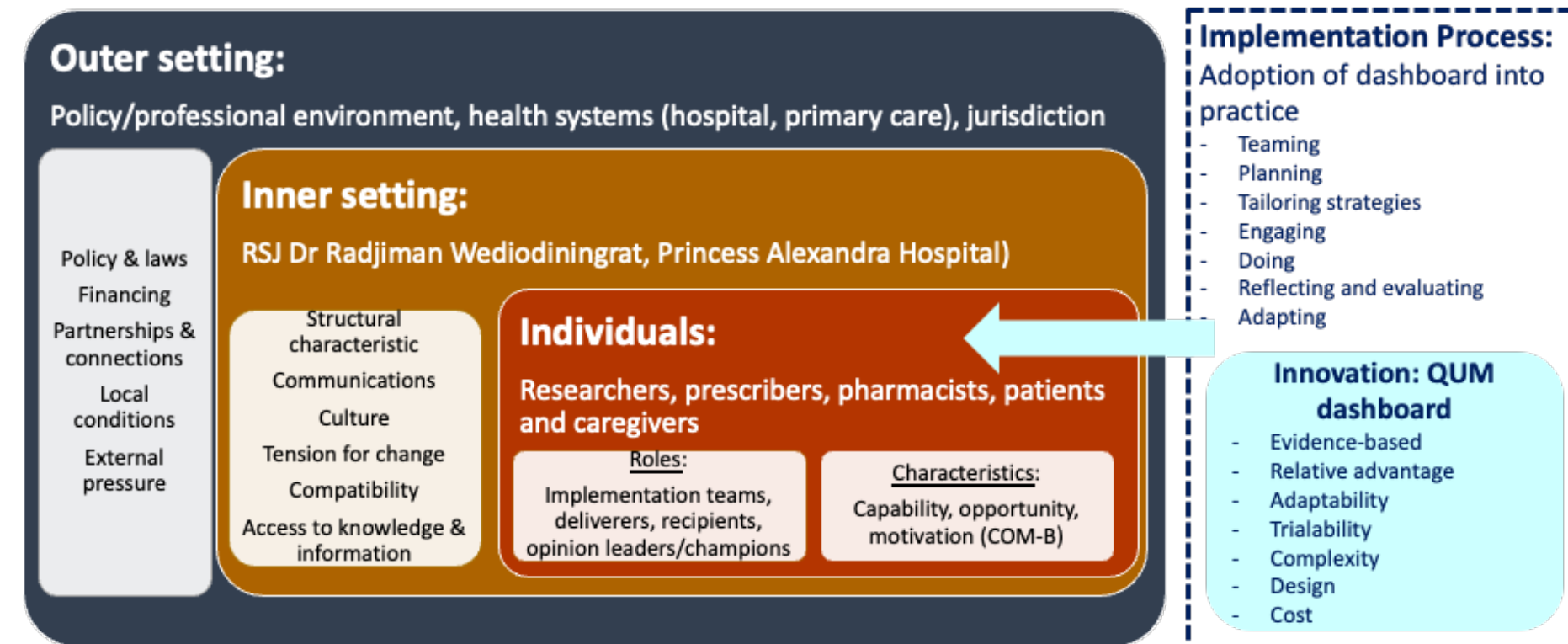
Determine the likelihood of interventions and treatment combinations that predict health outcomes

- Led by the Summit Institute for Development (SID), this project brings together a consortium of institutions, including CSIRO, Universitas Mataram (UNRAM), and BRIN, to collaboratively develop, test, and refine AI enabled digital health solutions for integrated primary healthcare in Indonesia.
- Leverages AI deep learning neural networks to revolutionise digital healthcare by predicting compliance behaviour within communities and assessing healthcare delivery performance.
- The initiative focuses on three key objectives:
 - Predicting Care-Seeking Probabilities
 - Assessing Intervention Efficacy
 - Evaluating Healthcare Worker Performance



Enhancing mental health care using a real-time data analytics Quality Use of Medicines (QUM) dashboard

- Collaboration across Australia and Indonesia.
- Accelerates the development of a validated Quality Use of Medicines (QUM) analytics dashboard using electronic medical records (EMR).
- Focuses on real-time mental health medicines management in acute care.
- Addresses critical gaps in Australia and Indonesia, where validated mental health QUM analytics dashboards are currently unavailable.
- Offers insights into barriers and drivers of real-time EMR-based analytics dashboard development, shaping local and national practices and policies.
- Raises public awareness of mental health initiatives enhancing medicines management, fostering education campaigns, and reducing stigma.



Thank you

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