From Metrics to Meaning

A Contextual AI Platform for Research Impact Assessment

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We've spent 60 years perfecting metrics—and we've perfected the wrong thing

Reforming Research Assessment

Moving Beyond Journal Based Metrics

DORA

Declaration on Research Assessment (2013)

"Assess research on its own merits, not where it's published."

- **Focus on the article**, not the journal's prestige.
- **Value all outputs**, including datasets and software.
- **End the reliance** on Journal Impact Factor (JIF).

Leiden Manifesto

10 Principles for Responsible Metrics (2015)

"No numbers without stories, and no stories without numbers."

- **Combine expert assessment** with quantitative data.
- **Avoid false precision**; metrics are indicators, not absolute truth.
- **Recognise that assessment** changes scientific behaviour.

The Global Evolving Definition of Research Impact

United Kingdom (REF)

"An effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia."
Requires narrative case studies

- Economy
- Society
- Culture
- Public Policy
- Health
- Environment

Source: UKRI

United States (NSF)

Employs two merit review criteria:

1. Intellectual Merit
The potential to advance knowledge within or across fields.

2. Broader Impacts
The potential to benefit society and advance desired societal outcomes.

Source: National Science Foundation

European Research Council

While maintaining that **"excellence is the sole criterion,"** the ERC has evolved its approach.

- Introduced narrative CVs in 2024 to capture a fuller picture of contributions.
- Explicitly endorsed the DORA declaration, prohibiting the use of Journal Impact Factors in evaluations.

Source: Wikipedia, DORA

Australia (ARC)

Research Impact Principles emphasise contribution to the **economy, society, environment, or culture**, beyond academic research achievements.

Acknowledges multiple pathways to impact:

- Knowledge Production & Capacity Building
- Policy Influence & Health Benefits
- Economic Returns & Cultural Contributions

Source: Australian Research Council, PubMed Central

The Problem

High Stakes, Low Odds

Promotion and career progression increasingly hinge on securing competitive grants.

Only 12-28%

Typical success rate for major funding bodies

Time Sink & Wasted Effort

Writing proposals consumes vast research time, with most effort lost on unsuccessful applications.

~34 Days

Per Proposal

1-2 Years

Lost Per Career

The Evaluation Burden

Assessing real-world impact requires deep, qualitative analysis, adding another layer of time-intensive work.

Narratives & Evidence

Time spent compiling impact case studies and undergoing expert peer review.

The Challenge:

This system is not scalable and not practical for effective research assessment and reporting!

The Solution
Research Impact AI

An intelligent research assistant that understands your research context and knows where to look for evidence.

Automated evidence discovery across academic databases, policy documents, news, patents, and data catalogues.

Smart synthesis that connects your research outputs to real-world impacts while maintaining rigorous source referencing.

For Researchers, By Researchers

Developed through extensive collaboration with research institutions to meet real academic needs.

The framework draws on the NSW Health RIAF and has been adapted across multiple domains.

We continuously refine based on user feedback and expand coverage to serve researchers across all fields.

The Solution

Automated Research Analysis

- Save 20+ hours of manual research compilation
- Contextual AI finds and analyses research problem, outcomes and impact metrics automatically

The Solution

Professional Report Generation

- publication-ready use-case studies for grant applications

- structured, evidence-based impact assessments

The Solution

Multi-Source Integration

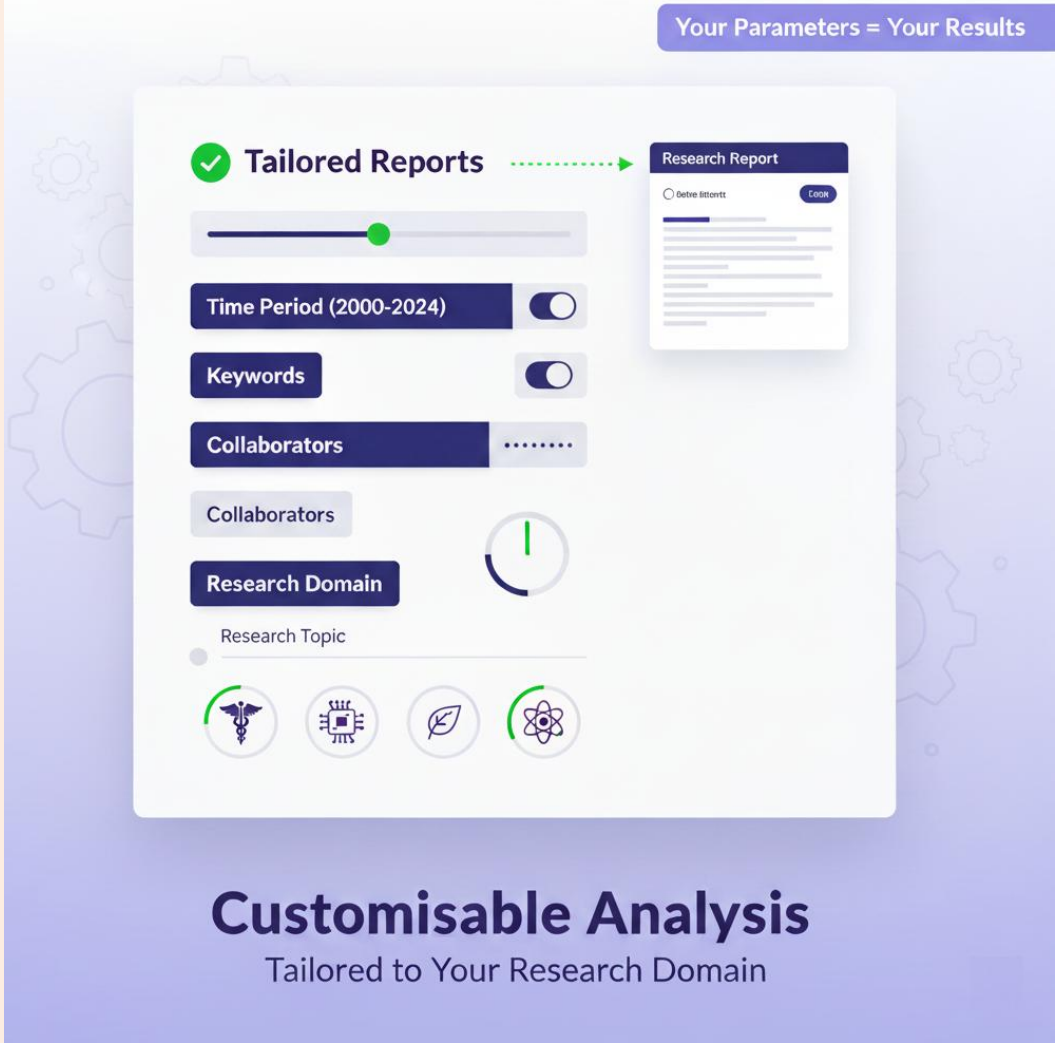
Comprehensive analysis from all major research outputs.

The Solution

Customisable

Tailored reports for your specific research context and research field.

Flexible parameters for time periods, keywords, and collaborators.



Research Impact Assessment Framework (RIAF)

Every research impact assessment addresses four fundamental questions

What is the problem this research seeks to address and why is it significant?

Analyse the challenge the research tackles, including the populations affected, the magnitude of the issue, and why solving this problem matters for society.

What are the research outputs of this study?

Evaluate tangible deliverables and achievements of the research: publications, capacity building, decision support tools, system enhancements, and innovations developed.

What impacts has this research delivered to date?

Assess real-world outcomes and changes the work has achieved, from, e.g., improved health outcomes and policy changes to technological adoption and environmental benefits.

What impact from this research is expected in the future?

Project potential long-term outcomes with realistic timeframes, evidence-based rationale, and consideration of implementation pathways and potential barriers.

I/O

- analytical
- journalistic
- academic
- scientific commentary
- objective
- narrative
- engaging

Create Research Impact Report

Research Topic *

e.g., AI-powered diagnostic imaging in cancer screening

Author(s) *

Dr. Sarah Chen, Prof. John Smith

Enter one or more authors, separated by commas

Research Domain *

Healthcare

Keywords *

AI, medical imaging, cancer screening

Comma-separated keywords

Research Start Year *

2020

Research End Year *

2024

Language Style

Analytical

Language Variant

British

Organisation

University of Sydney

Country Filter

Australia

Research Mode *

I/O

Output:

- Structured Research Impact Report as Word Doc
- Input settings
- Executive Summary

Executive Summary

Case Study: Metal-Organic Frameworks

Organisation: University of Melbourne

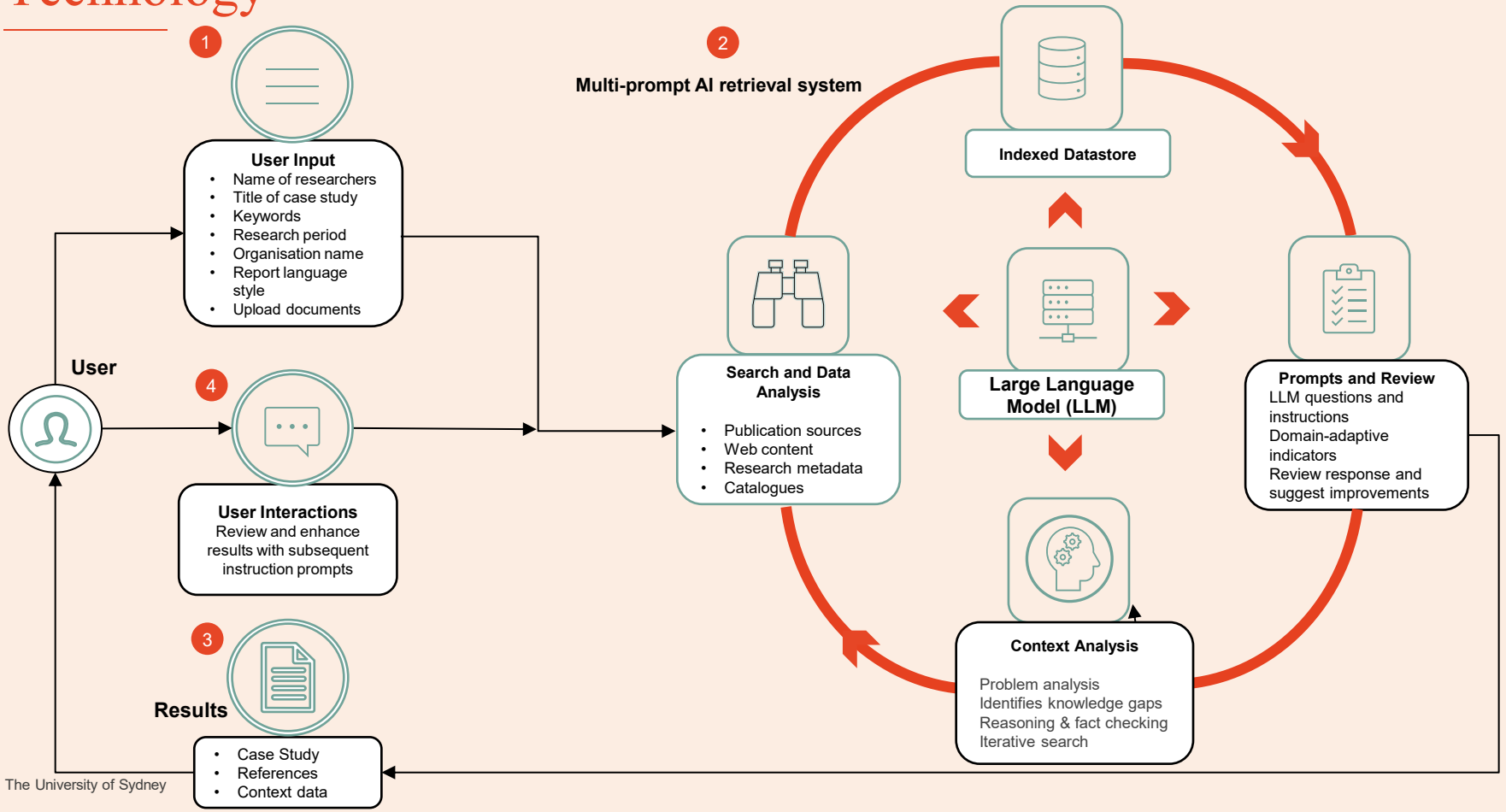
Researcher Names: Richard Robson

University of Melbourne research led by Richard Robson solved a long-standing barrier in materials chemistry: how to design crystalline porous solids with predetermined architectures and permanent porosity. By reframing the challenge as reticular design—treating metal ions and organic linkers as geometry-encoded building blocks—the programme established how coordination geometry, linker rigidity and length control network topology, cavity size, and robustness upon desolvation. This yielded the first diamond-related open frameworks, crystallographically verified materials with unprecedented pore volume that retained order, and general rules for topology targeting, interpenetration management, and stability.

These outputs built the field of metal–organic frameworks (MOFs): seminal papers, high-quality single-crystal benchmarks, libraries of tunable motifs, and the training of approximately 30 specialists that seeded global capability. The paradigm catalysed explosive growth to tens of thousands of MOFs and enabled demonstrations of reversible gas uptake, flexible porosity, and very high surface areas, validating applications in gas storage, separations, catalysis, water harvesting, toxic gas capture, and drug delivery.

Future impact will accelerate as MOF-enabled carbon capture and separations scale from pilots to plants, atmospheric water harvesting and remediation expand to arid regions and industrial sites, and therapeutic and catalytic systems mature. Consolidating standards and digital screening will shorten design-to-deployment timelines.

Technology


1
User Input
Name of researchers
Title of case study
Keywords
Research period
Organisation name
Report language style
Upload documents
User
4
User Interactions
Review and enhance results with subsequent instruction prompts
3
Results
Case Study
References
Context data
2
Multi-prompt AI retrieval system
Indexed Datastore
Search and Data Analysis
Publication sources
Web content
Research metadata
Catalogues
Large Language Model (LLM)
Prompts and Review
LLM questions and instructions
Domain-adaptive indicators
Review response and suggest improvements
Context Analysis
Problem analysis
Identifies knowledge gaps
Reasoning & fact checking
Iterative search

Research Impact Assessment Domains

Specialised frameworks tailored to your research field

Healthcare &
Medical Research

Climate &
Environmental Science

Digital Technology
& AI

Energy &
Sustainability

Engineering &
Applied Technology

Agriculture &
Food Security

Education &
Learning Sciences

Social Sciences
& Economics

Fundamental
Sciences

Urban Planning
& Architecture

Join the Research Impact Community

Proven Results

- ☑ Successful trials at University of Sydney and Monash University (Medicine & Health)
- ☑ Impact report generation time reduced from weeks to minutes

Now Open for Trials

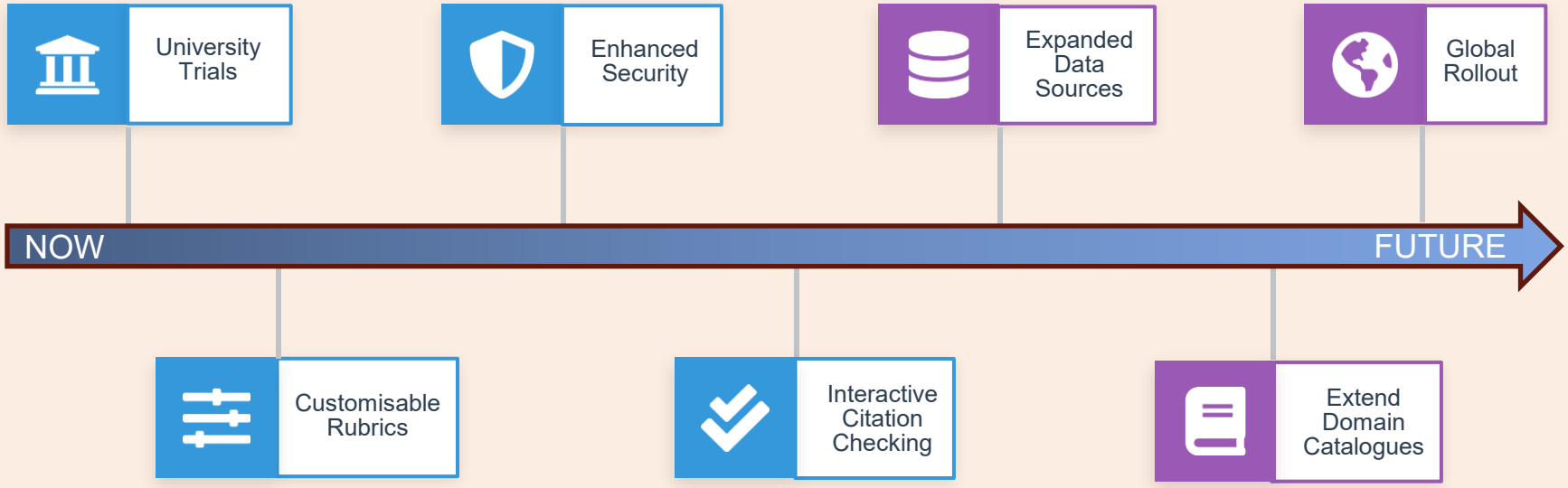
- Australian & New Zealand universities and research organisations
- Early access to platform
- Help shape the future of research impact assessment

International Rollout Coming Soon! Join waitlist to become an early adopter and influence development

https://researchimpact.ai

Outlook

Accelerating scientific progress by making quality research impact scalable and practical



Summary

Impact assessment is critical but broken - weeks of manual work, scattered evidence, inconsistent quality

ResearchImpact AI automates the process intelligently using automated agents and established frameworks

Working in trials at Sydney & Monash (Medicine & Health), available now for multiple research domains

Try it yourself - free trials open for AU/NZ institutions

Links and References

RIAF Project Information:
https://www.sydney.edu.au/medicine-health/our-research/research-impact-assessment-framework.html

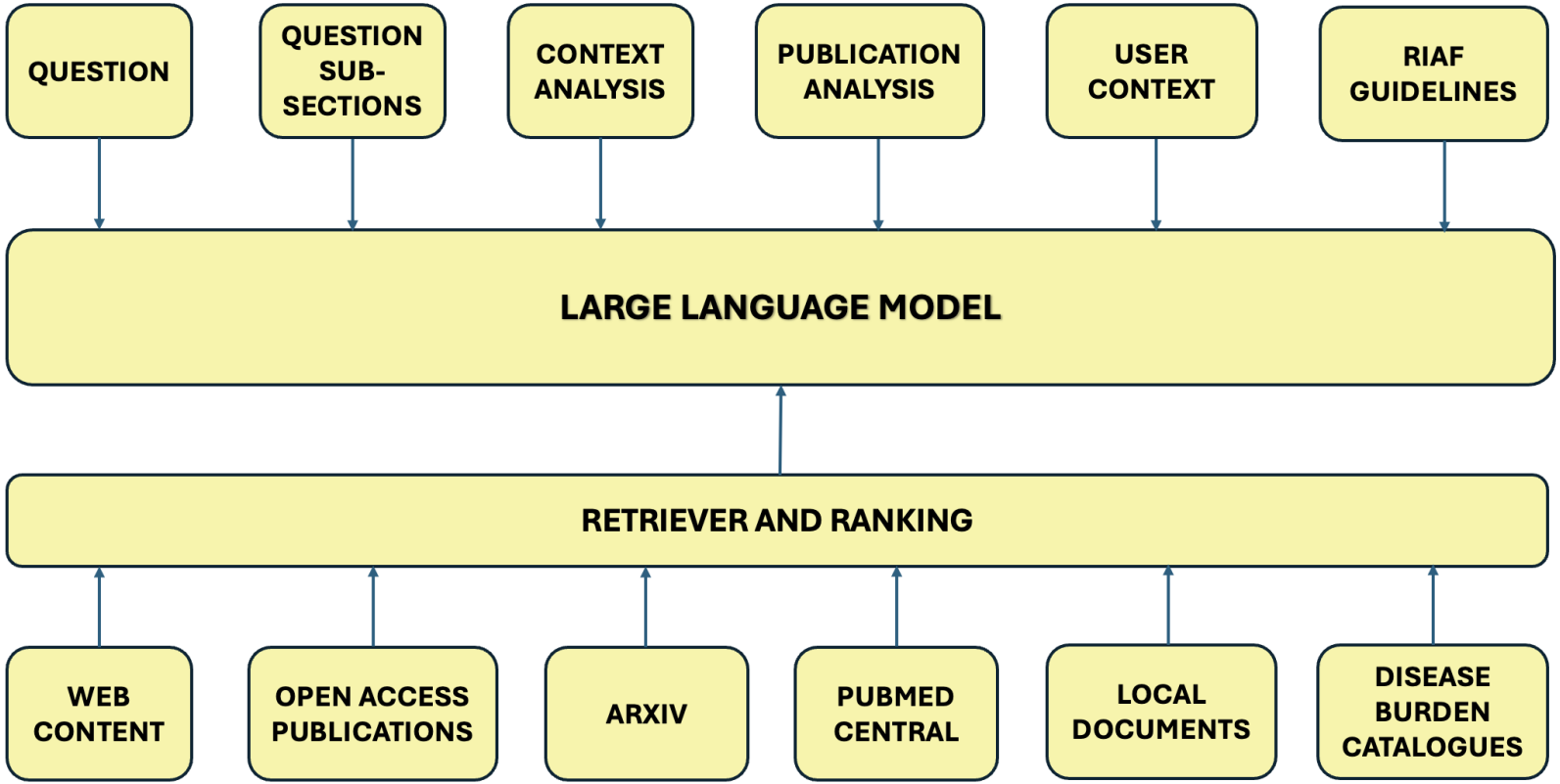
Development of a novel and more holistic approach for assessing impact in health and medical research: the Research Impact Assessment Framework, Ward et. al., 2023

New web platform:
https://researchimpact.ai

Questions?: sebastian.haan@sydney.edu.au

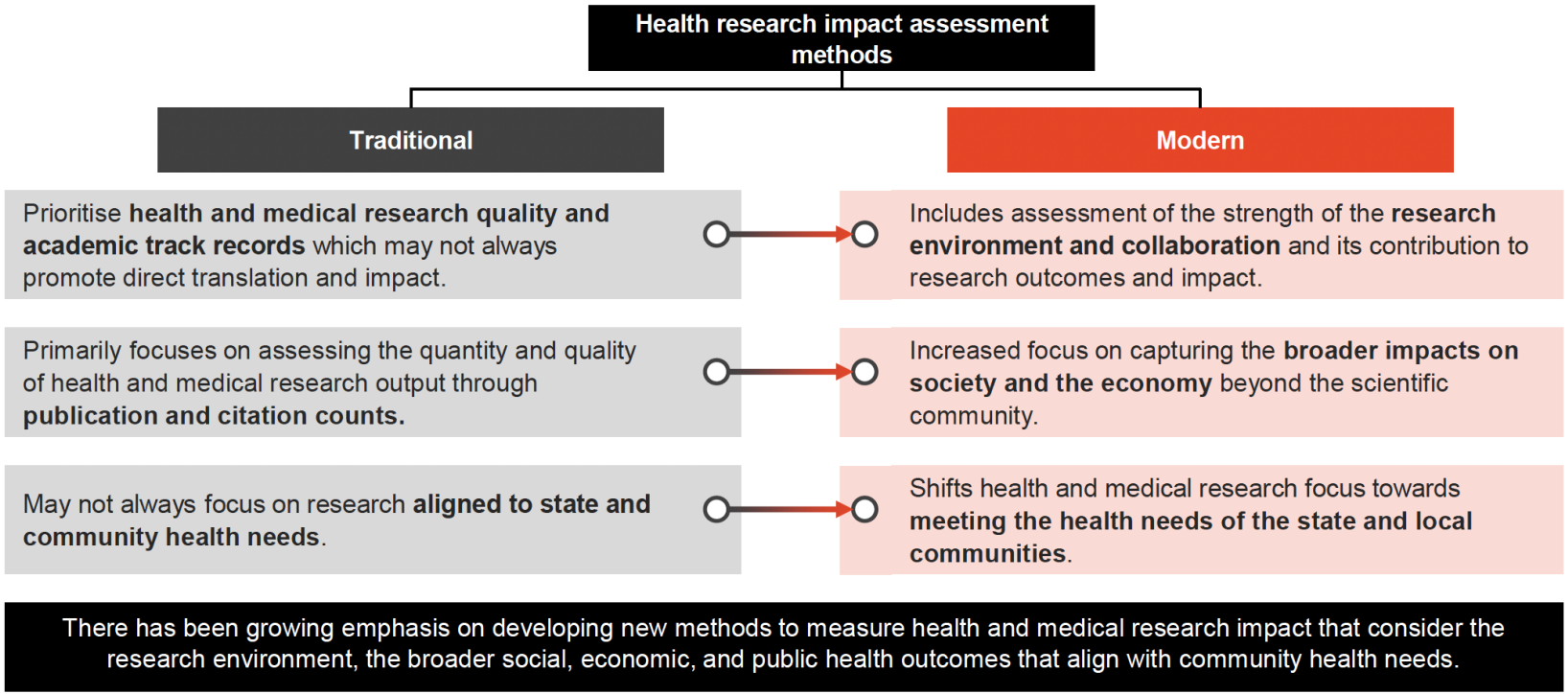
APPENDIX

Context Sources



Overview of input sources for the Large Language Model of the RIAF AI app.

The Research Impact Assessment Framework (RIAF)



Case Study Template for FMH

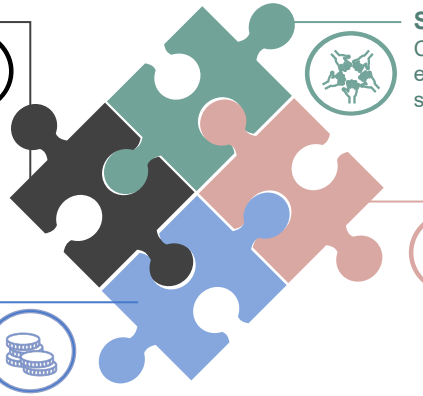
No.	Question	Guidance notes
1	What is the problem your research seeks to address and why is it significant?	• Identify the problem or issue that your research seeks to address in a way that is clear and easily understandable. • Provide context for the problem and how your research builds on existing knowledge in the field. • Explain why the problem is significant by discussing its health and socioeconomic impacts.
2	What are the research outputs of this study?	• Provide information on the direct products of research activities to enable the assessment panel to determine the title, date, and type of output and where it may be found. Research outputs may include but not be limited to books, journal articles, conference contributions, and exhibitions. • Highlight the key findings or insights presented in the output and explain their potential influence. • Include any relevant dissemination or engagement activities that have been undertaken to ensure that the outputs have been widely shared and have reached the intended audiences. This may include discussing any partnerships or collaborations that have been formed as result of the outputs.
3	What impacts have your research delivered to date? Please provide supporting evidence of the impact delivered.	• Impact is defined as the flow-on effects of research outputs on policy and clinical practice, health and quality of life, the economy, and society. Impacts may include but not be limited to the effects on the health system, determinants of health, decision-making, population health, and the economy. • Provide clear and specific evidence to support your claims about the impact of your research. This may include data on changes in policy or practice, testimonials from stakeholders who have benefited from your research, or any other relevant indicators. • Explain the significance of the impact your research has had, both in terms of its practical implications and its contribution to broader academic or societal goals.
4	What impact from your research is expected in the future? Please provide supporting evidence to demonstrate that this impact will be delivered in the future.	• Identify the specific impact that is expected to result from your research in the future. • Provide a clear rationale behind your expectations of future impact and supporting evidence to support your claims (e.g. data on projected changes in policy or practice) • Consider potential challenges or limitations that may impact the scale or scope of the expected impact.

Measuring impact is critical for building a successful health and medical research ecosystem

Components of an impactful health and medical research (HMR) ecosystem

Sustainable research environment
Environment is a key predictor of research output yet there is limited understanding of the quality of the environment.

Strong and active collaborations
Collaborations and coproduction of research is key to ensuring HMR addresses healthcare priorities. However, silos exist within the HMR ecosystem.



Transparency and accountability in funding
High levels of public funding warrant transparency. Currently, there is a lack of visibility on the outcomes of public investment in HMR.

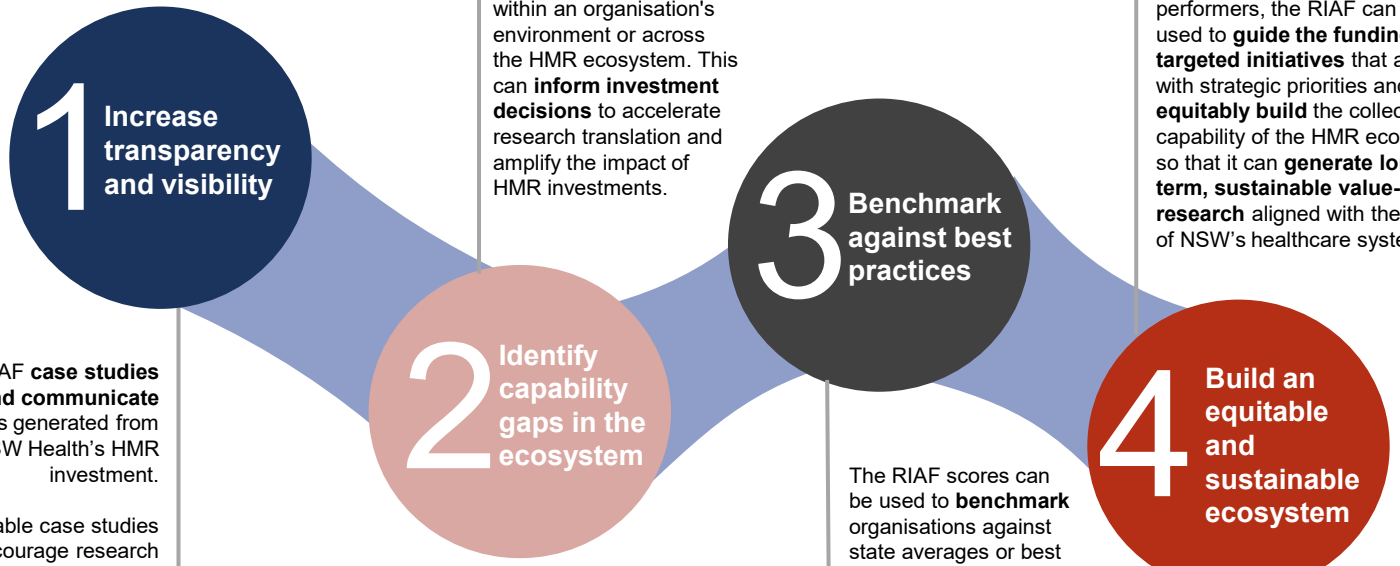
Strategically aligned and priority-driven research
Research should ultimately be aligned to health priorities. However, a large proportion of research studies are not congruent with the needs of the health system.

Impact measurement

An impactful HMR ecosystem has the potential to:

- Generate **value-based** HMR
- Improve **patient experiences** and **health outcomes**
- Produce **world-leading** research outputs and organisations
- Increase **Return on Investment (ROI)** generated through HMR

There are four ways that the RIAF can be used



The RIAF **case studies measure and communicate** the impacts generated from NSW Health's HMR investment.

Publicly available case studies can encourage research organisations to **maximise value creation and the relevance** of their research to NSW Health's priorities.

The RIAF can be used to **identify capability gaps** within an organisation's environment or across the HMR ecosystem. This can **inform investment decisions** to accelerate research translation and amplify the impact of HMR investments.

The RIAF scores can be used to **benchmark** organisations against state averages or best practice. This will drive **quality improvement** across the HMR ecosystem.

Unlike traditional ranking-based approaches that only reward high performers, the RIAF can be used to **guide the funding of targeted initiatives** that align with strategic priorities and **equitably build** the collective capability of the HMR ecosystem so that it can **generate long-term, sustainable value-based research** aligned with the needs of NSW's healthcare system.