Innovations in Evidence Synthesis

Leveraging technology and collaboration to advance the Sustainable Development Goals

A presentation by
Cochrane's Editor in Chief
Dr Karla Soares-Weiser

Cochrane

Declaration of Interests

I am a full-time employee of the Cochrane Collaboration and do not have any conflict of interest related to this presentation.

Although I speak on behalf of Cochrane, the views represented here are mine.

I have included personal examples that reflect my own cultural perspective. I deeply respect that these may not align with all cultural views and appreciate the diversity of experiences among us.

Dr Karla Soares-Weiser

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Mid 1980's, Brazil

Porto Seguro, state of Bahia, Brazil

Itaipe, state of Minas Gerais, Brazil

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Seeing these living conditions first-hand increased my determination to set up a health care facility, and also to work with the community to address and **raise awareness of the social determinants of health**.

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Getting to know a community and the interplay of local personalities, politics and power is essential to improve decision-making.

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Tu je fra Petar prekinuo pričanje i zastao za trenutak. A zatim mu se glas prelomi, podiže i postade jasniji. Videlo se da će, kao obično, naglo i brzo završiti pričanje.

— Nego, dok sam ja vrat lomio po mlinu i orahu, upadne mi jedna krava u tuđi bostan. E, te večeri me je zbog toga fra Filip išibao dugačkim čibukom od udikovine da dva dana nisam mogao

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Photo by Tamara Gane on Unsplash

Cochrane in 1993: principles and relationships

1. **Collaboration**
2. Building on the **enthusiasm** of individuals
3. Avoiding duplication of effort
4. Minimizing bias
5. Keeping up-to-date
6. Striving for **relevance**
7. **Promoting access**
8. Ensuring **quality**
9. Continuity
10. Enabling **wide participation**

Sir Iain Chalmers by Julia Fullerton-Batten. National Portrait Gallery, 2006.

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The most important enablers were the **environment** and **people** that made it happen

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Cochrane Database of Systematic Reviews

Launched in 1994

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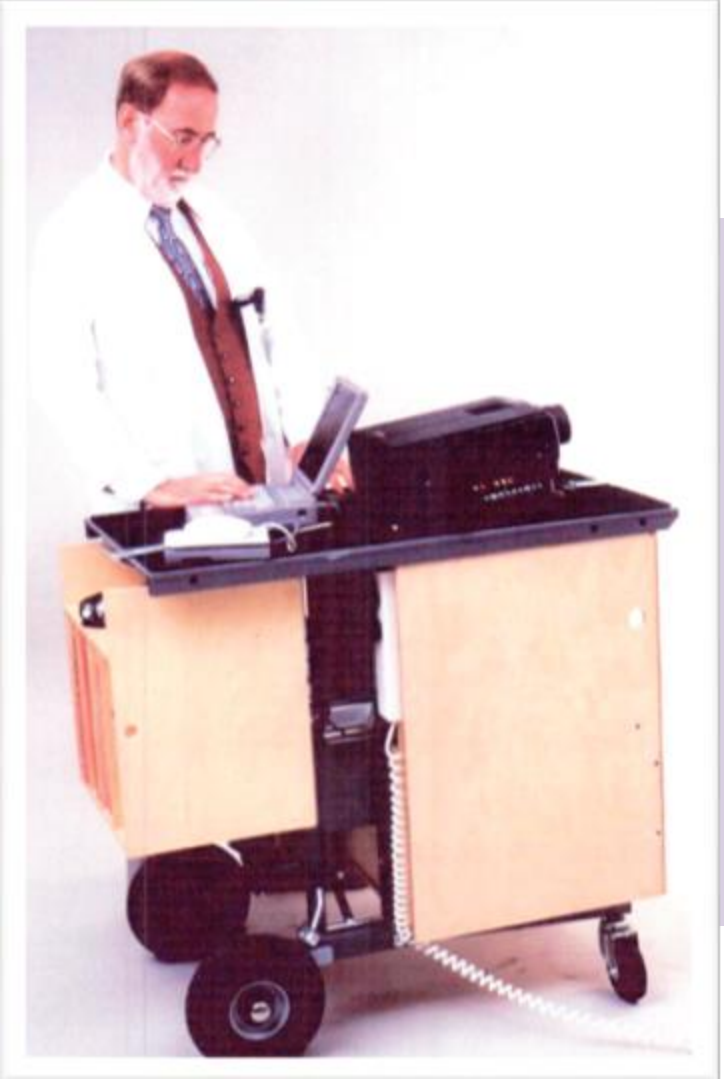

David Sacket's Evidence cart

Bringing the library to the patient's bedside

Straus S, Eisinga A, Sackett D. Journal o f the Royal Society of Medicine, 2016, 109 (6): 241-247

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“Reflecting on this work from the late 1990s, huge strides have been made in providing high-quality evidence resources at the point of decision-making… However, we are continuing to struggle with the challenge of integrating relevant evidence with clinical data in the electronic health record in a way that promotes optimal patient care.”

- Sharon Strauss (2016)

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Think broader

Work together

A lot of work still to be done

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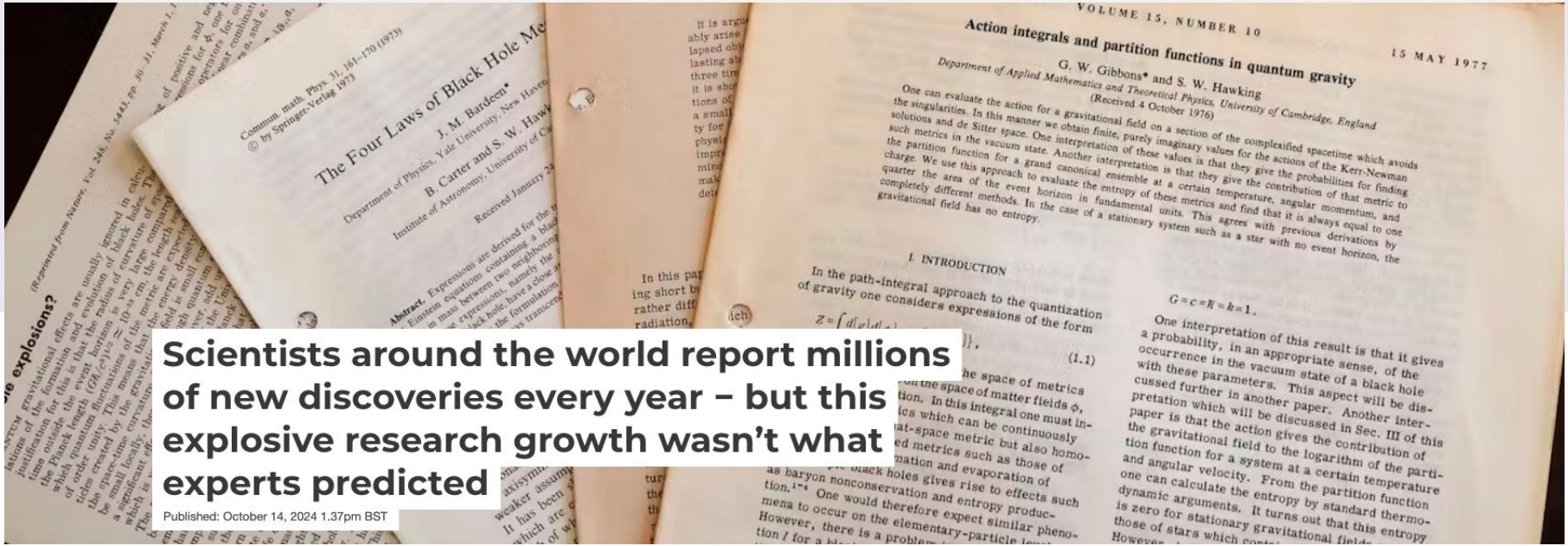
THE CONVERSATION

Academic rigour, journalistic flair

Search analysis, research, academics…



Scientists around the world report millions of new discoveries every year – but this explosive research growth wasn't what experts predicted

Published: October 14, 2024 1.37pm BST

"Since 1900, the number of published scientific articles has doubled about every 10 to 15 years; since 1980, about 8% to 9% annually."

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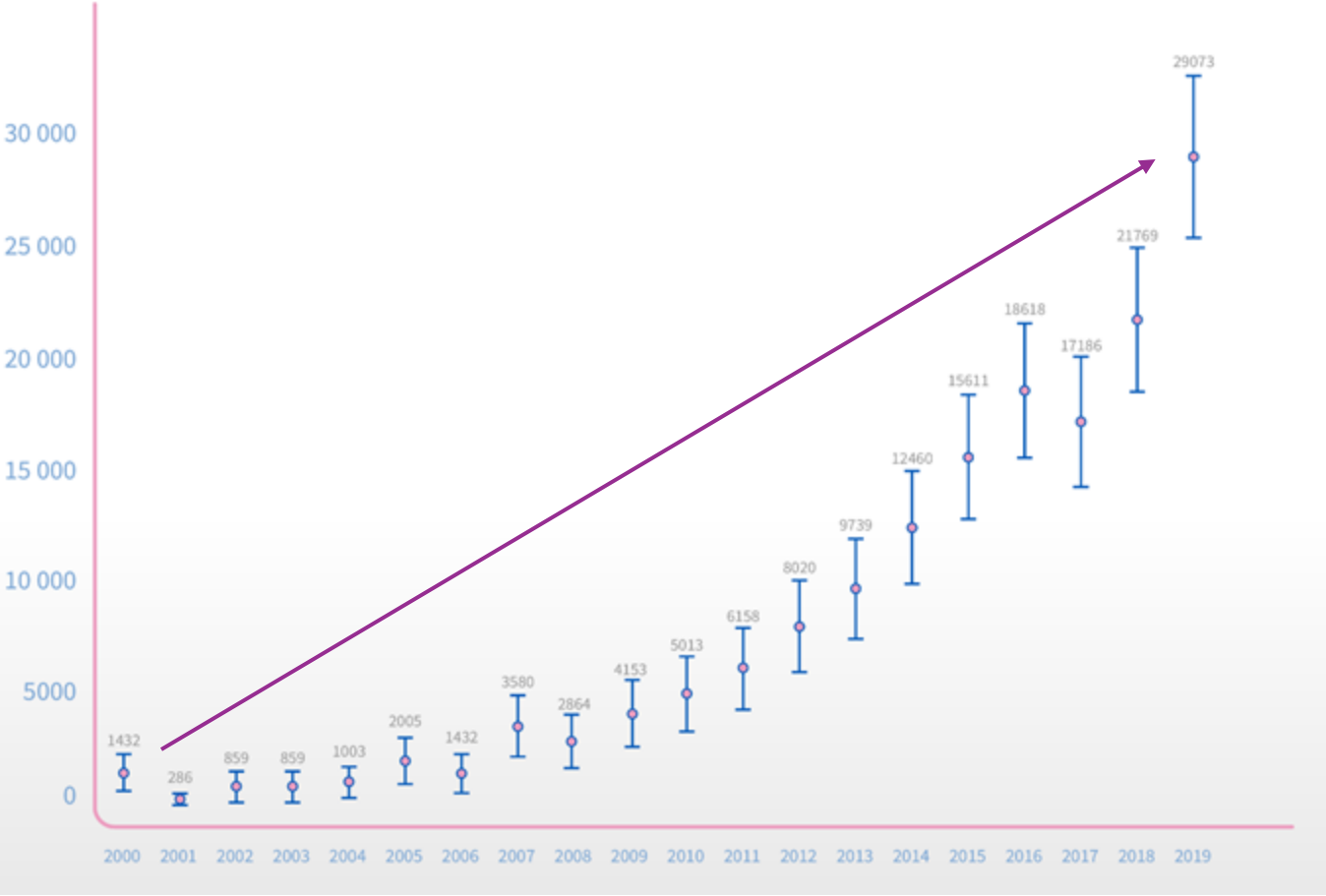
RAPID RISE OF SYSTEMATIC REVIEWS (EVIDENCE SYNTHESES) FROM 2000 to 2019



Hoffmann et al @www.jclinepi.com

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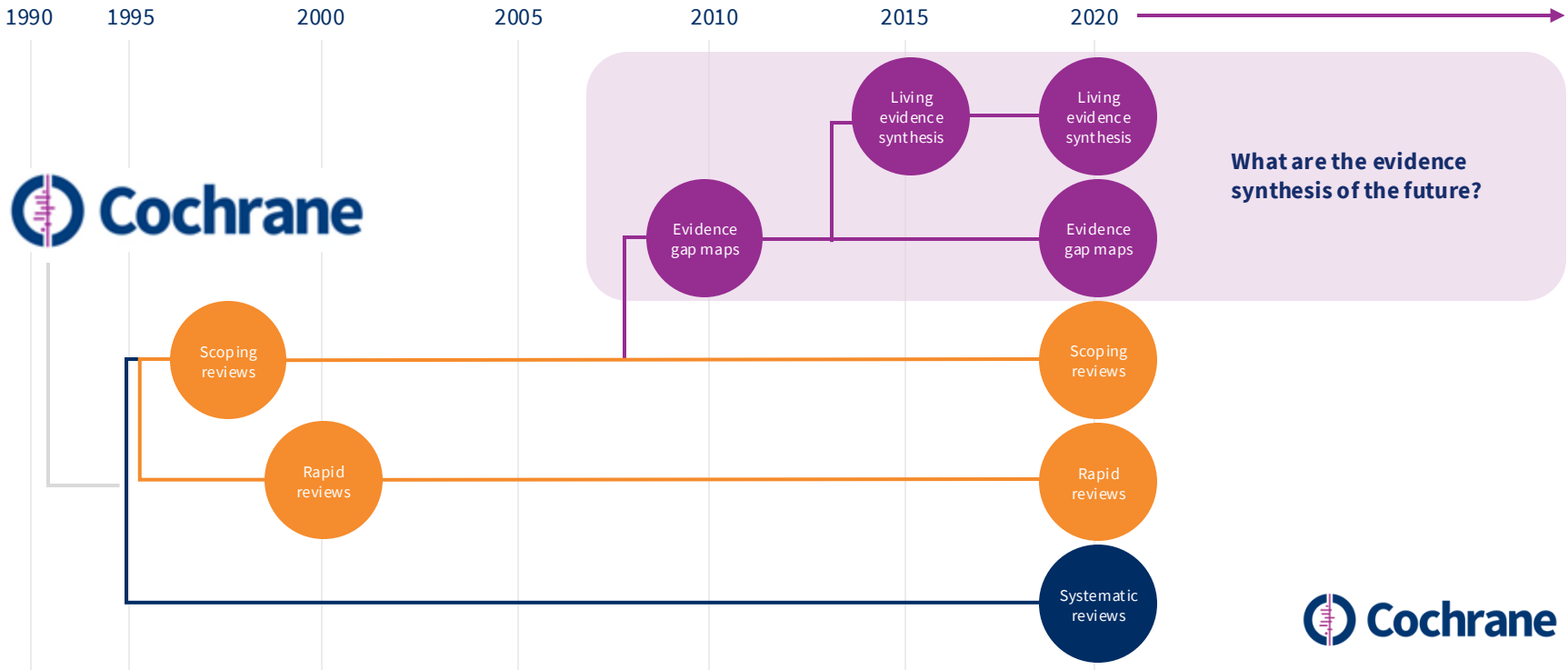
A long road to progress with new challenges



Challenges

Duplication of efforts leading to research waste	Evidence syntheses not always guided by interest holders needs	How to leverage AI opportunities?	Collaboration and equity

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Is Cochrane getting it right?

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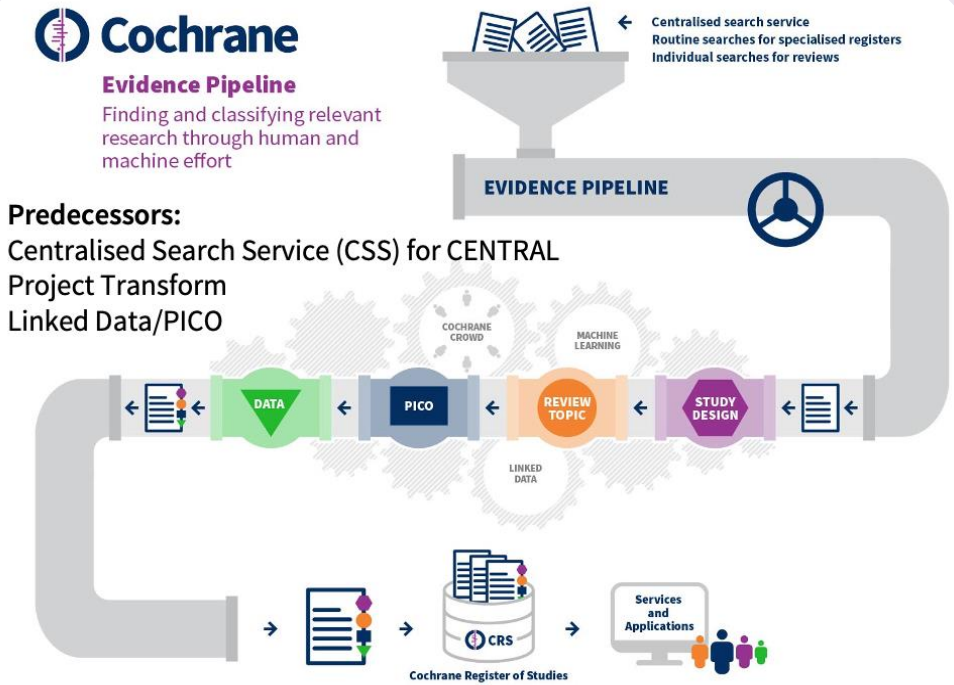
Innovation and technology… automating the boring bits and saving time…



Increased use of technology and crowd source to support review production.

https://www.ted.com/talks/hans_rosling_the_magic_washing_machine

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A global community of volunteers who complete tasks to help classify the research needed to support informed decision-making about healthcare.

35,736	193	10,101,056
contributors	countries	classifications

https://crowd.cochrane.org/

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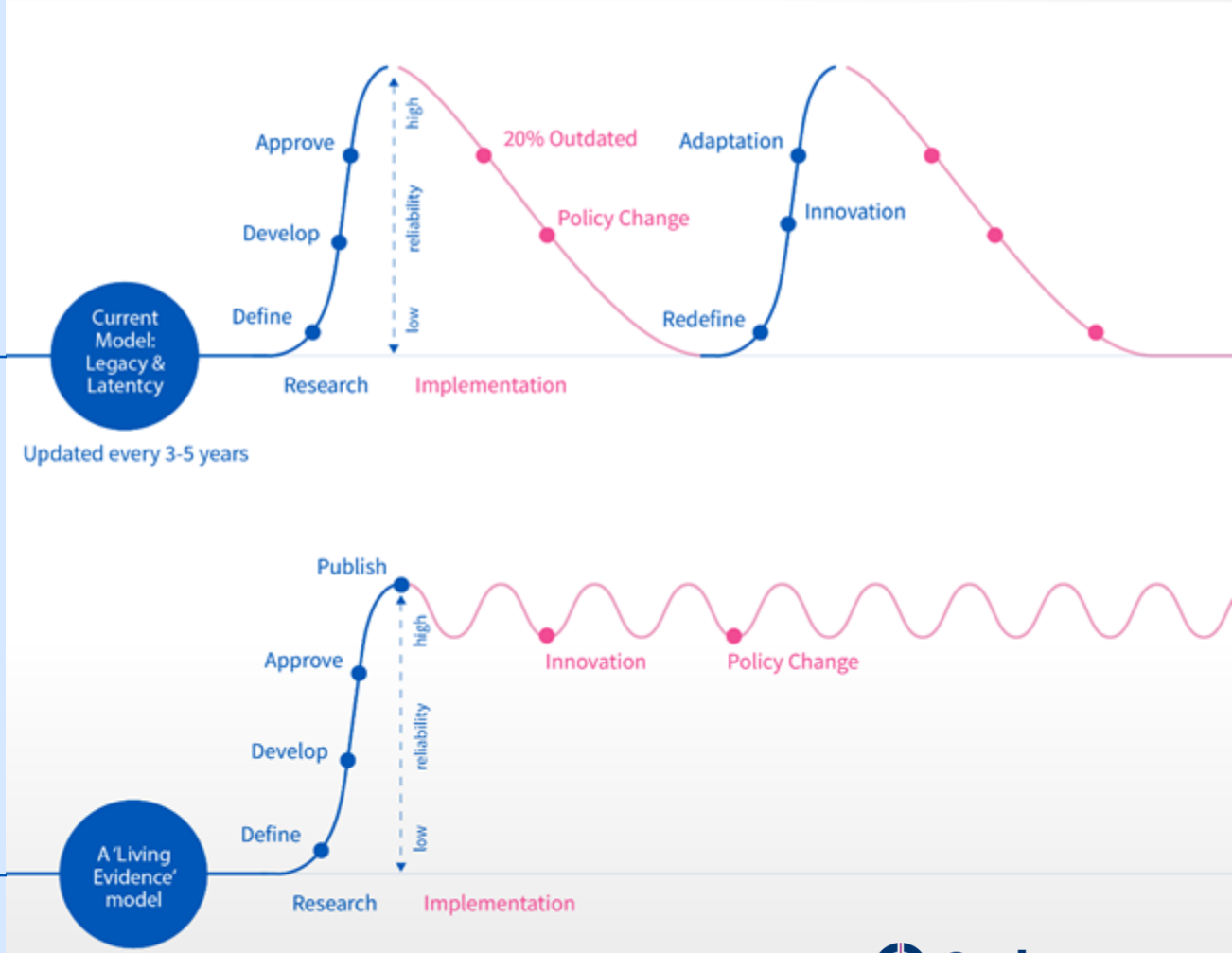
Living evidence synthesis



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Cochrane new Scientific Strategy
Strategic purpose

We are committed to high-quality, accessible health **evidence for all** who need it.

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Cochranes research priorities 2025 - 2030

Research priorities

Maternal, newborn and child health	Multiple chronic conditions	Infectious diseases and pandemics	Climate change and sustainability
Offering mothers and children the best start in life	Improving quality of life	Building a safer world	Protecting people and planet

Maternal, newborn and child health

Prevent maternal illness and mortality

Reduce foetal, neonatal and childhood death rates

Improve health through nutrition

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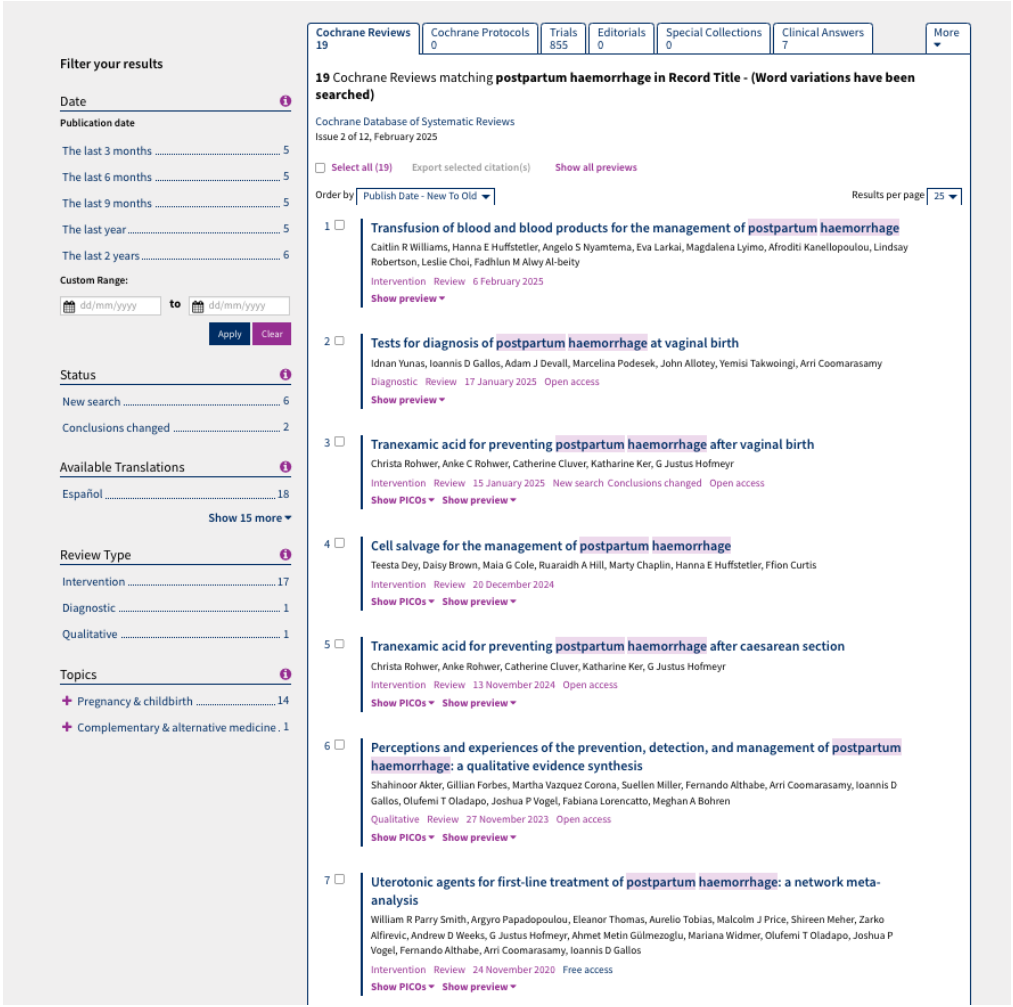

Fast-track evidence syntheses for WHO guideline on postpartum haemorrhage

- Active engagement with the WHO to produce 13 evidence synthesis to support decision-makers
- Support during the development of evidence synthesis and fast-track for publication
- Agile response, adapting and learning

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2025: Living Evidence Gap Map on Neonatal Health

- Led by Cochrane India
- Interest holder engagement
- Interactive map and dashboard
- Clear identification of gaps

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Infectious diseases and pandemics

- Address major global infectious diseases
- Tackle emerging vector-borne diseases
- Confront antimicrobial resistance
- Improve diagnostic methods

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2025: Living Evidence Gap Map on Dengue

- In collaboration with Instituto Veredas in Brazil
- Interest holder engagement
- Interactive map and dashboard
- Clear identification of gaps

https://www.veredas.org/

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Collaboration

Collaboration is essential for global solutions!

Global challenges demand diverse voices working **together**.

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SCROFULA

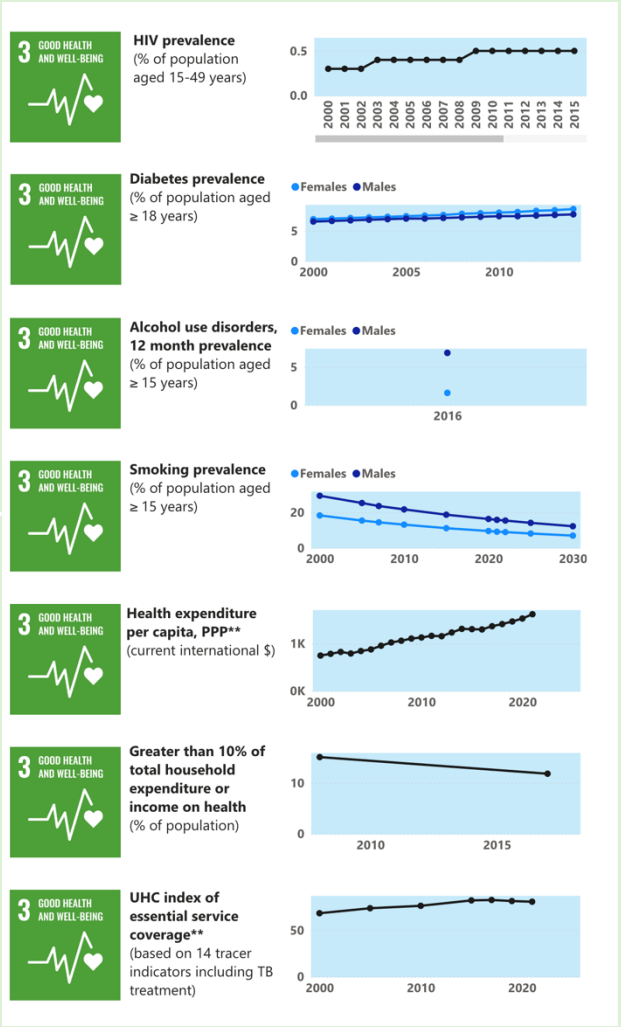
In hindsight...

Brazil

Indicators in the Sustainable Development Goals associated with TB incidence.

Data Source: SDG indicators database, The World Bank, World Health Organization

SDG 3

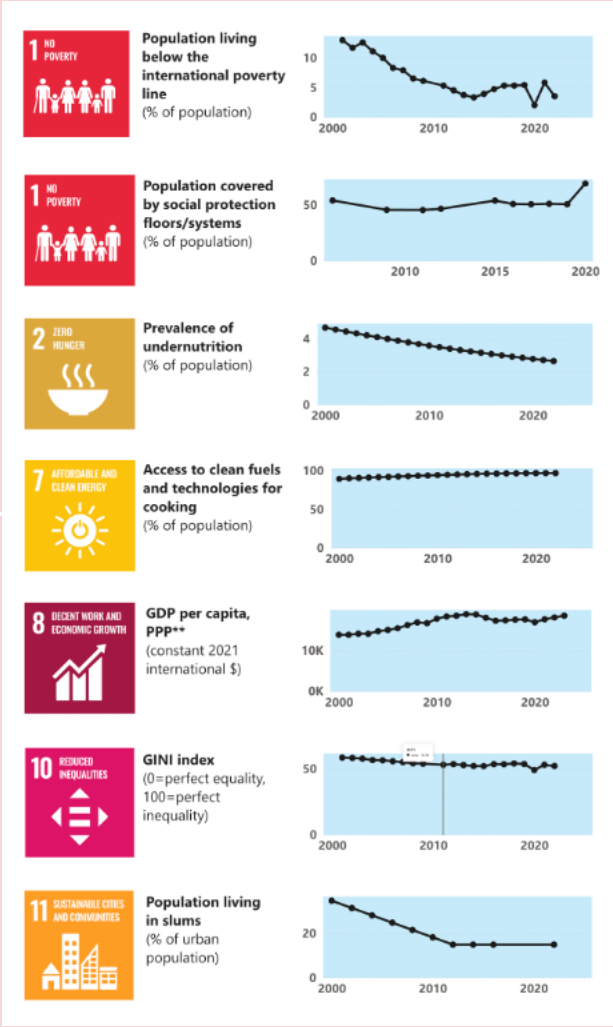


Brazil

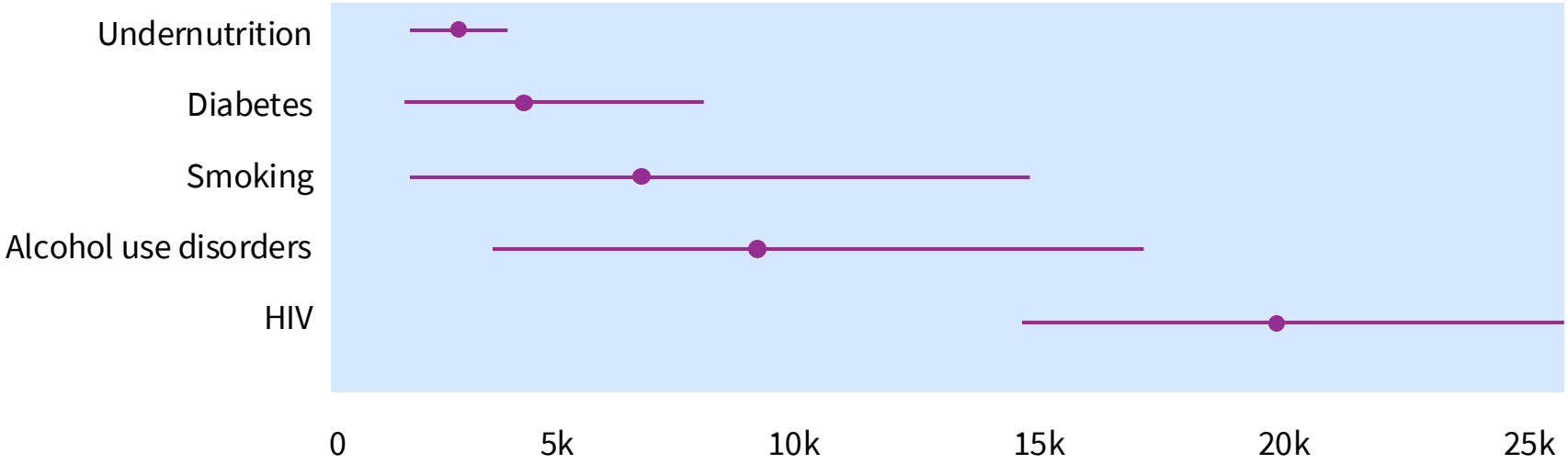
Indicators in the Sustainable Development Goals associated with TB incidence.

Data Source: SDG indicators database, The World Bank, World Health Organization

Other SDGs



Number of TB cases attributable to five risk factors in Brazil, 2023



Data Source: SDG indicators database, The World Bank, World Health Organization

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“To realize the SDGs for children, swift action must be taken… By 2030, only one in four children will live in countries where 70 per cent of the child-related SDG targets will be met. If recent progress continues, only 60 countries will have met their targets by 2030, leaving around 1.9 billion children in 140 countries behind.”

- Source: UNICEF Data Warehouse, 2023 | https://data.unicef.org/dv_index/

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The question is how can we make a real difference and deliver improvements at both local and global levels?

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“Because the people who are crazy enough to think they can change the world, are the ones who do.”

- Steve Jobs

Evidence Synthesis Infrastructure Collaborative

Funded by the Wellcome Trust

Acknowledgements

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UN Global SDG Synthesis Coalition

Building a Global Evidence Synthesis Community

Pan-African Collective for Evidence (PACE)

Center for Rapid Evidence Synthesis (ACRES)

Adjudication panel Representatives of “interest holders”

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SHOW ME the Evidence

S **Support** systems nationally (and locally) that use many forms of research evidence to help address local priorities

H **Harmonized** efforts globally that make it easier to learn from others around the world

O **Open**-science approaches that make it the norm to build on what others have done

w **Waste**-reduction efforts that make the most of investments in evidence support and in research

M **Measured** communications that clarify what we know from existing evidence and with what caveats

E **Equity** and efficiency in all aspects of this work

Lavis JN et al. Cochrane Database of Systematic Reviews, 2024, Issue 11.

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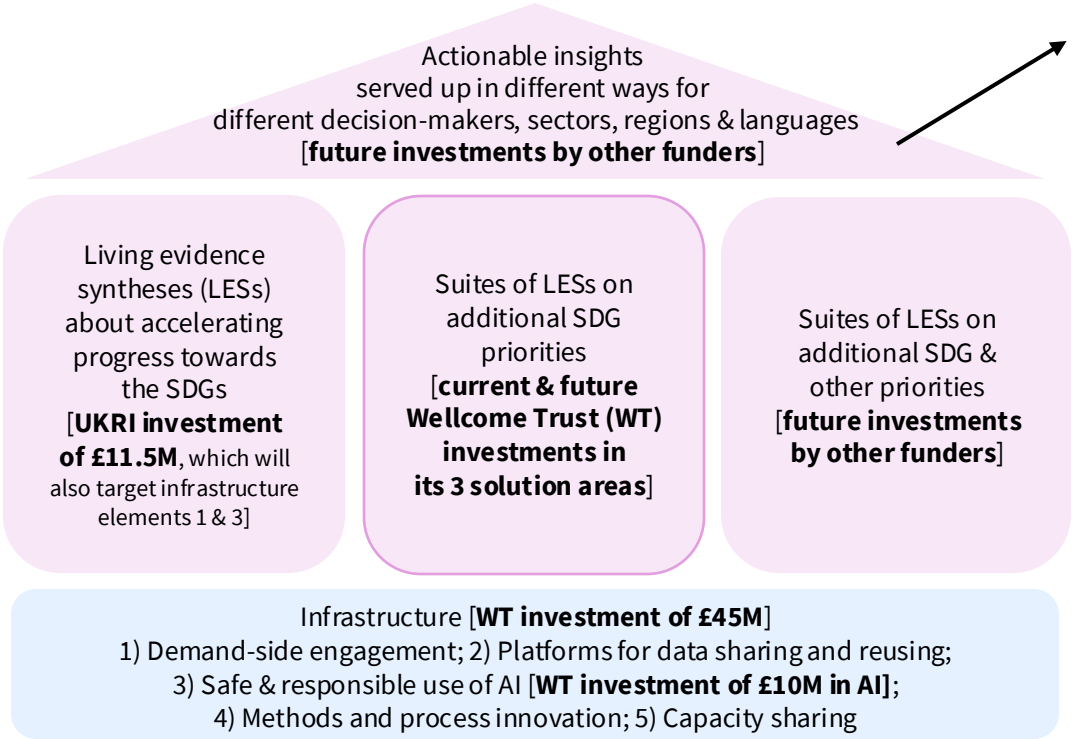
Where collective action is emerging and still needed



Examples in the education sector:

1) Best buys: GEEAP
2) Broad approaches: EEF
3) Branded programs: IES WWC

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Working and Planning Groups

Groups	Focus	Co-Leads
WG1: Demand-side engagement	Get producers and potential users working together to understand and meet user needs	Patrick Okwen, Cameroon Eleanor Williams, Australia
WG2: Data sharing and reusing	Make it normal to study a question once and use the answers many times in many different contexts	Zhipeng Wei, China Julian Elliott, Australia
WG3: Safe and responsible use of AI	Bring evidence synthesis to the forefront of technology so that we can get the best impact from the people and resources we have	Ashrita Saran, India Malcolm Macleod, UK
WG4: Methods & process innovation	Devise synthesis methods and processes that enable radically more timely, relevant, and affordable synthesis	Solange Durao, South Africa Fiona Campbell, UK
WG5: Capacity sharing	Build a global community with the capabilities to deliver and use evidence synthesis across all major societal questions	Veronica Osorio Calderon, Bolivia Tamara Lotfi, Lebanon
PG1: Governance	Devise options for how key interest holders can continue to set and achieve shared goals beyond this process	Joseph Mathew, India Jeremy Grimshaw, Canada

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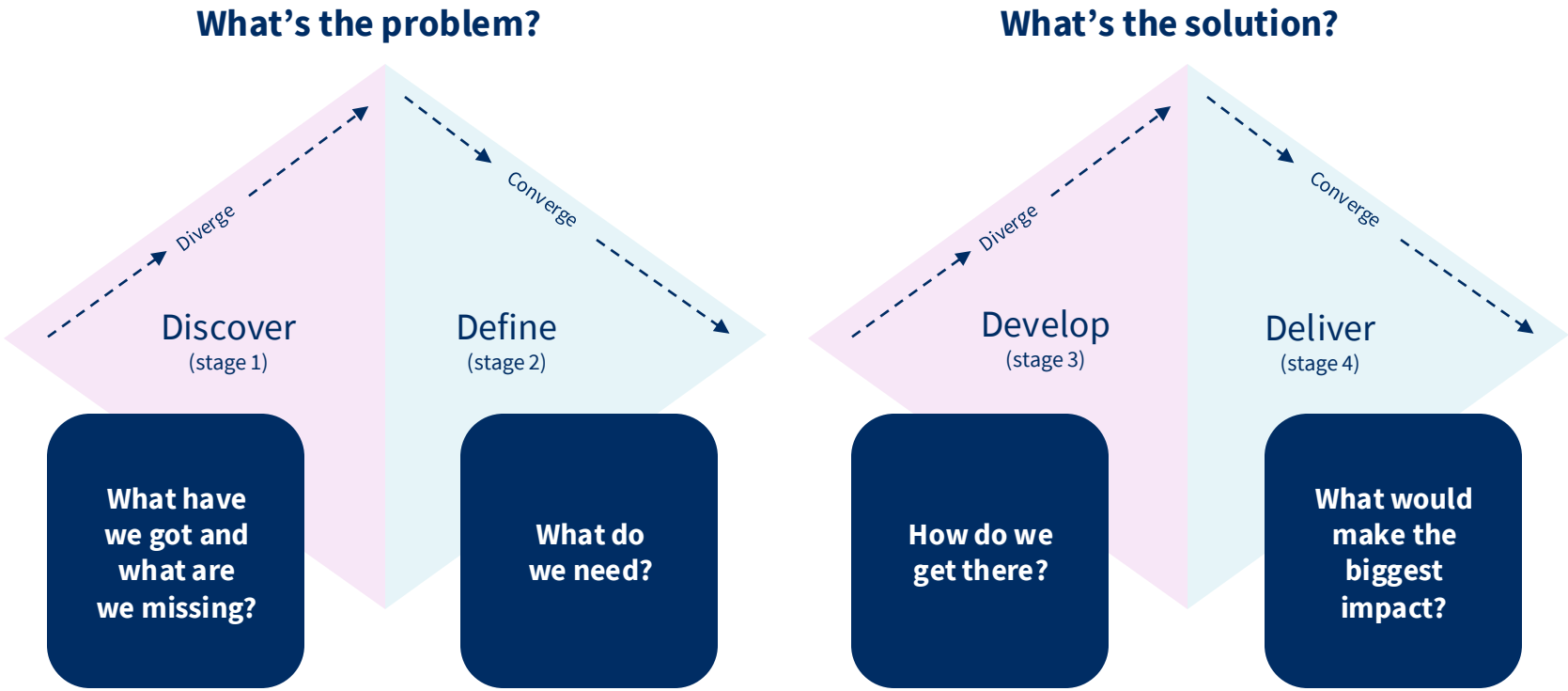
Planning Process: January to June 2025



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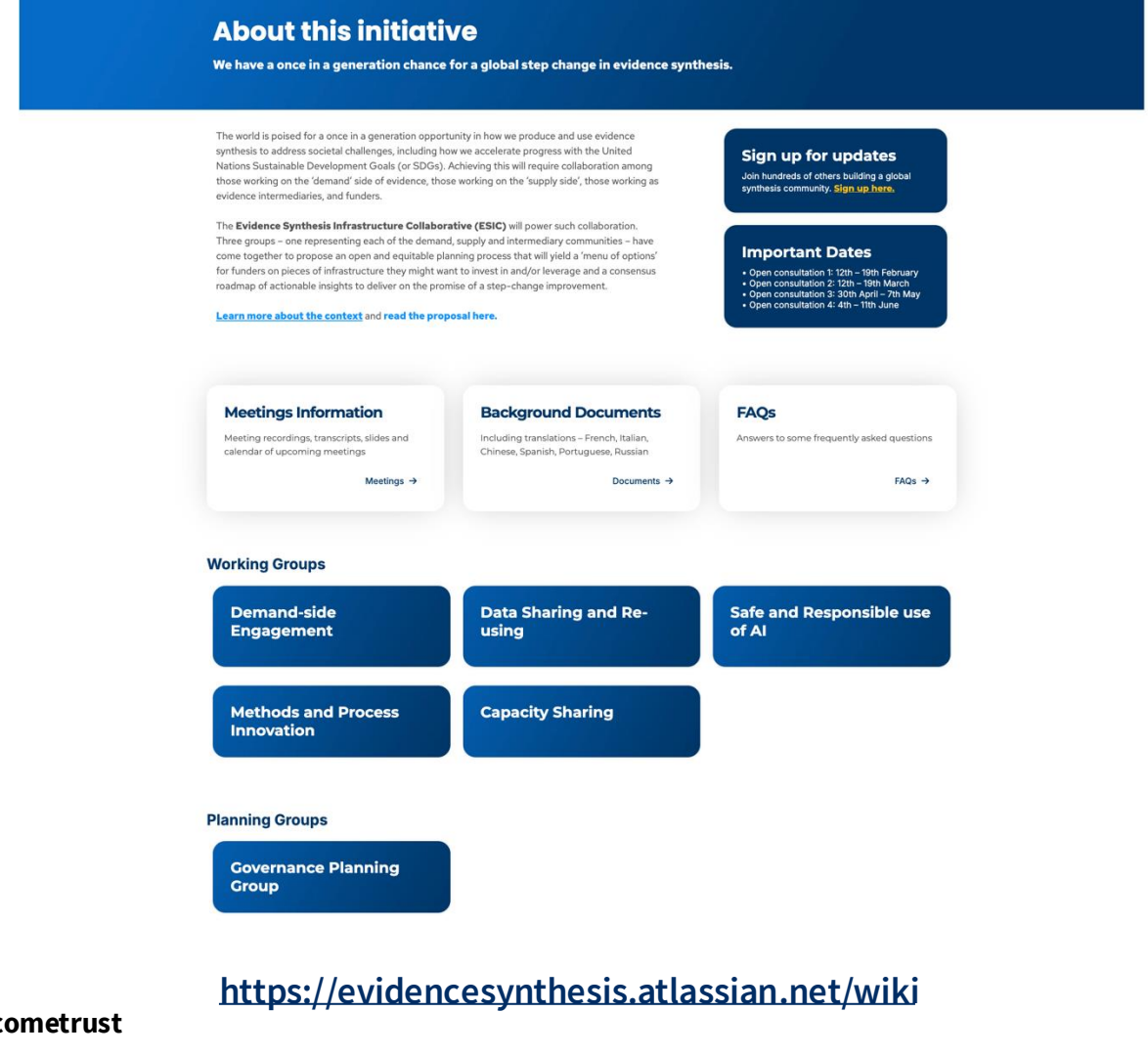

https://evidencesynthesis.atlassian.net/wiki

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Call-to-action – we must:

Collaborate

Be global & inclusive

Not leave anyone behind

Let’s work together to make it happen!

Thank you!