Living Evidence
for Australian health care

Report on the outcomes of a Living Evidence consortium planning meeting

Melbourne, May 2018

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Executive Summary

Health and medical research is a central pillar of modern healthcare systems around the world. But not all research findings can or should change practice. There are countless examples of a single study reporting promising benefits of a new intervention that was subsequently proven to be ineffective, no better than existing therapies–or worse, harmful–when the results were combined with other similar studies testing the same intervention.

Despite the tireless and exemplary work conducted by champions of evidence-based practice over the last two decades, Australia's processes for synthesising and using research evidence are no longer fit for purpose. The pathways for incorporating new research into the existing evidence base simply take too long and cannot keep up with the increasing flow of new research.

This delays access to new knowledge from cutting-edge research, impedes the provision of appropriate care and ultimately erodes returns on investment in research to improve outcomes for patients and direct health care spending to interventions that offer the greatest value for the health system.

In recent years, the Australian Government has invested in early-phase exploration of new approaches to evidence synthesis that harness innovative technologies and processes to enable continuous updating of systematic reviews, clinical guidelines and other evidence summaries.

This emerging field of 'Living Evidence' stands to revolutionise the way we decipher the growing deluge of research findings in order to know *what we should do*, and *how we should do it*, based on up-to-the-minute evidence.

On 20 May 2018, Cochrane Australia convened a meeting to identify key challenges and opportunities for Living Evidence in Australia and discuss the establishment of a formal consortium to help address them. Participants included leading experts in evidence synthesis and guideline development who are currently collaborating to advancing Living Evidence in stroke, diabetes, kidney disease and musculoskeletal conditions.

This report details the key outcomes of the meeting, including an agreed list of priority actions and activities that are critical to realising near real-time evidence synthesis and dissemination in Australia.

There was strong support among the leaders of participating organisations to work together to establish the consortium as a platform for fostering collaboration and shared learning, leveraging early investment, developing critical mass and supporting Australia's continued leadership at the forefront of global efforts in the emerging field of Living Evidence.

Introduction

Every day in Australia, important healthcare decisions are made with incomplete or outdated knowledge about what has been proven to work, what delivers the best value for the health system, or where more research is needed. Until this changes, we are delaying access to new knowledge from cutting-edge research, failing to achieve the improvements in health outcomes and health system performance that research can deliver and eroding return on research investments.

Making sense of the vast body of research relevant to any area of health care requires a systematic, rigorous process of bringing together and analysing all existing research in that topic–a process known as evidence synthesis. The resulting 'systematic review' reports provide the most reliable independent summary of *what we currently know*. These reports drive the development of *what we should do*–the guideline recommendations, standards, policies and investment decisions that shape modern health care.

In the 2015 discussion paper '*Better informed health care through better clinical guidelines'*,[1] the National Health and Medical Research Council (NHMRC) highlighted that inefficiency, poor quality, lack of capacity, lack of investment in technology, inaccessibility and obsolescence are key barriers to the use of evidence in clinical guidelines for health decision-making.

The reasons for this are complex and include:

- **Poorly targeted research:** Research is often designed without reference to stakeholder priorities and up-to-date systematic reviews of existing evidence, resulting in duplication and wasted research investment[2].

- **Inefficient evidence synthesis:** Processes for synthesising research are rigorous, but are inefficient and do not make best use of innovations in technology. It can take up to 6.5 years for research to be included in a systematic review[3] and up to 17 years to reach practice[4].

- **Information overload:** Exponential growth in research is overwhelming current systems. Over 4,000 health research articles, including more than 75 clinical trials, are published every day[5]. Practice recommendations can't be updated efficiently, so go rapidly out of date[6].

[1] Better informed health care through better clinical guidelines: An NHMRC Draft Discussion Paper. November 2015. https://consultations.nhmrc.gov.au/files/consultations/drafts/clinicalguidelinesdraftdiscussionpaper.pdf
[2] Chalmers I, Bracken MB, et al. How to increase value and reduce waste when research priorities are set. The Lancet. 2014;383(9912):156-165.
[3] Elliott JH, Turner T, et al. Living systematic reviews: an emerging opportunity to narrow the evidence-practice gap. PLoS Med. 2014;11(2):e1001603.
[4] Morris Z, Wooding S. The answer is 17 years, what is the question: understanding time lags in translational research. Journal of the Royal Society of Medicine 2011;104:510-520.
[5] Thomas J, Noel-Storr A, et al. Living Systematic Reviews:2. Combining Human and Machine Effort. Journal of Clinical Epidemiology. 2017;91(31-37).
[6] Shojania KG, Sampson M, et al. How quickly do systematic reviews go out of date? A survival analysis. Ann Intern Med. 2007;147(4):224-233.

- **Lack of co-ordination:** Multiple stakeholders are involved in evidence synthesis in Australia but limited capacity for coordinating these efforts means the system is fragmented, non-strategic and inefficient[1].

- **Limited stakeholder involvement:** Limited involvement of stakeholders throughout the research prioritisation, evidence synthesis and translation process weakens the focus on issues of importance to these groups, lessons the consideration of context and impairs the uptake of evidence.

- **Inaccessible outputs:** Dissemination of research, systematic reviews and guidelines is usually in the form of unstructured text-based documents that impair discoverability, reuse and integration with clinical decision support systems. This further contributes to extreme delays in the current evidence system.

The *Australian Atlas of Healthcare Variation* (the Atlas) produced by the Australian Commission on Safety and Quality in Health Care (the Commission) provides a compelling case for the need to improve our capacity to understand and access the *best available evidence* in order to provide appropriate care that optimises benefits and minimises harm to patients.

The most recent update to the Atlas identified marked variation in hospitalisation rates across Australia for potentially preventable conditions such as kidney and urinary tract infections and diabetes complications, as well as the use of invasive surgical interventions such as lumbar spinal fusion and knee replacement, that were considered unwarranted[7].

In a number of cases, uncertainty about the strength of evidence for an intervention, particularly where there are conflicting studies or where studies are only just beginning to emerge, was identified as one of the key factors contributing to inappropriate care (care that is contrary to the best available evidence) being delivered. A gap in the accessibility of evidence by clinicians and consumers was also found to be major driver of unwarranted variation.

In the context of over 4,000 health-related articles already published every day, and with Australia's investment in health and medical research set to double in the coming years, there is mounting pressure on the Australian health system to fast-track the process of robust evidence synthesis. We must build capacity to generate reliable, accessible best practice and policy recommendations that can incorporate up-to-the-minute research in an effective and efficient way.

[7] Australian Commission on Safety and Quality in Health Care and Australian Institute of Health and Welfare. The Second Australian Atlas of Healthcare Variation. Sydney: ACSQHC; 2017

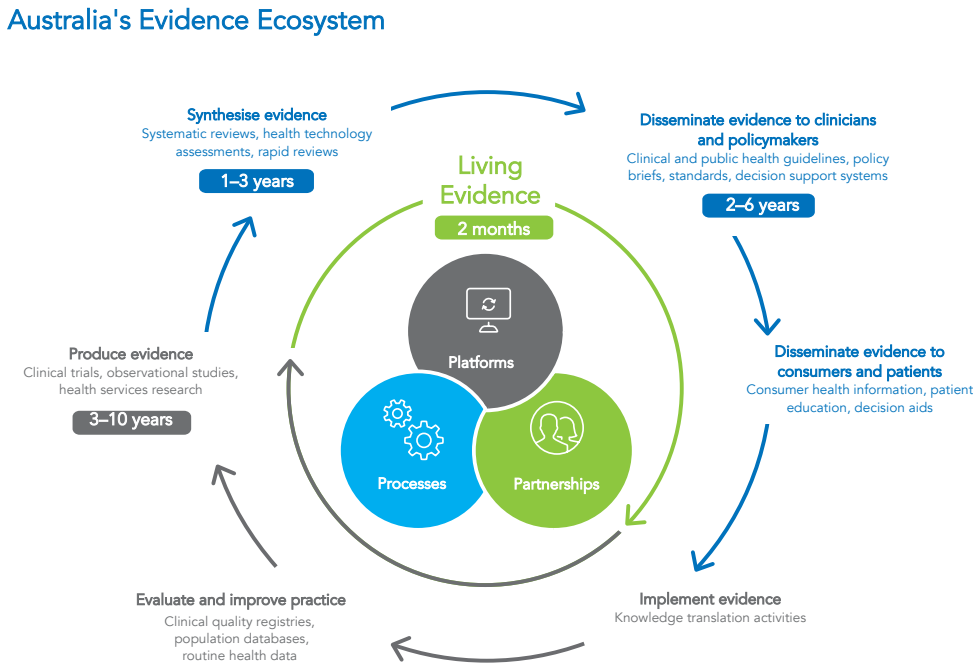
Overview of Living Evidence

Over the last five years, Cochrane and a number of Australian and international partners have developed the foundations of the **Living Evidence** model of evidence synthesis and dissemination. This world-leading approach harnesses innovations in data systems, machine learning and co-production to enable **near real-time** updating of systematic reviews, evidence-based guideline recommendations and other evidence products. Importantly, the Living Evidence model supports rapid evidence synthesis without compromising the rigorous, gold standard methods for systematic review that are needed to provide trustworthy recommendations.

Early work to develop and test the suite of technical tools and streamlined processes that underpin the Living Evidence model was enabled through Project Transform funded by the National Health and Medical Research Council and the Cochrane Game Changer Initiative.

The potential for Living Evidence to reduce the time and cost of synthesising evidence and making it available to inform practice is enormous. Machine learning and citizen science projects conducted as part of Project Transform have shown a 48% reduction in time required to perform the initial screening step to identify research relevant to systematic reviews. Pilot living systematic reviews have demonstrated the feasibility of updating to incorporate new evidence within four months of a relevant clinical trial being published– a process that has historically taken between 1-3 years[8]. Planned future work aims to reduce this to 2 months.

The figure below provides a vision for the future of Australia's evidence ecosystem delivering up-to-date, reliable evidence in near real-time.



[8] Tricco AC et al. (2008). Following 411 Cochrane protocols to completion: a retrospective study. PLoS ONE 3: e3684

There is now a unique opportunity to leverage and build on these existing platforms, processes and partnerships to create a world-leading, efficient and effective approach to the synthesis and use of research evidence in Australia. Existing work that can be readily leveraged includes:

Platforms

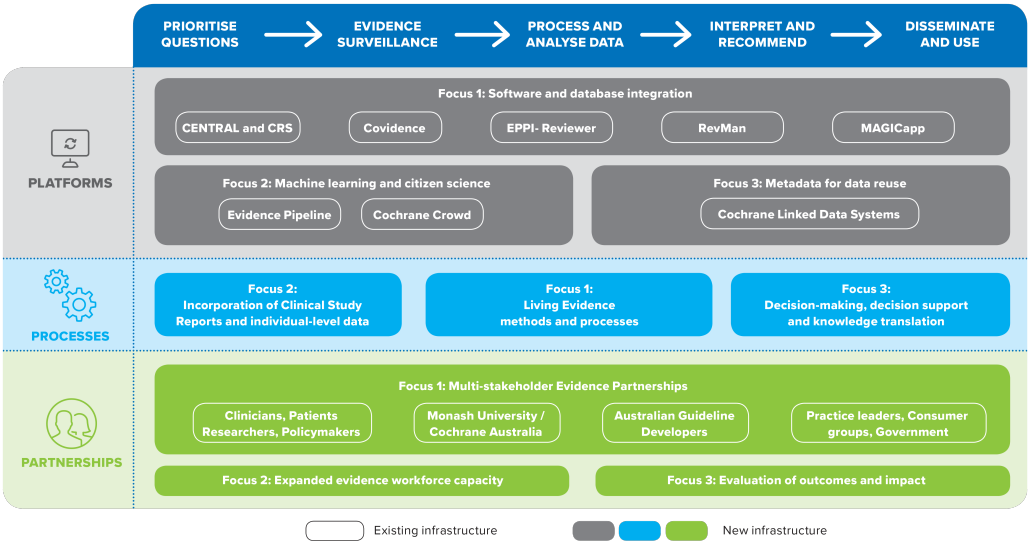
- The world's leading software systems for producing systematic reviews and guidelines
- Leading-edge artificial intelligence and citizen science systems for systematic reviews and guidelines
- Advanced metadata infrastructure for discoverable and reusable research data

Processes

- An innovative model of continuous or 'living' evidence creation and use, now being taken up around the world
- Cutting edge methods for creating synthesised evidence from individual-level ('big data') and summary data (e.g. research publications)
- The world's leading platforms for interactive, multi-layered digital guidelines and decision aids to deliver up-to-date evidence at the point of care

Partnerships

- Consumer participation models for co-creating and using evidence for health decision-making
- Close collaboration between Australia's leading guideline developers and consumer organisations, connecting to international partners
- The world's largest and best known network for training in evidence synthesis and guidance



Meeting objectives

On 20 May 2018, Cochrane Australia hosted a full day forum, bringing together leading experts in evidence synthesis and guideline development across several of Australia's most pressing chronic disease areas to discuss the formation of an Australian Living Evidence Consortium.

The organisations represented at the meeting are involved in synthesising evidence and developing best-practice recommendations for diabetes, stroke, kidney disease and musculoskeletal conditions (see Appendix A for a full list of participants).

Collectively, these disease groups represent a substantial proportion of Australia's total burden of illness, affecting millions of Australians and accounting for approximately 17.5% of our national annual healthcare expenditure[9].

Diabetes	Stroke	Kidney Disease	Muscoloskeletal Conditions
• 1.7m Australians	• 0.5m Australians	• 1.7m Australians	• 6.9m Australians
• $15b per annum	• $5b per annum	• $4.1b per annum	• $5.7b per annum

Each of these groups has an existing collaboration with Cochrane Australia and is committed to achieving the best health outcomes for Australians by enabling clinicians, consumers, health administrators and governments to access and use *up-to-date* and *reliable* evidence.

The primary objectives of the meeting were:

- To provide an opportunity to share current thinking and progress towards establishing Living Evidence models
- Identify the major opportunities and challenges to advancing Living Evidence in Australia
- Explore opportunities for collaboration within a consortium structure
- Discuss how a consortium should function, who should be involved and what would be needed to support such an effort
- Agree early goals and practical next steps

[9] Expressed as the combined total estimated cost burden of diabetes, stroke, kidney disease and musculoskeletal conditions as a proportion of total Australian health expenditure 2015/16 https://www.aihw.gov.au/getmedia/3a34cf2c-c715-43a8-be44-0cf53349fd9d/20592.pdf.aspx?inline=true

Barriers and challenges for Living Evidence

Participants were invited to describe the current landscape for evidence synthesis and developing evidence-based recommendations in their respective fields, share work to date to improve the timeliness, quality and efficiency of guideline production, and reflect on the key barriers and challenges for implementing a Living Evidence model in Australia.

Key themes that emerged included:

1. Keeping guidelines up-to-date

- All participants emphasised the challenges of maintaining the currency of guidelines in the face of increasingly rapid publication of new research. The current process of intermittent or ad hoc guideline development was reported to be exhausting, expensive, inefficient and likely unsustainable, taking years to complete, and often with more than five years elapsing before recommendations can be updated.

> ***Example from Diabetes***
>
> *The Australian National Diabetes Strategy 2016-2020 (published 2015) and related Implementation Plan (published 2017) calls for the development of Australian Government endorsed guidelines for the prevention, early detection, management and care of all forms of diabetes.*
>
> *Currently, all but one of the nationally endorsed diabetes guidelines have been rescinded by the NHMRC due to being more than 5 years old.*
>
> *Acknowledging the need to develop faster, more efficient means of providing up-to-date, evidence-based recommendations to Australian clinicians and people with diabetes, the Australian Diabetes Society recently committed to provide seed funding to support a living guidelines demonstration project.*

- Participants noted that the volume of health and medical research conducted in Australia is set to double as the Medical Research Future Fund (MRFF) reaches maturity, with particular attention on boosting clinical trial activity. However, as yet, no strategic thought has been given to how evidence synthesis processes will keep pace to make sense of and translate the deluge of new research in a timely, efficient and reliable way for clinicians, consumers and policymakers. The critical role of evidence synthesis in informing research agendas and prioritising research questions for investment via the MRFF has also been overlooked.

- There was discussion about the role of evidence synthesis in regulatory and reimbursement decisions in Australia, which could also stand to benefit significantly from building Living Evidence capability. The MBS review provides an opportunity to consider mechanisms for linking real-time evidence appraisal to ongoing efforts to reduce low-value care.
- There was also discussion about the need to develop agreed processes for prioritising living guideline recommendations. In the first instance, consideration should be given to recommendations that are a particular priority for decision making, that are associated with an important level of uncertainty in the existing evidence base and where there is likely to be rapidly emerging evidence that will impact the recommendation.

2. Integrating new technologies

- Cochrane Australia provided an overview of phase 1 development of a series of separate technical components at the core of the Living Evidence model, including the use of text mining, machine learning, linked data and citizen science technologies to automate or expedite various stages of the evidence synthesis and guideline development process.
- Further IT development is needed to improve efficiency and ensure that these platforms can be integrated end-to-end, including into readily accessible formats for clinicians, consumers and policy makers that support effective dissemination and use of evidence.
- Participants noted the opportunity of monitoring the impact of guideline recommendations. ‘Closing the evidence loop’ via integration of living guideline recommendations with registries and audit activities that can monitor adherence and provide timely reporting of unwarranted variations from best practice should be the ultimate goal for improving patient care and outcomes.
- Participants also raised the need to develop models for accessing the various different software and technology platforms as these are further developed, particularly where third-party agreements and licensing will be required.
- The opportunity to measure the impact of new technologies on patient outcomes and healthcare delivery costs was strongly voiced by all participants. An early opportunity will be the 2018 Stroke National Audit, which will provide a first-ever comparator for access and adherence to Australian guidelines pre and post the introduction of a web-based format.

3. Agreeing definitions, methods and processes

- While the move towards living systematic reviews has been championed by Cochrane and others for a number of years, the technologies and processes that support them are relatively new. The definition of Living Evidence is still evolving and a common understanding is needed.
- New methods to support next generation evidence synthesis, particularly the inclusion of ‘diverse’ data (eg. registry and other large observational datasets) are being developed and over time will provide important opportunities for maximizing the value of data for health decision-making

- There are currently no easy mechanisms for sharing of data between groups undertaking evidence synthesis in Australia and internationally – either to conduct systematic reviews or produce guidelines. This represents an enormous opportunity to reduce inefficiency and duplication of effort where the appraisal of research evidence impacts multiple clinical or policy questions.

4. Immediate policy implications of living evidence

- All participants acknowledged the important role of the NHMRC in providing a nationally consistent standard for high quality, trustworthy clinical guidelines. However, the current process for endorsement has been built around the periodic development and updating of guidelines. One of the major policy implications of Living Evidence will be how NHMRC endorsement processes can evolve to match these new models of contemporary guideline development while meeting legislative requirements.
- Similarly, the implications for updating clinical standards produced by the Australian Commission for Safety and Quality in Health Care (ACSQHC), and other relevant health care policies at the commonwealth and state levels will need to be considered.

> ***Example from Stroke***
>
> *Following almost two years in development, the Stroke Foundation recently published the NHMRC endorsed Clinical Guidelines for Stroke Management 2017 – the first clinical guidelines in Australia to be published using a fully accessible web-based format (MAGICapp).*
>
> *Shortly thereafter, two large clinical trials were published that warranted a major change to recommendations for the timing of use of endovascular clot removal – a procedure that has been demonstrated to markedly improve functional recovery for up to 70% of patients with life-threatening ischaemic stroke[10]. New evidence of benefit up to 24 hours after stroke means people in regional and rural parts of Australia are potentially able to access this time-critical procedure.*
>
> *This has prompted urgent revision of the guidelines within only months of their publication and subsequent resubmission to the NHMRC for endorsement (under review at the time of publication of this report).*

5. Co-morbidities and conflicting recommendations

- A number of participants cited the challenges of developing guidelines for people with multiple co-morbidities impacted by conflicting recommendations for treatment. While the complexity of this challenge was acknowledged, the opportunity for a consortium to explore harmonising guidelines and reducing unnecessary duplication of evidence review was strongly supported.

[10] Endovascular clot retrieval for acute stroke. Victorian state-wide service protocol. file:///Users/rhiannontate/Downloads/Endovascular%20Clot%20Retrieval%20for%20Stroke%20(1).pdf

6. Supporting knowledge translation

- Participants acknowledged the persistent challenge of translating evidence into practice and policy, and the large body of work currently underway to develop more effective knowledge translation strategies across the different participating groups, including Cochrane Australia.
- One of the major barriers impeding the uptake of guidelines in practice is the inability to update recommendations rapidly as new evidence becomes available, which undermines trust among the clinical community.
- The inaccessibility of guidelines (often produced as documents that are hundreds of pages in length) undermines their usefulness in providing clear evidence-based recommendations at the point of decision-making.
- Participants discussed the need to develop co-production models that engage all users of Living Evidence in the process of knowledge creation to facilitate effective knowledge translation.

> ***Example from Musculoskeletal Disorders***
>
> *The Australian and New Zealand Musculoskeletal Clinical Trials Network (ANZMUSC) NHMRC Centre of Research Excellence (CRE) recently launched by the Federal Health Minister involves an extensive stakeholder base including multiple clinical craft groups, trialists, consumer groups and guideline developers.*
>
> *The ANZMUSC CRE program will establish living systematic reviews to provide up-to-date evidence-based recommendations for a number of rapidly evolving treatment approaches to common musculoskeletal conditions. Living reviews will inform the design of future clinical trials where the comparative effectiveness or cost-effectiveness of new treatments is unclear.*

- There was unanimous recognition of the need to involve consumers in the guideline development process but there have been varying levels of success among participating groups in developing models for meaningful consumer engagement – both in the production and use of guidelines. There is a need to consider how Living Evidence processes can create opportunities for consumer engagement.

7. International collaboration

- Several participants expressed frustration at the difficulties inherent in trying to establish international collaboration around guideline development, despite the enormous potential to reduce duplication of effort and maximise the value of funding investments in evidence synthesis by groups around the world seeking to answer the same questions.

- Others described early success in building international partnership to jointly develop and adopt recommendations, or where appropriate, adapt internationally developed guidelines for the Australian context.

> ***Example from Kidney Disease***
>
> *Kidney Health Australia's KHA-CARI group – the organisation responsible for developing clinical practice guidelines for patients with kidney disease in Australia and New Zealand –has recently established collaboration with Kidney Disease: Improving Global Outcomes (KDIGO) to support the development of globally recognised guidelines in large topics of broad interest that share a common evidence base.*
>
> *KHA-CARI is exploring the potential for data underpinning international guidelines to be shared to enable efficient review and adaptation to local practice and patient populations in Australia and New Zealand where warranted.*

8. Reliance on in-kind support

- A number of participants pointed to significant reliance on in-kind support for guideline development from experienced clinicians, expert evidence reviewers and consumers. The increasing depth and breadth of the evidence base, and the adoption of new methods to increase the rigor and reliability of recommendations (eg. GRADE) have further increased the burden on volunteers in recent years.
- Vital development work to realise the ultimate efficiencies that could be gained through coordinated Living Evidence capability in Australia will require significant input from groups that are already under resourced.
- While Living Evidence aims to substantially reduce the workload and time associated with evidence synthesis, it does not cut corners on validated, rigorous methods and processes – including expert review. Participants highlighted the need to develop new models for guideline author groups that can be sustained to provide Living Evidence recommendations on an ongoing basis.

9. Demonstrating value and attracting funding

- Many participants identified that the major challenge of supporting guideline development in Australia is securing adequate resources in the absence of a nationally coordinated mechanism for coordination and funding. Sources of funding obtained by the participating NGOs to date ranged from Commonwealth and State Governments, private philanthropy and charitable fundraising, international funding and industry-based funding. Opportunities to leverage multiple funding sources more efficiently within a consortium model should be explored.

- A number of participants reported a ‘negative feedback cycle’ when making the case for investment to update guidelines in the context of criticism that clinical guidelines aren’t effective when this is partly because they’re so often out of date. A program of Living Evidence demonstration projects could explore whether providing up-to-date recommendations improves translation.
- There was a unanimous view that an early priority for the consortium is to articulate the value proposition of Living Evidence so that funders have a clear understanding of the potential for long-term impact and the resources required to implement the model at the scale.
- Participants were also of the strong view that consumers were largely unaware of the role and value of evidence synthesis and the considerable time lag that current exists between publication of ‘the latest cutting-edge clinical trial’ and its incorporation into evidence-based recommendations. The Consortium could play a key role in helping to improve health literacy around evidence synthesis.
- There was agreement among participants that Australia is positioned at the global forefront of developing Living Evidence and that advocacy for investment should consider both national and international opportunities.

Opportunities and priorities for Living Evidence

Meeting attendees were invited to participate in a semi-structured prioritisation exercise to identify key opportunities to advance Living Evidence that could be addressed through a consortium effort, either in the short (commencing within 12 months) or medium term.

Six priority areas for action were identified:

Harnessing innovations in technology	Short-term action	Medium-term action
IT development to support end-to-end integration of the technical tools that underpin Living Evidence.	■	
Integrate Living Evidence tools into the clinical workflow (eg. through EMRs).		■

Improving methods and reducing inefficiencies in evidence synthesis and guideline development	Short-term action	Medium-term action
Provide international leadership to develop agreed definitions and approaches to Living Evidence.	■	
Develop agreed methods to enable data sharing between groups and advocate for greater evidence sharing to improve efficiency.	■	
Develop methods for integrating other data formats into Living Evidence synthesis (eg. clinical quality registry data, large observational cohort data).		■

Building consumer-focused evidence	Short-term action	Medium-term action
Develop a model for involving consumers in Living Evidence processes.	■	
Develop user-friendly tools to support consumers accessing up-to-date guideline recommendations.	■	

Prioritisation and harmonisation	Short-term action	Medium-term action
Develop a model for prioritisation and co-production of Living Evidence (involving clinicians, researchers, policymakers, consumers and evidence synthesis experts/guideline developers).		■
Develop an agreed approach to addressing co-morbidities through harmonised guideline recommendations.		■

New models for international collaboration and partnership	Short-term action	Medium-term action
Develop a test case for international collaboration on a living guideline recommendation.	■	

Understanding the value of Living Evidence and how it can deliver the greatest benefit to patients and the health system	Short-term action	Medium-term action
Review current evidence and develop a value proposition paper highlighting the current state and long-term future of living guideline recommendations in Australia.	■	
Develop a business case for funding to support core Living Evidence platform development.	■	
Establish a series of demonstration projects for living guideline recommendations and collect prospective data to inform future investment and program development.	■	

The value of a consortium approach

Participants acknowledged that realising the true potential for Living Evidence to improve health outcomes and guide more effective and cost-effective health care in Australia will require a large-scale, coordinated effort with a high degree of collaboration between multiple key stakeholders.

The advantages of establishing a formal consortium to lead the development of Living Evidence in Australia were discussed and included:

- Fostering collaboration
- Shared learning
- Leveraging investment in core platform development
- Pooling expertise and developing critical mass
- Reducing duplication
- Coordinated advocacy
- National and International leadership

There was strong support among participants to continue to work together to explore the development of a formal consortium. It was agreed that an interim executive committee with senior representation from Cochrane Australia and each of the disease groups present should be formed to drive this.

Early priorities for the interim executive committee will be to:

- Develop proposed objectives and role of the consortium
- Develop a proposed structure and outline of what would be required from partner organisations and how they would work together within a consortium
- Consider how best to engage with key stakeholders across government
- Consider funding models, including how to address competition for funding
- Develop a set of key messages to support advocacy for funding
- Establish a process for meaningful consumer involvement in the consortium
- Consider who else should be involved in early consortium development

Appendix. Meeting participants

Cochrane Australia sincerely thanks everybody who participated in the meeting for their time and valuable input, with special thanks to Dr Tari Turner for her expert facilitation on the day.

Cochrane Australia	
A/Prof Julian Elliott	Lead, Evidence Systems, Cochrane
Prof Sally Green	Co-Director, Cochrane Australia / Co-Chair, Knowledge Translation Advisory Group, Cochrane
Steve McDonald	Co-Director, Cochrane Australia
Melissa Murano	Transform Project Manager & Business Manager, Cochrane Australia
Rhiannon Tate	Program Lead, Evidence Innovation, Cochrane Australia
Dr Tari Turner	Senior Research Fellow, Cochrane Australia (Meeting Facilitator)
Diabetes	
Dr Sof Andrikopoulos	CEO, Australian Diabetes Society
Taryn Black	Policy and Programs Director, Diabetes Australia
Dr Gary Deed	Chair, Diabetes Network RACGP Specific Interests
Stephan Groombridge	Manager, ehealth and Quality Care units, RACGP
Prof Sophia Zoungas	President, Australian Diabetes Society / Director, Diabetes Australia / Clinical Director, National Assoc. for Diabetes Centres
Kidney Disease	
Prof Jonathan Craig	Coordinating Editor, Cochrane Kidney & Transplant
Dr Martin Howell	Research Officer, KHA-CARI Guidelines
Dr Lisa Murphy	Interim CEO, Kidney Health Australia
David Tunnicliffe	Research Officer, KHA-CARI Guidelines
Muscoloskeletal Conditions	
Ornella Clavisi	Research & Knowledge Manager / Consumer Representative, MOVE
Dr Renea Johnston	Managing Editor, Cochrane Musculoskeletal
Dr Sue Phillips	CEO, Therapeutic Guidelines / Australia & New Zealand Musculoskeletal Clinical Trials Network (ANZMUSC)
Dr Sam Whittle	Executive Committee, ANZMUSC
Stroke	
Kelvin Hill	National Manager Clinical Services, Stroke Foundation
Sharon McGowan	CEO, Stroke Foundation
External Participant	
Jutta Thwaites	Independent Guidelines Expert

Further information

A/Prof Julian Elliott
Lead, Evidence Systems, Cochrane
julian.elliott@monash.edu
Ph. 0405 704 795

Rhiannon Tate
Program Lead, Evidence Innovation, Cochrane Australia
rhiannon.tate@monash.edu
Ph: 0407 941 260