Supporting the evidence synthesis response to the COVID-19 pandemic – the COVID-END network

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McMaster University | HEALTH FORUM   The Ottawa Hospital Centre for Implementation Research

Outline

- Evidence syntheses during a pandemic
- COVID-END
- COVID and Campbell

COVID-19 pandemic

- The COVID-19 pandemic is one of the greatest health and societal challenges that the world has collectively faced in many decades

- Policy, public health, clinical and citizen decision makers are actively seeking evidence on prevention, management and mitigation of the health, social and economic impacts of COVID-19

- There has been a dramatic global increase in basic and applied health (and to a lesser extent social and economic) research

- However individual studies rarely sufficient by themselves to inform policy, public health, clinical or individual decisions

Evidence to inform decisions

- Evidence syntheses that 'use formal explicit rigorous methods to bring together the findings of studies already completed and to provide an account of the totality of what is known from that pre-existing research, should be used to inform decisions.'

Gough (2020). *Systematic Reviews*

Evidence syntheses

- Evidence synthesis methods exist for a wide range of types of questions:
    - Reviews of basic science studies
    - Reviews of epidemiological data
    - Reviews of diagnostic test performance
    - Reviews of effectiveness of therapeutic and preventive interventions
    - Reviews of patient' experiences with interventions, how and why interventions work etc.

Benefits of using evidence syntheses to inform decision-making (1)

- Reduce the likelihood that decision-makers will be misled by research (by being more systematic and transparent in the identification, selection, appraisal, and synthesis of studies)

- Increase confidence among decision makers about what can be expected from an intervention (by increasing the number of units for study)

Benefits of using evidence syntheses to inform decision-making (2)

- Allow decision makers to focus on appraising the local applicability of systematic reviews (instead of also having to find and synthesize studies on their own)

- Allow stakeholders, including public interest or civil society groups, to constructively contest research evidence because it is laid out for them in a more systematic & transparent way

Evidence synthesis during the sprint phase (1)

- Substantial increase in evidence synthesis (and supporting) activities
- Lots of new entrants to the field
- Focus on rapid reviews (largely) on clinical and public health topics
- Variable quality and transparency of reviews
- Duplication of effort
- Discoverability and longevity of (rapid) reviews uncertain
- Relatively few living systematic reviews/guidelines
- Evidence synthesis capacity and conduct issues in LMICs

Evidence synthesis during the sprint phase (2)

JAMA Network Open

Assessment of Duplicate Evidence in Systematic Reviews of Imaging Findings of Children With COVID-19

Giordano Pérez-Gaxiola, MD, MSc; Francisca Verdugo-Paiva, DDS, MSc; Gabriel Rada, MD; Iván D. Flórez, MD, MSc, PhD

Introduction

Formulating evidence-based recommendations for children affected by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is challenging. Identifying and synthesizing the evidence to inform these recommendations has become difficult. With the explosion of publications on preprint servers and in journals, waste in coronavirus disease 2019 (COVID-19) research is common. While replication of systematic reviews may be appropriate in some instances, duplication refers to needless repetition of the same review.[1] Answering simple questions, such as the most common findings in children with COVID-19, requires an enormous effort. We aimed to map 1 of these questions (ie, what is the spectrum and frequency of imaging findings in children with COVID-19?) to illustrate the overlap and shortcomings of the evidence syntheses in this area.

+ Supplemental content

Author affiliations and article information are listed at the end of this article.

Pérez-Gaxiola et al (2021) *JAMA Network Open*

Evidence synthesis during the sprint phase (3)

Noise-to-signal problem

(Silence problem)

Evidence synthesis during the sprint phase (4)

The COVID-19 Evidence Network to support Decision-Making (COVID-END)

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John N. Lavis, MD PhD, Co-Lead, COVID-END;
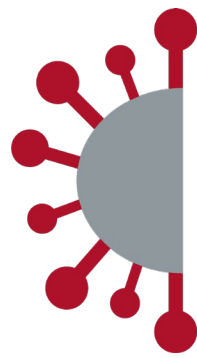Director, McMaster Health Forum; and Professor, McMaster University

David Tovey, MBChB FRCGP, Senior Advisor, COVID-END

Acknowledgements

COVID-END's Focus

- COVID-END is a time-limited network that has come together in response to an 'exogenous shock' (COVID-19) to collaboratively advance the evidence (synthesis) ecosystem in a way that

  - Makes the most of an explosion of interest in and demand for evidence synthesis (in part by reducing the noise-to-signal ratio)

  - Makes the evidence (synthesis) ecosystem even more robust and resilient in future

  - Strengthens existing institutions and processes

- COVID-END's work can also help to make the most of investments in primary research as well as in methodological research and infrastructure

COVID-END

COVID-19 Evidence Network to support Decision-making

COVID-END

- Initial email contact with evidence synthesis organizations – 4th April 2020
- Exploratory meetings – 6th, 9th, 13th April 2020
- Name and logo – 16th April

- Initial work focused on seven working groups – Scoping, Engaging, Digitizing, Synthesising, Recommending, Engaging, Sustaining (Co-Chairs in place by 14th April)

Eight (early) achievements (1)

1) Regularly updated guide to key COVID-19 evidences sources, which can be used to quickly review high-yield, high-quality sources of evidence to respond to decision-makers' urgent questions

2) Living hub of COVID-19 knowledge hubs, which can be used to identify organizations that are already supporting decision-making with a specific topic or sectoral focus, with a specific type of resource (e.g., recommendations, evidence syntheses or data), and/or with a specific geographic or linguistic scope [**searchable version coming soon**]

3) Taxonomy of decisions where evidence will be needed, which spans public-health measures, clinical management of COVID-19 and pandemic-related health issues, health-system arrangements, and economic & social responses

Eight (early) achievements (2)

4) Principles and resources to support evidence packaging for decision-makers

5) Description of an evidence-support model that can provide responses to decision-makers questions – both what's known and who's doing what – in timelines as short as 3-4 hours

6) Tips and tools for those supporting decision-makers

7) Resources to support researchers considering or conducting an evidence synthesis (with an interactive flow diagram)

8) WHO requested COVID-END to join its secretariat function for the WHO Evidence Collaborative for COVID-19

Evidence synthesis during the marathon phase (1)

The world will be best served by:

- A global stock of high quality, accessible and actionable, living systematic reviews addressing the most important healthcare, public health, **health system, economic and social** issues faced by decision makers.

- Evidence synthesis capacity to undertake high priority syntheses efficiently where needed (where high quality living systematic reviews are not available)

Evidence synthesis during the marathon phase (2)

The world will be best served by:

- Local evidence support initiatives to enable decision makers to find, interpret and contextualise the best evidence to meet their needs

- A global evidence infrastructure that builds on existing organisations to deliver coordination and prioritisation, and ensure efficient conduct and sharing of high-quality evidence syntheses

- Secure funding to support the entire evidence eco-system

Priorities: 1) Inventory

- Inventory of 'best evidence syntheses' for all types of decisions being faced by those who are part of the COVID-19 pandemic response, which will save time and avoid duplication for those providing 'front-line' decision support in government (who can then focus on what the evidence means for their context)
  - Evidence syntheses harvested from sources in COVID-END guide
  - Filters applied for all parts of the COVID-END taxonomy of decisions (COVID-focused for all parts and often COVID-relevant too for health-system arrangements and economic & social responses)
  - 'Best evidence syntheses' rank-ordered within any given 'row' in taxonomy, based on
    - Date of search (e.g., 2020-07-01)
    - Quality (AMSTAR) rating (e.g., 8/11)
    - Evidence profile available (e.g., yes, with hyperlink)
  - Re-worded title with details to support relevance assessment (e.g., participants, exposure / intervention / phenomenon, and outcomes)

Priorities: 1) Inventory (and Sharing)

- Inventory (continued)
  - Additional decision-relevant information profiled
    - Living evidence document (e.g., yes)
    - Type of synthesis (e.g., full review, rapid review, protocol)
    - Type of question (e.g., benefits & harms, costs, views and experiences, how & why it works)
- COVID-END's 'improve my RIS file service' will enable value-added data sharing across different group's workflows (e.g., Cochrane, Norwegian Institute of Public Health, UNCOVER)

Priorities: 1) Inventory

Broad and specific decisions			Criteria for 'best evidence synthesis'			Details to support relevance assessment
			Date of last search	Quality (AMSTAR) rating	Evidence profile (e.g., GRADE) available	Key findings
Infection prevention						
	Personal protection					
		Washing hands	2020-04-17	4/9	No	Hand hygiene combined with the use of masks in community settings appears to be more protective against coranaviruses and other infectious respiratory viruses than either approach in isolation
			2020-04-25	8/11	No	Studies from the pre COVID-19 era show that proper hand-hygiene methods combined with the use of face masks may reduce the rate of influenza-like-illnesses in community settings
		Wearing masks*	2020-05-03	11/11	Yes	Large reductions in risk of viral infections

Priorities: 2) Horizon Scanning

- Global horizon-scanning panel, comprised of diverse strategic and 'out-of-the-box' thinkers and doers, to proactively identify both long-term and emergent issues that need to be prioritized in efforts to synthesize the best available research evidence to support decision-making about COVID-19

  - Diverse in their coverage across the parts of the taxonomy and the four key target audiences (citizens, providers, policymakers and researchers)

  - Diverse in terms of WHO region and primary language

- Main focus is to identify priorities for living reviews on recurring priorities (and full or rapid reviews on one-off priorities) as we transition from a sprint to a marathon

Priorities: 3) Living Systematic Reviews

- In the short-term
  - Create a list of priority topics where living systematic reviews are needed (based upon our inventory and horizon-scanning activities)
- In the medium-term
  - Cajole, encourage and nudge groups to collectively take responsibility for a full set of living reviews addressing all priority issues related to the pandemic and pandemic response

Priorities: 4) COVID-END Community Listserv

- Targets individuals with the following attributes
  - Creating and/or using evidence syntheses, technology assessments, and/or guidelines as the focus of their support to decision-making about COVID-19
  - Engaging with decision-making about COVID-19 by citizens/service users, providers, and/or health- and social-system policymakers
  - Keen to learn from others about how to support decision-making about COVID-19 and willing to explore challenges and/or share experiences through online discussions
  - Share the values of the COVID-END partnership
- 300+ members from around the globe, and counting
- Vibrant list discussion topics and facilitators
- Webinar series
- Plan to summarize and share the insights from both organized topic discussions and ad hoc interactions

Priorities: 5) COVID-END in Canada

- CIHR funding to provide:
    - Rapid evidence syntheses and profiles addressing needs of Canadian decision makers
    - Living rapid syntheses for key priority questions
    - Demand side co-ordination in Canada

    - Horizon scanning (global and Canada)
    - Maintain inventory of best evidence syntheses
    - Supply side co-ordination (global and Canada)

Priorities: 6) Global co-ordination and collaboration

- COVID-END and Cochrane have joined the secretariat of WHO ECC-19

- Currently producing a position paper on better co-ordination and collaboration of the global evidence synthesis response

- Currently scoping out an initiative for a Global Commission on the future of evidence synthesis for evidence-informed decision making
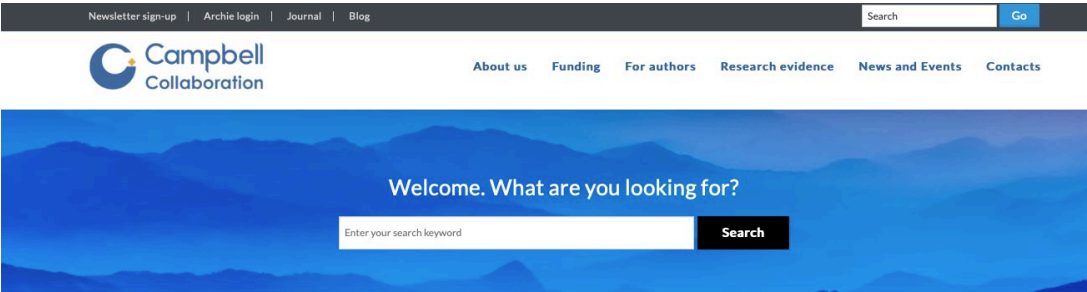
Summary

- The explosion of primary COVID related research needs to appraised and summarized in evidence syntheses

- Opportunity to move **FROM** initial high 'NOISE-to-signal' evidence phase (rapid reviews, variable quality, quickly out-of-date, huge duplication of effort, pick-your-own) **TO** high 'SIGNAL-to-noise' evidence phase (curated, high-quality, living evidence syntheses and evidence-support initiatives)

- Requires evidence synthesis and evidence support organizations to co-ordinate activities with key decision-making bodies (eg WHO) and funders globally

Campbell COVID-19 Response

Jeremy Grimshaw

Campbell COVID-19 response

Campbell COVID-19

Wiley Online Library

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CAMPBELL SYSTEMATIC REVIEWS
BETTER EVIDENCE FOR A BETTER WORLD | Campbell Collaboration

EDITORIAL | 🔓 Open Access | ⓒ ①

Editorial: Fifty Campbell systematic reviews relevant to the policy response to COVID-19

Ariel Aloe, Eric Barends, Douglas Besharov, Zulfiqar Bhutta, Xinsheng 'Cindy' Cai, Marie Gaarder, Ruth Garside, Neal Haddaway, Elizabeth Kristjansson, Brandy Maynard, Lorraine Mazerolle, Robyn Mildon, Sarah Miller, Jan Minx, Peter Neyroud, Annette O'Connor, Denise Rousseau, Ashrita Saran, Joann Starks, Gavin Stewart, Jo Thompson Coon, Peter Tugwell, Jeffrey Valentine, Vivian Welch, Oliver Wendt, Howard White ... See fewer authors ⌃

📄 PDF   ✎ TOOLS   ⌾ SHARE

The global severe acute respiratory syndrome coronavirus 2 pandemic strikingly shows the need for rigorous evidence to inform decisions. During such times of crisis, many decisions are made across multiple sectors and trillions of dollars are spent to deal with its consequences that affect all aspects of economic and societal life. Given the scale of human suffering, thoughtfully designing effective policies, and carefully spending scarce resources on interventions that work during crisis management and recovery, become crucial.

However, in many areas of decision making, the use of robust and reliable evidence is not the norm. This has dire consequences: evidence from impact evaluations in different sectors show that about 80% of policy interventions are not effective (White, 2019). Equally, the reliance on an individual study or model rather than evidence synthesis commonly leads to misinformed policy and outright harm. For example, the retracted study on hydroxychloroquine for COVID-19 led to public harm as well as public mistrust (Mehra, Ruschitzka, & Patel, 2020).

Now, more than ever, public policy needs to be informed by the most rigorous, comprehensive and up-to-date evidence possible. We, at the Campbell Collaboration, are working on both providing this rigorous evidence and promoting its use to inform decisions about social and public policy. Campbell systematic reviews provide a wealth of rigorous evidence to support social and economic response. These reviews highlight what is known and actionable, and point to critical questions decisionmakers need to ask in planning and implementing social and economic responses.

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Fifty Campbell systematic reviews relevant to the policy response to COVID-19

📷 Figures   🔗 References   ⚙ Related   ⓘ Information

Metrics

Am score | 25

Details

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Publication History

Covid-19 virtual

As the world continues t
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The Campbell Internatio
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Campbell COVID-19 response

Summaries of Campbell reviews

Evidence Aid's 'Covid-19 Evidence Collection' contains summaries of Covid-19-relevant Campbell reviews on the short-term, immediate and long-term social and economic response.

Campbell Coordinating Groups' Covid-19 activities

- **International Development Coordinating Group** (IDCG)
  Panel discussion on impact evaluation in the time of a pandemic with the participation of IDCG Co-chair Marie Gaarder, chaired by Campbell CEO Howard White
  Expert panel discussion on evidence production and use in the context of Covid-19 chaired by IDCG Co-chair Marie Gaarder, with presentations by IDCG Editor Birte Snilstveit and others
- **Crime & Justice Coordinating Group** (CJCG)
  Webinar on Social distancing in the pandemic: Policing & Compliance (scroll down on this page for links to the slides and an audio recording) presented by CJCG Co-chair Peter Neyroud

Campbell COVID-19 response

On the Campbell blog

Special blog series on responses to Covid-19:

- Reshaping education: evidence-based options for a post-Covid-19 world
- Evidence from Campbell reviews on the immediate response
- Evidence from Campbell reviews on social policy responses
- Evidence from Campbell reviews on the economic response
- Reflections and opportunities for using evidence to combat Covid-19

The blog series contains links to relevant Campbell systematic reviews, organised by topic. Summaries of these reviews are included in the Evidence Aid collection (see link above).
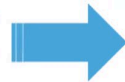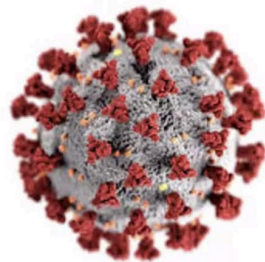
COVID-19 Evidence Network to support Decision-making

Campbell is a member of the COVID-19 Evidence Network to support Decision-making (COVID-END).

Campbell COVID-19 response

- So far so good…..

- Moving from a sprint to marathon phase

- Societal recovery from COVID-19 likely to take years

- Significant opportunity for Campbell if we choose to take it!

UN COVID Research Roadmap

UN COVID Research Roadmap

TOP RESEARCH PRIORITY

How can COVID-19 socio-economic recovery efforts be purposefully designed to stimulate equity, resilience, sustainability and progress towards the SDGs?

UN COVID Research Roadmap

ECONOMIC RESPONSE AND RECOVERY PROGRAMS RESEARCH PRIORITY 3.3

How can a global economy with constant movement of people, goods and capital work for everyone and protect the planet?

3.3.1 What can be done to ensure remittance systems are safer, more equitable, affordable and convenient?

3.3.2 How can food supply chains be secured for the world's most marginalized populations to ensure food security and nutrition in all circumstances?

3.3.3 How can the human rights, livelihoods and well-being of migrant workers be safeguarded during emergencies?

3.3.4 How can digital solutions support socio-economic recovery and development without exacerbating existing inequities?

IMPORTANCE

The economic and social disruption caused by COVID-19 has exposed the opportunities and risks associated with global migration, trade and finance. Research focused on how to repair ruptures in global supply chains and migration routes and strengthen globalized systems will improve the lives of the people and economies that depend on them.

CONSIDERATIONS

Research should consider how to improve economic resilience and reduce environmental impacts through evaluation of solutions such as more localized production, shorter supply chains and the circular economy. A focus on diaspora and migrant communities is also key to understanding the impacts of COVID-19 on globalized networks. In particular, a gender-based lens will advance knowledge about the unique needs of women migrant workers, whose working experience too often includes physical and sexual violence.

UN COVID Research Roadmap
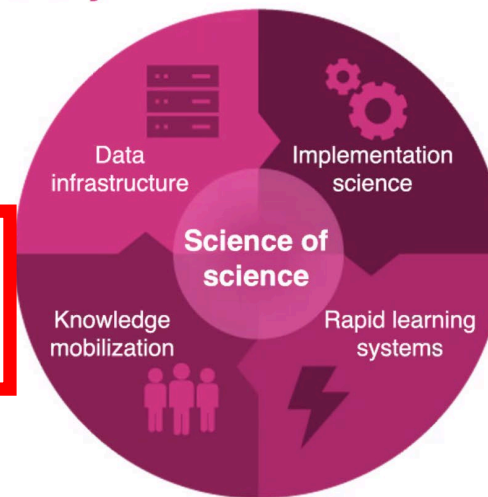

Science strategies for a better recovery

1) **Data infrastructure** includes the organizations, policies, processes, systems and technologies involved in the collection, storage, management, oversight, distribution and use of data.

2) **Implementation science** is the study of methods and strategies to promote the uptake of effective interventions into practices, programs and policies.

3) **Rapid learning systems** use the best available evidence and data to inform decisions and learn from their experiences to enable continuous improvements and contribute to the global evidence base.

4) **Knowledge mobilization** are efforts designed to promote the use of research evidence to inform choices and generate positive impacts.

5) **Science of science** is focused on how research is funded, practiced and evaluated, and how research cultures and systems can be made more efficient, open, inclusive and impactful.

RESEARCH FOR COVID-19 RECOVERY

UN COVID Research Roadmap

Campbell Collaboration

The Roadmap in Action

Researchers must tackle the complex research priorities identified and inform transformative solutions for the problems that the COVID-19 pandemic revealed and created.

Research funding agencies will need to work together to ensure sufficient and coordinated investment to address these research priorities.

Governments and civil society organizations need to ask for the research needed to inform recovery efforts, support it, and institutionalize the use of research in decision-making.

Campbell evidence for policy

stematic Reviews for Policy vs Science

Systematic reviews for scientific purposes can expect their audience to have some technical training

Reviews for policy purposes cannot assume their audience has a strong scientific background

Reviews for policy purposes cannot use scientific language (jargon) without translation

Description of studies, treatments, outcomes, data evaluation, effects, and generalizability of findings to nontechnical audiences presents difficult translation problems

These difficult translation problems are researchable and research on them is desperately needed

The disciplines of psychology and the new journalism have a lot to offer research on translation

Campbell COVID-19 response

- The world will need high quality systematic reviews to inform recovery from COVID-19 especially in the economic and social sector
- Substantial opportunities for Campbell (including funding) if we are prepared to grab it
  - Rapid response needed
  - (Rapid reviews -> full review -> living review)
- An opportunity to significantly enhance profile of Campbell internationally

Thankyou

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COVID-END

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Campbell Collaboration response to COVID-19

https://www.campbellcollaboration.org/news-and-events/news/campbell-response-to-covid-19-pandemic.html