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Chapter 1. Introduction

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Introduction

COVID-19 has created a once-in-a-generation focus on evidence among governments, businesses and non-governmental organizations, many types of professionals, and citizens. There has been an unparalleled demand for evidence to address rapidly evolving challenges, as well as remarkable efforts to meet this demand with the best evidence under very tight timelines. Not all went well, of course. Some decision-makers wilfully ignored best evidence, while others trafficked in mis- and dis-information. As we describe in [section 4.13](#), many things other than best evidence were relied upon, and some forms of evidence were relied upon more than others. And as we describe in [section 4.6](#), there was uneven topic coverage, variable quality and updating failures among the syntheses of the best evidence globally, as well as tremendous research waste arising from a lack of coordination. But many parts of the COVID-19 evidence response did go well, as we describe later in this section, in [section 4.7](#) (living evidence products), and in the final column of [section 4.12](#) (such as rapid multi-country randomized-controlled trials and rapid contextualized evidence support for government policymakers).

Other societal challenges – from educational achievement to health-system performance to climate change – need a similarly renewed focus on best evidence. The pandemic more clearly revealed some deeply rooted challenges, such as inequalities in exposure to risks and in access to ways to mitigate those risks. Other ‘slow-burn’ challenges were temporarily put aside, and now need to be returned to. Plus we have learned about the need to better prepare for unpredictable future crises, including but certainly not limited to future health emergencies.

Now is the time to systematize the aspects of using evidence that are going well and address the many shortfalls, which means creating the capacities, opportunities and motivation to use evidence to address societal challenges,(1) and putting in place the structures and processes to sustain them. Now is also the time to balance the use of evidence with judgement, humility and empathy.(2) For those seeking to use evidence to address societal challenges, legitimacy needs to be earned and then actively maintained. The Global Commission on Evidence to Address Societal Challenges was convened to support people in this vital work.

The Nobel prize in economics has recently been awarded to two trios of economists using very different approaches to build the evidence needed to inform one type of decision-maker, government policymakers. Less than half a year before the COVID-19 pandemic began, the prize went to three economists using randomized-controlled trials to evaluate what works. One-and-a-half years into the pandemic, the prize went to three economists using natural experiments to evaluate what works. As an example of the humility needed by those supporting the use of evidence by decision-makers, one of these economists – Esther Duflo – has been quoted as saying:

“One of my great assets... is I don't have many opinions to start with. I have one opinion – one should evaluate things – which is strongly held. I'm never unhappy with the results. I haven't yet seen a result I didn't like.” (3)

Evaluations are just one of the forms of evidence we discuss in this report. We use the word ‘evidence’ in this report to mean research evidence. Researchers like Esther Duflo do research. Decision-makers may use the resulting evidence. Ideally they will use the forms of evidence that are the best match to the specific questions that need to be answered, as we return to in [section 4.3](#), and do so recognizing that there is typically not a straight line between evidence and action in most circumstances (e.g., the evidence may address some but not all questions, it may be of low quality or of limited applicability to their context, and there may be significant uncertainty). They may also use other types of evidence, such as experiential evidence derived from their own lived experiences and the judicial evidence considered in a court of law. Decision-makers may also consider many other factors in making a decision. Government policymakers, for example, need to give attention to institutional constraints (including resource constraints), interest-group pressure, their own personal values, and the values of their constituents, among other factors. Our focus is supporting four types of decision-makers – government policymakers, organizational leaders, professionals and citizens – to better use evidence, research evidence specifically, alongside other factors in addressing societal challenges.

Four stories drawn from the weekly magazine, *The New Yorker*, illustrate how these four types of decision-makers can use evidence to learn and improve, and how they may be able to learn better and improve faster.



Government policymaker, Mohamed Nasheed

First, we have Mohamed Nasheed, the former president of the Maldives and the current speaker of its legislature, who faces a very strong motivation to address climate change: his country – an archipelago in the Indian Sea – will one day be fully underwater. An interview with him, conducted by Bill McKibben, describes his efforts to put in place climate-adaptation strategies in the Maldives while also advocating on behalf of the 48 Climate Vulnerable Forum countries to re-structure their countries' debts to free up the funds needed to implement these strategies.⁽⁴⁾ Nasheed is keenly aware of the findings of the Intergovernmental Panel on Climate Change and the evidence it has generated about the dire future – or what some call the existential risk – his country faces. He needs to bring great judgement to his simultaneous pursuit of three goals: 1) convincing high-income countries to take dramatic action to slow down the rate of increase in man-made contributions to climate change and to allow his proposed debt re-structuring; 2) building climate resilience in his own country; and 3) preparing for the possibility that he will fail in his first two goals and his fellow citizens will one day have to leave a submerged archipelago. What is less clear from the story is where he can turn for evidence about, say, the climate-adaptation strategies he should be considering.



Organizational leader, Alvaro Salas Chaves

Second, we have Alvaro Salas Chaves, the former head of several Costa Rican health organizations, who created many opportunities to improve the health of his fellow citizens, starting with his work in a very small clinic and culminating in his leadership of the country's social-security agency in the early 1990s. The author of this story, Atul Gawande, describes how Salas progressively shifted the health system from one where health workers 'reacted' to the patients who walked through the doors of clinics and hospitals – by treating whatever problem brought them in – to one where a team of health workers assumed responsibility for the health of all patients in their local area. Each team organized themselves to proactively reach out to their patients (with more frequent contact among those with the greatest health and social needs) and to provide a range of effective services in each encounter.⁽⁵⁾ Costa Rica's health outcomes improved dramatically as a result. Salas brought tremendous capacity for persuasion and an intense motivation to creating opportunities to 'institutionalize' this new approach. He seems to have combined this with judgement, humility and empathy. What is less clear from the story is where he drew insights about the effective services that teams need to deliver, but one can surmise that he would have been exposed to many guidelines from the World Health Organization (WHO) and its regional office, the Pan American Health Organization. Today he could search Health Systems Evidence to find the evidence for his 'population-health management' approach, the Cochrane Library to find evidence about effective services, and the WHO database of guidelines.



Professional, Denny Gioa

Third, we have Denny Gioa, a former engineer with Ford, who drew on his professional capacity as an engineer to address automotive safety. He routinely drew on data analytics to decide when to propose that his company invest millions of dollars on the recall of cars of a particular model and year of manufacture. The author of this story, Malcolm Gladwell, begins with a joke about a priest, a doctor and an engineer, the moral of which is that the engineer was the only one to use his judgement to solve the problem, although he could have done so as well as display some of the empathy shown by the priest and doctor.⁽⁶⁾ Gioa's experiences were somewhat similar. He had the capacity, opportunity and motivation to use data analytics and the judgement to apply them in solving the problem of which types of cars to recommend for recall. However, his rigour didn't stop public opinion from turning against large car companies when the public found out that the companies knew about rare events, like Pinto cars bursting into flame in a rear-end collision, and chose to do nothing. If we really wanted to improve automotive safety, one approach would be to ensure that engineers and other professionals have the capacity, opportunity and motivation to use both data analytics about the problem and syntheses of the best evidence about the full range of approaches to addressing the problem (including seat belts and speed limits), as well as the judgement, humility and empathy to convince others about the need to try new approaches, evaluate them, and make adjustments as need be.

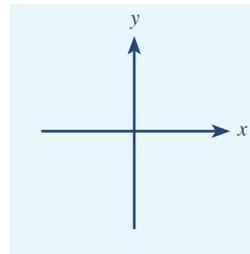


Fourth, we have Paula Kahumbu, a citizen leader, who draws on both her capacities as an ecologist and storyteller, and her motivation to get her fellow citizens to see themselves as stakeholders in conservation efforts. The author of this story, Jon Lee Anderson, describes how Kahumbu created the opportunity to put Kenyans at the centre of the action by developing and hosting a popular Kenyan television show – Wildlife Warriors – where she meets fellow citizens working to save endangered animals.⁽⁷⁾ (As we explain in [section 3.6](#), we use the term ‘citizen’ to keep the focus on the individual, and not to imply formal citizenship status as determined by a government.) Kahumbu speaks of her fellow citizens as heroes, campaign supporters, tree planters, park and forest defenders, and voters. To inform her choices about what stories to tell and what conservation strategies to pursue, she uses data analytics about endangered species and about court rulings on poaching. She also “look[ed] at what was working and what wasn’t working in Kenyan conversation.” Ideally she could complement such ‘local’ evidence with syntheses of the best evidence globally about what strategies and combination of strategies offer the greatest promise. These might range from very upstream strategies like human-population planning to mid-stream strategies like natural-resource management (e.g., maintaining parks, limiting logging, restricting sprawl, and limiting fencing), infrastructure planning (e.g., carefully locating new power lines, rail lines and roads), Indigenous communities support (e.g., enabling win-win leasehold agreements with conservation groups and private safari companies), and wildlife support (e.g., enforcing bans on poaching and ivory sales).

As these stories illustrate, our current approach to societal challenges and ways to address them relies on learning in ad hoc ways over long periods of time. We need to transition to a new approach that involves using evidence systematically and transparently to rapidly learn and improve. The COVID-19 pandemic showed us that we can do this:

- we learned that elimination could be pursued as a goal – as was done in Australia and China, among other countries – if the political, geographic and pandemic conditions were right (and that this could change, as it did with the Delta variant)
- we learned that aerosols are a key mode of transmission, and that masks and ventilation can help to prevent transmission (see bit.ly/3HiGuIT)
- we learned that the risk of transmission from children to children and from children to adults in primary school and daycare settings is low when infection prevention and control procedures are in place (for a living rapid review on the topic, see bit.ly/3c7B0r1)
- we learned that steroids can reduce deaths in hospitalized patients (for a living guideline about drug treatments, see bit.ly/3DehxMf)
- we learned that vaccines can prevent transmission, infection, severe disease and death, including for new variants (for COVID-END living evidence synthesis #6, which is updated every two weeks, see bit.ly/3FfPOeX)
- we learned that inequities were made worse within and across countries, and that we need to pay particular attention to the most vulnerable, such as those living in long-term care homes and those facing financial and housing insecurity.

Emerging guidance (e.g., we don’t yet know enough, but wash your hands well in the meantime) was superseded by replacement guidance (e.g., we now have a lot of evidence indicating that masks reduce transmission), as it should. The above list may also change, as it too should.



As one of our commissioners suggested in a call, picture a 2*2 table created by a Y axis denoting using (or not using) best evidence and an X axis denoting being able (or not able) to rely on self-correcting systems that ensure that effective practices

emerge. The commissioner argued that many doctors are typically in the top right quadrant of this 2*2 table. They use rigorously developed clinical-practice guidelines (best evidence) and they also observe whether their patients are responding to the treatment recommended by the guideline. The latter may often be wrong, but it powerfully complements the former. Soldiers are more commonly off to the right along the X axis. They cannot use rigorous evaluations in the way doctors do, but – sadly – they observe very quickly whether they are accomplishing their objectives. Many types of decision-makers can neither draw on best evidence in their area of work nor rely on self-correcting systems. Beliefs about effective approaches may be held, sometimes very strongly, but these beliefs are neither subjected to rigorous testing nor subjected to self-correcting systems that have proven themselves to be highly reliable.

The first six chapters of the Evidence Commission report provide the context, concepts, and shared vocabulary that underpin the Evidence Commission’s recommendations. These six chapters can be used by many people, not just those positioned to make the changes necessary to ensure that evidence is consistently used to address societal challenges. The seventh chapter provides the Evidence Commission’s recommendations about how we can and must improve the use of evidence, both in routine times and in future global crises.

The report includes 52 sections that can be separately downloaded from the Evidence Commission website. Drafts of these sections were shared publicly at key junctures in the work of the Evidence Commission, both to elicit feedback about how to strengthen them and to begin building momentum for action. These sections often include one or more infographics. They have been designed to be easily used in presentations, reports, and other formats. The Evidence Commission encourages you to ‘share freely, give credit, adapt with permission.’

The commissioners and secretariat hope that this report is the start of a serious set of conversations about what is going well and where we can do better. We have undertaken this work very rapidly and with limited financial support, and we have inevitably made some mistakes and missed key evidence syntheses and other documents. We have covered a lot of ground and spoken about a great diversity of societal challenges, and we have inevitably over-generalized and missed some important nuances. We have tried to avoid reference lists that run to dozens of pages per chapter, and we have inevitably failed to honour all of those whose ideas we have built upon. Again, we welcome feedback so that we can make corrections in the additional products that we – and we hope many others – will create based on this report.

The remainder of this chapter comprises eight sections:

- [1.1 Desirable attributes of commissions](#)
- [1.2 Commissioners](#)
- [1.3 Commissioner terms of reference](#)
- [1.4 How the commission builds on and complements past work](#)
- [1.5 Connection to COVID-END](#)
- [1.6 Timeline of key developments in using evidence to address societal challenges](#)
- [1.7 Equity considerations](#)
- [1.8 What success looks like](#)

The equity section is particularly key because equity is a thread that runs through the entire report.

The seven appendices to this report complement these sections in important ways:

- [8.1 Methods used to inform commissioner deliberations and recommendations \(relates to section 1.1\)](#)
- [8.2 Commissioner biographies \(relates to section 1.2\)](#)
- [8.3 Secretariat \(complements section 1.2\)](#)
- [8.4 Funders](#)
- [8.5 Commissioner and secretariat affiliations and interests \(relates to section 1.2\)](#)
- [8.6 Advisors and other acknowledgements \(complements section 1.2\)](#)
- [8.7 Timeline \(expands upon section 1.6\)](#)

1.1 Desirable attributes of commissions

Global commissions are frequently convened to address societal challenges. Yet there is no agreed list of desirable attributes of commissions, let alone tools to support their development, reporting and evaluation.

The convenors of global commissions can likely learn a lot from the health-related field of clinical-practice guidelines, which was in a similar position three decades ago. Since then a steady stream of methodological developments led to a list of desirable attributes of clinical-practice guidelines,⁽⁸⁾ first- and second-generation tools to support guideline development, reporting and evaluation (AGREE I and II), and complementary tools to assess the quality and implementability of guideline recommendations (AGREE-REX), and to support the development, reporting and evaluation of health-systems guidance (AGREE-HS). For additional details, see the AGREE Enterprise website.

To support its own work and to lay the groundwork for future methodological developments related to global commissions, the Evidence Commission drafted a set of desirable criteria for global commissions, using as prompts the five elements of the AGREE-HS tool (which is closer to the system focus for most global commissions than clinical-practice guideline related tools).

Topic

Convened and/or funded by a formal body with the authority to act on the recommendations and/or justified by a strong rationale for the topic's priority and timeliness for decision makers who can act on the recommendations

Participants

Comprised of commissioners who have been explicitly chosen to capture many elements of the diversity required to ensure that the recommendations speak to and are likely to be used by the types of decision-makers who could take action based on the recommendations, such as by:

- types of challenge (including sector), decision-maker, and evidence
- spectrum of experience and seniority
- gender balance
- mix of ethno-racial backgrounds
- location by region and country
- languages spoken

Supported by a conflict-of-interest policy that requires commissioners and secretariat staff to publicly report their potential conflicts of interest, an independent panel (if needed) to manage these conflicts in a way that is proportionate to their risks, and secretariat staff to ensure that the influence of funders is avoided or minimized

Methods

Enabled by the use of systematic and transparent methods to:

- review the evidence (e.g., data analytics and evidence syntheses) that informed deliberations about sections (e.g., infographics, tables and text boxes) and recommendations
- engage a broader group of stakeholders to build momentum for action and to inform deliberations (e.g., through website, social media, and direct outreach to umbrella groups)
- agree upon the final recommendations (e.g., formal consensus)

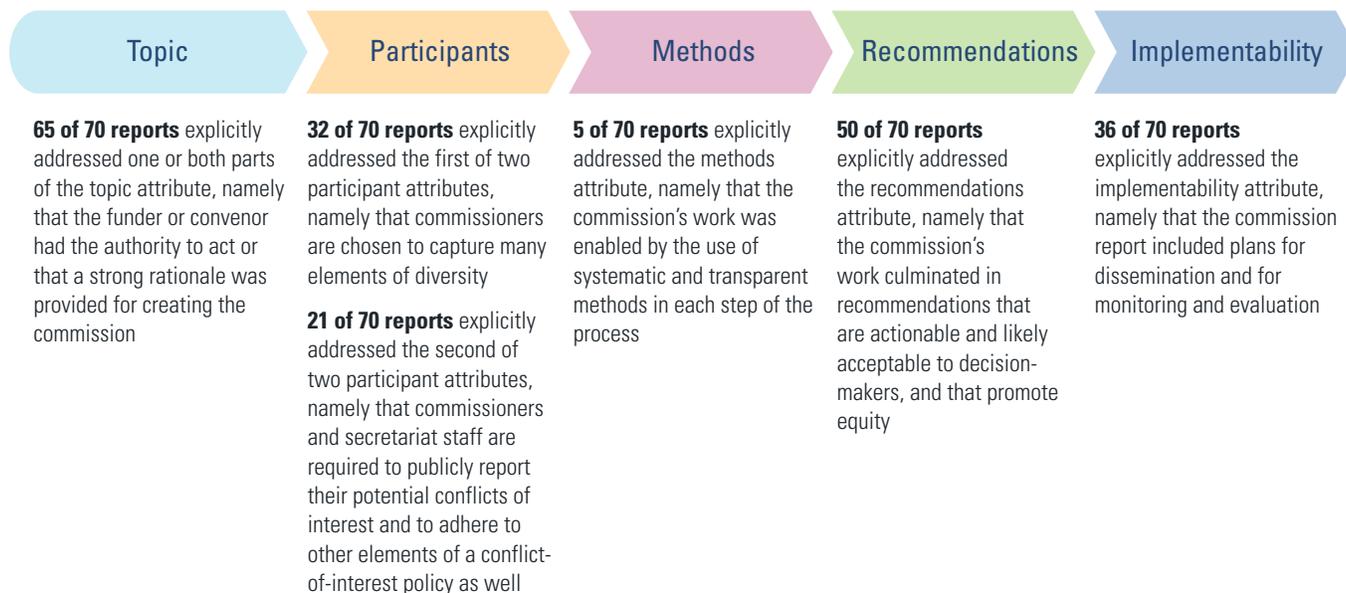
Recommendations

Culminated in recommendations that are actionable and likely acceptable to decision-makers, and that promote equity

Implementability

Included plans for dissemination to ensure decision-makers are reached (e.g., translation into multiple languages, open-access publications, engagement of intermediaries, and participation in decision-maker-targeted events), and for monitoring and evaluation to ensure continuity of the work and the accountability of players involved.

The Evidence Commission adhered to these attributes as diligently as possible and used them to analyze global commissions whose reports were published from 1 January 2016 onwards, or were being drafted. We selected this start date because it coincided with the start of the Sustainable Development Goals era (2016 to 2030). Our assessment of global-commission reports against these attributes found that:



The same global commissions also formed the basis of our analysis of:

- global-commission reports by challenge type ([section 2.5](#))
- global-commission reports by decision-maker type ([section 3.8](#))
- global-commission reports by form of evidence ([section 4.15](#))

For this section ([1.1](#)), as well as [sections 2.4, 3.8](#) and [4.14](#), we focused on what was reported (which may be less than what was actually done). We did not conduct interviews or review websites. Similar work could be done for the many regional, national and sub-national commissions, which sometimes go by other names, such as: 1) advisory group; 2) advisory or review committee; 3) assessment or high-level panel; 4) national or royal commission; 5) monitoring board; 6) science academy; or 7) task force. More extensive analyses could be done using some of the methods used in an analysis of global commissions, albeit with a different focus, by Gertz and colleagues.⁽⁹⁾

A thematic analysis of recommendations from these global commissions also helped to:

- understand the gap between where we are and where we need to be in using evidence to address societal challenges, at least from the point of view of the high-profile members of global commissions (see [section 7.1](#))
- improve the framing of the Evidence Commission's draft recommendations, and identify new ideas for Evidence Commission recommendations, that would help to bridge this gap (see [section 7.2](#))
- identify the Evidence Commission's recommendations that align with the recommendations from other global commissions (see the 'aligned reports' column in [section 7.2](#)).

The methods underpinning these analyses are described in [appendix 8.1](#).

1.2 Commissioners

The 25 commissioners were carefully selected to bring diverse points of view to creating a report that speaks to the many different types of people who make or can influence decisions about whether and how evidence is used to address societal challenges. This diversity is reflected in many ways:



* Ranging across most types of societal challenges (and Sustainable Development Goals), all types of decision-makers (government policymakers, organizational leaders, professionals and citizens), and all major forms of evidence

** China, India, United States, Indonesia, Pakistan, Brazil, Nigeria, Mexico, Japan and Ethiopia, as well as Australia, Austria, Canada, Chile, Germany, Trinidad and Tobago, United Arab Emirates, and United Kingdom

*** English, Chinese, Hindi, Spanish, French and Arabic, as well as Portuguese, Indonesian and Urdu, among others



Amanda Katili Niode

Talented policy advisor and non-governmental organization director advancing dialogue about environmental action, including climate action



Andrew Leigh

Seasoned politician bringing economics and legal training to public-policy writing and debate



Antaryami Dash

Non-governmental organization leader bringing nutrition expertise to the development and humanitarian sector



Asma Al Mannaei

Experienced public servant leading quality improvement and stewarding research and innovation across a health system



Daniel Iberê Alves da Silva

Young Indigenous leader educating students and others about Indigenous ways of knowing



David Halpern

Trusted policy advisor bringing formal experimentation and behavioural insights into governments, first in the United Kingdom and now in many countries



Donna-Mae Knights

Career public servant, specialized in poverty reduction and development, driving policy change towards building sustainable communities



Fitsum Assefa Adela

Committed policymaker striving to bring a whole-of-government perspective to cabinet-level planning and development



Gillian Leng

Experienced executive leading a technology-assessment and guideline agency that supports health and social care decision-making by governments, service providers and patients



Gonzalo Hernández Licona

Distinguished economist bringing rigorous evaluation methods to the fields of poverty measurement and economic development



Hadiqa Bashir

Young leader advocating for girls' rights and gender equality in male-dominated environments



Jan Minx

Impact-oriented scholar bringing innovative evidence-synthesis approaches to domestic policy advice and global scientific assessments about climate change and sustainability



Julia Belluz

Respected journalist bringing rigour to reporting about what the best available science does and doesn't tell us about the major challenges of our time



Kenichi Tsukahara

Engineering leader supporting disaster risk management in government, a development bank, and international agency



Larry Hedges

Applied statistician driving the use of evidence synthesis in educational policy and practice



Modupe Adefeso-Olateju

Non-governmental organization leader pioneering the use of citizen-led assessments and public-private partnerships to improve educational outcomes for children



Petrarca Karetji

Entrepreneurial policy advisor innovating in the use of data analytics to support evidence-informed policymaking about sustainable development



Steve Kern

Foundation leader using data analytics and other forms of evidence to fight poverty, disease and inequity around the world



Howard White

Research leader supporting the use of robust evaluation and evidence synthesis in decision-making in international development and across sectors



Jinglin He

Non-governmental organization leader engaging policymakers and stakeholders, as well as UN agencies, in advancing social-development initiatives



Julian Elliott

Clinician researcher leveraging technology for efficiently preparing and maintaining 'living' evidence syntheses and guidelines to inform decision-making



Kerry Albright

Eternally curious international public servant bringing passion about evidence-informed decision-making, systems thinking, and help in understanding the value of evidence to international development



Maureen Smith

Citizen leader championing the meaningful engagement of patients and citizens in conducting research and using it in their decision-making



Neil Vora

Interdisciplinary professional bringing planetary-health thinking to the interface between conservation efforts (such as preventing deforestation) and pandemic prevention



Soledad Quiroz Valenzuela

Government science advisor contributing her national experiences to regional and global efforts to improve the quality of government scientific advice

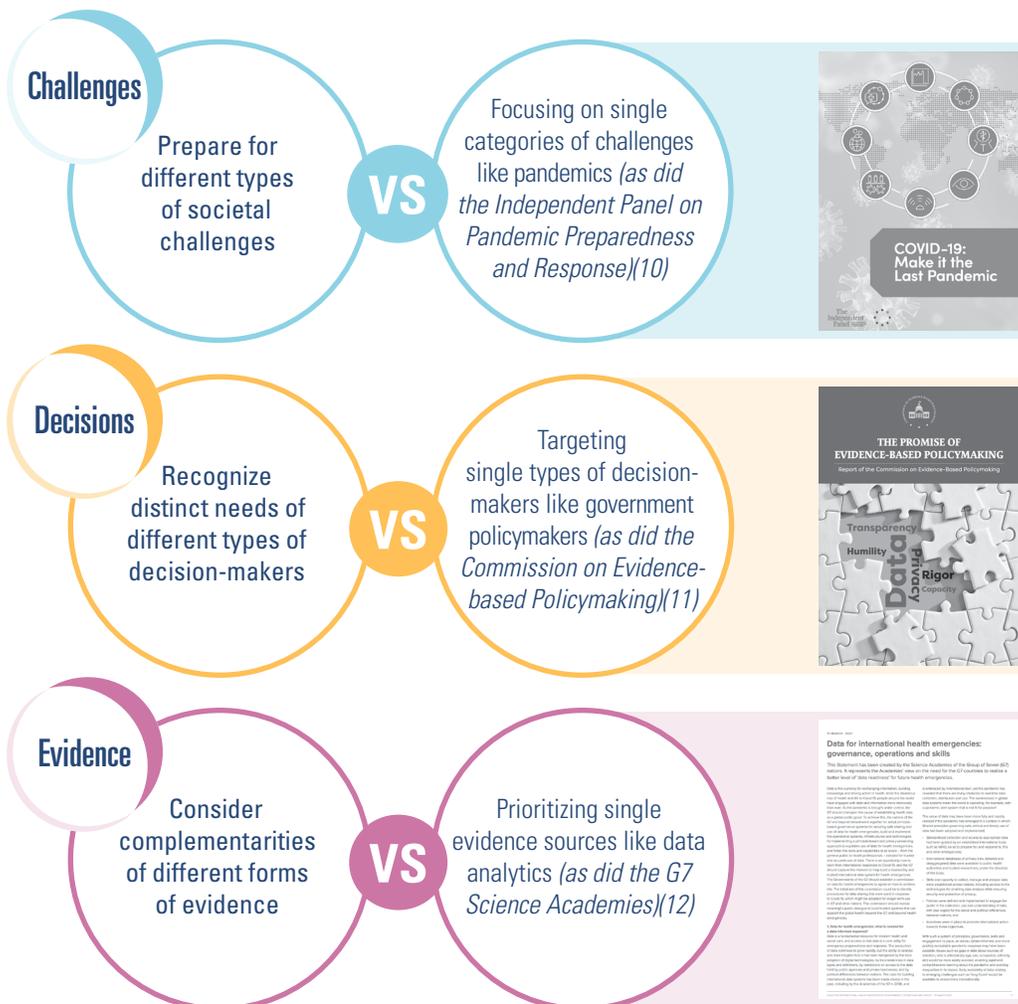
1.3 Commissioner terms of reference

Drawing on their expertise and experiences in addressing (or informing efforts to address) societal challenges from the vantage point of one or more categories of decision-makers and using one or more forms of evidence, commissioners supported the Evidence Commission in four (or five) main ways:

-  Participating in virtual deliberations to shape the report structure and content, sections, and proposed pathways to influence (e.g., advisors and events)
-  Providing input on select draft sections (e.g., infographics and tables) that will be disseminated widely both to elicit input to improve them and to begin to build the case for action
-  Identifying key gaps in the sections, the analyses needed to underpin sections, and the interviews and other communications with partners needed to ensure the sections are fit for purpose
-  Reviewing the draft final report, endorsing the final recommendations about how to better meet the evidence needs of decision-makers as they address societal challenges, both in routine times and in future global crises, and reviewing the prioritized pathways to influence
-  (Optional) Contributing to virtual events where the published report has the potential to achieve significant influence.

1.4 How the commission builds on and complements past work

Why now? COVID-19 has created a once-in-a-generation focus on evidence among government policymakers, business and non-governmental organization leaders, many types of professionals, and citizens. Their decisions have shaped the pandemic response and will shape responses to future societal challenges. The pandemic has fast-tracked collaboration among decision-makers and evidence producers, but decision-making that draws from a range of forms of evidence is not yet routine. Our independent panel of commissioners has produced this report with recommendations for ways to better meet the evidence needs of decision-makers in routine times and in future global crises. In doing so, they have built on and complemented past work, such as the examples below.



1.5 Connection to COVID-END

The COVID-19 Evidence Network to support Decision-making (COVID-END) first identified the need for the Evidence Commission and helped shape the report contents, and it is committed to pursuing pathways to influence for the Evidence Commission's recommendations.

COVID-END's 55 partners are drawn from diverse evidence-synthesis, technology-assessment and guideline-development communities, as well as key 'intermediary organizations.' (For a listing of partners, see bit.ly/3wGw012.) The partners have long track records of supporting decision-makers locally, nationally, internationally and across sectors. They are among the most respected organizations in their respective fields. They came together to provide a more coordinated evidence response to the once-in-a-generation global challenge of COVID-19. Their evidence-related activities have spanned the full spectrum of the pandemic response, from public-health measures and clinical management to health-system arrangements and economic and social responses. Their activities also covered the full spectrum of contexts where the pandemic response has been playing out, including low-, middle- and high-income countries. As the world begins to return to addressing both slow-burn societal challenges and encounters new crises, COVID-END's partners want to see us build on what went well with the evidence response to COVID-19 and ensure that we address what could have gone better.



COVID-END acts as 'umbrella' for these partners in the time-limited evidence response to COVID-19, and many of them in turn act as an umbrella for many other partners in addressing a broad range of societal challenges. Examples of these umbrella organizations include:

Africa Centre for Evidence, which supports the Africa Evidence Network in bringing together more than 3,000 people from across Africa to support evidence-informed decision-making

Campbell Collaboration, which supports teams around the world to prepare and support the use of evidence syntheses in areas like business and management, climate solutions, crime and justice, disability, education, international development, and social welfare

Cochrane, which includes review groups around the world that prepare evidence syntheses, and geographic groups in 45 countries and thematic networks in 13 domains that support evidence-informed decision-making on health-related topics

Evidence Synthesis International, which supports evidence-synthesis organizations around the world that produce, support, and use evidence syntheses

Guidelines International Network, which supports 130 organizations around the world that develop and implement evidence-based guidelines.

The Evidence Commission welcomes expressions of interest from other umbrella organizations that can commit to pursuing pathways to influence for the Evidence Commission's recommendations.

1.6 Timeline of key developments in using evidence to address societal challenges

Multilateral organizations such as the UN system and the Organisation for Economic Co-operation and Development (OECD) are key players in determining whether and how decision-makers use evidence to address societal challenges, as well as being users of evidence in their own right. The UN system is comprised of a secretariat, many departments (e.g., Department of Economic and Social Affairs), funds (e.g., UNICEF), programs (e.g., UNDP), and specialized agencies (e.g., World Bank and WHO). How such multilateral organizations view societal challenges profoundly shapes evidence needs for decision-making, especially among government policymakers in their member states, but also among organizational leaders, professionals and citizens. Similarly, how they view using evidence to support decision-making profoundly shapes the evidence-support system that they and their member states put in place. Select examples of key developments in both these domains are provided in the first two lists below.

The many forms in which evidence is now typically encountered by decision-makers emerged over the past 80 years, first with randomized-controlled trials (an approach to evaluating 'what works') in the 1940s and moving on to technology assessments, evidence syntheses, guidelines, and behavioural / implementation research. More recently, big data and artificial intelligence have spurred rapid developments in data analytics and modeling. Select examples of these developments are provided in the third list below.

Key developments in...

Challenges

... how societal challenges are viewed in multilateral organizations

- First global mechanism to periodically achieve agreement among leading climate scientists (with the sixth global assessment being released in 2021-22) and consensus from participating governments: Intergovernmental Panel on Climate Change (1988)
- First OECD-level commitment to time-bound targets to achieve key goals: International development targets (1996-2015)*
- First global commitment to time-bound targets to achieve key goals: Millennium Development Goals (2000-15)
- First multi-sectoral and transdisciplinary framework to focus on the animal-human-ecosystems interface to improve health: One Health (2008)**
- Second global commitment to time-bound targets to achieve key goals: Sustainable Development Goals (2016-30)

Decisions

... how using evidence to support decision-making is viewed in multilateral organizations

- First World Bank report dedicated to the topic: World development report: Knowledge for development (1998-99)
- First UN body to transition from relying on expert opinion to using more rigorous approaches in developing recommendations: WHO's guidelines for guidelines (2003)
- First WHO report dedicated to the topic: World report on knowledge for better health (2004)
- First call to base development efforts on 'what works' and enhance country ownership of development agendas: Paris declaration on aid effectiveness (2005)
- First UN strategy to nurture the capabilities and foster the enablers for data-driven action: UN Secretary-General's data strategy (2020)
- First UN report that prioritized evidence syntheses as part of a research response to a societal challenge: UN research roadmap for the COVID-19 recovery (2020)
- First World Bank report dedicated to using data to advance development objectives: World development report: Data for better lives (2021)

* oecd.org/dac/2508761.pdf

** fa.o.org/3/aj137e/aj137e00.pdf

Evidence

... how best evidence is produced to support decision-making

- Early double-blind randomized-controlled trials – Patulin for the common cold (1943) and streptomycin for pulmonary tuberculosis (1948)
- Notion of participant-driven (versus only investigator-driven) evidence emerges through work by Lewin and Freire on participatory-action research (1946-70)
- Early social-science use of trials: Perry Preschool Project (1962-67) and RAND Health Insurance Experiment (1971-86)
- US Office of Technology Assessment established (1974)
- First evidence synthesis yielding an effect estimate: Psychotherapy (1977)***
- Landmark book on quasi-experimentation by Cook and Campbell (1979)
- Landmark book on data visualization (1983): Tufte's *The Visual Display of Quantitative Information* (first edition)
- First field-wide overview of the safety and effectiveness of care: *Effective Care in Pregnancy and Childbirth* (1989)
- Cochrane Collaboration and International Network of Agencies for Health Technology Assessment established (1993)
- Campbell Collaboration established (2000)
- First Campbell evidence synthesis yielding an effect estimate: Scared Straight program (2002)
- Guidelines International Network established (2002)
- Implementation Science journal established (2006)
- First widely read book on using behavioural insights: *Nudge – Improving decisions about health, wealth and happiness* (2008)

*** psycnet.apa.org/record/1978-10341-001



Evidence intermediary, Julia Belluz

Respected journalist bringing rigour to reporting about what the best available science does and doesn't tell us about the major challenges of our time

The COVID-19 pandemic has been a challenging and disorienting time in many ways, including for all of us who are trying to make sense of, and communicate, what the latest evidence can tell us about the virus and how to keep our families, communities, and countries safe. In a fast-moving information environment, where we're constantly challenging and updating assumptions, understanding the implications of new studies or policies has been more difficult than ever. But the good news is that COVID-19 has also accelerated a global push to develop and refine tools that can help people think critically about evidence and contextualize it. I'm thinking in particular of evidence synthesis, and living evidence products, which the report addresses in [sections 4.4](#) and [4.7](#). Their very raison d'être is bringing together the latest and best evidence on important social, policy, and clinical questions to come to more fully supported conclusions. For example, the COVID-END inventory collates high-quality evidence on everything from how the various vaccines stack up against new coronavirus variants, to what impact school closures have on minimizing the risk of outbreaks (see [section 4.12](#) for additional examples). These tools should be an essential resource for journalists reporting on this pandemic, the next pandemic, and the many other societal challenges to come. For those on the receiving end of decisions by clinicians, public servants, and elected officials, these tools are also potentially life-saving. I just hope this pandemic will finally help more people appreciate, and make use of, them.



1.7 Equity considerations

A challenge often disproportionately affects some groups in society. The benefits, harms and costs of options to address the challenge may vary across groups. Implementation considerations may also vary across groups. Evaluations may ask what worked for which groups under what conditions.

How evidence about a challenge is viewed may also vary across groups based on their historical, social and cultural contexts.

One way to identify groups warranting particular attention is to use the PROGRESS-Plus framework.⁽¹³⁾ PROGRESS is an acronym formed by the first letters of the following eight ways that can be used to describe groups:

- P** Place of residence (e.g., rural and remote populations)
- R** Race, ethnicity, culture and language (e.g., Indigenous peoples and minority ethnic, cultural and linguistic groups within a country)
- O** Occupation and labour-market experiences more generally (e.g., those in informal or precarious work arrangements)
- G** Gender and sex
- R** Religion (e.g., Christianity, Islam and their respective denominations)
- E** Educational level (e.g., numeric literacy)
- S** Socio-economic status (e.g., economically disadvantaged populations)
- S** Social capital/social exclusion.

Plus refers to:

- +** Personal characteristics associated with discrimination (e.g., age, disability)
- +** Features of relationships (e.g., parents who smoke, school expulsions)
- +** Time-dependent relationships (e.g., leaving the hospital, other instances where a person may be temporarily at a disadvantage).

Access to trustworthy information, immigration status and sexual orientation are examples of other descriptors.

As we return to in chapter 4, an evidence synthesis uses a systematic and transparent process to identify, select, appraise and synthesize the findings from all studies that have addressed the same question. An evidence synthesis aims to come to an overall understanding of what is known on that question, including how this may vary by groups (e.g., racialized communities living in low socio-economic neighbourhoods or socially isolated seniors living in rural communities).

With the COVID-19 pandemic response, the distribution of benefits, harms and costs fell very differently across countries and across groups within countries. For example, in some high-income countries, ‘essential workers’ (who could not stay home during lockdowns) were often women working in low-income jobs with no paid sick leave, from racialized communities suffering from stigma and discrimination, living in small homes with both children and grandparents and where isolating was not possible, and living in urban neighbourhoods with crowded public transportation and overwhelmed hospitals. In some low-income countries, many migrant workers lost their jobs during lockdowns and could not safely return to their villages when public-transportation systems were simultaneously shut down. Other migrant workers had to choose – often without access to trustworthy information – between staying on the job in cities and returning to their villages based on where they would have the lower risk of becoming infected, and greater prospect of receiving healthcare if they became severely ill. Vaccine availability in low-income countries lagged very substantially behind vaccine availability in high-income countries.

As we also return to in chapter 4, context can shape how evidence is viewed by racialized communities and by women, among others (see [section 4.9](#)). Contexts, as well as Indigenous peoples’ distinct rights and ways of knowing, can also shape how evidence is viewed by Indigenous peoples (see [section 4.10](#)).



Government policymaker, David Halpern

Trusted policy advisor bringing formal experimentation and behavioural insights into governments, first in the United Kingdom and now in many countries

For me the key take-aways are: 1) the sheer scale of the ‘catch-up’ needed for other sectors if they are to ever get to where the health sector is in all aspects of the production, sharing and use of evidence; 2) the need for a global mechanism for governments to jointly commission evidence syntheses – not least to avoid duplication – and for a set of global public-good producers to respond with high-quality and timely evidence products; and 3) the need to build ‘absorptive capacity’ in governments and professional bodies. I’m both passionate and impatient on these points.

On the first point, we need to lay bare the fragility of our evidence base in so many areas, but more positively what’s possible when we do build it. COVID-19 illustrates both sides of this – incredible and rapid advance in some domains, but also some serious lacuna. This sets up our [recommendation 2](#) – all of us should pay attention when a claim is being made and ask about the quality and applicability of the evidence on which the claim is based. Demand better!

Turning to the second point, we need to ‘flush out’ the questions that government departments should know the answers to but don’t – or said another way, we need to identify the areas of policy and practice that are ‘built on sand.’ We’ve had some success with this in the UK with what we call ‘areas of research interest.’ These questions posed by government departments now help shape the research funding agenda of UK Research and Innovation (£8 billion per annum). This connects to our [recommendation 5](#) about making government evidence-support systems more fit-for-purpose. We also need a global coordination mechanism to respond to these questions by generating, synthesizing and sharing evidence. We would call them a global network of What Work Centres (extending what we have already in the UK), but other countries may want to use a different name for the network. The global network can help to address the uneven coverage and quality of the available evidence, and the unnecessary duplication that we see now with each country doing its own thing (or free riding on the investments of others). This connects to our [recommendation 24](#) directed at funders.

The last point brings me to the weakness of the institutions that people think of as offering definitive policy advice. The shocking truth is that, across large swathes of policy and practice, we’re stumbling in the dark. Robust evaluations are rare. At the same time, policymakers are prone to over-confidence. Technical guides such as the UK’s Magenta Book on designing evaluations and the Green Book on how to appraise and evaluate policies, programs and projects are a good starting point. We need more fit-for-purpose evidence-support staff and partnerships, science advisors, and advisory bodies in government ([recommendations 6-8](#)), and corresponding improvements in professional bodies ([recommendation 12](#)). Building evaluation capacity, such as the UK’s new Evaluation Task Force, is especially important as pump-primers for evidence building alongside the capacity to utilize it. One day I’d like to see us select, periodically test and internationally compare senior policy advisors on their ability to understand and use evidence. The Evidence Commission report brings such ideas together, along with a lot of ‘how to’ guidance.



1.8 What success looks like

What will change if the Evidence Commission's work has the impact we hope for? We provide below some examples of what success looks like, both generally and specifically. Examples marked with an asterisk (*) are drawn from the actual experiences of commissioners and COVID-END partners.

If ... <i>(key players have the right supports in place)</i>	... then <i>(they can achieve greater impacts)</i>	Examples
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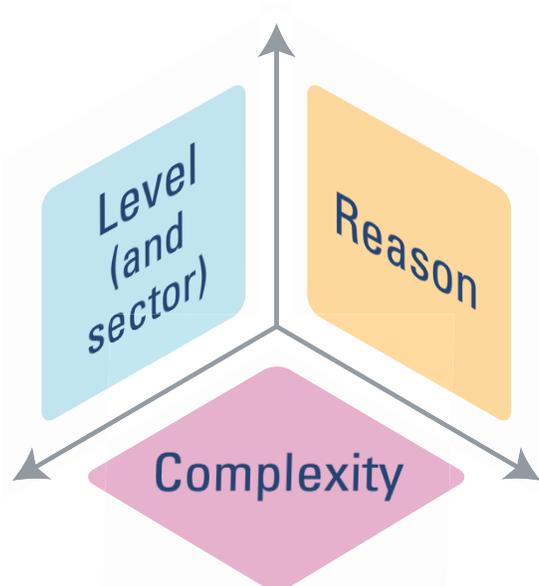


Chapter 2. Nature of societal challenges

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This chapter is the first of three chapters exploring the issue at the heart of this report: what is involved in systematizing the use of evidence, by the full range of decision-makers, in addressing societal challenges? Here we focus on the nature of societal challenges. [Chapter 3](#) focuses on decisions and decision-makers, or the demand for evidence. [Chapter 4](#) focuses on studies, syntheses and guidelines, or the supply of evidence.

2.1 Ways of looking at challenges



A challenge can be looked at by the level at which it is typically addressed, by the reason to label it a problem worth paying attention to,⁽¹⁾ or by the complexity of the underlying problem. Additional dimensions of a challenge can include the time horizon (e.g., effects of health and social services on experiences and outcomes can often be evaluated over weeks and months, whereas the effects of climate action are modeled over decades and centuries) and stakeholder complexity (e.g., some challenges can be discussed with a well-organized peak association of stakeholders, while others require engaging with a large number of differently sized and resourced groups, including civil-society groups).

A challenge can also be expressed negatively (as a problem) or positively (as a goal or strength to be built upon). The Sustainable Development Goals and the strengths-based approaches often advocated by Indigenous peoples are examples of the latter.

The label used to describe a challenge can appear neutral to some and politicized by others. For example, words like ‘sustainable’ have been used in countries like Brazil both by those seeking to preserve the Amazon rainforest and by those seeking to open it up for logging (under the label of ‘sustainable forestry’).

Level (and sector) at which a challenge is typically addressed	Domestic sectoral	<ul style="list-style-type: none"> • Health systems failing to improve health outcomes and care experiences • Schools struggling with virtual instruction • Declining living standards
	Domestic cross-sectoral	<ul style="list-style-type: none"> • Antimicrobial resistance • Gender-based violence • Growing levels of inequality • Lack of trust in institutions • Missed targets for the Sustainable Development Goals
	Global (or regional) coordination	<ul style="list-style-type: none"> • Inequitable patterns in COVID-19 vaccination • Climate change

Reason to label a challenge a problem worth paying attention to	Values	“This problem does not reflect who we are as a society”
	Past	“This problem is getting much worse”
	Other groups within jurisdiction	“This group is doing much worse than any other”
	Other jurisdictions	“This country is doing much worse than others like it”
	Other framing	“This is not an issue of insufficient numbers or an inequitable distribution of workers, but a problem of mis-aligned financial incentives”

Complexity of the underlying problem	Simple	Cause and effect can be easily identified and the solution can involve a single action
	Complicated	Causes can be identified and the solution can involve rules and processes
	Complex	Some causes can be identified, others are hidden, and some may be consequences of other causes, and the solution is multifaceted and may need to be adjusted as it is implemented
	'Complexity cubed' (or wicked)*	Causes are even more complex because symptoms can become causes and because feedback loops operate, so solutions are highly context specific, and wrong or mistimed solutions can make the problem worse

** Some commissioners questioned the value of distinguishing degrees of complexity and using the label 'wicked' that has sometimes been attached to problems of significant complexity. Here we use the term 'complexity cubed' to capture the greater degree of complexity and note that some refer to such problems as wicked. One commissioner observed that complexity often manifests itself as a balancing of trade-offs in outcomes across sectors (e.g., an intervention may improve educational outcomes and worsen health outcomes) and a need for appropriate sequencing of interventions. A second commissioner observed that others have called such challenges 'chaotic,' and that the chaotic nature of these challenges can mean that what you learned from solutions tried yesterday may not work today.(2)*



Government policymaker, Soledad Quiroz Valenzuela

Government science advisor contributing her national experiences to regional and global efforts to improve the quality of government scientific advice

Some of my fellow commissioners are focused on improving on what's already in place, but in many countries in Latin America, we don't yet have the key building blocks in place to use evidence to address societal challenges. Some governments don't have advisory bodies, so we need to start by setting them up. Most governments don't have staff who've been trained in how to use evidence routinely in their work. I don't think Latin America is alone in this regard. In my role as the vice-president for policy with the International Network for Government Science Advice (INGSA), I hear similar descriptions from colleagues in other regions. Networks like INGSA can play a key role in showing the relevance of an evidence-support system that works for their context.

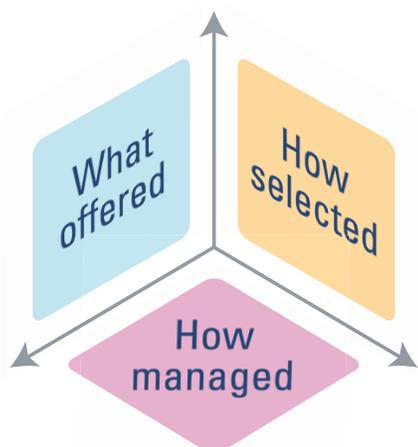


2.2 Example of a transition in how a societal challenge is seen

Unsustainable fishing practices provide an interesting example of how the way we look at a societal challenge can change over time. Once seen as a complicated, domestic sectoral problem, unsustainable fishing practices are increasingly understood as part of a more complex or ‘complexity cubed’ problem, and as both a domestic cross-sectoral and global (or at least regional) coordination problem.(3)

Level	Domains where challenges need to be understood					Management framework
Single-species fisheries management	Single species 					Fishery management plan
Ecosystem approach to single-species fisheries management	Single species 	 Climate	 Ecology	 Habitat		Fishery management plan
Ecosystem-based broad fisheries management	Multi-species 	 Climate	 Ecology	 Habitat		Fisheries management plan
Ecosystem-based whole-ocean management	 Aquaculture	 Conservation	 Development	 Ecotourism	 Energy	Regional ocean plans
	 Fisheries	 Marine	 Oil and gas	 Sanctuaries	 Other	

2.3 Ways of addressing challenges



Societal challenges can be addressed in many ways. Here we describe three ways, some of which can be combined. For example, a team of research and innovation professionals may partner with community leaders to co-design a single intervention to address a societal challenge. Alternatively, a group of researchers may use a combination of data analytics, cost-effectiveness analysis and modeling to identify what combination of evidence-based interventions will have the greatest impacts in jurisdictions with a given profile, as was done with Disease Control Priorities 3, a periodic review to address the burden of disease in low-resource settings.(4)

Ways of addressing challenges

Descriptions

What is being offered	Single intervention	An intervention (e.g., a policy, program, service or product) is selected based on the certainty of the evidence that benefits outweigh harms, and that the intervention is affordable to those who will pay for it and acceptable to those who will receive it
	Package (or bundle) of interventions	An optimal package of interventions is selected based on the interventions that will give the greatest improvement in outcomes within a fixed budget
	Synergistic combination of interventions	An optimal combination of interventions is selected based on the likelihood that some interventions will interact with other interventions in ways that the 'whole is greater than the sum of the parts,' or that they simultaneously achieve multiple targets
How it is selected or developed	Evidence-based intervention selected	An intervention is selected from among interventions that have been shown to work for the same problem being experienced locally
	New intervention developed	An intervention is designed by researchers, innovators and others
	Co-designed intervention	An intervention is co-developed by those who will receive it and/or those who will offer it, as well as researchers, innovators and others
	Community-led action	An intervention is developed by representatives of the community who recognized the need for the intervention and who will receive it
How it is managed over time	Portfolio management	An optimal portfolio is selected that achieves strategic objectives, reflects capacity to deliver, and balances the implementation of change initiatives and the maintenance of business-as-usual while optimizing return on investment
	Systems thinking (5)	Interventions are combined, adapted and replaced based on an understanding of patterns in their interrelationships and interactions within complex adaptive systems that are themselves constantly changing in unpredictable ways

2.4 Examples of approaches to prioritizing challenges to address

Many approaches can be used to prioritize societal challenges. They can vary by the breadth of challenges and the time frame they address, and by the degree to which they can inform priority setting. Priority setting may be for evidence-related global public goods (which we return to in chapter 6) or for the strategies used by evidence intermediaries (which we return to in chapter 5 and again in chapter 6). Below we outline five of the general approaches that can be used to prioritize action on societal challenges. The first considers all possible sectors and the remaining four are drawn from the health sector. For each example, we suggest some of the pros and cons of the approach.

Focus	Examples	Pros	Cons
Broad societal challenges operating over the long term	Global Priorities Institute approach to setting a research agenda (6)	Attention to the very long term, including the many generations that will come after us, and to existential risk, such as the extinction of the human species	Focus on the 'buckets' where evidence is needed, without also focusing on the specific questions to be answered or the forms of evidence to answer them within each bucket
Mid-range challenges operating over the short term	Approaches to allocating resources, such as program budgeting and marginal analysis, technology assessment, and multiple-criteria value assessment*(7)	Attention to how financial and human resources can best be allocated within a sector to achieve the greatest value for money	Same as for the rows above and below, as well as the tendency to do these episodically and not as living processes
Specific research questions where new primary research is needed now	James Lind Alliance approach to engaging patients, caregivers and professionals in prioritizing the top 10 unanswered questions (or evidence uncertainties) on a specific topic	Research priorities being set by those who need to use the resulting evidence and with a check that best evidence doesn't already exist for each potential priority	Tendency to focus on products and services, without also focusing on how to get the right mix of many different products and services to those who need them
Specific research questions where a synthesis of the best evidence globally is needed now	SPARK tool for engaging government policymakers and stakeholders in prioritizing questions for evidence syntheses about the health-system arrangements and implementation strategies needed to get the right mix of products and services to those who need them (8)	Same as for the row above, as well as the focus on evidence synthesis to complement primary research	Lack of anticipation of future needs, which can include both issues that tend to recur with political and economic cycles and issues for which preparedness will be essential
Specific decisions where locally contextualized evidence is needed now, typically on very short timelines	COVID-END approach to prioritizing urgent requests from national and sub-national policymakers for rapid evidence syntheses to be prepared in one-to-10 days and funded out of a common pool over a one-year period	Use of proxy indicators for likelihood of impact (high-level request and interest from multiple jurisdictions), a check that best evidence doesn't already exist or isn't already being synthesized, and checks that the work can be completed in the timeline requested and within bi-monthly spending targets	Potential for duplication in the production of new global public goods and for such goods to be of lower quality than if a living evidence synthesis had been prepared by methodologically strong teams that anticipated a future need and made available updates in ways that can be easily contextualized

* An alternative to MCVA is the incremental cost-effectiveness ratio based on quality-adjusted life years, which is a single-criterion value assessment

2.5 Global-commission reports by challenge type

Global-commission reports provide an interesting window into how challenges are viewed by the ‘eminent persons’ who often fill the ranks of commissioners. Our analysis of the 70 commission reports published since January 2016 found that:

- most commission reports (46) address both domestic and global levels
- only three sectors have been the focus of more than seven commission reports, namely health, public safety and justice, and food safety and security, with 22, 17 and 12 reports, respectively
- only four Sustainable Development Goals (SDGs) have been the focus of more than six commission reports, Good health and well-being (SDG 3), Peace, justice and strong institutions (SDG 16), Zero hunger (SDG 2), and Decent work and economic growth (SDG 8) with 25, 16, 10 and seven reports, respectively
- nearly half of the commission reports (33) labeled the problem they were addressing as complex and none used the labels simple, complicated or wicked
- the most common reasons used to justify calling a challenge a problem worth paying attention to were values (59) and comparisons to the past (52)
- most challenges were framed positively as goals or targets (39) rather than negatively as problems (31)
- most commission reports (43) propose a package (or bundle) of interventions, albeit not with the rigour of a report like Disease Control Priorities 3, but don’t speak to how the interventions were developed or how they should be managed over time.

Note that a commission report can address more than one sector and SDG so the numbers do not always add up to the total number of reports we analyzed.

Challenge types		Number of commission reports
Ways of looking at challenges		
Level at which a challenge is typically addressed	Both domestic and global	47
	Domestic (e.g., national or sub-national)	17
	Global coordination	6
Sector addressed	Health	23
	Public safety and justice	17
	Food safety and security	12
	Economic development and growth	7
	Natural resources	5
	Infrastructure	4
	Climate action	4
	Culture and gender	3
	Education	3
	Employment	2
	Energy supply	2
	Environmental conservation	1
	Government services	1
	Children and youth services	1
	Community and social services	1
	Housing	1
	Recreation	0
	Transportation	0
Citizenship	0	

SDG addressed	3 Good health and well-being	26
	16 Peace, justice and strong institutions	16
	2 Zero hunger	10
	8 Decent work and economic growth	7
	6 Clean water and sanitation	5
	10 Reduced inequalities	5
	12 Responsible consumption and production	5
	4 Quality education	4
	9 Industry, innovation and infrastructure	4
	17 Partnerships for the goals	4
	5 Gender equality	3
	1 No poverty	3
	13 Climate action	3
	7 Affordable and clean energy	2
	14 Life below water	2
	11 Sustainable cities and communities	1
15 Life on land	1	
Not stated explicitly	1	
Complexity of the underlying problem	Complex	33
	Simple	0
	Complicated	0
	Complex cubed (or wicked)	0
	Not stated explicitly	37
Reason to label a challenge a problem worth paying attention to	Values	60
	Past	52
	Other groups within jurisdiction	12
	Other jurisdictions	7
	Other framing	3
	Not stated explicitly	1
Framing	Positive	39
	Negative	31
Ways of addressing challenges		
What is being offered	Package (or bundle) of interventions	43
	Synergistic combination of interventions	20
	Single intervention	1
	Not stated explicitly	6
How it is developed	Co-designed intervention	14
	Evidence-based intervention selected	4
	New intervention developed	1
	Community-led action	1
	Not stated explicitly	50
How it is managed over time	Systems thinking	12
	Portfolio management	5
	Not stated explicitly	53

2.6 References

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Government policymaker, Fitsum Assefa Adela

Committed policymaker striving to bring a whole-of-government perspective to cabinet-level planning and development

As a cabinet member and a key player in my country's macroeconomic team, I and my team bear the huge responsibility of offering the best recommendations for effective development plans and policy designs aimed at solving societal challenges. This makes the office I lead one of the key users of evidence, both to provide a foundation on which plans and policies are based, as well as for alternative policy recommendations.

My participation in the Evidence Commission, as well as my engagement over the last three years at the apex of policymaking where we strive to make policies in a complex environment, have given me an ideal opportunity to re-emphasize the need for synthesizing the many forms of evidence pertinent to the issue at hand.

To support the use of evidence in policymaking and monitor our impacts, my team has been developing a new monitoring and evaluation metrics to better track progress in achieving the Sustainable Development Goals. Furthermore, we have been working with stakeholders to develop a national multidimensional poverty index (MPI) to complement existing measures of poverty. While global MPIs can set the stage for global comparisons, national MPIs can provide the sensitivity to local contexts that we need.

Thus, I strongly support the insights provided in chapter 3 about decisions and decision-makers, particularly those provided in [section 3.3](#) about the demand for evidence among government policymakers and the context for their use of evidence. I also wholeheartedly support the insights provided about the evidence-support system in [section 6.2](#), where the need for basing it on local (national or sub-national) contexts has been emphasized. The insights about the need for global public goods and equitably distributed capacities in [section 6.1](#) are also important, given the lack of global equity in this regard. This report will be instrumental in guiding us in the best ways for using evidence to properly understand and effectively solve societal challenges.





Chapter 3. Decisions and decision-makers: Demand for evidence

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This chapter is the second of three chapters exploring the issue at the heart of this report: what is involved in systematizing the use of evidence, by the full range of decision-makers, in addressing societal challenges? Here we focus on decisions and decision-makers, or the demand for evidence. [Chapter 2](#) focuses on the nature of societal challenges. [Chapter 4](#) focuses on studies, syntheses and guidelines, or the supply of evidence.

3.1 Steps in deciding whether and how to take action

People can decide whether and how to take action on impulse (often as part of a habit-driven, non-conscious process) or after reflection (as part of a deliberative, conscious process that can include finding and using evidence).(1) For the latter, approaching decision-making as a series of steps can help to make explicit the questions that may be asked and the nature of the decisions, even if many people don't follow steps at all or don't follow them in order. Here we introduce two of the four types of decision-makers who are the focus of this chapter (government policymakers and citizens, in this case those acting as community leaders), and we foreshadow the types of questions that can be answered with the evidence that is the focus of the next chapter (see [sections 4.2](#) and [4.3](#)). For decision-makers like government policymakers, [section 2.4](#) can also help in step 1.



**or ensuring the chosen option makes an optimal impact at acceptable cost*

Steps	Related questions	Decisions for a government policymaker	Decisions for a citizen or community leader
1	How big is the problem? Is the problem getting worse or is it bigger here than elsewhere? How do different people describe or experience the problem and its causes?	Should we pay attention to this problem given all the others we face as a government?	Should I pay attention to this problem given all the others that the people and community I care about face?
2	What good might come of it? What could go wrong? Does one option achieve more for the same investment? Can we adapt something that worked elsewhere while still getting the benefits? Which groups support which option?	Should we take any action to address this problem and, if yes, which option should we select?	Should I take any action to address this problem and, if yes, what action (e.g., talk to others about changing their behaviour, work with fellow community members on local solutions, or contact elected officials)?
3	What will get in the way or help us in reaching and achieving desired impacts among the right people? What strategies should we use to reach and achieve desired impacts among the right people?	Should we take any additional steps to increase the chance that the selected option does what we intend it to do?	Should I work with fellow community members and encourage elected officials to take steps to ensure the selected option reaches the people and community I care about?
4	Is the chosen option reaching those who can benefit from it? Is the chosen option achieving desired impacts?	Should we take any additional steps to give us the numbers we need to tell a success story or to correct our course if need be?	[As above]... to ensure we have the numbers we need to know whether we're succeeding or failing?

3.2 Four types of decision-maker and how each may approach decisions

The Evidence Commission focuses on four types of decision-makers. Each type of decision-maker may approach decisions in different ways. Here we provide an example of an approach used by each type, recognizing that this approach may be complemented by others (e.g., government policymakers also play a role in supporting decision-making by others, including by funding or 'building' the evidence used by them).



Government policymakers

Need to be convinced there's a compelling problem, a viable policy and conducive politics



Organizational leaders

(e.g., business and non-governmental organization leaders)

Need a business case to offer goods and services



Professionals

(e.g., doctors, engineers, police officers, social workers and teachers)

Need the opportunity, motivation and capability to make a professional decision or to work with individual clients to make shared decisions



Citizens

(e.g., patients, service users, voters and community leaders)

Need the opportunity, motivation and capability to make a personal decision, take local action or build a social movement

People wear multiple 'hats' and may have experience in multiple roles. For example, a government policymaker is also a citizen, may have trained in the past as a doctor or teacher, and may have led a non-governmental organization before being elected or appointed to government.

As we'll come to in chapter 4, using evidence is not 'rocket science.' Two randomized-controlled trials in Uganda showed that school children (ages 10 to 12 years) and their parents can be taught to assess the reliability of health-treatment claims and make well-informed decisions.^(2; 3)

3.3 Government policymakers and the context for their use of evidence



Government policymakers are one of four key types of decision-makers. They also shape the scope and supports for decision-making by organizational leaders, professionals and citizens, just as organizational leaders can do this for professionals and citizens, and professionals can do it for citizens. Citizen leaders, like the young Swedish environmental activist Greta Thunberg, can seemingly also shape the scope for decision-making by government policymakers, organizational leaders and others. Here we provide context for how government policymakers make decisions, using questions likely to elicit factors that could support (or discourage) their use of evidence. Given the array of policy, system and political analysis skills required to answer these questions, some evidence intermediaries focus exclusively on government policymakers.

Questions	Prompts
What types of decisions do they make?	<ul style="list-style-type: none"> • Domestic sectoral, domestic cross-sectoral or global (e.g., as a member state in the UN system) • One-off versus on-going process with defined re-assessment points • Routinized versus ad hoc (e.g., adding a product or service to an existing benefits package using established procedures versus creating a new benefits package) • Products and services versus the governance, financial and delivery arrangements that determine whether the right mix of products and services get to those who need them • One policy instrument versus another (see section 7.1 for examples of information/education, voluntary, economic and legal policy instruments)
Where and how are decisions made?	<ul style="list-style-type: none"> • National, provincial/state or local level of government • Executive, legislative or judicial* branch of government <ul style="list-style-type: none"> ◦ If executive: cabinet or other cross-government entity, minister or secretary (and their political staff), and public servants in central agencies, ministries or departments, government agencies, and regulatory bodies • Personal decision (command), consult, consensus or vote • Time constraint
What factors may influence decision-making?	<ul style="list-style-type: none"> • Need a compelling problem, a viable policy and conducive politics to get an issue onto the decision agenda • Make decisions within institutional constraints (e.g., veto points and legacies of past policies), contending with interest-group pressure (e.g., support or opposition from those who will gain or lose a lot), considering both 'what is' (e.g., data analytics) and 'what should be' (values), and in light of external events (e.g., economic crisis)
What 'structures' may provide a way in for evidence (and for institutionalizing evidence support)?**	<ul style="list-style-type: none"> • Internal evidence-support coordination unit and contributing data-analytics, evaluation, behavioural-insights, and other units • Internal government science advisor units • External evidence support from advisory groups, assessment panels, independent commissions, monitoring boards, review committees, and technical task forces • Internal units for budgeting and planning, monitoring, auditing, and complaints investigation (e.g., ombudsperson) • External support from management-consulting firms • External support from normative-guidance and technical-assistance units in the UN system and other multilateral organizations • External support from global public-good producers
What 'processes' may provide a way in for evidence?***	<ul style="list-style-type: none"> • Budgeting, planning and monitoring • Policies, procedures, handbooks and other tools to support workflows • Hiring criteria, performance-review criteria, promotion criteria, turn-over rate, and professional development for policy, program, technical and library staff • Stakeholder, public and media engagement, as well as public-opinion polling • Legislative debate and committee meetings • Elections and political-party platforms • Global and regional programs of action and accountability frameworks

* The judicial branch of government considers evidence as conceived in this report as something introduced by expert witnesses and as something to be considered alongside other testimonial evidence as well as physical evidence (e.g., fingerprints and DNA), demonstrative evidence (e.g., maps and photos), and documentary evidence (e.g., contracts and diary entries).

** Some of these structures and processes are explicitly evidence-related while others can be considered 'mainstream' structures and processes where evidence can be a helpful input.

Many evidence syntheses address the factors that influence the use of evidence in government and the strategies that increase the appropriate use of evidence in government, while others examine similar issues for decision-making in governments and organizations without explicitly differentiating the two. Many of the evidence syntheses addressing the factors that influence the use of evidence are of medium quality and focus on the health sector, although some address many sectors.(4; 5) The evidence syntheses addressing strategies tend to be of higher quality and focused on the health sector.(6-9) The studies included in these evidence syntheses are challenging to conduct for many reasons, including the difficulty of identifying the individuals involved in high-level behind-the-scenes decision-making, the difficulty of securing their participation given the confidentiality and time constraints that many work under, the complexity of the competing political forces at play, and the lack of simple measures of evidence use that reflect an understanding of political environments and can be applied at scale. Randomized-controlled trials are very infrequent, with only a few notable exceptions like the SPIRIT trial,(10) and natural experiments are very difficult to evaluate in ways that make causal statements possible. Medium-quality evidence syntheses also address complementary issues, such as evidence intermediaries' use of a range of strategies to support evidence use in policymaking in the health sector, technical-advisory groups' support for policymaking and program decision-making specifically about immunization, and cultures of evidence use in a range of non-health sectors.(11-14)

More operationally, many governments have developed handbooks to assist their staff in using evidence,(15-17) some audits of government documents have provided a window into at least the citation practices of many departments,(18) and some rich descriptions of evidence use in a single government have shed light on what this can look like 'on the ground.'(19)



Organizational leader, Asma Al Mannaei

Experienced public servant leading quality improvement and stewarding research and innovation across a health system

I work in a very fast-paced environment where decisions must be made based on the best available evidence, ideally presented in formats appropriate to busy executives. So the parts of the Evidence Commission report that are most important for me are the ones that could help our authorities develop the types of ultra-rapid evidence-support system that we need in Abu Dhabi. Some examples include **section 2.4** (examples of approaches to prioritizing challenges to address, especially the final column about COVID-END's approaches), **section 4.7** (living evidence products, especially living evidence syntheses that we can keep returning to), **section 5.3** (strategies used by evidence intermediaries, especially rapid-evidence services), and **section 6.2** (equitably distributed capacities, especially how our own internal processes can better intersect with the norms and guidance, technical assistance and global public goods). If we can create 'wins' that meet our current needs better, then I'm hopeful we can introduce the need to be working on multiple time horizons. No doubt we can better anticipate challenges in advance and help to build a local evidence base while we also look at what has been learned in the Gulf Cooperation Council countries, in our region and globally.



3.4 Organizational leaders and the context for their use of evidence



Organizational leaders include both business and non-governmental organizational leaders. They make decisions in their own right, and can shape the scope and supports for decision-making by the professionals who work for them and the citizens they serve. Here we provide context for how organizational leaders make decisions using questions likely to elicit factors that could support (or discourage) their use of evidence.

Questions	Prompts
What types of decisions do they make?	<ul style="list-style-type: none"> • Strategic, tactical and operational • If operational: programmed (routine) versus non-programmed
Where and how are decisions made?	<ul style="list-style-type: none"> • Head office, country office or local office • Chief executive, other C-suite leader, manager, employee or volunteer • Personal decision (command), consult, consensus or vote • Time constraint
What factors may influence decision-making?	<ul style="list-style-type: none"> • Need a business case to offer goods and services • Make decisions within regulatory and organizational constraints and market opportunities, contending with shareholder or stakeholder pressure, considering both 'what is' (e.g., data analytics) and 'what should be' (e.g., corporate values and sales targets), and in light of external events (e.g., economic crisis)
What 'structures' may provide a way in for evidence (and for institutionalizing evidence support)?	<ul style="list-style-type: none"> • Internal evidence-support units, including data-analytics and evaluation (e.g., A/B testing where commercial pressures encourage the use of randomized-controlled trials) • Internal units for knowledge management, research and development (R&D), budgeting and planning, marketing, monitoring, auditing, and risk management • External support from advisory groups, management-consulting firms, and the financial-services sector (e.g., financing) and authorities (e.g., externality pricing) • External support from global technical-standard setters
What 'processes' may provide a way in for evidence?	<ul style="list-style-type: none"> • Budgeting, planning and monitoring • Workplace policies, procedures, handbooks and other tools to support workflows • Hiring criteria, performance-review criteria, promotion criteria, turn-over rate, and professional development for staff • Organizational accreditation • Quality assurance • Government, stakeholder relations, public and media relations • Philanthropic giving • Environmental, social and corporate governance (ESG) principles • UN Global Compact principles and UN Guiding Principles on Business and Human Rights

Evidence syntheses that address the factors that influence the use of evidence in organizations and the strategies that increase the appropriate use of evidence in organizations are harder to come by (than those focused on governments), usually focused on the health sector, and typically of low- and medium-quality.(20-22) Many evidence syntheses will likely be needed in future given the heterogeneity of this category, which comprises both the full array of businesses and the full array of non-governmental organizations. Ideally these evidence syntheses will be undertaken using a common framework, such as one proposed in the Effective Altruism Forum, to permit comparisons across types of organizations.(23) One of the commissioners regularly reminds us that many successful businesses – from the credit card company Capital One and the supermarket chain Coles, to Amazon, Google and Netflix – do randomized-controlled trials all the time.(24)

3.5 Professionals and the context for their use of evidence



Professionals include doctors, engineers, police officers, social workers and teachers, among others. What typically unites members of some professions is that they have acquired formal qualifications through specialized training, have been admitted and are subject to discipline by a regulatory body, provide objective counsel and service in the interest of their client and the public, and have been given some degree of monopoly rights to do so. Membership in other professions may be much less formalized. Countries differ significantly in which categories of workers are considered professionals. Here we provide context for how professionals make decisions using questions likely to elicit factors that could support (or discourage) their use of evidence.

Questions	Prompts
What types of decisions do they make?	<ul style="list-style-type: none"> • Provide counsel or service
Where and how are decisions made?	<ul style="list-style-type: none"> • Can decide whether and how to take action independently – on impulse, often as part of a learned, non-conscious process, or after reflection, as part of a deliberative, conscious process that can include finding and using evidence⁽¹⁾ – versus in a workplace with policies and procedures set by others
What factors may influence decision-making?	<ul style="list-style-type: none"> • Need the capability, opportunity and motivation to make a professional decision or to work with individual clients to make shared decisions • Some profession-specific frameworks exist, such as the evidence-based medicine ‘triangle’ of clinical context (patient’s condition and clinician’s expertise), patient values and preferences, and evidence
What ‘structures’ may provide a way in for evidence (and for institutionalizing evidence support)?	<ul style="list-style-type: none"> • Workplace units providing decision support, knowledge management, research and development (R&D), budgeting and planning, marketing, monitoring, auditing, and risk management • External workplace support from evidence-support initiatives (e.g., Education Endowment Foundation for teachers) • External workplace support from management-consulting firms, financial-services sector (e.g., financing) and financial authorities (e.g., externality pricing), and global technical-standard setters
What ‘processes’ may provide a way in for evidence?	<ul style="list-style-type: none"> • Code of professional conduct • Continuing professional development • Maintenance of licensure (e.g., minimum amount continuing professional development in a defined period; periodic peer and practice assessment) • Other regulatory requirements • Practice-based research opportunities • Workplace processes such as budgeting, planning and monitoring as well as policies, procedures, handbooks and other tools to support workflows (see section 3.4 for the full list)

Well over 1,000 evidence syntheses address the effectiveness of strategies to support the use of evidence by health professionals, especially physicians, and many of these syntheses are of high quality. Overviews of such syntheses exist, including one focused on low- and middle-income countries.⁽²⁵⁾ Some evidence syntheses address the factors that influence the use of evidence by other professionals, such as teachers and school principals.⁽²⁶⁾

More operationally, select governments have invested in evidence syntheses, guidelines and toolkits to support evidence use by professionals. For example, the UK government has invested in a set of What Works Centres, such as the ones hosted by the College of Policing and the Education Endowment Foundation that support police officers and teachers, respectively.

3.6 Citizens and the context for their use of evidence



Citizens include all of us as members of society. We use the term ‘citizen’ to keep the focus on the individual, and not to imply formal citizenship status as determined by a government. For example, we include undocumented individuals and we recognize that Indigenous peoples were sometimes forced to decline their Indigenous status to achieve citizenship of a country that now includes their traditional lands. Alternative terms like ‘public’ or ‘publics’ are often considered a group, not individuals. More specific terms are often sector-specific, such as consumers (consumer protection), parents (education), patients and caregivers (healthcare), residents (housing), service users (child, community and social services), taxpayers (economic development and growth), voters (citizenship), and workers (employment). Here we provide context for how citizens make decisions using questions likely to elicit factors that could support (or discourage) their use of evidence.

Questions	Prompts
What types of decisions do they make?	<ul style="list-style-type: none"> • Making decisions about their and their family’s well-being • Spending their money on products and services • Volunteering their time and donating money to initiatives • Supporting politicians charged with addressing societal challenges • Advancing a narrow public interest, such as seeking a product recall for a product they purchased, better schooling for the type of school their children attend, and public payment for an expensive prescription drug for which a family member is now paying out-of-pocket • Advancing a broad public interest, such as improving consumer protection, education and healthcare
Where and how are decisions made?	<ul style="list-style-type: none"> • Can decide whether and how to take action on impulse, often as part of a learned, non-conscious process, or after reflection, as part of a deliberative, conscious process that can include finding and using evidence (1)
What factors may influence decision-making?	<ul style="list-style-type: none"> • Need the opportunity, motivation and capability* to make a personal decision, take local action or build a social movement • Motivation and capability can be influenced by family and friends, social-media influencers, community leaders, and others • Some citizen-specific frameworks exist, such as the ‘Ottawa decision-support framework’ for patients, which includes decisional needs, decisional outcomes, and decision support that meets decisional needs and achieves decisional outcomes
What ‘structures’ may provide a way in for evidence?*	<ul style="list-style-type: none"> • Regulatory frameworks that protect citizens from false or misleading advertising of products that claim to prevent, diagnose, cure, treat or mitigate • Social-accountability requirements such as citizen report cards, community monitoring, social audits, participatory budgeting, and citizen charters • Organizational and professional requirements to ensure citizens are provided with objective counsel and service in their interest and have access to an independent mechanism to address complaints (e.g., ombudsperson)
What ‘processes’ may provide a way in for evidence?	<ul style="list-style-type: none"> • Decision aids • Open-access publications • Citizen-targeted plain-language communication of evidence • Fact-checking services and misinformation trackers • Media and information (including numeric) literacy training • Trust-in-science initiatives • Citizen-science initiatives • Co-design and co-production processes • Citizen panels and other deliberative processes • Public consultation and engagement • Media, social media (including algorithms), and podcasts • Labels (called kitemarks in the UK) that signal the safety, quality or provenance of products and services (e.g., safe bicycle helmets or fair-trade coffee) • Websites that provide reviews of products and services (organized by product or service category to enable ‘comparison shopping’) • Websites that support ‘effective altruism’** • Social movements

* Other behaviour-science frameworks also can be used, such as the attention, belief formation, choice and determination (ABCD) framework.(27)

** Websites like 80,000 hours and GiveWell are pioneers in making it easy for people to volunteer their time and donate money to initiatives that use evidence to make decisions about what they do and how they do it.

Evidence syntheses address the factors and strategies that influence the use of evidence by citizens, however, many are low quality and highly specific in their focus. Some exceptions exist, such as a medium-quality scoping review of science-communication strategies.(28) We address the available evidence about responses to misinformation in [section 4.11](#).

Mistrust of elites has emerged as a significant concern recently. However, many evidence intermediaries consider it generally good that citizens are less deferential to experts and prepared to ask them difficult questions. Achieving some degree of trust in decision-makers like government policymakers isn't just about making the 'right' decisions; it's about making decisions that most citizens perceive to be right. One of the benefits of some types of evidence, like evaluations that use a randomized-controlled-trial design, is that they can be explained in ways that may make it more likely for citizens to accept the findings.



Organizational leader, Modupe Adefeso-Olateju

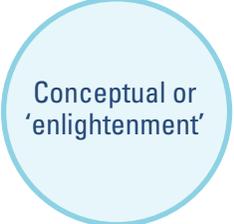
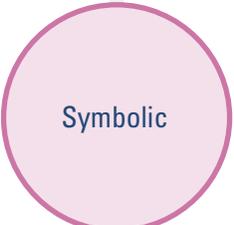
Non-governmental organization leader pioneering the use of citizen-led assessments and public-private partnerships to improve educational outcomes for children

It's critical that we capitalize on this once-in-a-generation opportunity to improve the evidence-support system for educational decision-makers, including government policymakers, school-board officials, school principals, teachers and parents. I wholeheartedly embrace the idea in [section 6.2](#) about this evidence-support system needing to be grounded in an understanding of local context (including time constraints), demand-driven, and focused on contextualizing the evidence for a given decision in an equity-sensitive way. Through the Evidence Commission, I've learned a lot about how we can complement our local educational evidence from Nigeria, including the citizen-led assessments we implement, with other forms of evidence specific to Nigeria, as well as with the best evidence regionally and globally. I see the UK's Education Endowment Foundation evidence resources and the US Department of Education's What Works Clearinghouse, and can immediately see the value in similar services being initiated in Nigeria and other low- and middle-income countries. Repositories like the ESSA African Education Research Database need to be strengthened and supported to become even more useful. We need to work at this.



3.7 Ways that evidence can be used in decision-making

Evidence can be used in at least four different ways,(29) each of which can be illustrated with an example drawn from the COVID-19 pandemic and from another sector. The Evidence Commission is primarily focused on supporting the first two ways that evidence can be used, while recognizing that transparent deliberative processes and other approaches can be used to address (at least in part) the second two ways.

Ways that evidence can be used	Explanation	Examples drawn from the COVID-19 pandemic and one other sector
 <p>Conceptual or 'enlightenment'</p>	<p>Evidence changes the way we think about a problem, option(s) to address it and/or implementation consideration(s)</p>	<ul style="list-style-type: none"> • Ten different types of 'indirect' evidence* (bit.ly/3w09DH5) were marshalled to collectively support the hypothesis that SARS-CoV-2 is transmitted primarily by aerosols rather than by large respiratory droplets and hence that additional options (like masks and ventilation systems) need to be pursued to reduce the spread of COVID-19 • Behavioural research over the last decade has shown that 'defaults' can have larger effects than financial incentives in pension policy and other types of policy
 <p>Instrumental</p>	<p>Evidence directly informs a specific decision about a problem, option or implementation consideration</p>	<ul style="list-style-type: none"> • The findings from the RECOVERY randomized-controlled trial, alongside six other smaller trials analyzed in an evidence synthesis, led to the widespread prescribing of dexamethasone in COVID-19 patients needing oxygen or ventilation (bit.ly/30lZsgA), and an estimated saving of one million lives worldwide within nine months (bit.ly/3F9JJAY) • The findings from an Educational Endowment Foundation evidence synthesis led the UK government to re-direct funding and activity to tutoring to help students 'catch up' after COVID-related school disruptions
 <p>Symbolic</p>	<p>Evidence is selectively cited (or 'cherry picked') or new research is selectively commissioned to justify a decision made for reasons other than that evidence**</p>	<ul style="list-style-type: none"> • The US government's purchase and stockpiling of 29 million hydroxychloroquine pills was justified using a single non-randomized study involving only 26 hospitalized patients (six of whom were lost during follow-up) and the 'gut instinct' of a US president (bit.ly/3DbFtzZ) • Many governments and organizations supported the Scared Straight crime-prevention program based on low-quality evaluations (yet the evidence syntheses described in section 4.8 found evidence of harm and no evidence of benefit)
 <p>Tactical</p>	<p>Lack of evidence is used to justify action or inaction</p>	<ul style="list-style-type: none"> • Lack of evidence about the transmission of SARS-CoV-2 by aerosols (as opposed to heavier droplets) was used by event organizers to argue that they could continue convening crowded indoor events without limiting the number of attendees or mandating the wearing of masks (rather than heeding the precautionary principle***) • Lack of evidence about early-childhood programs was used by government policymakers to justify decisions to not make investments in this age group (and the Perry Preschool Project described in section 1.6 helped to build the case for action)

* Direct evidence comes from research that directly compares the interventions that decision-makers are interested in, can be applied to the people who they are considering targeting, and measures outcomes that are important to them. Evidence can be indirect because it involves related but different types of interventions, people or outcomes, or because the interventions that can be chosen have not been tested in head-to-head comparisons (for more, see bit.ly/3CnKGnf). As we address in [section 4.7](#), direct evidence is considered to be higher quality than indirect evidence.

** Some people use the term 'policy-based evidence' to contrast such symbolic uses of evidence with evidence-based (or evidence-informed) policymaking.

*** The Wingspread Statement on the Precautionary Principle (1998) states that: "When an activity raises the threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not established scientifically. In this context the proponent of an activity [e.g., the event convenor], rather than the public, should bear the burden of proof." It is the seriousness of the threat of harm that justifies – in the absence of sufficient evidence – the use of precautionary measures that are likely to have greater benefit, fewer harms, and/or lower costs.

There can be many reasons why evidence is not used to address the many questions that can be asked when making a decision, including:

- 1. No evidence on the topic yet exists (although this can only be known after searching in the right places for it)
- 2. Decision-makers aren't aware of the available evidence
- 3. Decision-makers don't consider the available evidence to be of high quality or to have implications for their context
- 4. Decision-makers have made a decision for other reasons (e.g., government policymakers may have faced institutional constraints, interest-group pressure, competing values within the governing party or their constituents).

We return to matching forms of evidence to decision-related questions in [section 4.6](#).



Professional, Julian Elliott

Clinician researcher leveraging technology for efficiently preparing and maintaining 'living' evidence syntheses and guidelines to inform decision-making

I come away from my work with the Evidence Commission even more convinced that we need to find ways to systematize the many aspects of the COVID-19 evidence response that went well, and address the many things that went poorly. This includes the incredible work many have undertaken to establish living evidence projects, which we now see being adopted beyond COVID-19. There has also been significant progress in clinical research with the widespread, successful implementation of 'platform trials,' and in publishing with the adoption of preprints. I also note with dismay the uneven coverage of key questions, particularly the unconscionably low level of funding for high-quality studies of non-drug interventions (e.g., behavioural, environmental, social and systems interventions), the low quality and out-datedness of evidence syntheses, and the heart-breaking amounts of wasteful duplication.



3.8 Global-commission reports by decision-maker type

Global-commission reports may target, involve directly or engage more generally any of the four types of decision-makers that are the focus of the Evidence Commission report. Government policymakers were the most frequent target audience for the 70 commission reports published since 2016 that we analyzed. Commission members were also most frequently described as government policymakers, and this type of decision-maker was also the focus of broader engagement of the commission reports we analyzed. Citizens were the least-frequent target audience, commission members, and focus of broader engagement. Many commission reports (52) did not single out any types of decision-makers as the basis for describing their commissioners.



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Chapter 4. Studies, syntheses and guidelines: Supply of evidence

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This chapter is the third of three chapters exploring the issue at the heart of this report: what is involved in systematizing the use of evidence, by the full range of decision-makers, in addressing societal challenges? Here we focus on studies, syntheses and guidelines, or the supply of evidence. [Chapter 2](#) focuses on the nature of societal challenges. [Chapter 3](#) focuses on decisions and decision-makers, or the demand for evidence.

4.1 Forms in which evidence is typically encountered in decision-making

Evidence is typically encountered in decision-making in eight different forms. These forms can be interrelated. For example, an evaluation featuring a randomized-controlled trial may also incorporate evidence that draws on data analytics, qualitative insights, and a cost-effectiveness analysis. Similarly, a case study may draw on both qualitative insights about experiences and preferences and quantitative evidence from data analytics, modeling and evaluations.



**We have grouped technology assessment and cost-effectiveness analysis because they are often conducted for the same types of products and services and by the same evidence groups, and because a cost-effectiveness analysis is almost always a key element of a technology assessment. We recognize that the producers of some of these forms of evidence place more emphasis on the process than the resulting evidence product, but these forms of evidence can still be encountered by many decision-makers who have not been involved in any related process.*

The ‘studies’ referred to in this chapter’s title (e.g., an evaluation, a behavioural-research study, a qualitative study, and other forms of ‘primary’ research) can generate many of these forms of evidence. The ‘syntheses’ from the chapter title are a form of evidence in their own right and are sometimes called ‘secondary’ research. The guidelines from the chapter title are also a form of evidence, and as we discuss in [section 4.4](#), technology assessments can also include recommendations.

We use the term ‘evidence’ as a short form for ‘research evidence,’ recognizing that there are many other types of evidence (e.g., evidence that individuals themselves derive from their own lived experiences and evidence considered in a court of law) and that evidence is one of many factors that can influence a decision. We define each of these terms in [section 4.2](#) and show how each form of evidence relates to steps in a decision-making process. We describe the reverse – how each step in a decision-making process relates to forms of evidence – in [section 4.3](#).

4.2 Definitions of forms in which evidence is typically encountered

We provide below simple definitions of each form of evidence. We have adapted many of these from others' definitions, with the goal of more clearly differentiating the eight forms of evidence while also showing how they interconnect. We also note how each form of evidence relates to any of the four steps in a decision-making process.



Together with [section 4.3](#), which describes how each step in a decision-making process relates to forms of evidence, this section builds on the list of decision-making questions first introduced in [section 3.1](#).

Forms of evidence	Definitions	Steps where it adds the greatest value			
Data analytics 	Systematic analysis of raw data to make conclusions about that information	1			4
Modeling 	Use of mathematical equations to simulate real-world scenarios (i.e., what is likely to happen if we don't intervene) and options (i.e., what happens if we intervene) in a virtual environment	1	2		
Evaluation 	Systematic assessment of the implementation (monitoring) and impacts (evaluation) of an initiative for the purposes of learning or decision-making				4
Behavioural/ implementation research 	Study of methods to promote the systematic uptake of effective approaches into routine practices at the personal, professional, organization and government levels (implementation research) Systematic examination of what people (citizens and professionals) do, what drives them to do it, and what can sustain or change what they do (behavioural research)			3	

Qualitative insights 	Study of (typically non-numerical) data – obtained from interviews, focus groups, open-ended questionnaires, first-hand observation, participant-observation, recordings made in natural settings, documents, and artifacts – to understand how individuals and groups view and experience problems, options, implementation considerations (barriers, facilitators and strategies), and metrics	1	2	3	4
Evidence synthesis 	Systematic process of identifying, selecting, appraising and synthesizing the findings from all studies that have addressed the same question in order to arrive at an overall understanding of what is known, including how this may vary by groups (e.g., racialized communities) and contexts (e.g., low socio-economic neighbourhoods)	1	2*	3	4
Technology assessment/ cost-effectiveness analysis 	Assessment of all relevant aspects of a 'technology' (e.g., a product or service), including safety, effectiveness, and economic, social and ethical implications (technology assessment), with an evidence synthesis often contributing to the assessment of effectiveness Comparison of the relative outcomes (effectiveness) and costs of two or more options, again with an evidence synthesis often contributing to the assessment of effectiveness		2*	3	4
Guidelines 	Systematically developed statements that recommend a particular course of action, often for citizens and professionals and sometimes for organizations and governments, with one or more evidence syntheses contributing to the assessment of effectiveness, values and preferences, and other factors		2		

**Adds the greatest value in this step but can add value in other steps*

Note that briefs, infographics, plain-language summaries and other documents derived from any form of evidence or any combination of forms of evidence can be used to package key information for a distinct type of decision-maker. Such 'derivative evidence products' can be used in dissemination and implementation initiatives targeting such decision-makers and add value in all steps.

4.3 Matching decision-related questions to forms of evidence

Having mapped forms of evidence to steps in a decision-making process in [section 4.2](#), here we map each step in a decision-making process to forms of evidence, with examples.

Evidence syntheses can help answer almost all of these questions by summarizing what we know and don't know based on all of the studies that have addressed a similar question. Evidence syntheses are critically important for questions about benefits and harms, both for options and for implementation strategies. We elaborate in [section 4.4](#) on why evidence syntheses are the best place to start when answering many types of questions.



Steps	Related questions	Examples of helpful forms of evidence
1	Indicators – How big is the problem?	Data analytics
	Comparisons – Is the problem getting worse or is it bigger here than elsewhere?	Data analytics (e.g., using administrative databases or community surveys)
	Framing – How do different people describe or experience the problem and its causes?	Qualitative studies (e.g., using interviews and focus groups)
2	Benefits – What good might come of it?	Evaluations (e.g., effectiveness studies like randomized-controlled trials)
	Harms – What could go wrong?	Evaluations (e.g., observational studies)
	Cost-effectiveness – Does one option achieve more for the same investment?	Technology assessments / cost-effectiveness evaluations
	Adaptations – Can we adapt something that worked elsewhere while still getting the benefits?	Evaluations (e.g., process evaluations that examine how and why an option worked)
3	Stakeholders' views and experiences – Which groups support which option?	Qualitative studies (e.g., using interviews and focus groups to understand what is important to citizens)
	Barriers and facilitators – What (and who) will get in the way or help us in reaching and achieving desired impacts among the right people?	Qualitative studies (e.g., using interviews and focus groups to understand barriers and facilitators)
4	Benefits, harms, cost-effectiveness, etc. of implementation strategies – What strategies should we use to reach and achieve desired impacts among the right people?	Behavioural / implementation research See also 'selecting an option'
	Is the chosen option reaching those who can benefit from it?	Data analytics
	Is the chosen option achieving desired impacts at sufficient scale?	Evaluations

4.4 Interplay of local and global evidence

Decision-makers need both local evidence (i.e., what has been learned in their own country, state/province or city) and global evidence (i.e., what has been learned around the world, including how it varies by groups and contexts). By 'local' we mean national and sub-national, and that evidence can take many forms, including local data analytics, a local evaluation, and local implementation research. The global evidence typically takes the form of an evidence synthesis, which we return to below.

Decision-makers may benefit from recommendations that draw on both local and global evidence. Guidelines, by definition, provide recommendations. As we note in the introduction, in times of crisis we must often initially rely on emerging guidance (e.g., we don't yet know enough but wash your hands well in the meantime) and then on replacement guidance (e.g., we now have evidence indicating that masks reduce transmission). At all times, we need to be open to what have been called 'reversals,' which is when accumulating evidence shows that approaches thought to have benefits turn out to not actually work, or even cause harm. Technology assessments may provide recommendations, or they may provide a type of evidence support by complementing the available evidence with an assessment of the social, ethical and legal factors that may also influence a local decision.

Modeling is most commonly a form of local evidence. However, it can provide a way of synthesizing the best evidence globally, as is done in high-stakes domains like climate action, medicines reimbursement, and macroeconomic policy. Modeling can also provide a form of local evidence support, with modelers effectively acting as a type of evidence intermediary. This was the case with many jurisdiction-specific COVID-19 models that government policymakers drew on to predict the likely future impacts (and most consequential uncertainties) of options like lockdowns. When done well, this modeling used effect estimates from evidence syntheses or, in their absence, systematically elicited expert opinion.

Local and global evidence may be informed or complemented by other forms of analysis, such as policy, systems and political analysis. We discuss these types of analysis in [section 5.4](#).

Vantage point	Forms of evidence				
Local (national or sub-national) evidence 	 Data analytics	 Modeling	 Evaluation	 Behavioural/implementation research	 Qualitative insights
Global evidence 	 Evidence synthesis				
Local (national or sub-national) recommendations or evidence support informed by local and global evidence 	 Technology assessments	 Guidelines			

Global evidence



An evidence synthesis uses a systematic and transparent process to identify, select, appraise and synthesize the findings from all studies that have addressed the same question. The objective is to come to an overall understanding of what is known, including how this may vary by groups (e.g., girls and young women) and contexts (e.g., low- and middle-income countries). For questions about options, part of what is known can be about what works for whom in what contexts.

An evidence synthesis offers four advantages over other approaches to summarizing the best evidence globally, such as an expert conducting an informal narrative review of the scientific literature:

-  Reduces the likelihood of being misled by ensuring that all relevant studies have been included and that greater weight is given to high-quality studies
-  Increases confidence about what can be expected by increasing the number of study participants included in the analysis
-  Makes it easier to assess what the global evidence means in a particular context by presenting information about the participants and contexts being studied, and ideally how the findings varied according to such factors
-  Makes it easier to contest the available evidence by ensuring that everyone has access to the same 'data' and clear reporting about how the data were synthesized.

The first of these advantages can help to address what is sometimes called the replication or reproducibility crisis in science – many findings from a single study cannot be replicated or reproduced. The crisis has been documented in many fields from medicine (e.g., hydroxychloroquine and ivermectin to treat COVID-19) to economics and psychology. More troubling is the fact that non-replicable findings are cited more than replicable ones, even after the failure to replicate has been documented.(1)

Model-based explorations of the future to address the 'complexity cubed' societal problem of climate change, using multiple types of evidence and drawing on robust intercomparison exercises, provides an alternative paradigm to the type of evidence synthesis described above. Building on the best of both approaches could be a fruitful way forward.(2)

Local evidence



Local (national or sub-national) evidence can shed light on whether there's a local problem and its causes, on the local feasibility and acceptability of an option to address a problem, and on local factors that may get in the way or help in reaching and achieving desired impacts among the right people. What 'local' means for decision-makers will vary – for one person 'local' may be their country; for another, it may be their immediate neighbourhood. We address the issue of the local applicability of evidence in [section 4.5](#).

4.5 Distinguishing high- from low-quality evidence

Not all evidence is high quality and reliable for making decisions. Tools exist for many (but not all) forms of evidence to help make judgements about whether the evidence (from a single study or a body of evidence) can be relied upon. As we describe here, these tools use scores or grades to help users understand how confident they can be in the evidence. Many journals now require authors to follow reporting standards, such as CONSORT for randomized-controlled trials and PRISMA for evidence syntheses. Most journals do not require reviewers to use specific tools to assess the quality of studies or strength of recommendations; as a result, publication in a peer-reviewed journal is not a good proxy for quality.

Issue	Response
<p>Studies (and guidelines) vary in their quality (or trustworthiness)</p>	<ul style="list-style-type: none"> Quality-assessment (or critical-appraisal) tools have been developed for specific study designs (e.g., randomized-controlled trial), for broad categories of study designs (e.g., observational study, qualitative research, and evidence synthesis), and for guidelines – see the annex at the end of this chapter (section 4.16) for examples (RoB2, ROBINS-I, JBI checklist, AMSTAR, and AGREE II) Tools may yield a summary judgement (e.g., low risk of bias using RoB2 or ROBINS-I), a score that some group into ranges (e.g., high quality using AMSTAR), a set of scores (e.g., six domains using AGREE II), or a set of considerations that can inform a summary judgement (e.g., JBI checklist)
<p>Bodies of evidence vary in their certainty (or the confidence you can place in them)</p>	<ul style="list-style-type: none"> Certainty-assessment tools have been developed for a body of evidence addressing the same question (e.g., effect of an intervention on a specific outcome or the meaning that citizens attach to a particular phenomenon) – see section 4.16 for two examples (GRADE and GRADE CERQual) Tools may yield a summary judgement about confidence that the true effect is similar to the estimated effect (e.g., high certainty with GRADE) or that the phenomenon of interest is well represented by a qualitative study finding (with GRADE CERQual) A summary judgement about the certainty of an effect estimate is more helpful than a test of statistical significance demonstrating that an intervention ‘works’ or ‘doesn’t work’ (which will happen by chance one in 20 times if statistical significance is set at the 0.05 level)
<p>Recommendations vary in their strength</p>	<ul style="list-style-type: none"> Strength-assessment tools have been developed for guideline recommendations (e.g., GRADE, in addition to ranking the certainty of a body of evidence, as described above) – see section 4.16 for an example Tools may yield a summary judgement about whether most decision-makers would choose to proceed with an intervention (e.g., strong with GRADE) or whether most would need to carefully weigh the pros and cons of an intervention
<p>Some sources of (or approaches used to generate) evidence can be hard to judge</p>	<ul style="list-style-type: none"> No widely accepted tools exist to assess how much confidence can be placed in: <ul style="list-style-type: none"> An expert, although examples like The Good Judgement Project do exist for forecasting (we return to expert opinion later in this chapter and, in the case of expert opinion about model parameters, in section 4.16) Models used in generating some forms of evidence (which we address in section 4.7 when talking about climate-change models and in section 4.16) An artificial-intelligence algorithm used in generating some types of evidence, although examples like TRIPOD are starting to emerge (3)

Distinguishing high- from low-quality evidence is particularly challenging when evidence is embedded in dashboards, models and other formats, and when conflicts of interest are at play. We return to the latter in [sections 4.12, 4.14](#) and [4.16](#). While not the focus of this report, distinguishing high- from low-quality ‘raw data’ can also be challenging, and organizations like UNICEF have developed data-quality frameworks to assist with this (bit.ly/3DQQRVv).

Some ‘one-stop shops,’ such as Social Systems Evidence and the COVID-19 Evidence Network to support Decision-making (COVID-END) inventory (described in [section 4.6](#)), use some of these tools so that decision-makers and those supporting them can focus on high-quality evidence syntheses or understand that they are using the best available (if not high-quality) evidence syntheses.

The COVID-19 pandemic required decision-makers to make difficult decisions in short time frames, initially with little and often indirect evidence, and then, over time, with studies, bodies of evidence, and recommendations developed using a robust process. To support decision-making about COVID-19 based on bodies of evidence (rather than single studies), COVID-END profiled in its inventory of ‘best’ evidence syntheses those that were up-to-date (based on the date of searching for evidence), were high quality (based on the AMSTAR tool), and provided an assessment of the certainty of the evidence (based on the GRADE tool).

Just as not all evidence is high quality, not all global evidence will be applicable in a given context. For example, an evidence synthesis containing studies conducted in only high-income countries may have limited applicability to some low-income countries. There may be important differences in baseline conditions, in on-the-ground realities and constraints, and in structural features of the local system (e.g., national health system or provincial/state education system). A SUPPORT tool can also help people think through the local applicability of findings from an evidence synthesis and consider how insights can still sometimes be drawn even when the findings aren’t applicable.(4)

Bayesian reasoning has garnered increasing attention as a way to deliberately re-draw our ‘mental maps’ about challenges and ways of addressing them, not by replacing all of what we thought we knew with new information, but by modifying our understanding to an appropriate degree. The degree depends on how much confidence you had in your pre-existing knowledge (the ‘prior’ probability of something being true) and how much confidence you place in the new knowledge. More confidence can be placed in the new knowledge if it comes from a high-quality evidence synthesis that includes studies conducted in contexts similar to your own.



Evidence intermediary and producer, Gillian Leng

Experienced executive leading a technology-assessment and guideline agency that supports health and social care decision-making by governments, service providers and patients

The UK has led work over many years to encourage the synthesis and use of evidence – from the first randomized-controlled trial to prevent scurvy in sailors, to the more recent innovative What Works Centres to promote the use of evidence in a range of policy areas. As part of this evidence-based movement, over the last 20 years the National Institute for Health and Care Excellence (NICE) has transformed the use of evidence in healthcare practice, as well as in wider public-health initiatives and social care.

The COVID-19 pandemic has dramatically reinforced the need for high-quality evidence to inform policy and practice, and has also highlighted the negative consequences of social media and associated misinformation. In this context, the work of the Global Commission on Evidence to Address Societal Challenges is hugely important, and should be seen as essential reading for all policymakers around the world.



4.6 Coverage, quality and recency of evidence syntheses

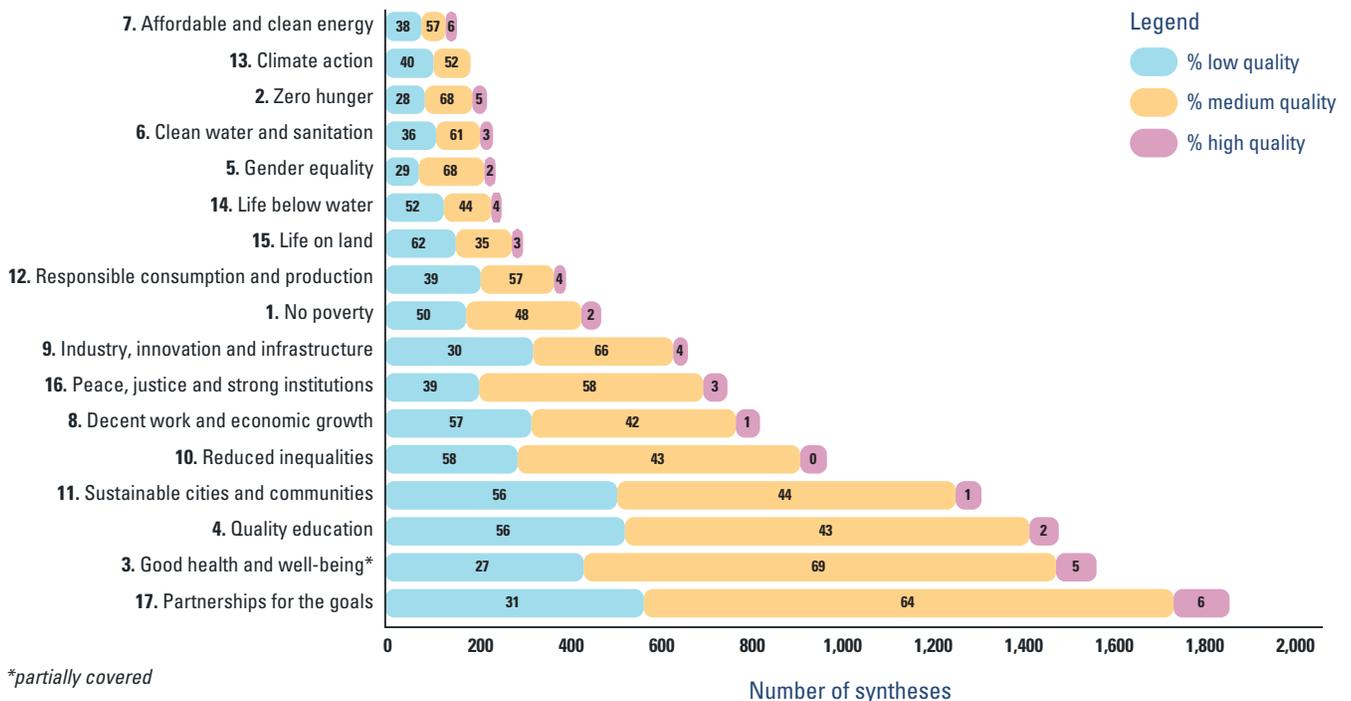
The global stock of evidence syntheses suffers from incomplete coverage of priority topics, a wide spectrum of quality (of the synthesis), and problems with recency (of the search for potential studies to be included in the synthesis). Analyses of two ‘one-stop shops’ for evidence syntheses illustrate the magnitude of the problem. One ‘shop’ focuses on all of the non-health Sustainable Development Goals, or SDGs (Social Systems Evidence), and the other focuses on all potential COVID-19 responses (COVID-END inventory of best evidence syntheses and the larger database from which the inventory is drawn).

SDG evidence syntheses

Of the 4,131 SDG evidence syntheses – defined as overviews of reviews, reviews of effects, and reviews addressing other questions – included in Social Systems Evidence as of 12 August 2021:

- coverage was uneven, with seven SDGs addressed by a relatively small number of evidence syntheses (263 or fewer) relative to the number of questions that can be asked in relation to each SDG (2 – Zero hunger, 5 – Gender inequality, 6 – Clean water and sanitation, 7 – Affordable and clean energy, 13 – Climate action, 14 – Life below water, and 15 – Life on land)
- quality was uneven, with seven SDGs addressed by a stock of evidence syntheses in which at least half are of low quality (6 – Clean water and sanitation, 7 – Affordable and clean energy, 9 – Industry, innovation and infrastructure, 12 – Responsible consumption and production, 13 – Climate action, 14 – Life below water, and 15 – Life on land)
- all SDGs have a median year of last search that is five or six years ago (2016 or 2017)
- only between one in 10 (12%) and one in five (21%) evidence syntheses about most SDGs included at least one study from a low- and middle-income country, with an even lower percentage (3%) for one SDG (9 – Industry, innovation and infrastructure).

The number and quality of evidence syntheses are presented by SDG in the bar chart below.



Keep the following in mind with this bar chart:

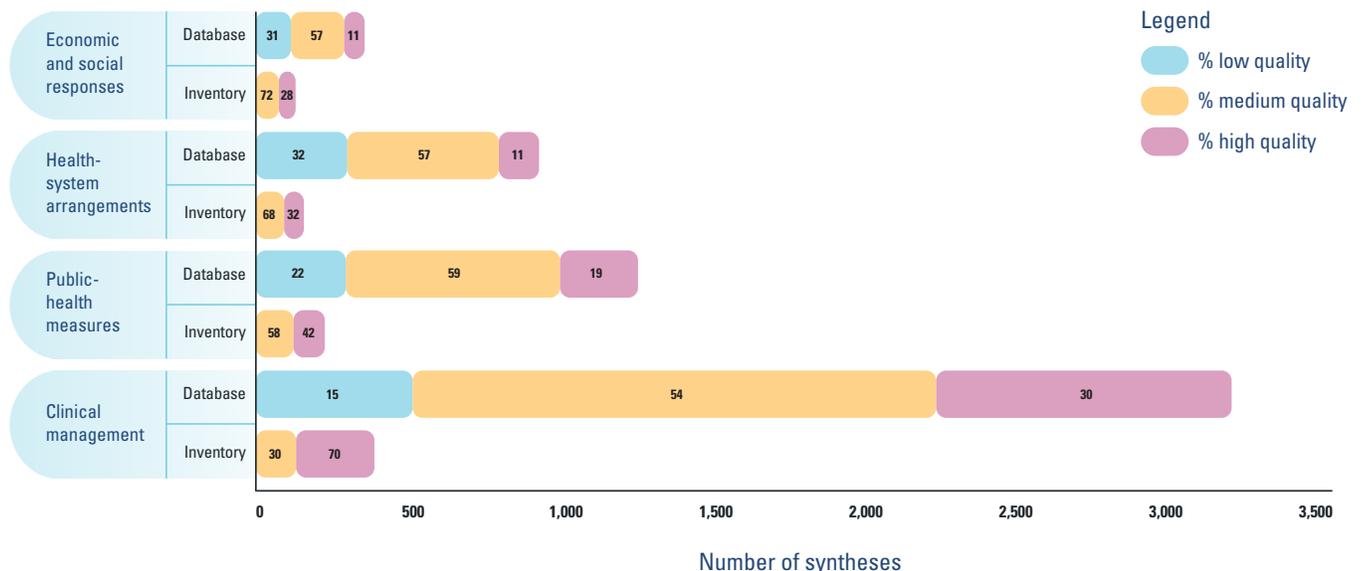
- the numbers add to more than the total number of evidence syntheses because a synthesis may address more than one SDG
- the number of evidence syntheses addressing:
 - SDG3 is a significant undercount, with health-related evidence syntheses included only if they also address another SDG
 - SDG17 is a significant overcount, with many evidence syntheses addressing another SDG as their primary question also addressing partnerships as a secondary question
 - SDGs 7, 13, 14 and 15 may be an undercount as they have been a more recent focus for inclusion in Social Systems Evidence
- quality ratings have been completed for 85% of the evidence syntheses included in Social Systems Evidence.

COVID-19 evidence syntheses

Of the 4,256 COVID-19-related evidence syntheses included in the full COVID-19 database and the 562 COVID-END inventory of best evidence syntheses, as of 1 August 2021:

- coverage was uneven, with only 237 evidence syntheses addressing economic and social responses to COVID-19 (of which only 49 were included in the inventory), while much higher numbers addressed clinical management (3,128), public-health measures (1,148), and health-system arrangements (818)
- quality was uneven, with roughly one quarter (26%) of COVID-19 evidence syntheses being low quality and over half (56%) being medium quality
- three of the four COVID-19 response categories have a median date of last search that is within 4.5 months of the World Health Organization (WHO) declaring a pandemic (11 March 2020).

The much more recent median search date for clinical management – 12 months after the pandemic declaration and 4.5 months before the analysis was completed – was driven by the large number of comparisons of drug treatments, all with the same search date, on the COVID-NMA living evidence platform. The number and quality of evidence syntheses are presented by broad category of COVID-19 response in the bar chart below.



Keep in mind the following with this bar chart:

- the numbers add to more than the total number of evidence syntheses because a synthesis may address more than one category of the COVID-END taxonomy
- evidence syntheses needed to have a quality rating of medium or high to be considered for inclusion in the COVID-END inventory of 'best evidence syntheses.'

These findings echo similar shortfalls in the stock of evaluations (specifically randomized-controlled trials), evidence syntheses, and evidence maps (of evaluations and evidence syntheses) available to inform decision-making about:

- education, where only 25% of trials had more than 1,000 participants (and only 12% of trials conducted in the 1980-2016 period were performed in Asia, Africa or Central and South America) (5)
- health, where only 16% of evidence syntheses incorporated quality assessment in their analysis (although 70% conducted such as assessment) and more generally reporting quality was highly variable (6)
- sustainable development in low- and middle-income countries, where four or fewer evidence maps reported outcomes relevant to eight of the 17 SDGs in the 2010-17 period, and one quarter of the evidence maps did not address equity in any way.(7)

Other such stock-taking exercises have been framed more positively, such as the one noting that the 740 randomized-controlled trials in social work demonstrate that this approach to evaluation is indeed possible in the field.(8)

4.7 Living evidence products

Four of the forms of evidence that decision-makers typically encounter are now available as ‘living’ evidence products, meaning they are regularly updated as new data are added or new studies are published. Many such living evidence products began as part of the COVID-19 evidence response. Fewer exist in sectors other than health. We provide examples below.

Many government policymakers and other decision-makers have come to expect such regular updating for COVID-19 and will likely start to ask why such products can’t be maintained for other high-priority societal challenges where there is significant uncertainty and a high likelihood of evidence emerging to address that uncertainty. The growing use of artificial intelligence, among other innovations, will likely make it easier in the future for evidence producers to meet these greater expectations. However, evidence producers will need to take steps to ensure that these innovations do not inadvertently perpetuate or increase the risk of discrimination (e.g., using race or variables associated with race in ways that disadvantage certain groups). They will also need to support decision-makers to interpret and use the findings appropriately, especially when causal inferences are being made.

Forms of evidence	Examples of living evidence products
 <p data-bbox="167 835 363 869">Data analytics</p>	<ul data-bbox="402 816 1446 989" style="list-style-type: none"> • The WHO COVID-19 Dashboard provides a set of data analytics about the stringency of public-health measures being taken to address COVID-19, the UK Health Security Agency surveillance reports (bit.ly/3DeaSlc) provide a set of data analytics about COVID-19 in the UK, and Opportunity Insights’ Economic Tracker provides a set of data analytics about COVID-19 impacts on the economic prospects of people, businesses and communities in the US • The Organisation for Economic Co-operation and Development (OECD) Weekly Tracker of Economic Activity provides a set of data analytics about economic activity for most OECD and G20 countries
 <p data-bbox="199 1104 329 1138">Modeling</p>	<ul data-bbox="402 1050 1468 1304" style="list-style-type: none"> • The European COVID-19 Forecast Hub presents every week a forecast of cases and deaths per week per 100,000 people – both overall and by country – based on an ensemble of models, while the Institute for Health Metrics and Evaluation COVID-19 Projections updates every two weeks a model of projected deaths from COVID-19, both those reported as COVID-19 and those attributed to COVID-19, that could be used to explore a range of scenarios (e.g., about mask use and vaccine uptake) in specific countries • The Intergovernmental Panel on Climate Change presents every five-to-seven years an assessment report that draws on modeling of human-induced climate change, its impacts, and possible response options, although strictly speaking this is a synthesis of findings from models (which may or may not be living) informed by a robust process of inter-model comparisons (which is undertaken by different scientists for each assessment report – see bit.ly/3wKQy8D for an example)
 <p data-bbox="196 1367 334 1436">Evidence syntheses</p>	<ul data-bbox="402 1388 1435 1560" style="list-style-type: none"> • COVID-END living evidence synthesis #6 provides updates every two weeks about COVID-19 vaccine effectiveness against variants, and COVID-NMA updates weekly evidence syntheses about all drug treatments for COVID-19 (and later added preventive therapies and vaccines) • The Global Carbon Project updates annually, based on modeling and empirical studies, estimates of the five major components of the global carbon budget (anthropogenic carbon-dioxide emissions and their redistribution among the atmosphere, ocean and terrestrial biosphere in a changing climate) and their associated uncertainties
 <p data-bbox="191 1675 337 1709">Guidelines</p>	<ul data-bbox="402 1688 1419 1833" style="list-style-type: none"> • The Living WHO Guideline on Drugs for COVID-19 provides updates every one-to-four months about COVID-19 drug treatments, and the National COVID-19 Clinical Evidence Task Force updates weekly evidence-based COVID-19 guidelines for Australian health professionals • The Education Endowment Foundation maintains living guidance for schools as part of their Teaching and Learning Toolkit, such as the one addressing teaching-assistant interventions

A thematic analysis of a listserv discussion among the COVID-END Community identified differing views about:

- What is understood by the term 'living' evidence synthesis (e.g., can the spectrum of 'living' status be better captured using a scale than a yes/no designation, and should a minimum threshold be set for frequency of updates)
- When one should be started or when an existing synthesis should become 'living' (e.g., new evidence is rapidly becoming available, and that evidence is likely to address key areas of uncertainty among decision-makers about a topic of high priority to them)
- When updates can be stopped (e.g., evidence is unlikely to change interpretations about what we know, and the priority accorded to the topic is downgraded)
- Where and how one can best be disseminated (e.g., can journals accommodate a process where an initially peer-reviewed synthesis is updated regularly without the delay of additional peer review, and can decision-makers rely on commitments to provide updates at defined times)

Such issues will likely be the focus of intense debate in the coming years. Additional details about the rationale for living evidence syntheses and the issues involved in maintaining them can be found in a brief note co-authored by one of our commissioners.(9)

In [section 4.13](#), we describe some of the key characteristics of the living evidence syntheses maintained as part of the COVID-19 evidence response.



Evidence producer, Jan Minx

Impact-oriented scholar bringing innovative evidence-synthesis approaches to domestic policy advice and global scientific assessments about climate change and sustainability

I am working at the interface between two forms of evidence: 1) evidence syntheses, which seek to learn from the past and are widely used in the health sector; and 2) modeling, which seeks to predict the future and is widely used in the field of climate change. I strongly support [recommendation 19](#) – we need to learn from evidence groups in other sectors. As we note in that recommendation, Cochrane has pioneered many approaches to synthesizing studies about what works in health, including living evidence syntheses, and the Intergovernmental Panel on Climate Change (IPCC) has pioneered many approaches to modeling human-induced climate change over long time horizons. Cochrane and the IPCC can learn from each other and from others, and others can learn from them.



4.8 Best evidence versus other things (and how to get the most from other things)

Many individuals and groups bring forward what they call evidence to address societal challenges. ‘Best evidence’ in a given national (or sub-national) context – in the form of national (or sub-national) evidence drawn from the best available studies (i.e., what has been learned in that context) and global evidence drawn from the best available evidence syntheses (i.e., what has been learned from around the world, including how it varies by groups and contexts) – needs to be differentiated from ‘other things’ that are sometimes presented as evidence, such as a single study, expert opinion, an expert panel, a research interest group, an anecdote ‘dressed up as a case study,’ a white paper, and a jurisdictional scan. Each of these other things brings with them a risk (column 2 below). At the same time, there are ways to get more value from them (columns 3 and 4 below).

We do not consider here ‘other things’ beyond those typically presented as research evidence, such as people’s lived experiences (which we discuss in [section 2.3](#) in the context of co-designed interventions) or Indigenous ways of knowing (which we discuss in [section 4.10](#) as part of a broader discussion about Indigenous peoples).

If presented with...	...which brings with it a risk of...	...then...	...or better yet...
<p>Single study (including preprints)</p> 	<p>‘Hubcap chasing,’* or giving attention to each study that is actively promoted by the authors, their media-relations office or others (as happened with the high-risk-of-bias study about hydroxychloroquine discussed in section 3.7 and the now retracted study** about a link between vaccines and autism)</p>	<p>Ask for a critical appraisal of the study using widely accepted quality criteria (to understand the risk of bias) and recognize that a statistically significant finding (at the 0.05 level) may be found by chance in one in 20 studies</p>	<p>Add the study to a ‘living’ evidence synthesis where it can be understood alongside other studies addressing the same question (or consider it as one of many types of national or sub-national evidence to be put alongside the best global evidence)</p>
<p>Expert opinion</p> 	<p>‘Squeaky wheel getting the grease’ / ‘eminence-based’ (rather than evidence-informed) decision-making, or giving attention to those who command the greatest attention by virtue of persistence, reputation or other factors (as happened with widely viewed television shows about the Scared Straight crime-prevention program even after evidence syntheses*** had found evidence of harm and no evidence of benefit)</p>	<p>Ask the expert to share the evidence (ideally evidence syntheses) on which the opinion is based, as well as the methods used to identify, assess, select and synthesize it</p>	<p>Engage the expert in working through what specific evidence syntheses mean for a specific jurisdiction, or in challenging ways of thinking with different forms of evidence**** (or ask the expert what evidence would convince them they were wrong)</p>
<p>Expert panel</p> 	<p>GOBSATT, or ‘good old boys sitting around the table’ offering their personal opinion</p>	<p>Ask the panel members to share the evidence (ideally evidence syntheses) on which their input and recommendations are based, as well as the methods used to identify, assess, select and synthesize it</p>	<p>Add methods experts to the panel (or secretariat), pre-circulate the best local (national or sub-national) and global evidence, support robust deliberation, and make explicit which recommendations are based on what strength of evidence</p>

* We use the term ‘hubcap chasing’ (i.e., dogs repeatedly barking at and chasing cars) as a metaphor for sharing and commenting upon each new study that captures one’s attention.

** www.nature.com/articles/nm0310-248b

*** onlinelibrary.wiley.com/doi/10.4073/csr.2013.5

**** Such challenges have been called ‘red teaming’ in the military.

<p>Jurisdictional scan</p> 	<p>'Groupthink,' or people in many jurisdictions relying on people in one jurisdiction who are willing to share their experiences and innovations, but haven't yet evaluated them</p>	<p>Ask or look for any available supporting evidence or plans for generating it</p>	
<p>Research interest group****</p> 	<p>Researchers advocating for action based on their personal values and preferences or their professional interests</p>	<p>Ask groups why their values and preferences should count more than the citizens we all serve</p>	<p>Encourage them to base their requests on high-quality evidence syntheses</p>
<p>'Case study'</p> 	<p>Anecdotal experiences given a name that implies a rigorous approach underpins it</p>	<p>Ask the writer what criteria were used to select the case, what mix of data-collection approaches were used, and what analytic and other approaches were used to ensure rigour</p>	
<p>White paper</p> 	<p>Taking at face value the implicit or explicit assertion that evidence was used in arriving at a statement of policy preferences</p>	<p>Ask government leaders or advisors to share the evidence they used as a basis for their input and recommendations, as well as the methods used to identify, assess, select and synthesize it</p>	

**** Note that societal interest groups may also invoke evidence in advocating for action based on their values and preferences, in which case the same response as in column 4 may be appropriate.

4.9 Contexts that shape how evidence is viewed

Historical, social and cultural contexts can shape how evidence is viewed by, for example, racialized communities (the R in PROGRESS-Plus, which we introduced in [section 1.7](#)) and by women (the G in PROGRESS-Plus), among others. Some contexts relate directly to past efforts to generate evidence, while others relate to past efforts to portray specific groups as ‘different,’ which may then manifest as these groups being skeptical about any evidence purporting to be for or about them. These contexts need to be understood if we are going to produce and communicate evidence in ways that will be acted upon.(10; 11)

As we return to in [section 4.10](#), contexts, as well as their distinct rights and ways of knowing, can also shape how evidence is viewed by Indigenous peoples. Context can also shape whether and how misinformation flourishes, which is the focus of [section 4.11](#).

Examples of contexts	Potential implications for how evidence is produced and communicated
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Directly related to past efforts to generate evidence in the US

-  Effective treatment was withheld from Black men with syphilis so that the progression of untreated syphilis could be monitored (bit.ly/3DeaH9x)
-  Trials of treatment for heart disease did not include women yet the findings were assumed to apply to them (bit.ly/3olxgTH)
-  Standardized testing of students has been done in ways that disadvantaged students of colour, particularly those from low-income families (bit.ly/3wDICGk)

Give greater attention to what is (and is not) examined, by whom it is examined (e.g., research teams comprised of people drawn from different contexts), how it is examined (e.g., more participatory approaches that are ethically grounded and equity oriented), and why it is examined (e.g., to identify strengths to be built upon)

Related to past efforts to portray specific groups as ‘different’ in their newly adopted countries

-  False depictions of Chinese immigrants as dirty and diseased were used to justify the particularly strict enforcement of sanitary regulations in their San Francisco community (bit.ly/3qzeJFV)
-  Implicit messages about Black people in Thatcher-era Britain being an ‘external’ source of the country’s problems appeared in books and films and were accepted as true by some audiences (bit.ly/3naBa2n)
-  Media coverage framed certain populations such as Muslim immigrants to Europe and Iraqi detainees after the US invasion of Iraq as already ‘lost’ (to unemployment, starvation and prison) and not worthy of societal protection (bit.ly/3wGrKyE)

Give greater attention to how evidence is portrayed in various media and draw on these insights in seeking to anticipate how groups will respond to evidence for or about them, or to understand why they are responding in the way they are

4.10 Indigenous rights and ways of knowing

As part of a broader shift to recognize and ensure the rights of Indigenous peoples, many government policymakers, researchers and others are coming to accept that Indigenous people should have control over data-collection processes, and that they should own and control how this evidence is used. Building on the First Nations data principles of ownership, control, access and possession (sometimes called the [OCAP](#) principles), the International Indigenous Data Sovereignty Interest Group developed the CARE Principles for Indigenous Data Governance (with CARE capturing the first letters of collective benefit, authority to control, responsibility, and ethics). These principles were designed to complement the FAIR guiding principles for scientific data management and stewardship (with FAIR capturing findable, accessible, interoperable, and reusable). The goal is that stewards and users of Indigenous data will be ‘FAIR’ and ‘CARE.’ Such evidence-related rights should be understood as part of a much broader set of rights established through the [United Nations Declaration on the Rights of Indigenous Peoples](#).

Indigenous ways of knowing is a term that reflects the diversity and complexity of Indigenous approaches to learning and teaching. The diversity arises from the many Indigenous peoples or nations that developed their own ways of knowing, ways that evolved over centuries before the colonization of their lands began, and in the time since then. The complexity arises from many factors, including the many sources of knowledge. While there are commonalities among Indigenous forms of knowledge (e.g., a holistic view of individuals as being interconnected with the people around them and with the land), it is best never to generalize. The table here was developed under the guidance of commissioner Daniel Iberê Alves da Silva (of the M’byá Guarani people), whose biography appears in [appendix 8.2](#), as an entry point for discussions about Indigenous ways of knowing. Further discussions should always be led by Indigenous people, as was this one.

Domains	Details
 <p>Sources of Indigenous ways of knowing</p>	<ul style="list-style-type: none"> • Knowledge comes from the relationships of the individual with the world, which has both a material dimension and an inseparable spiritual dimension • Sources of knowledge include plants, animals, other humans, and elements of the land (such as mountains and rivers), as well as dreams, spirits and other manifestations of the spiritual world • The world of water, for example, includes lakes and rivers and also the spirits that inhabit them. More generally the physical territory where a culture of Indigenous people was born and developed over centuries is inhabited by many ‘things’ that possess spirit, making them ‘beings’ (and this makes forced relocation particularly damaging) • The physical environment can serve as a prompt or inspiration for the spiritual dimension to help shape a course of action (e.g., watching a river flow can allow an approach for addressing an issue to come to the watcher) • Learning comes from doing alongside someone who holds the knowledge about the ‘secret’ in how to do it
 <p>Characteristics of Indigenous ways of knowing</p>	<ul style="list-style-type: none"> • Indigenous knowledge is holistic and connected with the history, culture and territory of each people (e.g., their creation stories and how they relate to other ‘beings’) • ‘Knowing’ manifests itself in the experiences or ‘being’ of individuals (e.g., rites of passage are processes in which the experience of discovering the nature of things is ‘lived’ by individuals) • Knowledge is shared within and across Indigenous peoples and with others, and is refined over time (e.g., a canoe is made differently today than it was two centuries ago) • Knowledge can be acquired through the use of one’s own senses (in the traditional sense of the physical senses, but also through clothing, diets, drawings and songs) and through both speaking (what can be said) and contemplation (what cannot be said)
 <p>How ‘things’ are classified within Indigenous ways of knowing</p>	<ul style="list-style-type: none"> • Categories are perceived differently by different individuals and by different Indigenous peoples in relation to their culture, history or territory (e.g., a plant may be classified one way by one Indigenous people based on its use in healing, and by another based on its association with death) • Categories can shift over time (e.g., some plants were once people) and be understood in terms of their intrinsic ‘spirit’

How Indigenous ways of knowing are passed on

- Indigenous knowledge can be transmitted orally (spoken words but also chanting, gestures and silence), by a 'way of being' (learning by doing as well as contemplation), and by the 'memory of things' (narrative history)
 - A story keeper may combine the memory of things and chanting to deliver the right chant – from among hundreds – for the right occasion and at the right time
- Knowledge holders safeguard and share the knowledge in a specific territory (e.g., the medicinal value of a local plant) and do so in a way that emphasizes common purpose (over individual gain), charitable purpose (over power or domination), and ethical purpose (over hoarding the knowledge)
- Learning may also come from the 'beings' in the forest (e.g., animals and rivers)

Relationships of Indigenous ways of knowing to Indigenous worldviews

- Each Indigenous people has their own worldview, while Indigenous peoples also share worldviews that bring them together
- Worldviews can be forgotten, erased, denied and borrowed, as well as constructed for the cultural resistance of today's Indigenous peoples
- Worldviews and forms of knowledge are intrinsically intertwined; Indigenous peoples interpret their 'worlds' from their diverse forms of knowing and knowledge

Relationships of Indigenous ways of knowing to scientific ways of knowing

- The knowledge of each people is in its own physical and spiritual territory, and this knowledge has often been taken from Indigenous peoples without acknowledgement
- Scientists need to learn to recognize, coexist with and respect Indigenous knowledge in all its complexity and diversity
- Government policymakers and other decision-makers need to recognize that science is sometimes being misused to advance the violation of Indigenous territories, including with deforestation and other activities that threaten the future of Indigenous peoples

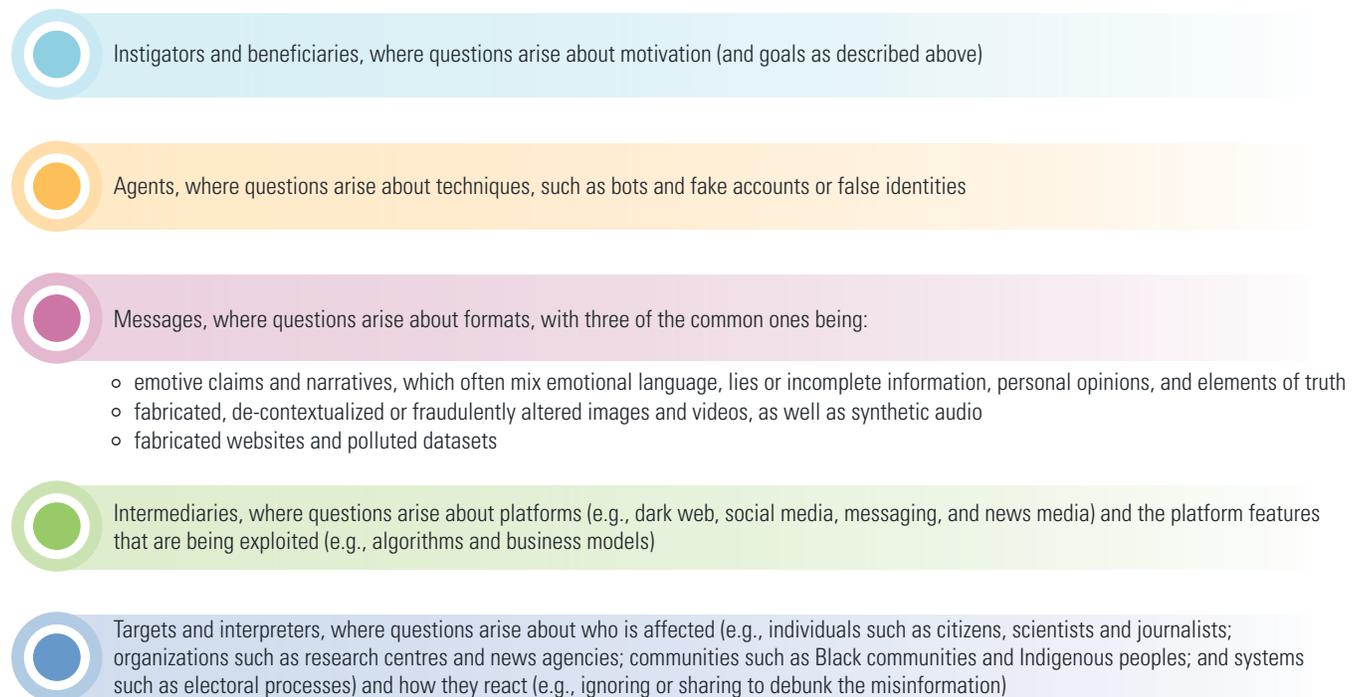
4.11 Misinformation and infodemics

Misinformation is false information that is spread, regardless of intent to mislead. Disinformation is the intentional spreading of misinformation. For example, a political opponent or foreign government may engage in a disinformation campaign to achieve a particular goal, such as an electoral advantage or undermining of trust in democratic institutions, independent media, and scientific knowledge. Organized groups may pursue other goals, such as making money or advancing an ideology. Because intent can be very difficult to prove, we use the term misinformation here. While misinformation has been with us for centuries, the internet has transformed its scale, drivers and consequences, as well as possible responses to it.

During the COVID-19 pandemic, people began to use the term ‘infodemic’ (or ‘mis-infodemic’) to capture the parallel between the rapid spread of the virus and the rapid spread of misinformation about both COVID-19 and measures to prevent it, manage it, and mitigate its economic and social impacts. Existing misinformation efforts related to vaccines were often re-directed to COVID-19 vaccines once they became available, and many new anti-vaccine efforts were launched.

In 2020, the Broadband Commission for Sustainable Development – sponsored by the International Telecommunication Union (ITU) and United Nations Educational, Scientific and Cultural Organization (UNESCO) – published a report about countering digital misinformation while respecting freedom of expression.(12)

The report describes five stages in the misinformation life cycle:



The report distinguishes misinformation from parody and satire, which can both mislead those without the capacity to identify them and counter misinformation by highlighting its absurd elements.

The Broadband Commission for Sustainable Development report also presents potential responses to misinformation and notes examples of intersections with freedom-of-expression rights. The UNESCO report notes the potential complementarity of these responses and the need to ensure the alignment of any responses used.



The report does not address the evidence underpinning these responses, although many such evidence syntheses exist. For example, one medium-quality, older synthesis (AMSTAR rating 7/11 and search date of 2017) found that correcting misinformation (i.e., response type 1) has a moderate influence on belief in misinformation (with greater effects in health than marketing or politics), rebuttals are more effective than forewarnings, and appeals to coherence are more effective than fact-checking and appeals to credibility.⁽¹³⁾ Our aim here is not to provide the current state of knowledge about these responses, or to explore the psychology of misinformation that may underpin them, but to note that evidence syntheses on misinformation responses exist and living evidence syntheses are needed. Such syntheses could provide an evolving understanding of what is known, including how this may vary by groups (e.g., among those who are more susceptible to misinformation or hold particular belief systems) and contexts (e.g., polarized societies).

As we discussed in the introduction, if we can continue building the capacity, opportunity and motivation to use evidence (in this case to address misinformation about societal challenges), while also exercising judgement, humility and empathy, the combination will serve us well. Even when we can rely on both the rigorous testing and reliable self-correcting systems that typically operate in the health sector, we can do better. As Ross Douthat observes in his memoir about living with Lyme disease, we need more people and institutions with a worldview that both: 1) “accepts the core achievements of modern science, treats populist information sources at least as skeptically as it treats establishment sources and refuses to drink the ... Kool-Aid”; and 2) “recognizes that our establishment fails in all kinds of ways, that there’s a wider range of experiences that fits within the current academic-bureaucratic lines...”⁽¹⁴⁾ Most of us have benefited tremendously from fields like medicine that combine rigorous testing and fairly reliable self-correcting systems. But some – like Ross Douthat – have not. He notes that, “I am more open-minded about the universe than I was seven years ago, and much more skeptical about anything that claims the mantle of consensus. But I am trying not to let that mix of open-mindedness and skepticism decay into a paranoid-outsider form of groupthink.”⁽¹⁴⁾

4.12 Weaknesses in a health-research system

Prior to the start of the COVID-19 pandemic, a group of researchers documented the weaknesses in the health-research system. They called for a reorganization of the system, including the structures (e.g., global collaborations like Cochrane) and incentives (e.g., from universities, funders and journals) that underpin it, in order to better meet the needs of decision-makers.(15-17) They were primarily concerned with three of the forms of evidence that decision-makers typically encounter, namely primary research (and specifically evaluation, especially randomized-controlled trials), evidence syntheses, and guidelines (and to a lesser extent technology assessments).

While some of the weaknesses became more apparent through the COVID-19 evidence response, the pandemic response also generated notable examples of efforts to address many of the weaknesses. Although the researchers were originally focused on health challenges and on select forms of evidence, many of the insights also apply to other societal challenges and to other forms of evidence. That said, a similar exercise will need to be undertaken for societal challenges and forms of evidence that are quite different from those described here. For example, the Intergovernmental Panel on Climate Change (IPCC) has helped a great deal with global coordination in their area of focus, and with spurring new approaches to modeling over long time horizons. However, the IPCC may also benefit from complementing these approaches with post-hoc evaluations of climate-change response options.

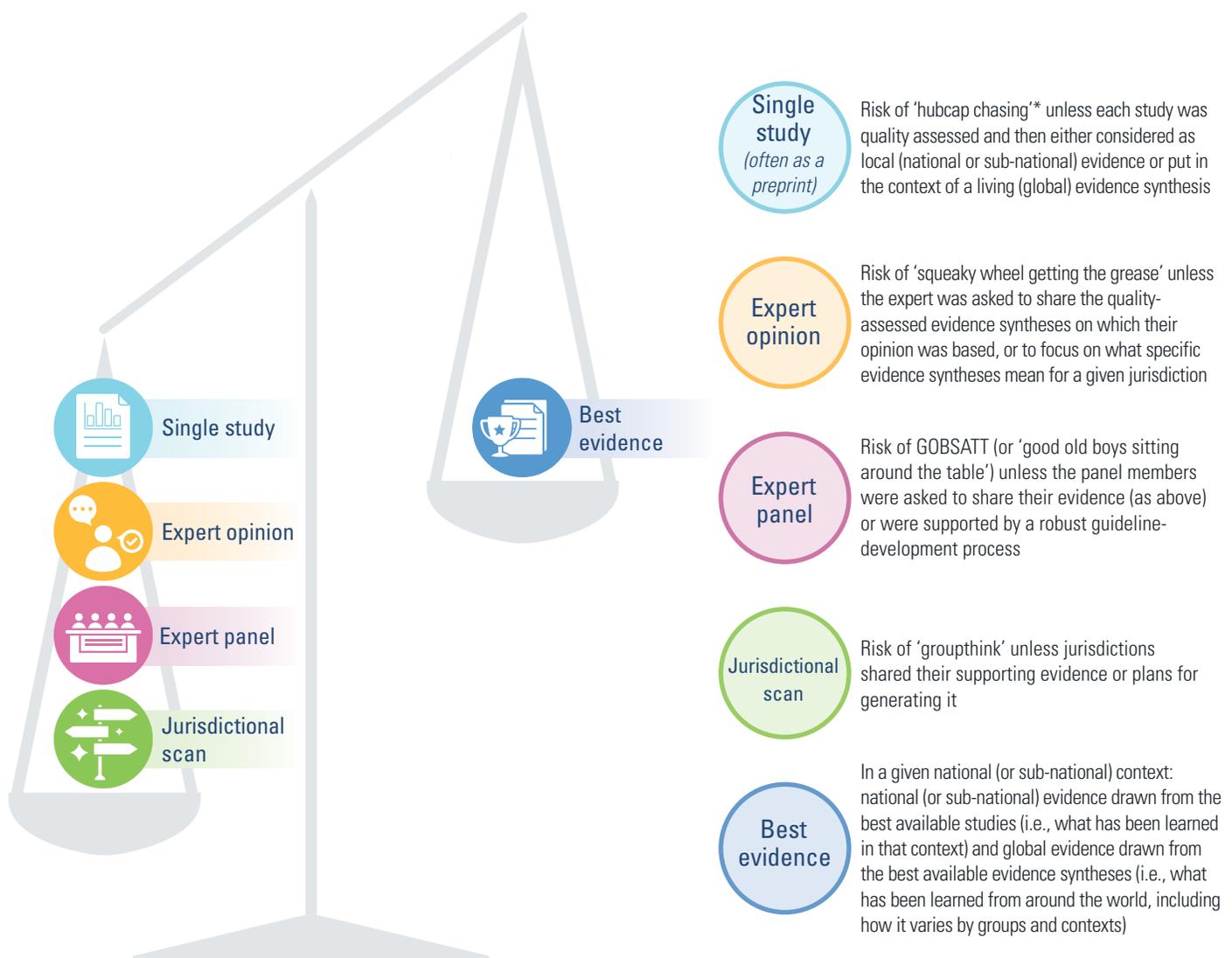
Pre-COVID weaknesses in the health-research system	Examples of weaknesses that became more apparent through the COVID-19 evidence response	Examples of efforts to address weaknesses through the COVID-19 evidence response
<p>Lack of global coordination of evidence communities, with each ideally addressing a globally prioritized challenge using systematic and transparent methods and a full array of data sources (e.g., study registries, regulatory agencies, and administrative databases)</p>	<ul style="list-style-type: none"> • Many topics prioritized by COVID-END's global horizon-scanning panel were never addressed by one or more 'best' evidence syntheses • Low signal-to-noise ratio: nearly 11,000 evidence syntheses about COVID-19 were reduceable to roughly 600 'best' evidence syntheses in the COVID-END inventory (as of 7 November 2021) based on four criteria: addressing a unique decision-relevant question, recency of the search for evidence, quality of the synthesis, and availability of a GRADE evidence profile 	<ul style="list-style-type: none"> • COVID-END engaged 55 leading evidence-synthesis, guideline-development and technology-assessment groups, as well as citizen partners and evidence intermediaries, in efforts to reduce duplication and enhance coordination • PROSPERO encouraged those registering a protocol for a COVID-19 evidence synthesis to search for already registered protocols and to pick a new topic if duplication was likely (although 138 teams proceeded with a topic already registered by one of 57 other teams, including 14 addressing hydroxychloroquine and seven addressing tocilizumab) • GloPID-R (Global Research Collaboration for Infectious Disease Preparedness) engaged leading research-funding organizations in coordinating their rapid funding of primary research about COVID-19
<p>Lack of focus of evidence communities on maintaining living evidence syntheses that examine all interventions addressing a prioritized challenge (e.g., a network meta-analysis rather than pairwise comparisons only)</p>	<ul style="list-style-type: none"> • Only 13% of COVID-19 evidence syntheses self-identified as a living evidence synthesis (versus 52% in the COVID-END inventory where 'living' status was a criterion used to identify 'best' evidence syntheses) and more than two thirds addressed clinical management (rather than public-health measures, health-system arrangements, and economic and social responses) • Only 21% of living COVID-19 evidence syntheses had one update (after the first publication), 8% had two, and 13% had two or more, while the mean and median time between searches for syntheses with updates was 49 and 31 days, respectively • Many COVID-19 evidence syntheses addressed single drug treatments, so the COVID-END inventory transitioned to relying primarily on COVID-NMA and others looking across all drug treatments (and to including only syntheses of prognostic studies that include all available prognostic factors) 	<ul style="list-style-type: none"> • Four evidence communities maintained high-quality living meta-analyses of all drug treatments, with one (COVID-NMA) supporting weekly updates of risk-of-bias assessments and GRADE certainty assessments

<p>Lack of focus of evidence communities on identifying harms arising from interventions as well as benefits (and more generally including a broader array of study designs and types of data)</p>	<ul style="list-style-type: none"> • Then-existing studies and syntheses made it difficult to understand what to make of reports about blood clots being experienced by select vaccine recipients 	<ul style="list-style-type: none"> • A COVID-END team conducted a systematic review to complete a causality assessment of thrombotic thrombocytopenia that is temporally related to vaccine administration
<p>Lack of sharing of individual participant data and its use to examine how findings vary by type of participant, setting or other factors, and hence how interventions can be better personalized or contextualized</p>	<ul style="list-style-type: none"> • Many reports documented the lack of sharing of individual participant data (e.g., one review of 140 studies early in the pandemic found that data were shared from only one study – see bit.ly/31WQUxM) 	<ul style="list-style-type: none"> • The COVID-19 Knowledge Accelerator advanced the methods needed to share computable expressions of evidence and guidance across platforms, and Vivli extended its platform to enable the sharing of COVID-19 trials data
<p>Lack of inclusion in evidence communities of representatives from all relevant evidence groups (e.g., researchers conducting primary studies like trials, evidence synthesizers and guideline developers), all relevant types of decision-makers, and all relevant types of evidence intermediaries</p>	<ul style="list-style-type: none"> • Many reports described how citizens were less involved in COVID-19 research than they had been in other types of research before the pandemic, as well as about plain-language summaries of evidence syntheses not being available early in the pandemic (e.g., bit.ly/3kwCHhr) 	<ul style="list-style-type: none"> • The National COVID-19 Clinical Evidence Task Force involved many health professionals (and their associations) and patients in their living guidelines, and they worked in partnership with evidence communities maintaining living network meta-analyses • Many groups engaged in modeling to help choose among available options (e.g., lockdowns) based on available evidence and expert opinion, and in some cases the context provided by decision-makers • Many groups prepared contextualized rapid syntheses at the request of decision-makers (with citizen partners in the case of many COVID-END rapid syntheses)
<p>Lack of use by evidence communities of a range of new approaches to become more efficient and timely in their work (e.g., machine learning and crowd-sourcing contributions to their work)</p>	<ul style="list-style-type: none"> • More than 18,000 studies had been uploaded to just one preprint server (medRxiv) by July 2021, dramatically shortening the time to publication (while having uncertain harms due to the lack of peer review) • Many use cases for machine-learning approaches in COVID-19 responses were identified in a medium-quality scoping review of 183 reports (bit.ly/3D7bTeV), but were not widely used early in the pandemic 	<ul style="list-style-type: none"> • L*VE (Living Overview of Evidence) used machine learning to maintain a repository of primary studies and evidence syntheses, and the EPPI-Centre used machine learning to maintain a living evidence map
<p>Lack of reporting about the gaps in and quality and transparency of primary studies (including conflicts of interest) as part of a feedback loop meant to support learning and improvement – for more details, see box 1 in this paper: (17)</p>	<ul style="list-style-type: none"> • The results of many primary studies have been made available through media releases instead of through full research reports that can be critically appraised • Many reports noted that primary studies were found to have an intermediate to high risk of bias (e.g., 81% of the 713 articles including original patient data from a pool of 10,516 COVID-19 articles – see bit.ly/3Hi190X) and to have been retracted because of scientific misconduct • COVID-END prepared reports about evidence syntheses’ lack of currency (91% and 61% in the full database and inventory of ‘best’ evidence syntheses, respectively, were based on searches completed more than 180 days earlier), medium or low quality (75% and 55%, respectively), and lack of an evidence profile (81% and 42%, respectively), as well as how rapid syntheses were more likely to be low quality than full syntheses (43% compared to 13%) 	<ul style="list-style-type: none"> • RECOVERY (recoverytrial.net) and WHO COVID Solidarity Therapeutics Trial provided platforms for ultra-rapid, high-quality, multi-country trials of COVID-19 drug treatments • COVID-19 Evidence Alerts profiled quality-rated primary studies

4.13 Weaknesses in many COVID-19 evidence-support systems

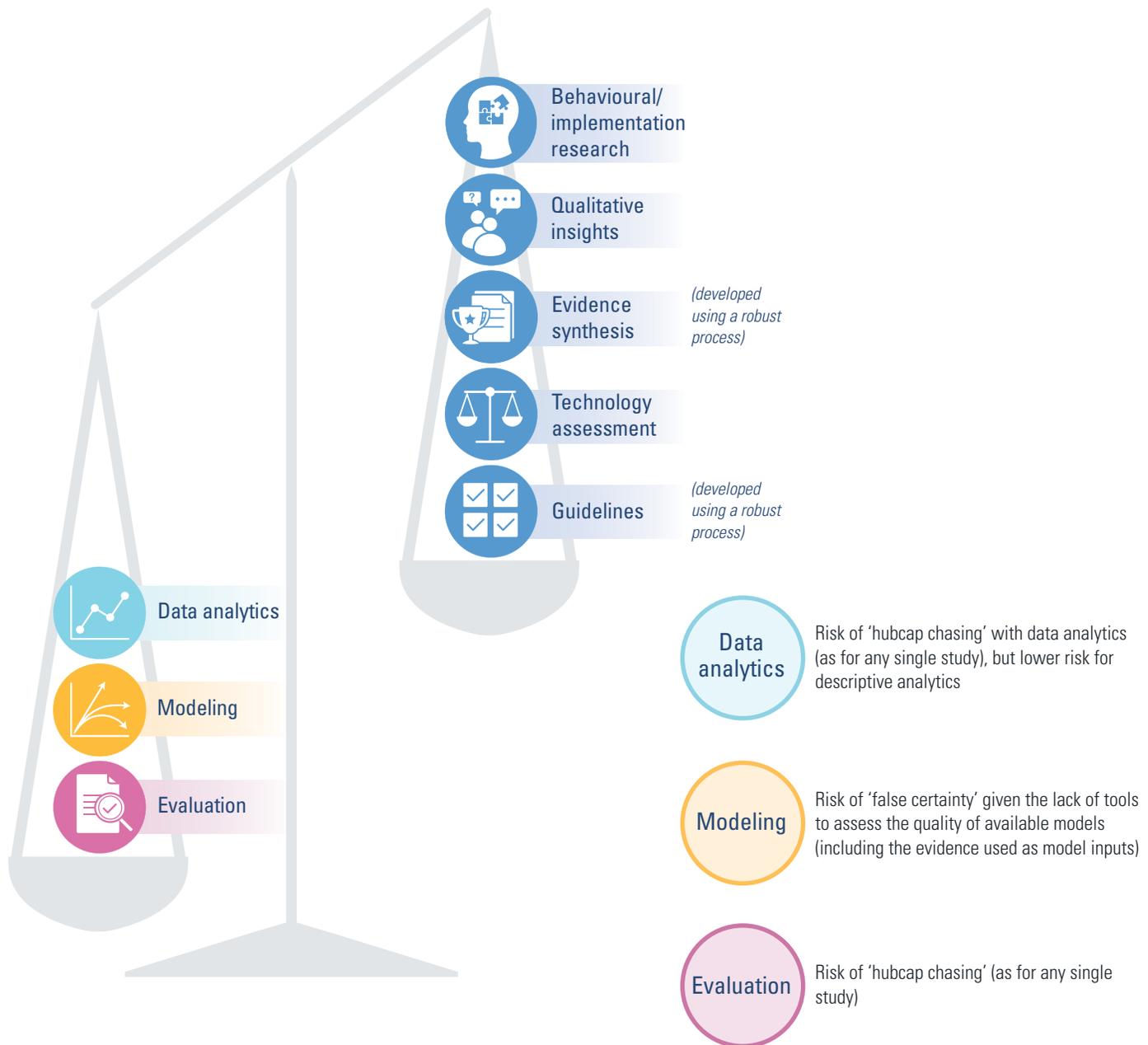
The COVID-19 pandemic has been a global crisis marked by the need for rapid-fire decision-making by high-level government authorities over several 'waves', and by both significant uncertainty and a quickly evolving (and often indirect) evidence base. In many jurisdictions, evidence appeared to play a more visible role in government policymaking during the COVID-19 pandemic than it has in many decades. That said, misinformation flourished, and citizens and other stakeholders struggled to understand why the evidence changed over time. 'Other things' than best evidence often had greater visibility than best evidence, and some forms of evidence often had greater visibility than others. We addressed misinformation in [section 4.11](#) and we provided additional context for the terms used here in [sections 4.8](#) ('other things' than best evidence), [4.2](#) (forms of evidence) and [4.5](#) (distinguishing high- from low-quality evidence).

'Other things' than best evidence that were more typically encountered by COVID-19 decision-makers



* As noted in [section 4.8](#), we use the term 'hubcap chasing' (i.e., dogs repeatedly barking at and chasing cars) as a metaphor for sharing and commenting upon each new study that captures one's attention.

Forms of evidence that were more typically encountered by COVID-19 decision-makers



Leaders in any jurisdiction can use the Evidence Commission report to systematize and broaden beyond health the aspects of the evidence response to COVID-19 that went well and to address the many aspects that did not go well. As part of systematizing what went well, these leaders will need to transition from the COVID-19-era focus on speed and as much quality as possible ('quick and clean enough') to a balance among speed, quality (e.g., waiting for evidence that is just around the corner), and sustainability (e.g., normal working hours and other work not put on hold).

4.14 Features of an ideal national evidence infrastructure

Every country has a national evidence infrastructure that includes many evidence-related structures and processes. Within this national evidence infrastructure, we distinguish the evidence-support system, the evidence-implementation system, and the research system. Giving much greater attention to the evidence-support system, and ongoing attention to the evidence-implementation system, will be key to future efforts to use evidence in addressing societal challenges.



Evidence is something that decision-makers can use, while research is something that researchers do. When decision-makers ask a question, particularly government policymakers and organizational leaders, they need to be supported in a timely way in using the evidence that already exists. Decision-makers, particularly professionals and citizens, need to be supported to implement the changes that robust evidence demonstrates are needed. Meanwhile, researchers need to be enabled to invent new products and services, to develop new ways of thinking, and to critique the status quo. They also need to be encouraged to engage more actively with decision-makers to ensure relevance and applicability, to use technology more effectively to make research processes more efficient, to report their findings more transparently and without ‘spin,’ and to create versions of the evidence they produce that can be accessed, understood and made actionable by decision-makers. The evidence emerging from their research that is ‘ready for prime time’ can then be drawn into the evidence-support and evidence-implementation systems.

	Enabler	Complement
<p>Evidence-support system</p> <p>Grounded in an understanding of a national (or sub-national) context (including time constraints), demand-driven, and focused on contextualizing the evidence for a given decision in an equity-sensitive way</p> <p>Examples of infrastructure:</p> <ul style="list-style-type: none"> evidence-support coordination office (for all of government, with or without additional offices in key departments or ministries) evidence units with expertise in each of eight forms of evidence (e.g., behavioural-insights unit) processes to elicit and prioritize evidence needs, find and package evidence that meets these needs within set time constraints (and build additional evidence as part of ongoing evaluations), build capacity for evidence use (e.g., evidence-use workshops and handbook), prompt evidence use (e.g., cabinet submission checklist), and document evidence use (e.g., evidence-use metrics) <p><i>While such infrastructure is most relevant to government policymakers and the leaders of very large organizations, similar types of infrastructure can be tailored to the leaders of smaller organizations as well as professionals and citizens</i></p>	<p>Enabled by:</p> <ul style="list-style-type: none"> domestic evidence intermediaries evidence-related global public goods (e.g., global standards and open-access publications of evidence syntheses) from Cochrane, Campbell and others technical assistance from the UN and other multilateral organizations, including their country, regional and global offices 	<p>Complemented by:</p> <ul style="list-style-type: none"> foresight initiatives to anticipate future evidence needs innovation hubs to invent new products and services, evaluate them, and scale those that can add value through markets or public procurement

	Enabler	Complement
<p>Evidence-implementation* system</p> <p>Grounded in an understanding of evidence-related processes, driven by a mix of demand and supply considerations, and focused on cycles of synthesizing evidence, developing recommendations, disseminating them to decision-makers, actively supporting their implementation, evaluating their impacts, and incorporating lessons learned in the next cycle (18)</p> <p>Examples of infrastructure:</p> <ul style="list-style-type: none"> • evidence-synthesis and guideline units • evidence-implementation units to prioritize what to implement, identify barriers and facilitators to implementation, and design strategies that address barriers and leverage facilitators • processes to build evidence into existing workflows (e.g., electronic client records, digital decision-support systems, web portals, and quality-improvement initiatives) and share it across them <p><i>While such infrastructure is most relevant to professionals and citizens, similar types of infrastructure can be tailored to government policymakers and organizational leaders</i></p>	<p>Enabled by similar things as above</p>	<p>Complemented by government policymakers and organizational leaders using available levers to support implementation (e.g., adding recommended products and services to a benefits package, and mandating public reporting of an indicator capturing adherence to a recommended action)</p>
<p>Research system</p> <p>Grounded in an understanding of disciplinary perspectives and research methods, driven by supply-side considerations like curiosity, and focused on conducting research that may or may not aim to contribute to the evidence taken up in the evidence-support and evidence-implementation systems (19)</p> <p>Examples of infrastructure:</p> <ul style="list-style-type: none"> • university departments and units • processes to reward activities (e.g., peer-reviewed grants and publications), which could be expanded to activities with a greater likelihood of achieving impacts (e.g., engagement with and responsiveness to decision-makers) <p><i>Such infrastructure is most relevant to researchers</i></p>	<p>Enabled by research-related global public goods (e.g., open-science initiatives)</p>	<p>Complemented by government policymakers and organizational leaders using available levers to reward certain activities (e.g., institution-assessment exercises like the UK's Research Excellence Framework)</p>

**We use the term evidence-implementation system to distinguish it from the evidence-support system. Some recent descriptions of what we mean by an evidence-implementation system have called this an evidence ecosystem.(18) We have avoided this term both because it confuses those who are used to the literal meaning of an ecosystem and because it does not capture this system's focus on implementation. If we were to use the term evidence ecosystem, we would likely apply it to a combination of the evidence-support system and the evidence-implementation system.*

Building on the first row above, an evidence-support system would ideally have the following features:

- supports decision-making by government policymakers, as well as by organizational leaders, professionals and citizens, with the best evidence and in ways that are:
 - informed by a good understanding of their context – including where and how decisions are made, the time constraints under which decisions are made, and the existing system arrangements that determine whether the right products and services get to those who need them – and of their capacities, opportunities and motivation to use evidence in decision-making
 - responsive to their decision-related needs, time constraints, and preferences for product and process formats
 - reflective of a commitment to matching the best evidence to the question asked and to working through what the evidence means for a given decision (i.e., to contextualizing the evidence), including how this may vary by groups and contexts (i.e., to bringing an equity lens to the evidence and to how it is viewed)
 - delivered with judgement, humility and empathy and with appropriate attention to identifying and managing conflicts of interest
- enabled in systematic and transparent ways both by those within government and through strategic partnerships with evidence intermediaries and producers outside government, such as domestic evidence intermediaries and purveyors of global public goods and technical assistance
- complemented by those operating in two parts of what the UN calls its 'quintet of change,' namely strategic foresight and innovations.(20) The three other parts of the quintet of change – data analytics, behavioural/implementation research, and evaluation ('performance and results orientation') – are captured in our eight forms of evidence.

Some governments have chosen to pass legislation that formalizes aspects of the evidence-support system. In the US, the bipartisan Commission on Evidence-based Policymaking (21) developed recommendations that informed the Evidence Act. Follow-up memos from the president and the Congressional Budget Office helped to support the implementation of the act. These efforts share with the Evidence Commission a focus on all types of societal challenges, but diverge in their focus on just one type of decision-maker (government policymakers, in this case in the US federal government), on just two forms of evidence (data analytics and evaluation), and on building new evidence and not also on making better use of the stock of existing evidence (such as through evidence syntheses). Some parts of the UN system have chosen to pass resolutions about strengthening evidence-support systems. In the Eastern Mediterranean region, WHO's regional committee passed such a resolution for the health sector.(22)

4.15 Global-commission reports by form of evidence

Only one of 70 global commission reports published since January 2016, in describing their commissioners singled out expertise in any of the eight forms of evidence that decision-makers typically encounter.

When commission reports explicitly reported in their methods section that they drew on any of these forms of evidence in their own work, modeling was the most frequent form (13 reports) and evidence synthesis (6) and technology assessment / cost-effectiveness analysis (5) were the next most frequent. Complementing this analysis of methods sections, an analysis of reference lists found:

- 64 of 70 reports had a reference list
- only 32 of these 64 reports had at least one citation of an evidence synthesis
- only 3% of citations (526 of 17,605) appeared to be evidence syntheses based on their titles
- the mean and median number of citations of evidence syntheses were 8.2 and one per report, respectively.

We also analyzed the citation list for the Global Sustainable Development Report 2019, which was prepared by an independent

group of scientists appointed by the UN Secretary-General and which, accordingly, one might expect to be a positive outlier.⁽²⁰⁾ However, in this report only 1.8% of citations (17 of 941) appeared to be evidence syntheses based on their titles. When evidence syntheses were cited, it wasn't clear whether quality and recency of search played a role in selecting them. For example, three of the cited evidence syntheses addressed the specific topic of health-worker recruitment and retention, yet there are hundreds of syntheses available on this topic through Health Systems Evidence. We focus on evidence syntheses because – as we note in [section 4.2](#) – they use a systematic process of identifying, selecting, appraising and synthesizing the findings from all studies that have addressed the same question to arrive at an overall understanding of what is known, including how this may vary by groups and contexts.

At most one of the reports made any one of these forms of evidence the explicit focus of their recommendations. As we return to in [section 7.1](#), many reports made general recommendations about data collection and sharing, but they did not make specific recommendations about harnessing data analytics to support decision-making.

Forms of evidence		Number of commission reports
Basis for describing the expertise of members of the commission (not including their individual bios)	Technology assessment / cost-effectiveness analysis	1
	All other forms of evidence	0
	Not explicitly reported	69
Source of evidence drawn upon	Modeling	13
	Evidence synthesis	6
	Technology assessment / cost-effectiveness analysis	5
	Data analytics	3
	Evaluation	2
	Guidelines	2
	Behavioural/implementation research	1
	Qualitative insights	1
Not explicitly reported	49	
Focus of recommendations	Modeling	1
	Evaluation	1
	Qualitative insights	1
	Technology assessment / cost-effectiveness analysis	1
	Guidelines	1
	All other forms of evidence	0
	Not explicitly reported	66



4.16 Annex to section 4.5 – Examples of quality-assessment tools



Form of evidence	Examples of quality-assessment tools
Types of evidence for which quality-assessment tools exist	
Data analytics	<p>ROBINS-I (riskofbias.info) for observational studies, such as those that examine associations between select factors (including interventions) and select outcomes, where there is a risk of bias from:</p> <ul style="list-style-type: none"> • confounding (where the observed relationship between a factor and an outcome, differs from the true relationship because of one or more additional factors that are not accounted for) • selection of participants into the study • classification of intervention(s) • deviations from intended intervention • missing data • measurement of outcomes • selection of the reported result
Evaluation	<p>Risk of Bias (RoB) 2 (riskofbias.info) for randomized-controlled trials, where the risk of confounding is less, but where there is a risk of bias from some (albeit fewer) of the same sources as above:</p> <ul style="list-style-type: none"> • randomization process • deviations from the intended interventions • missing (outcome) data • measurement of outcomes • selection of the reported result
Behavioural/ implementation research	See other rows for the relevant types of studies or syntheses
Qualitative research	<p>JBI critical appraisal checklist for qualitative research (bit.ly/31Lsib1), where very different considerations come into play, such as:</p> <ul style="list-style-type: none"> • congruity between the research methodology and the research question, data-collection methods, data representation and analysis, and results interpretation, as well as between the stated philosophical perspective and the methodology • reflexivity on the part of the researcher, such as statements locating the researcher culturally and theoretically, and addressing the researcher's influence on the research and vice versa • representation of study participants and their voices • flow of conclusions from the analysis and interpretation of the data
Evidence synthesis	<p>See above for the relevant types of studies considered in the evidence synthesis</p> <p>A MeaSurement Tool to Assess systematic Reviews (AMSTAR; amstar.ca) for the quality of the evidence synthesis, where the risk of bias can arise from:</p> <ul style="list-style-type: none"> • identification of all potentially relevant studies through a comprehensive search of both published and grey literature and without language restrictions • selection of all studies addressing the research question using explicit criteria about study designs and about participants, interventions/factors, comparisons and outcomes, and with at least two reviewers applying the criteria • quality appraisal of and data extraction from all included studies • synthesis of findings from all included studies <p>Note that there are two versions of AMSTAR: 1) the original version that can be applied across all types of syntheses, albeit with some criteria removed from both the numerator and denominator; 2) a second version of AMSTAR that is more specifically relevant to syntheses of randomized-controlled trials</p> <p>Grading of Recommendations, Assessment, Development and Evaluations (GRADE; bit.ly/3C9pMrx) for the certainty of evidence for the outcomes of an intervention, with:</p> <ul style="list-style-type: none"> • certainty rated down because of risk of bias (with evidence from randomized-controlled trials starting at high certainty and evidence from observational studies starting at low quality and then being adjusted based on RoB2 or ROBINS-I), imprecision (e.g., one or two small studies), inconsistency (e.g., two studies showing very different findings), indirectness (e.g., surrogate measures used or atypical settings studied), and publication bias (e.g., more common with observational studies because of the lack of study registries or with industry-funded studies because of the commercial incentive to publish positive studies) • certainty rated up for large magnitude of effect, dose-response gradient, and when all residual confounding would decrease the magnitude of effect <p>GRADE CERQual (cerqual.org) for the certainty of evidence for the qualitative representation of a phenomenon of interest, with:</p> <ul style="list-style-type: none"> • certainty rated down because of concerns about methodological limitations (because problems in the way studies were designed or reported were identified using a critical-appraisal tool like the JBI one above), relevance (because the context in which the primary studies were conducted are substantively different from the context of the synthesis question), coherence (because some of the data contradict the findings or are ambiguous), and adequacy (because the data are not sufficiently rich or only come from a small number of studies or participants)



<p>Technology assessment / cost-effectiveness analysis</p>	<p>International Network of Agencies for Health Technology Assessment (INAHTA) checklist (bit.ly/2YJVMVK) for the quality of technology assessments, with two of the 14 questions addressing the approach to synthesizing the evidence (with prompts similar to AMSTAR) and another question addressing whether the assessment was contextualized through an accompanying cost-effectiveness analysis (with local – meaning national or sub-national – costing data), and consideration of local legal, ethical and social implications</p> <p>Drummond checklist of cost-effectiveness analyses (bit.ly/3FbnB8R), and for economic evaluations more generally, with questions about study design, data collection, and the analysis and interpretation of results</p> <p>Philips checklist for cost-effectiveness analyses that include a decision-analytic modeling component (bit.ly/3FcWBGc) with questions about the structure of the model (e.g., explicit rationale, justified assumptions and appropriate time horizon), the data used (e.g., baseline probabilities from observational studies, treatment effects from randomized-controlled trials, and assessments of four types of uncertainty, namely the structure of the model, the methodological steps followed, the heterogeneity in the population studied, and the parameters used), and the consistency (internal and external) – there is also the complementary TRUST tool to assess uncertainties in decision-analytic models (bit.ly/3quFSKp)</p>
<p>Guidelines</p>	<p>AGREE II tool (bit.ly/30qyFAB) for assessing the development, reporting and evaluation (or quality appraisal) of guidelines, which uses 23 items grouped into six domains, each of which is scored independently:</p> <ul style="list-style-type: none"> • scope and purpose described • stakeholder (citizen/patient and professional) involvement • rigour of development (with evidence syntheses used as an input, a robust recommendations-development process, and recommendations linked to the supporting evidence) • clarity of presentation • applicability • editorial independence (in relation to funder and panel members’ conflicts of interest) <p>Grading of Recommendations, Assessment, Development and Evaluations (GRADE; bit.ly/3C9pMrx) for assessing the strength of recommendations, which uses four key considerations:</p> <ul style="list-style-type: none"> • balance between desirable and undesirable outcomes (trade-offs), taking into account best estimates of the magnitude of effects on desirable and undesirable outcomes, and the importance of those outcomes (estimated typical values and preferences) • confidence in the magnitude of estimates of effects of the interventions on important outcomes (see GRADE in a previous row) • confidence in values and preferences and their variability resource use
<p>Types of evidence for which quality-assessment tools don’t yet exist</p>	
<p>Modeling</p>	<p>No widely accepted tool yet exists for most types of models, however, there are some general questions that can be asked about models (much like those listed as part of the Philips checklist above), such as:</p> <ul style="list-style-type: none"> • structure of the model (e.g., explicit rationale, justified assumptions, and appropriate time horizon) • data used (e.g., baseline probabilities from observational studies, intervention effects from a range of sources*, and assessments of four types of uncertainty, namely the structure of the model, the methodological steps followed, the heterogeneity in the population studied, and the parameters used) • consistency (internal and external) • availability of the software or tool so that it can be assessed by others <p>*One of the challenges with COVID-19 was that study designs typically used to capture intervention effects, such as randomized-controlled trials, were ethically or logistically difficult and/or took time to complete, so other study designs needed to be used and expert opinion needed to be sought (and there are approaches that enable this to be done in a way that is systematic and transparent, such as SHELF – see bit.ly/30nteC4)</p>
<p>Approaches used with certain types of evidence for which quality-assessment tools don’t yet exist</p>	
<p>Artificial intelligence</p>	<p>No widely accepted tool yet exists</p>

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Chapter 5. Role of evidence intermediaries

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This chapter is the first of two chapters exploring how we can systematize the use of evidence, by the full range of decision-makers, in addressing societal challenges. Here we focus on evidence intermediaries.

Chapter 6 is focused on global public goods and equitably distributed capacities.

5.1 Types of evidence intermediaries

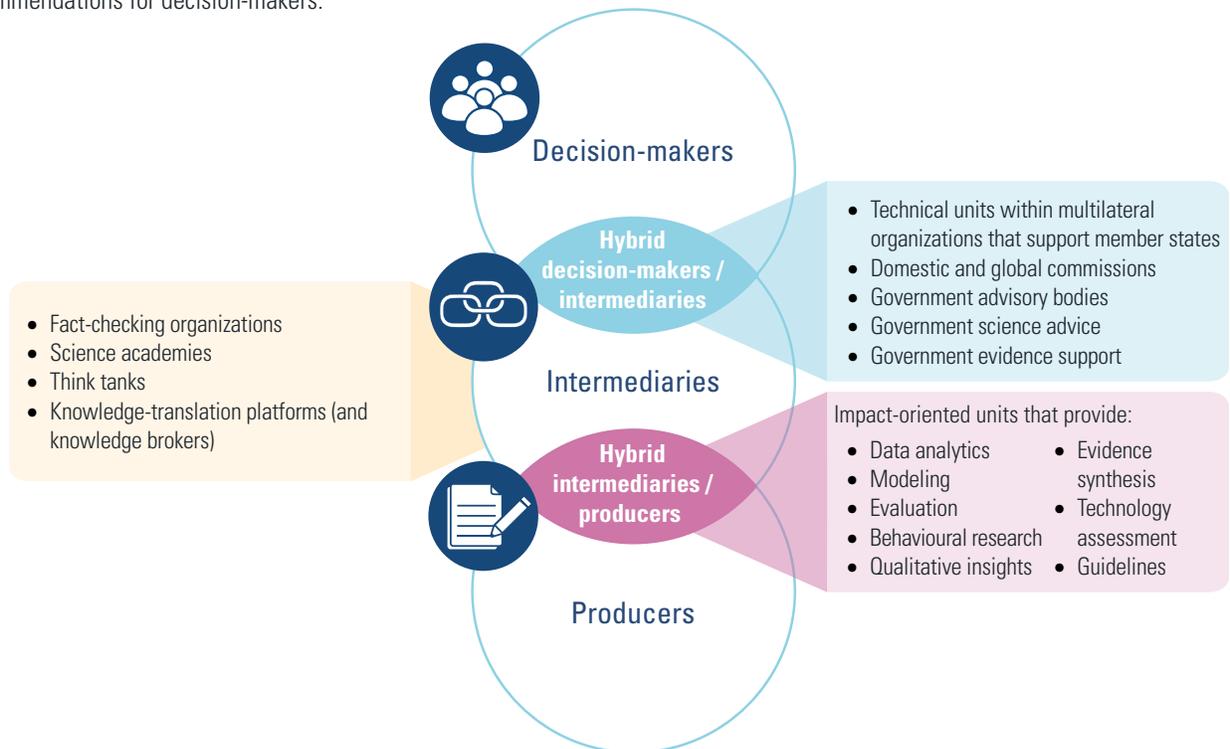
As the term suggests, evidence intermediaries are entities that work (or individuals who work) ‘in between’ decision-makers and evidence producers. They support decision-makers with best evidence and they support evidence producers with insights and opportunities for making an impact with evidence. There are many types of evidence intermediaries and we have included those that tend to focus significant energy specifically on using evidence to support decision-making. Some of these evidence intermediaries may use other labels to describe themselves, such as knowledge brokers.

We distinguish among:

- intermediaries that both use evidence themselves in their own work (i.e., they are involved in decision-making themselves) and directly support decision-making by government policymakers, organizational leaders, professionals and/or citizens
- intermediaries that use evidence to directly support decision-making
- intermediaries that may both produce generalizable knowledge (e.g., for publication in peer-reviewed scientific journals) and use evidence to directly support decision-making.

For the first and second broad types of evidence intermediaries, we have included some entities that don’t necessarily prioritize evidence in the way we call for in this report, as a motivating force in their work. They may instead rely on beliefs, values or interests. We were broadly inclusive because we hope that many of these entities will re-consider the priority they accord to evidence in their work after reading this report. We introduce in [section 5.2](#) some of the alignments and funding sources that may influence choices about the forces that motivate intermediaries’ work. We previously introduced in [sections 3.3 to 3.6](#) a range of other processes that can be (but are often not) the targets of intermediaries’ work (e.g., budgeting and planning for government policymakers and organizational leaders, continuing professional development for professionals, and traditional and social media for citizens).

For the third broad type of evidence intermediaries, some actually function as intermediaries for other evidence groups. For example, technology assessment and guideline groups may draw on evidence syntheses produced by others in preparing a report or recommendations for decision-makers.



Broad types	Specific focus (or type)	Examples of national entities and global (or regional) networks*
<p>Hybrid decision-makers / intermediaries</p> 	Technical units within multilateral organizations that support member states	<ul style="list-style-type: none"> UN and its departments (e.g., Department of Economic and Social Affairs), funds (e.g., UNICEF Office of Research - Innocenti), programs (e.g., UNDP's Human Development Reports), and specialized agencies (e.g., WHO Science Division and World Bank's research and publications) Organisation for Economic Co-operation and Development's (OECD) substantive directorates
	Domestic and global commissions	<ul style="list-style-type: none"> Domestic standing commissions (e.g., Australia's Productivity Commission) and ad hoc commissions (e.g., New Zealand's royal commissions) See section 8.1 for global commissions
	Government advisory bodies**	<ul style="list-style-type: none"> Chinese government's expert advisory bodies No global or regional network identified
	Government science advice	<ul style="list-style-type: none"> Government Chief Scientific Advisor (UK) International Network for Government Science Advice
	Government evidence support	<ul style="list-style-type: none"> Ugandan parliament's department of research services African Parliamentarians' Network on Development Evaluation
<p>Intermediaries</p> 	Fact-checking organizations	<ul style="list-style-type: none"> WebQoof (India) International Fact-Checking Network and Africa Check
	Science academies	<ul style="list-style-type: none"> National Academies of Sciences, Engineering and Medicine (US) International Science Council and G-Science Academies
	Think tanks	<ul style="list-style-type: none"> RAND Corporation (US) Global Solutions Initiative and Think20
	Knowledge-translation platforms (and knowledge brokers)	<ul style="list-style-type: none"> Knowledge to Policy Center (Lebanon) Evidence-Informed Policy Networks (EVIPNet) and Africa Evidence Network
<p>Hybrid intermediaries / producers</p> 	Impact-oriented data-analytics units	<ul style="list-style-type: none"> Pulse Lab Jakarta (Indonesia) UN Global Pulse, which includes four such labs
	Impact-oriented modeling units	<ul style="list-style-type: none"> Intergovernmental Panel on Climate Change
	Impact-oriented evaluation units	<ul style="list-style-type: none"> Abdul Latif Jameel Poverty Action Lab (J-PAL) (US with offices in other countries) International Initiative for Impact Evaluation (3IE) and Centers for Learning on Evaluation and Results (CLEAR)
	Impact-oriented behavioural / implementation research units	<ul style="list-style-type: none"> Behavioural Insights Team (UK with offices in other countries) UN Behavioural Science Group
	Impact-oriented qualitative-insights units	<ul style="list-style-type: none"> Cochrane Qualitative and Implementation Methods Group
	Impact-oriented evidence synthesis units	<ul style="list-style-type: none"> Africa Centre for Evidence (ACE) (South Africa) and EPPI-Centre (UK) Evidence Synthesis International (ESI) and Global Evidence Synthesis Initiative (GESI)*** and as well as What Works Network
	Technology-assessment units	<ul style="list-style-type: none"> Canadian Agency for Drugs and Technologies in Health (Canada) International Network of Agencies for Health Technology Assessment (INAHTA) and Red de Evaluación de Tecnologías en Salud de las Américas (RedETSA)
	Guideline units	<ul style="list-style-type: none"> National Institute for Health and Care Excellence (NICE) (UK) Guidelines International Network (GIN)

* Some networks focus more on supporting evidence production than on supporting evidence-intermediary roles.

** Also called advisory groups, assessment panels, monitoring boards, review committees, and technical task forces, among other names.

*** Many additional thematically focused global networks exist, such as CAMARADES and SYRCLE focused on animal studies, Cochrane and JBI focused on health, Collaboration for Environmental Evidence focused on the environment, and Campbell Collaboration focused on a range of non-health topics.

5.2 Characteristics of evidence intermediaries

Evidence intermediaries can be described based on many characteristics. Here we present 10 such characteristics. One evidence intermediary may be large and diversified in its strategic focus, as well as highly committed to its endowment-enabled independence and to using evidence to shape societal agendas over long periods of time. Another entity may be small and specialized in a particular challenge, and dependent on service contracts with product manufacturers (e.g., pharmaceutical companies) to support decision-making by citizens.

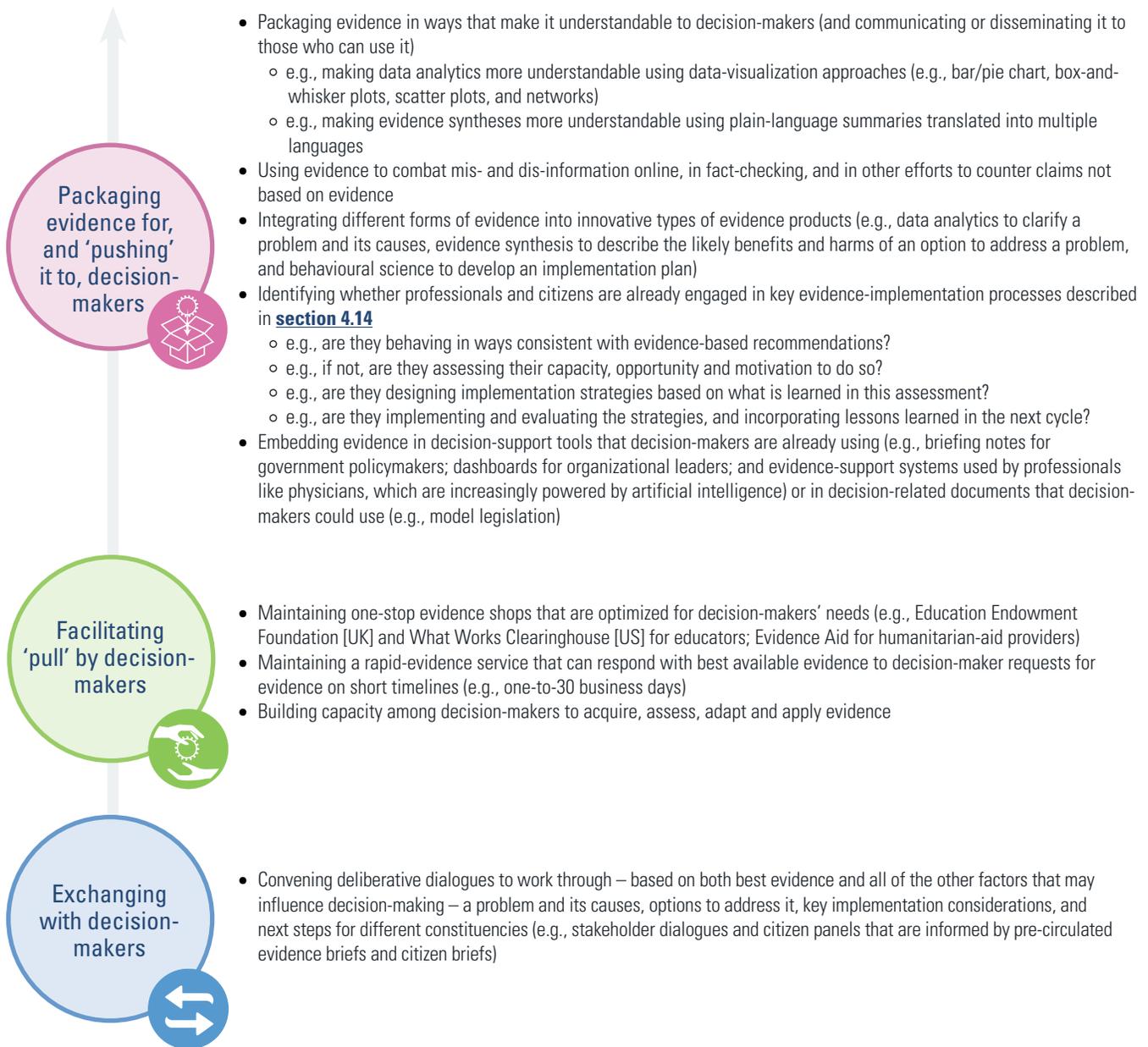
If one can consistently predict that a conclusion from an evidence intermediary will involve either a government-led or market-based solution or will involve a policy or program that will benefit (or a product or service offered by) a group aligned with or funding the entity, then there is a good chance that the entity is motivated more by values or private interests, respectively, than by evidence.

Characteristics	Examples
Challenges focused upon	<ul style="list-style-type: none"> • Domestic sectoral (e.g., education) • Domestic cross-sectoral (e.g., economic and social policy) • Global coordination (e.g., international relations)
Decision-makers targeted	<ul style="list-style-type: none"> • Government policymakers (e.g., to influence executive-branch regulation and legislative voting) • Organizational leaders (e.g., to influence organizational strategy and operations) • Professionals (e.g., to influence professional practices) • Citizens (e.g., to influence public opinion and voting)
Motivating forces	<ul style="list-style-type: none"> • Evidence • Other ideas about ‘what is,’ such as beliefs • Values or ideas about ‘what should be’ • Interests (public or private)
Alignments that may influence motivating forces	<ul style="list-style-type: none"> • Political parties • Businesses or unions • Professional groups • Social movements • Not applicable (independent)
Funding sources that may influence motivating forces	<ul style="list-style-type: none"> • Endowments • Foundations • Governments • Corporations • Individuals
Revenue streams	<ul style="list-style-type: none"> • Service contracts (e.g., 12 evidence products per year) • Licencing and subscription fees • Sales and events
Time horizons	<ul style="list-style-type: none"> • Short-term (e.g., responding to urgent needs for evidence) • Medium-term (e.g., preparing for next election or place to retreat when political party loses election and political appointment ends) • Long-term (e.g., undertaking a decade-long programmatic initiative to shape thinking on an emergent policy priority)
Agenda setters	<ul style="list-style-type: none"> • Funders • Entity leaders • Individual staff
Strategies emphasized	<ul style="list-style-type: none"> • Evidence production and support, which is the focus of section 5.3 • Consulting • Advocacy
Locations	<ul style="list-style-type: none"> • Multilateral organizations (e.g., UN specialized agencies; OECD) • Governments • Independent non-governmental organizations and for-profit entities • Universities

5.3 Strategies used by evidence intermediaries



Strategies	Examples
<p>Improving the climate for evidence use</p> 	<ul style="list-style-type: none"> • Sharing examples of outcomes and impacts achieved using best evidence and of missed opportunities from failing to use best evidence • Demonstrating how to distinguish high- from low-quality evidence (see section 4.5), how to distinguish best evidence from ‘other things’ (section 4.8), and how to get more out of ‘other things’ (section 4.8) • ‘Auditing’ decision-making and advisory structures, processes and outputs, as well as the incentives that influence them, to identify opportunities to systematize evidence use (e.g., (1)) • Comparing a local (national or sub-national) evidence-support system to a high-functioning evidence-support system, or comparing a local evidence-implementation system to a high-functioning evidence-implementation system, using prompts like this list of strategies that evidence intermediaries can use
<p>Prioritizing and co-producing evidence</p> 	<ul style="list-style-type: none"> • Engaging in listening (e.g., rapid response) and foresight activities (e.g., horizon scanning) to identify emerging issues, make sense of them, prioritize those requiring evidence support, and commissioning or undertaking the evidence support • Co-producing – with decision-makers – new local (national or sub-national) evidence specific to the jurisdiction of focus (data analytics, modeling, evaluations, behavioural / implementation research, qualitative insights), synthesizing the best evidence globally (evidence synthesis), and translating global and local evidence into local evidence support specific to the jurisdiction (technology assessments and guidelines, as well as modeling if it is undertaken with this intent) • Co-developing and maintaining living evidence products (data analytics, modeling, evidence syntheses, and guidelines)

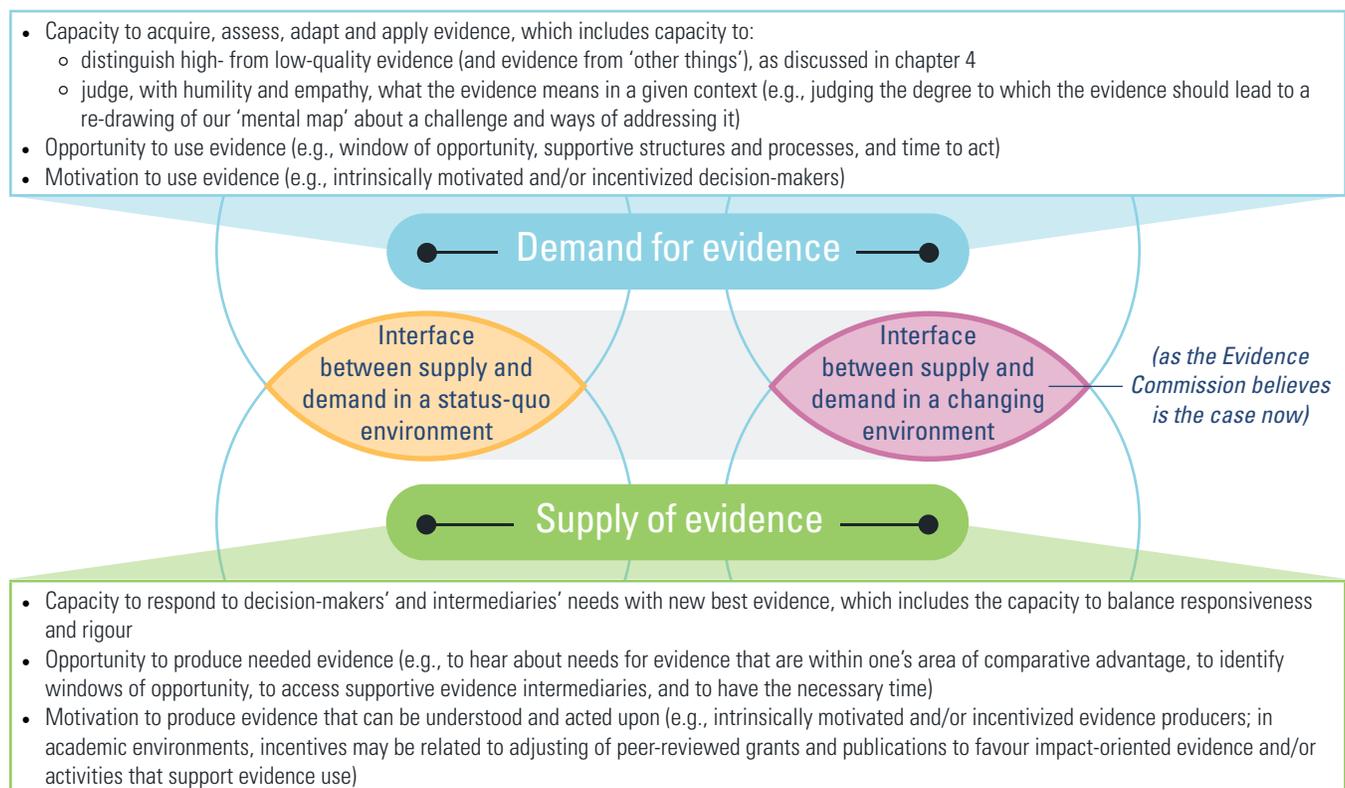


5.4 Conditions that can help and hinder evidence intermediaries

Some of the conditions that can help and hinder evidence intermediaries are within their sphere of control (e.g., aspects of their work at the interface between the demand for evidence by decision-makers and its production by researchers), while others are only within their sphere of influence. The simple behavioural-sciences framework of capacity, opportunity and motivation can be used to identify the conditions that can help evidence intermediaries.(2) The absence of each condition typically hinders evidence intermediaries.

Capacity can appear to be the easier ‘way in’; however, the types of capacity related to evidence synthesis addressed in chapter 4 (e.g., to distinguish high- from low-quality evidence) is in remarkably short supply. Many universities do not require the development of such capacity, with the result that having a PhD or other advanced degree does not guarantee that a person has the necessary skills.

Judgement, humility and empathy can also be in short supply.(3) Judgements about what the evidence means in a given context can take the form of Bayesian reasoning (as described in [section 4.7](#)). Such judgements are ideally leavened with both humility (e.g., we may need to downgrade our certainty about ‘what works’ and how to get it to those who need it, in light of our analysis of the local – national or sub-national – context) and empathy (e.g., we may also need to downgrade our certainty in light of how equity-seeking groups view ‘our’ evidence and how they describe their own ways of knowing). At the end of this section we describe – for the particular case of those supporting government policymakers – the additional types of capacity needed to make policy judgements with humility and empathy.



In a status-quo environment

- Capacity to respond to decision-makers' needs with best evidence, which includes the capacity to:
 - identify a need for evidence
 - match the right form(s) of evidence to the need
 - acquire (or support the production of) and assess the evidence
 - package it for and communicate it to decision-makers
 - convene deliberative dialogues and other processes that support judgements about what the evidence means in a particular context
- Opportunity to support the use of evidence (e.g., to hear about needs for evidence and windows of opportunity, to access supportive structures and processes, and to have the time to act)
- Motivation to support the use of evidence (e.g., intrinsically motivated and/or incentivized intermediaries; in academic environments, incentives may be related to peer-reviewed grants and publications being adjusted to give weight to impact-oriented evidence and/or activities that support evidence use)

In a changing environment

- Capacity to build the case for greater evidence use and to optimize supportive structures, processes and incentives, which includes the capacity to:
 - undertake the types of example sharing, demonstrations, internal audits and external comparisons described in [section 5.3](#) to build the case
 - design and implement (or adjust) structures, processes and incentives related to prioritizing and co-producing (including for living evidence products), packaging and 'push,' 'facilitating pull,' and exchange
 - routinize connections to complementary structures, processes and incentives (e.g., in the innovation and improvement systems)
- Opportunity to institutionalize the use of evidence and a high-functioning evidence-support system (e.g. window of opportunity and time to act)
- Motivation to institutionalize the use of evidence and a high-functioning evidence-support system, which will likely rely on intrinsic motivation rather than incentivization

In addition to capacity related to evidence synthesis, those supporting government policymakers need four other types of capacity to inform their judgements about what the evidence means in a given context.

Policy analysis

to clarify a policy problem and its causes, to frame options to address the problem, and to identify implementation considerations (which we addressed in [section 4.4](#))

Systems analysis

to understand who gets to make what types of decisions about the challenge now (governance arrangements), how money flows in addressing the challenge now (financial arrangements), and how efforts to address the challenge now (e.g., programs, services and products) reach and benefit those who need them (delivery arrangements); and to understand which of these system arrangements may need to change

Political analysis

to identify whether there is a compelling problem, a viable policy and conducive politics (i.e., a window of opportunity) to take action now; and to identify what it would take to open a window of opportunity if now is not the moment



Stakeholder engagement

to understand how a broad range of those who will be involved in or affected by any decision view a policy problem and its causes, options to address the problem, and key implementation considerations, and what they consider to be next steps for different constituencies; ideally such engagement is informed by evidence syntheses and the policy, systems and political analysis described above, but is also open to other ways of knowing and thinking, and is supported by robust conflict-of-interest policies and procedures.

Frameworks exist to help with systems analysis, such as the Health Systems Evidence taxonomy and Social Systems Evidence taxonomy, and to help with political analysis, such as the ‘Setting agendas and developing and implementing policies’ framework.



Evidence intermediary, Kerry Albright

Eternally curious international public servant bringing passion about evidence-informed decision-making, systems thinking, and help in understanding the value of evidence to international development

I want to celebrate the many successes we’ve collectively had with using evidence to address societal challenges – both prior to and during the COVID-19 pandemic – and to encourage all of us to re-double our efforts now to institutionalize what’s going well and improve in other areas. We have come a long way in the past, say, five years in different parts of the UN system, and we still have a long way to go in supporting evidence use by government policymakers and other decision-makers in member states, in using evidence in the UN’s normative guidance and technical assistance, and in making the most of partnerships with global public-good producers, which are the subject of many sections in chapters 5 and 6.

On the evidence-supply side, we need to recognize two points. First, there is a tension for researchers between promoting single studies (often their own, with case studies of impact often being linked to enhanced university funding) and promoting bodies of evidence, including the work of ‘competitors.’ As we address in [recommendations 22 and 23](#), we need to re-visit the incentives created by academic institutions and journals to ensure that in future we support a focus on bodies of evidence and open science. Second, there is a tension for evidence intermediaries between distinguishing discrete forms of evidence and finding language that can capture more holistic approaches. In UNICEF, we are increasingly using a definition of implementation research that speaks to the generation and use of evidence being co-led by decision-makers, being integrated across all steps in decision-making (not just step 3 in [section 4.2](#)) including feeding into adaptive programming, and incorporating the types of complementary systems and political analyses described in [section 5.4](#), as well as what I would call broader contextual analysis. This contextual analysis includes analyses of culture, relationships and power differentials, and can draw on tools such as situation analysis, social-network analysis, and power analysis.”

5.5 UN-system entities' use of evidence synthesis in their work

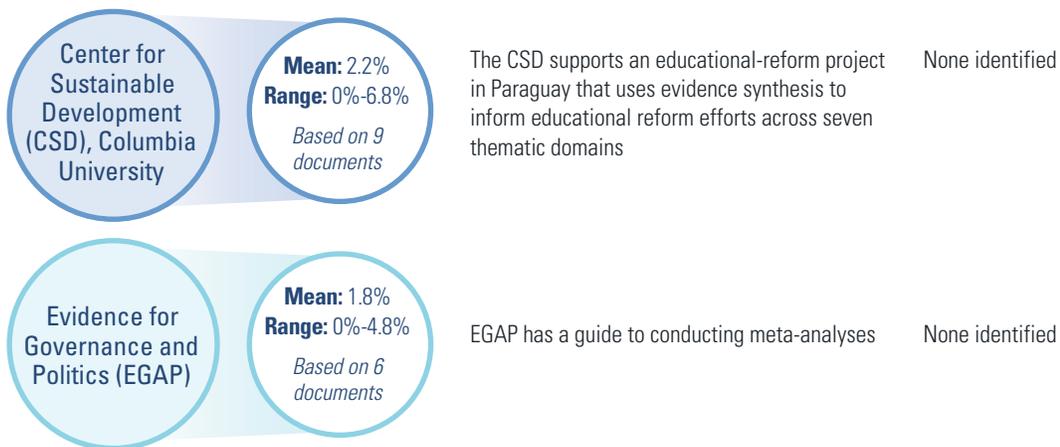
The UN system comprises a number of entities and works with a number of affiliated entities. These entities are key evidence intermediaries that are relied upon both by member states and other parts of the UN system to support evidence-informed decision-making. For the reasons outlined in [section 4.4](#), syntheses of the best evidence globally (i.e., evidence syntheses) are the logical place to start in understanding what's known and not known, and can then be combined with local evidence (e.g., national or sub-national data analytics) by member states.

A 2021 report analyzed three UN entities (UNICEF Innocenti, World Bank Group, and UN DESA) and three UN-affiliated entities, including an international NGO (SDSN), a research centre (CSD) and a research network (EGAP). The analysis found significant opportunities for improvement in how UN-system entities use evidence syntheses in their technical work:(4)

- evidence syntheses constitute a low percentage (0.5% to 17.0%) of citations in key documents, with 27 of 78 documents not citing any evidence synthesis
- capacity-building efforts rarely focused on evidence synthesis
- few guidelines or policies exist to support evidence synthesis or robust guideline-development processes
- UNICEF Innocenti was often the only positive outlier among these Sustainable Development Goal-supporting entities.

Intermediary	Evidence syntheses as a percentage of all citations in key documents	Evidence synthesis-related capacity-building efforts	Evidence synthesis-related guidelines or policies for making recommendations and justifying decisions
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 <p>UNICEF Office of Research – Innocenti</p>	<p>Mean: 17.0% Range: 2.3%-100% <i>Based on 12 documents</i></p>	<p>UNICEF Innocenti has an eight-part series about conducting evidence syntheses, maintains a webpage on evidence gap maps, and supports capacity building about methods like evidence synthesis, among other activities</p>	<p>The UNICEF procedure for quality assurance in research suggests conducting an evidence synthesis about new research topics to avoid duplication and enable collaboration with internal and external collaborators</p>
 <p>World Bank Group</p>	<p>Mean: 9.0% Range: 0% - 40.0% <i>Based on 18 documents</i></p>	<p>The World Bank Independent Evaluation Group has a working paper on evidence-gap maps</p> <p>World Bank blog posts outline the key features of impact evaluations to facilitate inclusion in evidence syntheses (bit.ly/3w0ZEBu) and strategies for improving the robustness and usefulness of evidence syntheses (bit.ly/31LvYJR)</p>	<p>The World Bank's Operational Policies for Poverty Reductions state that a poverty assessment for a member state will include a synthesis of the evidence about the assessment of the poverty situation and about poverty monitoring and evaluation systems (bit.ly/3D7XvTE)</p>
 <p>UN Department of Economic and Social Affairs (DESA)</p>	<p>Mean: 0.5% Range: 0%-3.1% <i>Based on 12 documents</i></p>	<p>A UN DESA issue brief mentions the emerging need to make science useful for policymaking and to translate it in ways that support its use (bit.ly/3c9KVY6)</p>	<p>The Global Sustainable Development Report (GSDR) methodology document states that member states and UN system entities desire the GSDR to synthesize evidence relevant for policy (bit.ly/3C68Y4Z)</p>
 <p>Sustainable Development Solutions Network (SDSN)</p>	<p>Mean: 2.5% Range: 0%-25.0% <i>Based on 21 documents</i></p>	<p>An SDSN-sponsored report highlights the role universities can play in synthesizing knowledge for the SDGs (bit.ly/30kVdCg)</p>	<p>None identified</p>



Similar analyses have been undertaken before.

A 2007 study of one UN entity – the World Health Organization (WHO) – found that evidence syntheses and robust guideline-development processes were rarely used in developing recommendations despite WHO’s own 2003 guidelines that supported a shift away from its reliance on expert opinion and informal group processes.⁽⁵⁾ WHO responded immediately by establishing a guidelines review committee to support staff in developing evidence-based guidelines and a broader, institution-wide change in culture and behaviour.⁽⁶⁾

A 2009 study of two UN entities – WHO and the World Bank – found that: 1) only two of eight publications cited evidence syntheses; 2) only five of 14 WHO recommendations and two of seven World Bank recommendations were consistent with both the direction and nature of effect claims from evidence syntheses; and 3) ten of 14 WHO recommendations and five of seven World Bank recommendations were consistent with the direction of effect claims only.⁽⁷⁾

5.6 References

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Chapter 6. Need for global public goods and equitably distributed capacities

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This chapter is the second of two chapters exploring how we can systematize the use of evidence, by the full range of decision-makers, in addressing societal challenges. Here we focus on global public goods and equitably distributed capacities. [Chapter 5](#) focuses on evidence intermediaries.

6.1 Global public goods needed to support evidence use

A paradox keenly felt by those supporting the use of evidence to address societal challenges is that there are both significant gaps in the global public goods that evidence intermediaries rely on, and significant waste arising from how these global public goods are produced and how their use is supported.

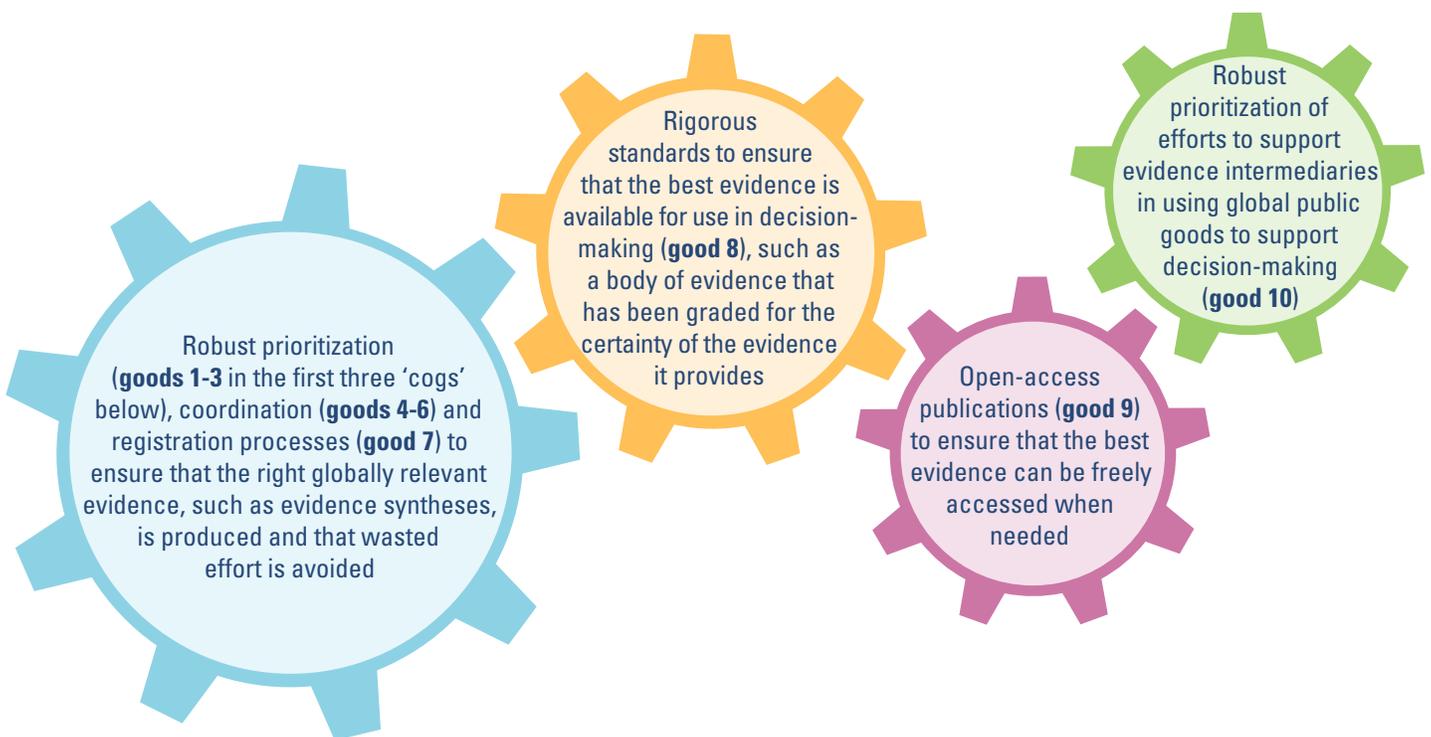
A global public good is:

- non-rival – one person ‘consuming’ it does not reduce its availability to others
- non-excludable – no one can be denied access.

Reading a Cochrane or Campbell evidence synthesis – with its bottom-line statements about what is known, based on all critically appraised studies that have addressed the same question, including how this may vary by groups and contexts – does not make the synthesis any less available to others. Anyone can access PROSPERO to see if others have already registered a protocol for an evidence synthesis on a specific topic and, if not, to register a protocol to fill this gap.

Some leaders in international development have called for expanding the notion of global public good to include global public functions (e.g., cross-national coordination) that support the type of international collective actions needed to address supranational societal challenges.⁽¹⁾ This broader definition includes global convening to support prioritization and other processes that underpin the efficient production of global public goods. We adopt this broader framing here.

Evidence-related global public goods and related functions include:



Yet purveyors of global public goods like Cochrane and Campbell have not been supported at a proper scale, leaving many gaps in the global evidence base. The PROSPERO synthesis-registration platform did not have the resources to follow up with the 138 teams that registered a COVID-19 topic already registered by one of 57 other teams, especially the 14 teams addressing hydroxychloroquine and seven addressing tocilizumab. As a result, as many as 138 syntheses of the best global evidence about COVID-19 were duplicated work in the September 2020 to August 2021 period. And since only a small fraction of protocols are ever registered, this is a significant undercount of the waste in the COVID-19 evidence response.

At least 10 types of global public goods and related functions are needed to support the use of evidence to address societal challenges. These are listed below, along with examples drawn from the health sector and (where possible) from other sectors. It is critically important that international organizations like the World Bank, UNICEF, WHO and other funders invest in these global public goods and related functions within their own agencies and with key external partners. It is also critically important that national government policymakers and other funders invest in local (national or sub-national) efforts to adapt these global public goods to their context and to complement them with the best local evidence. Without such investment, the cost of ‘free riding’ will continue to be significant gaps and significant waste.



1 Harmonization of evidence requirements for regulatory and other assessments globally *(to streamline evidence needs)*

- International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use (ICH) for evidence required to ensure the safety, effectiveness and high quality of prescription drugs
- Independent Panel on Climate Change for evidence required for its periodic assessment reports about human-induced climate change, its impacts, and possible response options



2 Listening and foresight *(to anticipate and make sense of emerging issues for which evidence may be needed globally)*

- The COVID-19 Evidence Network to support Decision-making (COVID-END) global horizon-scanning panel for emerging issues related to COVID-19-related public-health measures, clinical management, health-system arrangements, and economic and social responses, as well as international HealthTechScan (i-HTS) for emerging issues related to health technologies



3 Prioritization of globally needed evidence *(to ensure pressing evidence needs are recognized)*

- James Lind Alliance for patients, carers and clinicians to prioritize the top 10 unanswered questions or evidence uncertainties
- An application of the same approach for students, parents and teachers to prioritize the top 10 unanswered questions in the field of English as an additional language (2)



4 Coordination of syntheses of the best evidence globally *(to fill gaps while avoiding duplication, as with cogs 5 and 6)*

- Cochrane’s COVID reviews for the production and editorial review of a set of rapid syntheses addressing prioritized COVID-19 questions



5 Coordination of other types of evidence that is best produced globally or at least regionally

- Coalition for Epidemic Preparedness Innovations (CEPI) for vaccine development and Joint Programming Initiative on Antimicrobial Resistance (JPIAMR) for a One Health approach to antimicrobial resistance



6 Coordination of globally relevant living evidence products that can be used or adapted locally

- COVID-NMA for living meta-analyses of drug treatments, prophylaxis and vaccines for COVID-19 (and it had some success in sharing data with other groups attempting something similar)



7 Registration of plans to produce or synthesize evidence *(to avoid duplication in evidence production and minimize reporting bias)*

- International Clinical Trials Registry Platform for the prospective registration of one type of health evaluation (randomized clinical trials) and PROSPERO for the prospective registration of health evidence syntheses
- PROCEED (in development by the Collaboration for Environmental Evidence) for the prospective registration of evidence syntheses of environmental evidence



8 Standards setting and support *(to ensure quality of evidence)*

- PRISMA and AGREE Enterprise standards for the transparent reporting of health evidence syntheses and guidelines, respectively, as well as Cochrane for methods development, capacity building and rigorous editorial processes for health evidence syntheses
- Campbell Collaboration and Collaboration for Environmental Evidence for methods development, capacity building and rigorous editorial processes for evidence syntheses in other sectors



9 Open science, including open publications, data, physical samples, and software *(to ensure access to evidence)*

- Open-access publications like those supported by the Public Library of Science (PLOS), Empirical Software Engineering (which encourages the submission of a replication package), and Open Library of Humanities
- Open-data platforms like Vivli
- Open-access software like the Open Source Framework (osf.io)



10 Coordination of efforts to support evidence intermediaries in using global public goods to support local (national or sub-national) decision-making *(to ensure quality in and timeliness of evidence support)*

- Cochrane ‘plain-language summaries,’ which are translated into multiple languages (as an example of coordinating efforts to package evidence in ways that can be used or adapted locally)
- What Works Clearinghouse for US educators and Evidence Aid for humanitarian-aid providers (as examples of one-stop evidence shops that are optimized for decision-makers’ needs)
- Evidence-Informed Policy Networks (EVIPNet) for groups supporting evidence use by health policymakers with a rapid-evidence service, by building their capacity to find and use evidence, and by convening deliberative dialogues

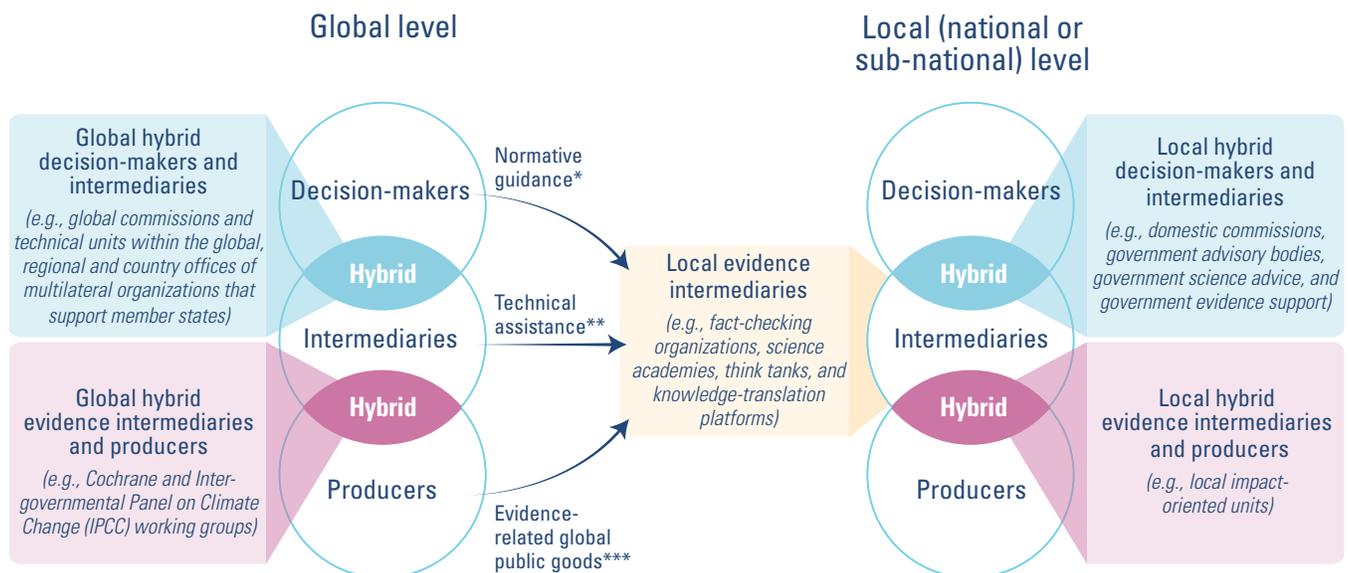
The ‘quintet of change’ meant to support the UN’s transformation from 2021 to 2025 explicitly includes data analytics and behavioural / implementation research, and implicitly includes evaluation (under performance and results orientation). While it is silent on the other needed forms of evidence, it also explicitly includes strategic foresight and innovation (and digital transformation), which are two powerful complements to evidence and which also have features of global public goods depending on how they are operationalized.

6.2 Equitably distributed capacities needed to support evidence use

The capacities needed to support evidence use should be distributed across four dimensions:

- vertically across levels (global and local, where local can mean national, state or provincial, and municipal jurisdictions, as well as large organizations), with capacities concentrated globally where they involve evidence-related global public goods (e.g., syntheses of the best evidence globally) or there are strong arguments about economies of scale
- functionally across domains (decision-makers who use evidence, evidence intermediaries who support the use of evidence, and producers of the eight forms of evidence), with capacities concentrated wherever there are comparative advantages
- horizontally across local jurisdictions, with capacities for using and supporting the use of evidence equitably distributed across all jurisdictions (regardless of whether they are high- or low- and middle-income countries)
- substantively across societal challenges (or Sustainable Development Goals, such as 2 – Zero hunger, 4 – Quality education, and 6 – Clean water and sanitation).

We illustrate the first and second of these dimensions below.



* e.g., UN Assembly resolutions and UN agency guidelines

** e.g., capacity to respond to questions with best evidence

*** e.g., Cochrane evidence syntheses and IPCC modeling

Below we expand upon these two dimensions, and to do so we draw on [section 6.1](#) (about global public goods) to inform the vertical distribution of capacities, and on [section 5.4](#) (about capacity, opportunity and motivation in different domains) to inform the functional distribution of capacities. Further details about the strategies that evidence intermediaries can use are provided in [section 5.3](#).

Level and domain	Capacities needed
<p>Global hybrid decision-makers and intermediaries <i>(e.g., global commissions and technical units within the global, regional and country offices of multilateral organizations that support member states)</i></p>	<ul style="list-style-type: none"> • Acquiring, assessing, adapting and applying evidence in their own efforts to address societal challenges, as well as ensuring that staff have the: <ul style="list-style-type: none"> ◦ Capacity to distinguish high- from low-quality evidence and to judge, with humility and empathy, what the evidence means in a particular context ◦ Opportunity to use evidence (e.g., supportive structures and processes) ◦ Motivation to use evidence (e.g., hiring those who are intrinsically motivated or incentivizing them) • Responding to decision-makers’ needs with best evidence (in this case for commission target audiences and in member states), a function with distinct capacity, opportunity and motivation (COM) requirements (see ‘Interface between supply and demand in a status-quo environment’ in section 5.4) • Building the case for greater evidence use and optimizing supportive structures, processes and incentives, which also has distinct COM requirements (see ‘Interface between supply and demand in a changing environment’ in section 5.4) • As part of the above optimization, securing funding for and promoting the use of key global public goods: <ul style="list-style-type: none"> ◦ Harmonization of evidence requirements for regulatory and other assessments globally ◦ Listening and foresight ◦ Prioritization of globally needed evidence ◦ Open science (e.g., publications, data, physical samples, and software) ◦ Coordinated efforts to support evidence intermediaries in using global public goods to support local (national or sub-national) decision-making (e.g., one-stop evidence shops and EVIPNet) • Also as part of the above optimization, working with global evidence producers to secure funding for and promote additional key global public goods
<p>Global hybrid evidence intermediaries and producers</p>	<ul style="list-style-type: none"> • Coordinating and ensuring the timely and high-quality production of: <ul style="list-style-type: none"> ◦ Syntheses of the best evidence globally ◦ Other types of evidence that is best produced globally or at least regionally ◦ Globally relevant living evidence products that can be used or adapted locally • Registering plans to produce or synthesize evidence • Setting standards for evidence production and supporting their use, which includes the distinct capacity, opportunity and motivation (COM) requirements (see ‘Supply of evidence’ in section 5.4)
<p>Local hybrid decision-makers and intermediaries <i>(e.g., national commissions, government advisory bodies, government science advice, and government evidence support)</i></p>	<ul style="list-style-type: none"> • Similar to global hybrid decision-makers and intermediaries <ul style="list-style-type: none"> ◦ Acquiring, assessing, adapting and applying evidence in their own efforts to address societal challenges ◦ Responding to local decision-makers’ needs with best evidence ◦ Building the case for greater local evidence use and optimizing supportive local structures, processes and incentives • As part of the above optimization <ul style="list-style-type: none"> ◦ Contributing to funding for, promoting the use of, and using global public goods (e.g., syntheses of the best evidence globally, other types of evidence that is best produced globally, globally relevant living evidence products, and one-stop evidence shops ◦ Complementing these global public goods with funding for, promotion of and use of local work where appropriate, such as: <ul style="list-style-type: none"> ◦ Listening and foresight ◦ Prioritization of locally needed evidence ◦ Co-production of local evidence (e.g., data analytics, modeling, evaluations, behavioural implementation research, and qualitative insights) ◦ Integration of different forms of evidence into innovative types of evidence products

<p>Local evidence intermediaries <i>(e.g., national fact-checking organizations, science academies, think tanks, and knowledge-translation platforms)</i></p>	<ul style="list-style-type: none"> • Responding to local decision-makers’ needs with best evidence, which has distinct COM requirements (see ‘Interface between supply and demand in a status-quo environment’ in section 5.4 and, in the case of those supporting policymakers, the text below section 5.4, as well as additional details in section 5.3) • Building the case for greater local evidence use and optimizing supportive local structures, processes and incentives, which also has distinct COM requirements (see ‘Interface between supply and demand in a changing environment’ in section 5.4)
<p>Local hybrid evidence intermediaries and producers <i>(e.g., national impact-oriented units)</i></p>	<ul style="list-style-type: none"> • Responding to local decision-makers’ and intermediaries’ needs for new local best evidence (e.g., data analytics, modeling, evaluation, behavioural / implementation research, qualitative insights, evidence synthesis, technology assessment, and guidelines), which also has distinct COM requirements (see ‘Supply of evidence’ in section 5.4)

Turning to the third and fourth dimensions – local jurisdictions and societal challenges (or Sustainable Development Goals (SDG) – consider the case of a Nigerian non-governmental organization focused on SDG4 – Quality education. This organization may be both a ‘decision-maker’ and an intermediary that supports the use of evidence by government policymakers, school leaders, teachers, and parents. Ideally the organization would have the capacity, opportunity and motivation to:

- acquire, assess, adapt and apply evidence in their own efforts to support quality education
- respond to Nigerian decision-makers’ needs with best evidence
- build the case for greater local evidence use and for optimizing supportive local structures, processes and incentives.

For the first two points the organization may:

- keep abreast of evidence needs through its own ‘rapid evidence service’ request process and by tapping into a Nigerian initiative that supports listening and foresight, as well as the prioritization of locally needed evidence, in the education sector
- begin any response by searching the best one-stop evidence shops focused on education (e.g., [Education Endowment Foundation](#) in the UK and [What Works Clearinghouse](#) in the US) and judging what they mean for Nigeria
- lead the co-production of one type of local evidence (e.g., parent and teacher assessments that can feed into Nigeria-specific data analytics and evaluations)
- partner with other applied local evidence groups that are co-producing Nigeria-specific evidence (e.g., data analytics, modeling, evaluations, behavioural/implementation research, and qualitative insights)
- contribute to one or two syntheses of the global evidence through ongoing involvement in a Campbell review group
- pilot the integration of these different forms of evidence into innovative types of evidence products and scale up the products that an evaluation suggests are most highly valued and used by decision-makers.

For the third bullet point (‘build the case for greater local evidence use ...’), the organization may start by describing the current ‘system’ supporting educational decision-making. For a comprehensive example of a jurisdiction-specific evidence-support system covering a broad set of societal challenges, see the Alliance for Useful Evidence’s UK evidence ecosystem for social policy (from 2015).

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Citizen, Maureen Smith — Citizen leader championing the meaningful engagement of patients and citizens in conducting research and using it in their decision-making



Citizen, Hadiqa Bashir — Young leader advocating for girls’ rights and gender equality in male-dominated environments

As two of the three ‘citizens’ contributing to the Evidence Commission, we have concluded that we need to set higher expectations about how citizens are engaged in the production, sharing and use of evidence to address societal challenges. Our fellow citizen commissioner, Daniel Iberê Alves da Silva, brought his experience as a young Indigenous leader to the creation of [section 4.10](#) (Indigenous rights and ways of knowing). We need to ensure that Indigenous peoples control their data and that we honour the diversity and complexity of Indigenous approaches to learning and teaching. Here one of us (Maureen) draws on her experiences as a long-standing ‘patient partner’ in research and more recently as a leader of COVID-END’s citizen-engagement in COVID-19 evidence syntheses. The second of us (Hadiqa) draws on her experiences bringing evidence to her advocacy work in Pakistan.

Communicating evidence to citizens has been particularly challenging during the COVID-19 pandemic for many reasons:

- many decisions were made and much guidance was issued – about public-health measures, clinical management, health-system arrangements, and economic and social responses – and then adjusted over time as the pandemic evolved and the evidence accumulated, often without adequately explaining why decisions and guidance changed
- many forms of evidence were generated, and there were significant problems with the amount of ‘noise’ created by the high volumes of evidence and its uneven quality, which often resulted in citizens questioning which evidence to rely on for their decision-making
- citizens and citizen leaders from different groups and contexts were often not involved in producing and sharing the evidence, and the resulting evidence then didn’t ‘speak to’ many citizens
- many news and social-media platforms – actively or passively – enabled misinformation efforts (as discussed in [section 4.11](#)).

We think that we need to ‘up our game’ in engaging citizens in the production, sharing and use of evidence to address societal challenges. Key to realizing these objectives and fostering a culture of evidence for all of society is awareness of, and access to, evidence in terms that are understandable and relevant to citizens, as well as the ability to determine what constitutes reliable evidence. We’ve shown with COVID-END that a diverse pool of citizens can be meaningfully engaged in preparing rapid evidence syntheses in timelines of one-to-10 days, in regularly updating living guidelines on a weekly or monthly basis, and in preparing plain-language summaries of evidence syntheses and guidelines. Over time, these evidence products can become citizens’ evidence products as much as they are researchers’ evidence products. We’ve seen that citizen leaders are key intermediaries and should be actively engaged in sharing evidence within their communities. We’ve also been reminded that citizens are decision-makers in their own right, and their evidence needs should be met, just as government policymakers’ needs are met.

Meaningful citizen engagement must underpin efforts to address all societal challenges. The pandemic exacerbated a number of ‘shadow pandemics,’ such as gender-based violence, growing levels of mistrust in government, racial and social inequities, and more. If we are to get to the root of these societal challenges, then we need to create space for meaningful citizen engagement and leadership in evidence-creation processes as well as in policy-change initiatives.

It’s telling that the Evidence Commission’s analysis of global commissions found such limited engagement of citizens in all aspects of their work. Citizens were the least-frequent target audience, commission members, and focus of broader engagement. Citizens need to be equitably engaged in charting paths forward for using evidence to address societal challenges.





Chapter 7. Recommendations

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This chapter gets to the heart of the work of our 25 commissioners: what needs to be done better or differently to systematize the use of evidence, by the full range of decision-makers, in addressing societal challenges? It begins by asking what we can learn from the many global commissions that preceded us. It concludes with recommendations for the path forward.

7.1 Insights from an analysis of global-commission recommendations

A thematic analysis of recommendations from 48 global commissions reporting since 1 January 2016 helped to:

- understand the gap between where we are and where we need to be in using evidence to address societal challenges, at least from the point of view of the high-profile members of global commissions
- improve the framing of the Evidence Commission's recommendations and identify new ideas that would help to bridge this gap
- identify the Evidence Commission's recommendations that align with recommendations from other global commissions.

Here we summarize key findings in an infographic, and then we elaborate on them in the text below it and in [section 7.3](#).



1,460 recommendations were made, many of which spoke to the 'levers' required to bring about change

- These levers include a global summit-endorsed strategic framework and an accompanying program of action, voluntary measures such as guidelines, monitoring and improvement approaches, planning and funding mechanisms, technical and financial assistance, new focal points within or involving existing institutions, and legally binding treaties



242 recommendations spoke to evidence supply (*chapter 4*)

- Most of these recommendations called for increasing data collection and sharing, which are a foundation for (but not the same as) data analytics as a form of evidence
- When other forms of evidence were addressed, recommendations tended to call for increasing the flow of new evidence, such as new evaluations, but not to call for improving the signal-to-noise ratio in the flow of such evidence, better using the stock of existing evidence, or combining multiple forms of evidence



94 recommendations described the context in which government officials, organizational leaders, professionals and citizens make decisions (*chapter 3*)

- Only rarely did any of these recommendations address how any of these decision-makers can or should use evidence in addressing societal challenges



50 recommendations addressed evidence intermediaries (*chapter 5*)

- These recommendations often called for the UN system to better harness its normative role (e.g., guidelines) and its advisory role (e.g., technical assistance to its member states)
- Evidence was rarely made explicit as a necessary underpinning of such roles



28 recommendations addressed global public goods and distributed capacities (*chapter 6*)

- Some global commissions called for a strengthening of the role played by the World Bank in supporting global public goods
- There were almost no mentions of evidence-related public goods or an appropriate division of labour across the levels (e.g., in the UN system) where capacity for evidence use is needed



10 recommendations spoke to how we understand the nature of societal challenges and approaches to addressing them (*chapter 2*)

- The few recommendations spoke to ways of framing a societal challenge so it is more likely to generate action, and to ways of addressing societal challenges so the actions are more likely to generate impacts

Between January 2016 and September 2021, 48 global commissions issued 70 reports (one of which was an interim report) and made 1,460 recommendations, for an average of 30 recommendations per commission and 21 recommendations per report. The full list of reports is provided in [appendix 8.1](#).

The global-commission recommendations that aligned with the focus of the Evidence Commission report most commonly addressed evidence supply (i.e., 242 recommendations spoke to chapter 4). Most of these recommendations called for increasing data collection and sharing, which are a foundation for data analytics as a form of evidence, but they:

- gave little attention to the problem of parsimony in what’s collected, the quality of the data and data analytics, and timeliness in sharing
- appeared to assume that robust data analytics will be undertaken and then presented in ways that can inform decision-making and support accountability, including by being attentive to equity considerations
- didn’t clarify the types of questions that data analytics can best answer or the forms of evidence that can answer the other types of questions needed to make decisions.

When other forms of evidence were addressed, recommendations tended to call for increasing the flow of new evidence, such as new evaluations, and not to call for improving the signal-to-noise ratio in the flow of such evidence, better using the stock of existing evidence, or combining multiple forms of evidence. Some global commissions called for evaluations, including five that explicitly called for evaluating what works and a few that called for evaluating impacts across multiple domains (e.g., health, economic and environmental impacts) and time horizons. Few global commissions called for behavioural/implementation research, despite sometimes calling for campaigns and other strategies to change behaviours that would benefit from such research. Even fewer global commissions called for other forms of evidence, such as modeling, qualitative insights, evidence syntheses and guidelines, to address the societal challenges they focused on.

The second-most common grouping of global-commission recommendations described the context in which government officials, organizational leaders, professionals and citizens make decisions (94 recommendations spoke to chapter 3). Only rarely did any of these recommendations address how any of these decision-makers can or should use evidence in addressing societal challenges.

The greatest share of these 94 recommendations called for government policymakers to use specific policy instruments or specific structures and processes to address a societal challenge. A smaller share called for organizational leaders – especially business leaders – to use specific approaches to address a societal challenge, professionals to address societal challenges independently of their role in governments and organizations, and citizens to play a more active role in addressing societal challenges.

The third most-common grouping of global-commission recommendations addressed evidence intermediaries (50 recommendations spoke to chapter 5). These recommendations often called for the UN system to better harness its normative role (e.g., guidelines) and its advisory role (e.g., technical assistance to its member states), and for the UN system and other ‘intermediaries’ to use specific types of strategies to support government policymakers and other decision-makers to address societal challenges. Evidence was rarely made explicit as a necessary underpinning of such roles and strategies.

Global public goods and distributed capacities were even less frequently the focus of global-commission recommendations (28 recommendations spoke to chapter 6). Some global commissions called for strengthening the role played by the World Bank in supporting global public goods and for support for global public goods like the internet. However, there were almost no mentions of evidence-related public goods or an appropriate division of labour across the levels where capacity for evidence use is needed (e.g., what the UN system, its regional offices and its country offices can each best do).

Improving how we understand the nature of societal challenges and approaches to addressing them was least frequently the focus of global-commission recommendations (10 recommendations spoke to chapter 2). The few recommendations spoke to ways of framing a societal challenge so it is more likely to generate action, and to ways of addressing societal challenges so the actions are more likely to generate impacts. They also spoke to foresight and innovations being domains that can complement evidence in addressing societal challenges.

The more detailed findings from our thematic analysis of global-commission recommendations are presented in the annex at the end of this chapter ([section 7.3](#)). The findings start with the levers required to bring about change – a range of measures and mechanisms that could be considered in drafting recommendations such as the Evidence Commission’s. Only some of these levers have been the subject of evidence syntheses about their effectiveness. The remaining findings are organized by the focus of each chapter in this report.

Some additional observations from our analysis of the global-commission reports include:

- one report used language that could be easily adapted (as we have done in our recommendations) as a next step needed to support evidence use: the UN Secretary-General should set out clear expectations for all parts of the UN system on evidence use, require relevant UN agencies and entities to outline institutional plans for how they will build internal capacities and step up their engagement on evidence use, and work to enhance member states' access to predictable technical support that is both evidence-based and that strengthens national evidence-support systems (High-level panel on internal displacement)
- another report used language that could be easily adapted (as we have done) as a caution in supporting evidence use: funders should align their support with country strategies for their evidence-support system, and avoid funding a multitude of small-scale or vertical initiatives (Lancet Commission on high-quality health systems in the Sustainable Development Goals (SDG) era)
- one report used evidence to mean judicial evidence, not research evidence (High-level panel of legal experts on media freedom)
- one report addressed equity by emphasizing the importance of taking crosscutting (intersectional) relationships and hierarchies into account (High-level panel of experts on food security and nutrition)
- one report called for drawing on Indigenous and local knowledge in developing community-based strategies (High-level panel on international financial accountability, transparency and integrity for achieving the 2030 agenda)
- one report specific to COVID-19 was a missed opportunity to call for embedding the many forms of evidence, as well as evidence-support systems, in all aspects of the proposed new global architecture for pandemic preparedness and response (Independent panel for pandemic preparedness and response)
- many reports included recommendations that invoke colours associated with their area of focus (e.g., green bonds for the environment, blue funds for water, and red list for threatened species) or to signal desired actions (e.g., stop doing things on a red list)
- some reports used formats for their recommendations that were helpful in drafting the Evidence Commission recommendations (High-level panel on internal displacement; Lancet Commission on high-quality health systems in the SDG era).

7.2 Evidence Commission recommendations

The preceding chapters provide the context, problems, potential solutions, and shared vocabulary that underpin the recommendations that follow. These chapters can be used by many people, not just those in a position to take action. However, here we focus on those best positioned to make the changes necessary to ensure that evidence is consistently used to address societal challenges. This includes primarily:

- multilateral organizations like the UN system, multilateral development banks, the Organisation for Economic Co-operation and Development, the G20, and others
- national and sub-national government policymakers
- organizational leaders, professionals and citizens
- evidence intermediaries, including those who do not currently function as evidence intermediaries (such as journalists for the most part)
- evidence producers, particularly impact-oriented units engaged in producing and supporting the use of data analytics, modeling, evaluation, behavioural / implementation research, qualitative insights, evidence syntheses, technology assessment / cost-effectiveness analysis, and guidelines.

Here we provide an overview of the Evidence Commission's 24 recommendations in an infographic, and then we elaborate on them in the table below it. The eight most-important recommendations – 1, 3, 4, 5, 13, 14, 15 and 24 – are bolded. Their importance stems from how they provide the framing [1, 4, 13], structures and processes [5, 14, 15], accountabilities [3] or funding [24] from which so many other actions can follow. As a reminder, we use the word 'evidence' in these recommendations (as in the rest of the report) to mean research evidence, and specifically all eight forms of evidence described in chapter 4 (data analytics, modeling, evaluation, behavioural / implementation research, qualitative insights, evidence syntheses, technology assessment / cost-effectiveness analysis, and guidelines). We use 'best evidence' to mean – in a given national (or sub-national) context – national (or sub-national) evidence drawn from the best available studies (i.e., what has been learned in that context) and global evidence drawn from the best available evidence syntheses (i.e., what has been learned from around the world, including how it varies by groups and contexts).



All who can take action

Two recommendations, one a **wake-up call** [1] and the second a proposed new standard for responding – to ask for evidence – any time a claim is made (e.g., this intervention works) [2]



Multilateral organizations

Two recommendations, one calling for a **resolution by multilateral organizations** [3] and the second a **landmark report** [4]



Government policymakers

Seven recommendations:

- four calling for fit-for-purpose national (and sub-national) **evidence-support systems** (and broader evidence infrastructures) [5], evidence-support staff and partnerships [6], science advisors [7], and advisory bodies [8]
- one calling for building a more diversified evidence base [9]
- two related to open science [10] and artificial intelligence [11]



Organizational leaders, professionals and citizens

Two recommendations:

- one calling for every significant organizational association, professional body and impact-oriented civil-society group to contribute meaningfully to its national (or sub-national) evidence-support system [12]
- one calling on citizens to consider the many ways they can use best **evidence in everyday life**, and to consider supporting politicians (and others) who enable this [13]



Evidence intermediaries

Three recommendations:

- one addressed to **dedicated evidence intermediaries** [14], and another addressed to **news and social-media platforms** [15]
- one more generally calling for the timely and responsive matching of best evidence to the question asked [16]



Evidence producers

Seven recommendations:

- five addressing their roles in: 1) filling gaps and adhering to standards [17]; 2) responding, referring or working with others [18]; 3) learning from evidence groups in other sectors [19]; 4) being prepared to pivot for global emergencies [20]; and 5) making evidence understandable [21]
- one addressed specifically to academic institutions [22], and another addressed to journals [23]



Funders

One recommendation calling for **spending 'smarter,' and ideally more, on evidence support**, particularly on national (and sub-national) evidence-support systems and broader evidence infrastructures [24]

The Evidence Commission offers the following 24 recommendations. To make the eight most-important recommendations – [1](#), [3](#), [4](#), [5](#), [13](#), [14](#), [15](#) and [24](#) – easier to identify, they are preceded by a coloured circle containing the recommendation number and contained in a text box with an outer border of the same colour. For each recommendation we list the related sections of the report that provide the context, concepts or vocabulary that underpin it (in the order that they are introduced). Where relevant, we also list the global reports that are aligned with an Evidence Commission recommendation. The global-commission reports are typically aligned only with part of a recommendation or its rationale (e.g., being attentive to equity, investing in select forms of evidence such as evaluation, and holding decision-makers to account), whereas reports from other global entities tend to be more fulsomely aligned.



All decision-makers, evidence intermediaries and impact-oriented evidence producers

1

Wake-up call — Decision-makers, evidence intermediaries and impact-oriented evidence producers should recognize the scale and nature of the problem. Evidence – in all of the eight forms addressed in this report – is not being systematically used by government policymakers, organizational leaders, professionals and citizens to equitably address societal challenges. Instead decision-makers too often rely on inefficient (and sometimes harmful) informal feedback systems. The result is poor decisions that lead to failures to improve lives, avoidable harm to citizens, and wasted resources.

The cohort of decision-makers who were involved in COVID-19 decision-making, especially high-level government policymakers, now has direct experience with using many forms of evidence and with leveraging strategies that support its use. They also have direct experience with the challenges that can arise, leading evidence to be disregarded or misused. They may also have heard about the evidence supports available to their peers in other countries, such as living evidence syntheses, and wondered why they are not available or used in their own country. This cohort is uniquely well positioned to systematize what went well before and during the pandemic, and to build or improve their respective country's evidence-support system in ways that address what didn't go well.

Related sections: [4.13](#) Weaknesses in many COVID-19 evidence-support systems | [6.2](#) Equitably distributed capacities needed to support evidence use | [4.1](#) Forms in which evidence is typically encountered in decision-making | [4.7](#) Living evidence products

2

New standard of asking for evidence — All decision-makers should pay attention when a claim is being made and ask about the quality and applicability of the evidence on which the claim is based. Experts and others who make claims (e.g., this intervention works) may be relying on their personal experiences or a subset of the available evidence. They may be overconfident in what they think they know. Instead of relying on experts as their sole source of evidence, decision-makers can look to sources of best evidence, such as 'one-stop shops' containing evidence syntheses that have been organized using an appropriate taxonomy, and that have each been rated for quality, updatedness, and other decision-relevant factors. They can engage experts in other roles, such as working through what specific evidence syntheses mean for a given jurisdiction and challenging ways of thinking with different forms of evidence.

Related sections: [4.5](#) Distinguishing high- from low-quality evidence | [4.8](#) Best evidence versus other things (and how to get the most of other things) | [4.11](#) Misinformation and infodemics



Multilateral organizations

3

Resolution by multilateral organizations — The UN, the G20 and other multilateral organizations should endorse a resolution that commits these multilateral organizations and their member states to broaden their conception of evidence, and to support evidence-related global public goods and equitably distributed capacities to produce, share and use evidence. The ‘quintet of change’ meant to support the UN’s transformation from 2021 to 2025 explicitly includes data analytics and behavioural/implementation research, implicitly includes evaluation (under ‘performance and results orientation’), and is silent on the other needed forms of evidence.(1) The UN and other multilateral organizations (including the global commissions they sponsor) continue to rely on an ‘expert knows best’ model. The reinvigoration of the UN Secretary-General Scientific Advisory Board provides an opportunity to do better.(2) Much can be learned from the organizations that have pioneered more systematic and transparent approaches to using evidence, such as the World Health Organization’s (WHO) Guidelines Review Committee (that develops normative guidance) and the UN’s Intergovernmental Panel on Climate Change.

Related sections: [4.2](#) Definitions of forms in which evidence is typically encountered | [6.1](#) Global public goods needed to support evidence use | [6.2](#) Equitably distributed capacities needed to support evidence use | [5.5](#) UN system entities’ use of evidence syntheses in their work | [7.1](#) Insights from an analysis of global-commission recommendations | **Aligned report:** (3)

4

Landmark report — The World Bank should dedicate an upcoming World Development Report to providing the design of the evidence architecture needed globally, regionally and nationally, including the required investments in evidence-related global public goods and in equitably distributed capacities to produce, share and use evidence. The World Bank’s steps towards being the ‘knowledge bank’ have been too tentative. Their work to date emphasizes some forms of evidence (e.g., data analytics) and largely disregards others (e.g., evidence synthesis). A landmark report can establish a common language about evidence and evidence use that everybody – decision-makers, evidence intermediaries and impact-oriented evidence producers – can use. It can also lay out the many steps involved in doing better, including the World Bank’s role, as well as the roles of its global partnerships and of other UN agencies, in supporting evidence-related global public goods like evidence syntheses.

Related sections: [6.1](#) Global public goods needed to support evidence use | [6.2](#) Equitably distributed capacities needed to support evidence use | [1.6](#) Timeline of key developments in using evidence to address societal challenges | **Aligned report:** (4)



Government policymakers

5

National (and sub-national) evidence-support systems — Every national (and sub-national) government should review their existing evidence-support system (and broader evidence infrastructure), fill the gaps both internally and through partnerships, and report publicly on their progress. For example, many governments do not have an evidence-support coordination office, a behavioural-insights unit, an evidence-use handbook and related metrics, and other features of an ideal evidence-support system (as described in [section 4.14](#)). Each government can also review their ‘mainstream’ structures and processes (e.g., budgeting, planning, monitoring and auditing) to formalize the ‘ways in’ for evidence. Without the right evidence-support system, staff will not have the capacity, opportunity and motivation to use evidence in government policymaking.

Some governments may choose to formalize their effects in legislation, like the U.S. Foundations for Evidence-Based Policymaking Act. Many governments can also support the use of evidence in the everyday work of organizational leaders and professionals, and in the everyday lives of citizens, and can explicitly respect Indigenous rights and ways of knowing in their efforts.

Related sections: [4.14](#) Features of an ideal national evidence infrastructure | [3.3](#) Government policymakers and the context for their use of evidence | [4.10](#) Indigenous rights and ways of knowing | **Aligned report:** (3)

6

Staff, partnerships and other resources — **Government policymakers should ensure that the executive and legislative branches of government have access to the staff, partnerships and other resources needed for evidence support.** Policy, program, technical and library staff involved in supporting government policymakers (i.e., the staff who provide the ‘absorptive capacity’ for evidence in government) need to keep abreast of developments in using evidence. They need to have partnerships (which can include technical-assistance arrangements) with specialized evidence producers and intermediaries that complement their in-house capacities, and the other resources needed to apply these capacities (e.g., online document access).

Related sections: [3.3](#) Government policymakers and the context for their use of evidence | [5.3](#) Strategies used by evidence intermediaries | [6.2](#) Equitably distributed capacities needed to support evidence use | **Aligned reports:** (3-5)

7

Science advisors — **Government policymakers should select their science advisors based on their ability to find, contextualize and communicate diverse forms of evidence, and to sustain a high-performing evidence-support system.** Many science advisors are instead selected based on their past scientific contributions or their relationships with senior government officials. Just like policy and other staff, science advisors need to keep abreast of the many developments in using evidence. Such evidence includes the eight forms of evidence discussed in this report, evidence from across the health, natural and social sciences, and evidence from across sectors. Many of these forms of evidence are now available as living evidence products.

Related sections: [3.3](#) Government policymakers and the context for their use of evidence | [4.14](#) Features of an ideal national evidence infrastructure | [4.2](#) Definitions of forms in which evidence is typically encountered | [4.7](#) Living evidence products

8

Advisory bodies — **Government policymakers should hold advisory bodies to higher standards in their use of evidence.** Many advisory bodies do not use a combination of the best local evidence (e.g., data analytics from the national or sub-national level) and syntheses of the best evidence globally, or match the right form of evidence to the right decision-related question. They typically do not use robust deliberative processes, including giving voice to the individuals who can bring an equity perspective to interpreting what the evidence means for particular groups. They also do not typically distinguish between their recommendations that are based on best evidence from those that are not.

Related sections: [4.4](#) Interplay of local and global evidence | [4.3](#) Matching decision-related questions to forms of evidence | [1.7](#) Equity considerations | [4.5](#) Distinguishing high- from low-quality evidence

9

Building a more diversified evidence base — **Government policymakers should complement their general support for data collection and sharing with specific support for a more diversified evidence base that can inform decision-making in equity-sensitive ways.** Global commission reports consistently trumpet the value of ‘big data.’ They are largely silent on what constitutes robust data analytics, the types of questions data analytics can answer, and the many other forms of evidence needed to answer questions that data analytics can’t answer. They are also largely silent on the need to better use the stock of existing evidence in all its forms, to build a diversified evidence base through all of their proposed investments, and to improve the signal-to-noise ratio in the sharing of both existing and new evidence.

Related sections: [7.1](#) Insights from an analysis of global-commission recommendations | [4.3](#) Matching decision-related questions to forms of evidence | [4.5](#) Distinguishing high- from low-quality evidence | [1.7](#) Equity considerations | **Aligned reports:** (4; 6-13)

10

Open science — **Government policymakers should incentivize open science as a key enabler for using evidence in decision-making.** Sharing anonymized data, physical samples, and software (like that used in modeling) – while ensuring appropriate standards are in place to ensure data privacy – makes possible many types of data analytics and many evaluations. Addressing the factors that lead publicly funded researchers to place global public goods like evidence syntheses behind publisher ‘pay walls’ will help decision-makers and evidence intermediaries, as well as other evidence producers, to access the evidence they need.

Related sections: [6.1](#) Global public goods needed to support evidence use | **Aligned reports:** (14)

11

Artificial intelligence — Government policymakers should ensure that regulatory regimes and ongoing validation schemes for artificial intelligence (AI) optimize AI's benefits for evidence-support systems and minimize its harms.

Machine learning and other approaches have created substantial new opportunities in data analytics, evidence synthesis, and other forms of evidence, but also have substantial potential to do harm. For example, these approaches may inadvertently perpetuate or increase the risk of discrimination. Policymakers can also work with researchers to ensure these analytical methods are reported transparently, replicated judiciously, and interpreted and used appropriately. In particular, the ability to draw causal inferences is often overestimated, leading to inappropriate interpretations and use in decision-making.

Related section: [4.7](#) Living evidence products | Aligned report: (15)



Organizational leaders, professionals and citizens

12

Contributions from organizational associations, professional bodies and civil-society groups — Every significant organizational association, professional body and impact-oriented civil-society group should review its contributions to its national (or sub-national) evidence-support system (and broader evidence infrastructure), fill the gaps both internally and through partnerships, and report to its members on their progress.

Most organizations and virtually all professionals and citizens need to be able to rely on an evidence-support system that meets their needs while addressing conflicts of interest and avoiding 'spin.' Organizational associations (such as those representing and supporting school boards) and professional bodies (such as those representing and supporting social workers) can become key parts of a national (and sub-national) evidence-support system. Civil-society groups can hold accountable all of these groups for how they support the use of evidence to address societal challenges.

Related sections: [3.4](#) Organizational leaders and the context for their use of evidence | [3.5](#) Professionals and the context for their use of evidence | [3.6](#) Citizens and the context for their use of evidence | [4.14](#) Features of an ideal national evidence infrastructure | Aligned reports: (11; 16; 17)

13

Evidence in everyday life — Citizens should consider making decisions about their and their families' well-being based on best evidence; spending their money on products and services that are backed by best evidence; volunteering their time and donating money to initiatives that use evidence to make decisions about what they do and how they do it; and supporting politicians who commit to using best evidence to address societal challenges and who commit (along with others) to supporting the use of evidence in everyday life.

Government policymakers, among others, need to ensure that citizens have access to best evidence, evidence-checked claims, and simple-to-use evidence-backed resources and websites to make informed choices at all times, not just during global crises. They also need to help build citizens' media and information literacy, provide the transparency needed for citizens to know when decisions, services and initiatives are based on best evidence, and more generally create a culture where evidence is understood, valued and used.

Related sections: [3.6](#) Citizens and the context for their use of evidence | [4.11](#) Misinformation and infodemics | Aligned reports: (3; 5; 10; 16; 18; 19)



14

Dedicated evidence intermediaries — **Dedicated evidence intermediaries should step forward to fill gaps left by government, provide continuity if staff turn-over in government is frequent, and leverage strong connections to global networks.** Evidence intermediaries work ‘in between’ decision-makers and evidence producers, supporting the former with best evidence and the latter with insights and opportunities for making an impact with evidence. As with government science advisors, intermediaries need to be able to find and communicate diverse forms of evidence and to sustain (at least a part of) a high-performing evidence-support system. COVID-19 has shown – in some countries at some times – the value of intermediaries partnering with community leaders to engage those who may have been ill-served in the past by evidence that was inappropriately generated, shared or used.

Related sections: [5.1](#) Types of evidence intermediaries | [5.3](#) Strategies used by evidence intermediaries | [4.2](#) Definitions of forms in which evidence is typically encountered | [4.14](#) Features of an ideal national evidence infrastructure | [1.7](#) Equity considerations | **Aligned reports:** (8; 20)

15

News and social-media platforms — **News and social-media platforms should build relationships with dedicated evidence intermediaries who can help leverage sources of best evidence, and with evidence producers who can help communicate evidence effectively, as well as ensure their algorithms present best evidence and combat misinformation.** Journalists and fact checkers need to become familiar with evidence syntheses and use them to ask specific questions about any evidence they are presented with and any ‘other things’ that may be offered as a substitute for best evidence. Familiarity with evidence syntheses includes: the importance of contextualizing and situating new studies in a broader body of evidence; the rationale for preferring syntheses of high-quality studies over single, small, poorly executed studies; the concept of scientific uncertainty; the evolving nature of evidence and how this relates to emerging and replacement guidance; the importance and role of bias and conflict of interest; and the importance of reporting that avoids ‘spin.’

Related sections: [5.1](#) Types of evidence intermediaries | [4.4](#) Interplay of local and global evidence | [4.8](#) Best evidence versus other things (and how to get the most of other things) | [4.11](#) Misinformation and infodemics | **Aligned reports:** (21; 22)

16

Timely and responsive matching of best evidence to the question asked — **All evidence intermediaries should – in a timely and responsive way – support the use of best evidence to answer the question being asked (or that should be asked given the decision-maker’s area of interest).** Some forms of evidence can help to answer a question about a problem (e.g., data analytics); others may help to answer a question about options to address a problem or about an implementation strategy (e.g., evaluation of benefits, harms and costs). Syntheses of the best evidence globally need to be complemented with the best local evidence, as well as by other forms of analysis (e.g., policy, systems and political analysis) that can help understand the contextual factors that influence whether and how evidence is used. Innovative new evidence products will be needed to profile a mix of best evidence.

Related sections: [4.3](#) Matching decision-related questions to forms of evidence | [4.4](#) Interplay of local and global evidence



Impact-oriented evidence producers

17

Filling gaps and adhering to standards — **Evidence groups should anticipate and fill gaps in, and adhere to standards for, their respective forms of evidence.** Too many priority topics have no available evidence synthesis, and too many topics have too many available evidence syntheses. Many evidence syntheses are of low quality and out-of-date. This is true for COVID-19 nearly two years into the global pandemic.

Related sections: [4.6](#) Coverage, quality and recency of evidence syntheses | [4.5](#) Distinguishing high- from low-quality evidence | **Aligned reports:** (3; 23)

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Responding, referring or working with others — **Evidence groups should play to their comparative advantages, collaborate with groups that have complementary comparative advantages, and help to build a better evidence-support system in their country and a better global evidence architecture.** Evidence groups can respond to the types of questions that best match the forms of evidence they produce. They can refer other questions to other groups. They can also adopt a collective-impact orientation and work collaboratively with other groups to produce more integrative evidence products. These evidence products can combine evidence in the many forms described in this report, evidence from across the health, natural and social sciences, and evidence from across sectors. Evidence groups can bring judgement, humility and empathy to all they do, and encourage those sharing and using evidence to do the same.

Related sections: [4.3](#) Matching decision-related questions to forms of evidence | [4.14](#) Features of an ideal national evidence infrastructure | [6.1](#) Global public goods needed to support evidence use | [6.2](#) Equitably distributed capacities needed to support evidence use | **Aligned report:** (3)

19

Learning from evidence groups in other sectors — **Evidence groups should be open to adapting innovations from other sectors.** Cochrane has pioneered many approaches to synthesizing studies about what works in health, including living evidence syntheses. The Intergovernmental Panel on Climate Change (IPCC) has pioneered many approaches to modeling human-induced climate change over long time horizons. Cochrane and the IPCC can learn from one another, and others can learn from them.

Related sections: [4.4](#) Interplay of local and global evidence | [4.7](#) Living evidence products

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Being prepared to pivot for global emergencies — **Evidence groups should ensure they have the agility to pivot to new topics when global emergencies strike.** Many global commissions about COVID-19 make this case for foundational research on vaccines, diagnostics and therapeutics. They are silent on the need to do this for the many forms of evidence that will determine whether these products get to the people who need them. Evidence groups focused on these broader questions will inevitably return to their existing areas of focus, but need to be prepared to pivot back to focus on a pandemic or another global emergency. Global commissions are also silent on the need to have the protocols for randomized-controlled trials and other study designs, as well as national evidence-support systems and a broader global evidence architecture, 'ready to go' or already in use.

Related sections: [7.1](#) Insights from an analysis of global-commission recommendations | [4.14](#) Features of an ideal national evidence infrastructure

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Making evidence understandable — Evidence groups should prepare ‘derivative products’ that communicate what we know (and with what certainty we know it) in ways that make sense to their target audiences. Because quality standards don’t exist for modeling in the way they do for other forms of evidence, modelers need to publicly share enough detail about their model to allow others to assess it (e.g., structure of the model, data used, consistency, and their software or tool). Communication considerations include the informational needs of decision-makers, formats that make it easy to grasp the key messages and to dig deeper if there’s interest (sometimes called graded entry), plain-language wording, and translation into other languages.

Related sections: [4.5](#) Distinguishing high- from low-quality evidence | [5.3](#) Strategies used by evidence intermediaries | [Aligned report](#): (24)

22

Academic institutions’ responsibilities — Academic institutions, and their public funders, should incentivize faculty members to contribute to their national (or sub-national) evidence-support system and to evidence-related global public goods.

Existing incentives tend to reward only peer-reviewed grants and publications, as well as to be first to publish on a topic rather than contributing to more definitive studies. Some countries are using periodic institution-assessment exercises to drive greater attention to evidence impact (e.g., UK’s Research Excellence Framework). Additional incentives can reward the work needed to achieve impact (e.g., engagement with and responsiveness to decision-makers) and to support best evidence (e.g., prioritizing quality over quantity of publications and communicating insights from bodies of evidence rather than their own single studies). Interest in visibility to funders and philanthropists encourages a focus on media releases and media interviews for single studies rather than on best evidence that is ‘ready for prime time.’

Related sections: [5.4](#) Conditions that can help and hinder evidence intermediaries | [4.14](#) Features of an ideal national evidence infrastructure | [6.1](#) Global public goods needed to support evidence use | [4.5](#) Distinguishing high- from low-quality evidence | [4.8](#) Best evidence versus other things (and how to get the most of other things)

23

Journals’ responsibilities — Journal publishers should improve the ways in which they support the use of best evidence.

Journals can mandate the use of reporting guidance and critical-appraisal checklists by reviewers, the placement of single studies in the context of evidence syntheses, and the sharing of anonymized study data. They can also commit to publishing non-positive research reports and replication studies, avoiding ‘spin,’ and acting quickly when apprised of scientific misconduct. Journals need to find a timely way to publish updates to living evidence products. Journals also need to ensure that publication delays never hinder the public sharing of evidence that is urgently needed for decision-making (and reciprocally that public sharing does not preclude later publication in a journal).

Related sections: [5.4](#) Conditions that can help and hinder evidence intermediaries | [4.5](#) Distinguishing high- from low-quality evidence | [4.4](#) Interplay of local and global evidence | [6.1](#) Global public goods needed to support evidence use



Funders

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Funding — Governments, foundations and other funders should spend ‘smarter,’ and ideally more, on evidence support. They can commit to ensuring that 1% of funding is allocated to national (and sub-national) evidence infrastructures (with a reasonable share to the evidence-support system and evidence-implementation system, as described in [section 4.14](#)), and they can monitor adherence to standards. They can ensure that 10% of this funding is allocated to evidence-related global public goods if this responsibility is not taken up by multilateral organizations such as the World Bank and other UN agencies. High-income country governments and global funders can dedicate 1% of their international-development funding to equitably distributed capacities for evidence use.

Related sections: [4.14](#) Features of an ideal national evidence infrastructure | [6.1](#) Global public goods needed to support evidence use | [6.2](#) Equitably distributed capacities needed to support evidence use | [Aligned report](#): (3)

As Nick Hart from the Bipartisan Policy Center noted (in a podcast series about the US Commission on Evidence-based Policymaking, and the Evidence Act and executive memos that followed it), there should be bipartisan support for building and using evidence even if there will frequently not be bipartisan agreement about what the evidence says and what it means for a specific context.(25)

Now is the time to take action. Decision-makers around the world – government policymakers, organizational leaders, professionals and citizens – need the best evidence to address societal challenges. To ensure they have what they need, we should not just prepare for the next global emergency and then watch those preparations be dismantled as the years pass and we move on to other challenges. The world needs an agile, methodologically strong and unbiased infrastructure that intersects with those who bring content knowledge specific to any given societal challenge. We need global public goods and equitably distributed capacities to produce, share and use best evidence. We need capacity, opportunity and motivation on the one hand, and judgement, humility and empathy on the other.



Government policymaker, Andrew Leigh

Seasoned politician bringing economics and legal training to public-policy writing and debate

Participating in the preparation of this report and in the discussions among commissioners has shifted my thinking about what I can do personally, what countries like my own need to do, and what I'd like to see multilateral organizations do.

On a personal level, [section 4.8](#) – best evidence versus other things – is my favourite section. There is so much wise advice here about how to get more from the 'other things' that elected officials like me are regularly presented with, such as a single preprint, an expert with an opinion, a panel of experts offering recommendations, and a jurisdictional scan. A few years ago, I wrote a book on randomized trials. Now, after working on this report, I'm even more passionate about the need for randomized policy evaluations. One of the strengths of trials is that they're easy to explain to citizens. They help us get around citizens' concerns about 'technocracy,' in which regular people feel they're being scammed through decision-making processes they don't understand. Trust in government isn't just about making the right decisions; it's about making decisions that citizens perceive to be right.

Evaluation isn't an elite issue. Evidence is for everyone. Our report offers suggestions to individuals, governments, and non-governmental organizations. If you're an individual looking at the evidence on quitting smoking or losing weight, you should look at evidence syntheses, not single studies. If you're a journalist writing about health, become a regular visitor to Cochrane, where you'll find the distilled evidence on thousands of topics. For media outlets reporting on social policy, the Campbell Collaboration offers the same service. Our report proposes that governments become better at using evidence in their decisions, and build the evidence base through rigorous evaluations. International organizations should place greater reliance on evidence, and the World Bank should prepare a landmark report on best-practice use of evidence.

International organizations differ markedly in their use of evidence. Reports from the Intergovernmental Panel on Climate Change use a highly rigorous approach to selecting and grading evidence on global warming and its consequences. Other global bodies are less systematic in their use of evidence, frequently relying on single studies, citing only expert opinion when a substantial body of peer-reviewed literature exists, or extrapolating evidence across very different contexts. This is not a matter of international bodies wanting to misrepresent the science – these organizations are keen to improve, and outside experts can help them do so by assessing reports against each body's published policy on how to use evidence. As described in [section 5.5](#), 'naming and shaming' had a tremendously positive impact on the World Health Organization's use of evidence, starting in 2007. Other parts of the UN system need to follow WHO's lead.

Among philanthropic organizations, there is a growing recognition that high-quality evaluation can create a virtuous cycle: allowing ineffective programs to be wound down and effective programs to be scaled up. The fast-growing effective-altruism movement is demanding that charities produce rigorous evidence of their impact. For example, GiveWell.org estimates that two of its top-rated charities – the Against Malaria Foundation and the Malaria Consortium – each save a life for every additional US\$4,500 that they spend on their programs. This is a powerful incentive for donors to support these charities. More evidence of direct impact from other charities could help to spur a philanthropic race to the top.





7.3 Annex to section 7.1 – Detailed findings from the analysis of global-commission recommendations



Domain	Key findings
Levers to bring about change	<p>Many global commissions called for broad measures and mechanisms required to stimulate change, including:</p> <ul style="list-style-type: none"> • Global summit-endorsed strategic framework – to establish a shared vocabulary and goals and to make strategic choices about near- and long-term priorities – and an accompanying program of action and accountability framework (or a UN Special Assembly), as well as regional summit-endorsed implementation plans • Voluntary measures, such as a code of practice, standards, guidelines, procedures, toolkits and ‘policy dialogues’ • Monitoring and improvement approaches, such as indicators, benchmarks, targets, functional expenditure reviews, independent assessments, and profiling of high performers • Planning mechanisms, such as multi-sector budgeting and program planning • Technical and financial assistance, and partnership arrangements, that can be rapidly deployed when windows of opportunity open or crises hit • Funding mechanisms, such as funding for implementation or scale-up, funding that is conditional on activities or outcomes (i.e., incentives), a greater relative share of existing funding commitments, and a centralized mechanism for individual giving • New focal points within or involving existing institutions, such as a UN special representative (and possibly regional representatives and national envoys), a UN intergovernmental committee or inter-agency task force, a high-level body, and a global observatory, as well as complementary groups like a ‘coalition of champions’ • Legally binding treaties, such as framework conventions • Elements drawn from a larger strategy <ul style="list-style-type: none"> ◦ to support country action, such as a framework, implementation toolkit, selecting and building momentum in countries, creating national commitments and plans, leveraging specialized institutions, sharing best practices, and tracking progress ◦ for climate action, such as clear global goals, a mechanism for making and ratcheting up national commitments, and a strong implementation framework ◦ for pandemic preparedness and response, such as a framework, governance mechanism, engagement of existing institutions, ‘ever-warm’ capacity, global pooling, and swift pivoting and scale-up ◦ for cross-institutional coordination and ‘leveling up,’ such as the UN Secretary-General, leaders of UN agencies, and presidents and shareholders of multilateral development banks aligning their institutions’ normative, advisory and investment actions ◦ for leveraging existing institutional authority, such as the International Monetary Fund giving more attention to particular issues in its Article IV surveillance activities
Chapter 2: Nature of societal challenges	<ul style="list-style-type: none"> • Some global commissions called for framing a societal challenge in ways that are more likely to generate action <ul style="list-style-type: none"> ◦ e.g., frame as a complex-adaptive systems problem (High-level panel for a sustainable ocean economy) ◦ e.g., re-frame the SDGs as being for and about children, and greenhouse gas emissions as a threat to their future (WHO-UNICEF-Lancet Commission on a future for the world’s children) ◦ e.g., conceptualize adolescent health more comprehensively so adolescents are centrally placed in existing and emerging agendas, as well as argue for the age of ‘second chances’ and the opportunity for ‘triple dividends’ (Lancet Commission on adolescent health and well-being) ◦ e.g., frame the challenge in syndemic and systems terms to show the inherent connectedness and systemic origins, to justify platforms for collaborative work, and to drive attention to actions that are double-duty and triple-duty (Lancet Commission on the global syndemic of obesity, undernutrition, and climate change) • Some global commissions called for ways of addressing societal challenges so the actions are more likely to generate impacts <ul style="list-style-type: none"> ◦ e.g., approach the challenge with an essential, integrated package of interventions (Guttmacher-Lancet commission on sexual and reproductive health and rights for all) ◦ e.g., plan and sequence investments to increase benefits from interlinkages across sectors (High-level panel on water) ◦ e.g., invest in great buys, good buys, and promising buys as determined by best evidence (Global education evidence advisory panel) ◦ e.g., frame as a complex-adaptive systems problem requiring a mix of top-down and bottom-up approaches that can accommodate feedback loops and support adaptation and learning (High-level panel for a sustainable ocean economy) • A few global commissions also called for foresight and innovations as domains that can complement evidence in addressing societal challenges





Chapter 3: Decisions and decision- makers: Demand for evidence

- Many global commission recommendations called for **government policymakers** to use specific policy instruments to address a societal challenge, although typically they were silent about how policymakers can or should use evidence in selecting or applying these policy instruments
 - e.g., information and education instruments, such as public reporting on progress and about impacts on health and the environmental (Global ocean commission) and on equity (e.g., Global commission on adaptation), as well as education to build various types of literacy (e.g., High level panel of experts on food security and nutrition) and digital platforms to deliver the education or campaigns (WHO independent high-level commission on noncommunicable diseases)
 - e.g., voluntary instruments, such as frameworks, guidelines (e.g., Global task force on cholera control), toolkits, partnerships with specialized institutions, and networks
 - e.g., economic instruments such as public expenditure, contracts, externality pricing and true-cost accounting (Food and land use coalition)
 - e.g., legal instruments, such as regulations to address standards (Global commission on the economy and climate), procurement (Global commission on internet governance), and disclosures of conflicts of interest and other factors (High level panel on access to medicines)
- Some global commission recommendations called for government policymakers to make use of specific structures and processes, although again typically they were silent about how policymakers can or should use evidence in selecting or applying these policy instruments
 - e.g., cross-sectoral decision-making mechanisms (Global commission for urgent action on energy efficiency) and initiatives to support policy coherence (Global commission on the future of work)
 - e.g., participatory policymaking processes (3-D Commission on health determinants, data, and decision-making)
 - e.g., independent audit and ombudsman offices (Lancet Commission on the global syndemic of obesity, undernutrition, and climate change)
 - e.g., national plans
- Fewer global commissions called for **organizational leaders** – especially business leaders – to use specific approaches to address a societal challenge, and when they did they were again typically silent about how leaders can or should use evidence in selecting or applying these approaches
 - e.g., commitment to principles such as the UN Global Compact principles and UN Guiding Principles on Business and Human Rights (Business and sustainable development commission) and the expanded environmental, social and corporate governance (ESG) principles (Global high level panel on water and peace)
 - e.g., use of innovative financial tools, such as externality pricing (i.e., pricing that reflects environmental and social externalities), blended-finance tools to support SDG investments (i.e., rewarding the achievement of environmental and social impacts alongside financial returns), sustainability-linked debt (i.e., pricing contingent on achievement of sustainability targets), and paying for environmental protection (payments for services that protect and manage nature) (Business and sustainable development commission), as well as public-private partnerships to lower the risk of investing (High level panel on internal displacement)
 - e.g., harnessing internal mechanisms, such as self-audits, setting hiring targets, and providing incentives to managers through performance reviews and compensation tied to targets (High level panel on women’s economic empowerment)
- One global commission called for an expectation that organizational leaders will “support sound science and make use of the results in setting science-based targets in their sector roadmaps” (Business and sustainable development commission)
- Few global commissions called for **professionals** to address societal challenges independently of their role in governments and organizations, although one called on professionals to promote evidence-based approaches (Global commission on drug policy)
- Few global commissions called for **citizens** to play a more active role in addressing societal challenges
 - e.g., inform themselves on their rights and entitlements, communicate their needs and preferences to service providers, and have both health and data literacy (Lancet Commission on high-quality health systems in the SDG era)
 - e.g., encourage fellow citizens acting as opinion leaders to play their role responsibly, and hold decision-makers to account (Global commission on drug policy)
 - e.g., develop the capacity to engage in policymaking (Global high level panel on water and peace)
- A few global commissions noted the roles that others can play in supporting citizens, including journalists (High level panel on internal displacement) and professionals like teachers, police officers, community workers, and health professionals (Lancet Commission on adolescent health and wellbeing)
- One global commission called for citizens to “press for greater social accountability through citizen report cards, community monitoring, social audits, participatory budgeting, citizen charters, and health committees” (Lancet Commission on high-quality health systems in the SDG era)



Chapter 4:
Studies,
syntheses and
guidelines:
Supply of
evidence

- Many global-commission recommendations called for increasing data collection and sharing, which are a foundation for **data analytics** as a form of evidence, but:
 - gave little attention to the problem of parsimony in what's collected, the quality of the data and data analytics, and timeliness in sharing (with an exception in the Lancet Commission on high-quality health systems in the SDG era)
 - appeared to assume that robust data analytics will be undertaken and then presented in ways that can inform decision-making and support accountability, including by being attentive to equity considerations
 - didn't clarify the types of questions that data analytics can best answer or the forms of evidence that can answer the other types of questions needed to make decisions
- Some of these global-commission recommendations called for specific actions related to increasing data collection and sharing, and to balancing the benefits and harms of using artificial intelligence (although not necessarily in the context of data analytics)
 - e.g., harmonizing metrics, establishing monitoring systems, and sharing open-access data (Global commission on adaptation)
 - e.g., establishing a global data-sharing platform (Global ocean commission and Global zero) and a global observatory that can support cross-national comparisons (High-level panel of experts on food security and nutrition and UCL–Lancet Commission on migration and health)
 - e.g., regulating artificial intelligence (Global commission on the future of work) and ensuring it is designed in ways that enable actions to be explained and humans to be accountable for these actions (High-level panel on digital cooperation)
- When other forms of evidence were addressed, recommendations tended to call for increasing the flow of **new evidence**, such as new evaluations (G20 high-level independent panel on financing the global commons for pandemic preparedness and response), and not to call for
 - improving the signal-to-noise ratio in the flow of such evidence
 - better using the stock of existing evidence
 - combining multiple forms of evidence
- Some global commissions called for **evaluations**
 - e.g., evaluating what works (Education commission; Global commission on adaptation; WHO-UNICEF-Lancet Commission on a future for the world's children; Lancet Commission on high-quality health systems in the SDG era; Lancet Commission on adolescent health and well-being; and Lancet Commission on women and cardiovascular disease)
 - e.g., evaluating impacts across multiple domains (e.g., health, economic and environmental impacts) and time horizons (3-D Commission on health determinants, data, and decision-making)
 - e.g., pre-approving trial designs in preparation for health emergencies (Commission on a global health risk framework for the future) and having regional capacity for trials (Independent panel for pandemic preparedness and response)
 - e.g., evaluating products such as vaccines, diagnostics and therapeutics (Global health crises task force), albeit not the system-arrangements and implementation strategies that can get the right products to the people who need them
- Few global commissions called for **behavioural/implementation research**
 - e.g., leveraging behavioural insights and behavioural economics (Global commission for urgent action on energy efficiency; Global commission on the economy and climate)
 - e.g., using campaigns and other strategies to change behaviours such as food labeling (Champions 12.3), albeit with no explicit mention of the need for behavioural / implementation research
- Even fewer global commissions called for other forms of evidence, such as:
 - **modeling** (Champions 12.3 and Lancet Commission on the global syndemic of obesity, undernutrition, and climate change)
 - **qualitative insights**, in this case social-sciences research to support community engagement (Global health crises task force)
 - **evidence syntheses**, in this case about great buys, good buys, and promising but limited evidence (Global education evidence advisory panel)
 - **guidelines**, in this case evidence-based guidelines about the 'scheduling' of (illicit) drugs (Global commission on drug policy)
- One global commission called for the use of many forms of evidence (High-level panel of experts on food security and nutrition), while another called for mandatory publication of study protocols and findings, and mandatory sharing of anonymized individual patient data (High-level panel on access to medicines)



Chapter 5:
Role of
evidence
intermediaries

- Many global commissions called for the **UN system**, including its regional and country offices, to better harness its normative role (e.g., guidelines) and its advisory role (e.g., technical assistance to its member states), although evidence was rarely made explicit as a necessary underpinning of such roles (e.g., WHO-UNICEF-Lancet Commission on a future for the world's children)
- Some global commissions called for greater support to **other types of evidence intermediaries**, such as agriculture extension services that support farmers (Champions 12.3)
- Some global commissions called for the types of **strategies** that can be used by evidence intermediaries, although evidence was rarely made explicit as the focus of such strategies
 - e.g., sharing examples of outcomes and impacts achieved, such as through peer-to-peer education (Global commission on adaptation), mentorship (High-level panel of experts on food security and nutrition and (Lancet Commission on high-quality health systems in the SDG era), and communities of interest (Global commission on the stability of cyberspace)
 - e.g., auditing structures, processes and outputs to identify opportunities to improve (High-level panel for a sustainable ocean economy)
 - e.g., packaging information in understandable ways, with additional support to groups that are often marginalized, disadvantaged, and subject to discrimination (Gutmacher-Lancet Commission on sexual and reproductive health and rights for all)
 - e.g., combatting mis- and dis-information online, through fact-checking and through other efforts to counter claims that are not fact-based (UCL–Lancet Commission on migration and health)
 - e.g., maintaining platforms to share knowledge (High-level panel on internal displacement)
 - e.g., maintaining help desks to respond rapidly to requests (Highlevel panel on digital cooperation)
 - e.g., building capacity among decision-makers (Global high-level panel on water and peace), including different numeric and other types of literacy (Independent panel for pandemic preparedness and response)
 - e.g., convening national dialogues (Global commission on adaptation; High-level panel on water)
- One global commission called for separating the provision of advice from inputs (e.g., seeds) to strengthen the incentive for recommending approaches that reduce input costs and promote other goals (Food and land-use coalition)
- Another global commission called for holding leaders accountable for their collective-impact commitments, which will be necessary for evidence intermediaries working as part of a high-performing evidence-support system (High-level panel for a sustainable ocean economy)



Chapter 6:
Need for global
public goods
and equitably
distributed
capacities

- Some global commissions called for specific institutions to play a key role with respect to **global public goods** (e.g., World Bank, WHO, and the International Organization for Standardization, or ISO), although none addressed evidence-related global public goods
 - e.g., establish a new mandate and financing commitment for the World Bank, aimed at promoting development-related global public goods (High-level panel on the future of multilateral development banking)
 - e.g., articulate WHO's role with global public goods to support pandemic preparedness and response (Independent panel for pandemic preparedness and response)
 - e.g., encourage the ISO to develop and adopt an international standard (High-level panel on water)
- Some global commissions called for global public goods that could be relevant to evidence-related goods
 - e.g., internet (Global commission on internet governance)
 - e.g., primary and secondary education, communication infrastructure, new quality measures, and a global repository of such measures (Lancet Commission on high-quality health systems in the SDG era)
- Other global commissions called for measures that can be considered global public goods – even if they didn't use the language explicitly – and that could be relevant to evidence-related goods
 - e.g., convergence of regulatory processes and standards (Commission on a global health-risk framework for the future)
 - e.g., harmonizing standards (Global commission for urgent action on energy efficiency)
 - e.g., voluntary standards (Food and land-use coalition)
 - e.g., common digital learning platforms with certification of content appropriate for curricula and labour markets, as well as common skills-accreditation systems that support portability (Education commission)
 - e.g., digital platforms for risk-factor screening (Lancet Commission on women and cardiovascular disease)
- Some global commissions called for **distributed capacities**, although none addressed an appropriate division of labour (e.g., what the UN system, its regional offices and its country offices can each best do)
 - e.g., to benefit from the internet – open standards, public-access spots, affordable devices, accommodations for refugees and those with disabilities, and access metrics, as well as distributed capacities to govern, develop and use the internet safely (Global commission on internet governance)
 - e.g., to implement the International Health Regulations – self-assessments, periodic external assessments, public discussion of these assessments at the World Health Assembly, a costed approach to implementation supports, and a transition to a broader focus on health-system strengthening as capacities mature (Global health crises task force)
- Other global commissions called for a central body to support capacity building (Global commission on the stability of cyberspace) and for thinking in terms of learning pathways and lifelong learning (High-level commission on health employment and economic growth)

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*As noted in the introduction, the appendices complement key sections in the introduction. They also complement many of the other chapters. The first appendix (**8.1**) describes the methods used to inform commissioner deliberations and recommendations. Four appendices (**8.2**, **8.3**, **8.5** and **8.6**) provide additional information about the commissioners, secretariat and advisors who shaped the report and its contents. One appendix (**8.4**) describes the funding for the Evidence Commission. The final appendix (**8.7**) provides a more detailed version of the timeline first introduced in **section 1.6**.*

8.1 Methods used to inform commissioner deliberations and recommendations

One of the five desirable criteria for global commissions (see [section 1.1](#) for the full list) is that the commission is enabled by the use of systematic and transparent methods to review the evidence (e.g., data analytics and evidence syntheses) that informed deliberations about sections (e.g., infographics, tables and text boxes) and recommendations.

We used three main types of methods to inform commissioners' deliberations and recommendations:

- examinations of existing evidence syntheses on the many topics addressed by the Evidence Commission (the search for which was led by Kaelan Moat and which was particularly important for [sections 3.3 to 3.6](#) and [4.11](#)) or, in their absence, single studies or landmark reports and papers (the search for which was led by John Lavis and Kaelan Moat and which was particularly important for [sections 1.1, 1.6, 1.7, 2.1, 2.3, 2.4, 3.1, 3.7, 4.2, 4.5, 4.7, 4.8, 4.9, 4.12, 4.13, 5.1 to 5.4, 6.1 and 6.2](#))
- analyses of global commissions addressing societal challenges that published reports since 1 January 2016 or that are currently underway (which were led by Kartik Sharma and supported by Hannah Gillis and which resulted in sections [1.1, 2.5, 3.8](#) and [4.15](#), and which informed analyses by John Lavis and which resulted in [sections 7.1](#) and [7.3](#))
- analyses of two one-stop shops for evidence syntheses (which were led by James McKinlay and Cristian Mansilla and which resulted in [section 4.5](#)).

The selection of examples throughout the report was based on the rich experiences of commissioners and secretariat staff.

The search for existing evidence syntheses focused first on the most appropriate one-stop shops for evidence syntheses and then on more general bibliographic databases and Google. When relevant evidence syntheses could not be found, the search for single studies and landmark reports and papers focused on general bibliographic databases and Google. The landmark reports included those produced by:

- standing global report-producing bodies that issued one-off reports specifically focused on using evidence to address societal challenges, such as the World Development Report 2021 that addressed data analytics (at least in part)
- national and sub-national commissions specifically focused on using evidence to address societal challenges, such as the Obama-era Commission on Evidence-based Policymaking (and the related and more recent Biden-era presidential memorandum and Office of Management and Budget memorandum).(1)

Additional evidence syntheses and single studies, as well as landmark reports and papers, were identified by commissioners and secretariat staff. A targeted search for definitions of the forms in which evidence is typically encountered resulted in [section 4.2](#), a thematic analysis of a listserv discussion about living evidence products informed [section 4.7](#), a close collaboration with an Indigenous commissioner (Daniel Iberê Alves da Silva) resulted in [section 4.10](#), the participant-observer role of many secretariat staff informed [section 4.13](#), and a recently completed analysis by a secretariat staff member (Kartik Sharma) resulted in [section 5.5](#).

The search for global commissions (or organizations that convene, act as the secretariat for and/or fund commissions) involved a combination of key informants (including commissioners, other knowledgeable individuals, and COVID-19 Evidence Network to support Decision-making (COVID-END) partners and advocating working-group members), Google searches, literature searches and website reviews. From this 'population' of commissions, we purposively sampled commissions using three inclusion criteria:

- global scope (e.g., not regional, national or sub-national), and note that we excluded guideline panels, modified Delphi processes, and treaty-negotiation processes
- most recent report published on or after 1 January 2016 (i.e., the start of the SDG era)
- makes recommendations that can be acted upon by key societal actors (e.g., not just recommendations by and for researchers or research funders).

For the 73 completed Lancet Commissions, we excluded 16 based on lack of global scope, 20 based on report publication date, and 26 based on a lack of link to at least one non-health SDG. We also identified three in-progress Lancet Commissions through the Reform for Resilience Commission report. We maintained a list of 'near misses' (reports that partially met but not fully meet our inclusion criteria). We may have missed global commissions that used the term 'eminent persons' in their title because this term was not part of our original search.

We extracted and analyzed data about the 54 global commissions (48 completed, one that had issued a report but not yet its final report, and five in progress) and their 70 reports to prepare four sections and inform one section:

- commissions by desirable attributes of commissions ([section 1.1](#))
- commission reports by challenge type ([section 2.5](#))
- commission reports by decision-maker type ([section 3.8](#))
- commission reports by evidence type ([section 4.15](#))
- recommendations ([section 7.1](#)).

For the latter section, we conducted a thematic analysis to identify completed commissions' recommendations that could be endorsed or built upon, and to identify active commissions' interim recommendations (or signals about likely recommendations) that could be endorsed or built upon and/or co-shaped in consultation with them. For all of these sections we focused on what was reported (which may be less than what was actually done). Additional details about recommendation-counting rules are available upon request. We did not conduct interviews or review websites. A list of the global commissions and their reports is provided in an annex ([8.8](#)) at the end of these appendices.

Two approaches were used to elicit input from commissioners in drafting the recommendations:

- thematic analysis of recommendations from all global commissions reporting since 1 January 2016 that identified recommendations that speak to similar issues as the Evidence Commission (which were the focus of [section 7.1](#))
- 'running list' of potential recommendations that emerged from calls and emails with commissioners, advisors and others.

Several formats were proposed to commissioners, which could be selected individually or in combination:

- recommendations (or calls to action), each directed at one or more specific category of actors, describing the action(s) that need to be taken, and specifying a timeline over which it should be taken (i.e., using a 'roadmap' approach)
- draft resolution for consideration by the UN, the G20 or other multilateral organization
- model legislation that could be adapted by government policymakers (such as Foundations for Evidence-Based Policy Act of 2018, or the Evidence Act, in the US)
- agreement or charter that governments, associations and other supporters can sign on to.

Having opted for a recommendations format, the commissioners provided several rounds of feedback on the draft recommendations:

- brief discussions in the September, October and November calls with commissioners
- three rounds of online surveys, the first of which led to a change from wording each recommendation as a single sentence to the combination of a brief 'headline' and set of points that elaborate on the headline.

8.2 Commissioner biographies

Amanda Katili Niode is a talented policy advisor and non-governmental organizational leader working as the director of The Climate Reality Project Indonesia, part of a global organization founded by former US vice-president Al Gore to mainstream the climate crisis and the actions that can be taken to address it. Amanda is certified as an executive coach and mentor on climate and sustainability, partnering with individuals, organizations and corporations to further environmental policy and action. Amanda previously served as Indonesia's Special Assistant to the Minister for Environment and the Head of the Expert Team of the President's Special Envoy for Climate Change. For her work in furthering the Sustainable Development Goals (SDGs), the United Nations Development Programme invited Amanda to become an 'SDGs Mover' in Indonesia. In her other roles, Amanda is a weekly columnist on environmental issues; and is the co-founder and chairperson of Omar Niode Foundation, a non-profit organization delivering home-cooked meals for medical workers and volunteers fighting the COVID-19 pandemic in Indonesia. Amanda has a PhD from the School of Environment and Sustainability at the University of Michigan and a B.Sc. from the School of Natural Science and Technology at the Institut Teknologi Bandung.

Andrew Leigh is a seasoned government policymaker serving as the Shadow Assistant Minister for Treasury and Charities, and Federal Member for Fenner in Australia. Andrew is skilled in economic policy, having worked as a professor of economics at the Australian National University prior to being elected to government in 2010. Andrew is a Fellow of the Australian Academy of Social Sciences, and a past recipient of the 'Young Economist Award,' a prize given every two years by the Economics Society of Australia to the best economist under 40. Andrew is a podcast host and has written over a half-dozen books with his most recent titles including: *Randomistas: How Radical Researchers Changed Our World* (2018), *Innovation + Equality: How to Create a Future That Is More Star Trek Than Terminator* (with Joshua Gans) (2019), and *Reconnected: A Community Builder's Handbook* (with Nick Terrell) (2020). Andrew holds a PhD in public policy from Harvard and graduated from the University of Sydney with first class honours in arts and law.

Antaryami Dash is an experienced non-governmental organizational leader leading the health and nutrition thematic portfolio at Save the Children, India and co-chairing Save the Children's Nutrition Technical Working Group. Previously, Antaryami has worked with UNICEF (the United Nations Children's Fund) and government health systems bringing his skills and expertise to bear on issues related to community management of acute malnutrition, nutrition in emergency settings, nutrition surveillance, health-system strengthening, data analytics, and research. His economic and nutrition public-policy research has covered such areas as: assessment of cost of diet in India and finding solutions to minimize the affordability gap of a nutritious diet; assessing household level co-coverage of nutrition-specific and nutrition-sensitive interventions; reducing child malnutrition by improving home-augmented household diets using a positive deviance approach; and assessing campaign effectiveness and coverage of vitamin A and de-worming. Antaryami has mentored participants in the Save the Children's course on 'Nourishing the youngest and resourcing the families for better nutrition.' He holds a bachelor's degree in homoeopathic medicine and surgery, a master's in public health, specializing in health administration, and is currently pursuing his PhD in public health from the Tata Institute of Social Sciences.

Asma Al Manna'ei is a skilled public servant guiding efforts to reshape and improve the healthcare sector in the emirate of Abu Dhabi as the executive director of research and innovation in the government's department of health. Asma currently chairs several committees in the United Arab Emirates (UAE), such as the Abu Dhabi Health Research and Technology Committee, and serves as a board member of the National Rehabilitation Center. Previously, Asma worked as the department's director of strategy and healthcare quality, leading its transformation in patient care quality and safety. Asma introduced the award-winning 'Muashir' framework – an innovative, comprehensive quality monitoring and improvement program (the first of its kind in the Middle East and North Africa) that provides ratings for healthcare providers' performance based on the best international quality practices. Asma holds a master's degree in public health from Johns Hopkins University, a clinical research diploma from the Vienna School of Clinical Research, and a bachelor's degree in medicine from UAE University. She also received executive education in advanced leadership and management at Harvard's Kennedy School of Government.

Daniel Iberê Alves da Silva is an Indigenous member of the M'byá Guarani people in Brazil and a citizen leader committed to sharing Indigenous ways of knowing. Iberê is a councillor on the Municipal Council of Cultural Policies of Rio Branco, Acre, and member of the Thematic Committee of Traditional Communities/Indigenous Cultures. He was a founding councillor of the Indigenous Council of Brazil's Federal District (2017). His research explores political sociology, governance and social thought, particularly as it relates to the Amazon and impacts on Indigenous peoples. He has held a number of roles in the following organizations: Usina de Artes João Donato (Art Plant Joao Donato, once the site of a cashew processing plant, now an art school for music, performing arts and cinema); the Institute Dom Moacyr Grechi in the Roberval Cardoso Professional and Technology Education Centre; the Programa Nacional de Acesso ao Ensino Técnico e Emprego (PRONATEC, which aims to expand and democratize public secondary education) coordinated by the Instituto Federal do Acre; among others. He is a doctoral student in Social Anthropology at Universidade de Brasília. He holds a master's degree in social sciences from the Universidade Federal do Rio Grande do Norte with a concentration in politics, development and society; and a bachelor's degree in social sciences, specializing in political science, from the Universidade Federal do Acre.

David Halpern is a trusted government policy advisor working as the chief executive of the Behavioural Insights Team in the UK. David has led the team since its inception in 2010, bringing behavioral insights and implementation science into governments in the UK and other countries. Prior to that, David was the first research director of the Institute for Government, and between 2001 and 2007 he was the chief analyst at the Prime Minister's Strategy Unit. David was also appointed as the What Works National Advisor in July 2013. He supports the What Works Network and leads efforts to improve the use of evidence across government. Before entering government, David held tenure at Cambridge and posts at Oxford and Harvard. He has written several books and papers on areas relating to behavioural insights and well-being, including *Social Capital* (2005), *The Hidden Wealth of Nations* (2010), and *Online Harms and Manipulation* (2019), and he co-authored the MINDSPACE report. In 2015, David wrote a book about the Behavioural Insights Team entitled *Inside the Nudge Unit: How Small Changes Can Make a Big Difference*.

Donna-Mae Knights holds the position of policy coordinator for the Ministry of Community Development, Culture, and the Arts, through which she has been involved in directing the formulation of policies for the Government of Trinidad and Tobago over the last seven years, in areas including culture and sustainable community development. She is a career public servant with 27 years of service in areas of social policy, planning and research, as well as the design and implementation of community-based poverty-eradication strategies. Dr. Knights interrupted this period of service in 2005 and completed a master's degree in Sustainable International Development at Brandeis University, followed by doctoral studies in Social Work at Washington University in St. Louis. Her dissertation focused on collective efficacy and community-based crime prevention, looking at insights into the workings of informal community structures and their impact on the social life and informal regulation of communities.

Fitsum Assefa Adela is a government policymaker serving as the minister in charge of the Planning and Development Commission of the Federal Democratic Republic of Ethiopia. Being at the helm of the country's key development planning and policymaking office, and a core member of the macroeconomic policy team in her capacity as the commissioner, Fitsum brings a whole-of-government approach to her leadership in economic policies, plans and programs, including the crafting and implementation of Ethiopia's home-grown economic reform and its 10-year development plan. Fitsum also serves as the government's representative liaising with the Independent Economic Advisory Council. Since 2018, she has also served as a board member of the Commercial Bank of Ethiopia. Before entering politics, Fitsum was a professor for more than a decade at the University of Hawassa in Ethiopia, where she undertook several impactful interdisciplinary studies focusing on environment and development, technology adoption, and poverty analysis with a focus on institutional factors. Fitsum holds a PhD in philosophy and agricultural economics from the University of Giessen in Germany, and a master's degree in development studies and a bachelor's degree in accounting from Addis Ababa University in Ethiopia.

Gillian Leng is the Chief Executive of the National Institute for Health and Care Excellence (NICE), which offers guidance, advice and information services for health, public-health and social-care professionals in the UK. As a junior doctor, Gillian was struck by variations in clinical practice, and this developed into her passion for using evidence to improve care. Her career has spanned research, evidence synthesis, management and healthcare. Her aim has been to transform NICE with new methods and processes to put the organization at the forefront of evaluating new medicines, devices and diagnostics, and deliver dynamic, living guidelines. Gillian trained in medicine at Leeds, worked on clinical trials and epidemiological research in Edinburgh, and was a public-health consultant in London. She was an editor of the Cochrane Collaboration, and now chairs the Guidelines International Network.

Gonzalo Hernández Licona is a distinguished economist working as the director of the Multidimensional Poverty Peer Network (MPPN-OPHI), where he coordinates 61 countries and 19 international institutions to advance and exchange ideas about implementing multidimensional poverty indicators. Based in Mexico, Gonzalo brings expertise in country-led evaluations to his work with UNICEF. He is senior research fellow at the International Initiative for Impact Evaluation (3ie), research associate in the Oxford Poverty and Human Development Initiative, and member of the Board of Trustees at El Colegio de México. He was the executive secretary of the National Council for the Evaluation of Social Policy (CONEVAL) between 2005 and 2019, where he coordinated the evaluation of social policies and the measurement of poverty at the national, state and municipality levels. His previous roles have included general director of monitoring and evaluation at the Ministry of Social Development, and full-time professor at the Instituto Tecnológico Autónomo de México (ITAM), where he still works part-time. He was also part of the 15 independent group of scientists who wrote the 2019 Global Sustainable Development Report for the UN. Gonzalo has a PhD in economics from Oxford University, a master's degree in Economics from the University of Essex, and a bachelor's BA from ITAM.

Hadiqa Bashir is a confident young feminist, visionary and citizen leader. She was born into a patriarchal society in Saidu Sharif, which is located in the Swat Valley in the Khyber Pakhtunkhwa province of Pakistan's Tribal Belt, and which motivated her to work against early and forced marriages in Pakistan's tribal regions. To that end, she founded Girls United for Human Rights to protect and promote girls' rights. In doing so, she has worked to sensitize her community to the negative effects that child marriages have on children's mental and physical health. Hadiqa is on the volunteer board of directors at Eve Alliance and has previously volunteered at A Society for Women's Rights and the Sister's Council (Khwendo Jirga, a women's advocacy group in Pakistan that supports gender equality). She has been recognized as a Women Deliver Young Leader, the winner of the With and For Girls Award (2018-19), a Commonwealth Youth Award Finalist (2017), a two-time Children's Peace Prize Nominee (2016 and 2017), a winner of the Asian Girls Rights Award (2016), a winner of the Muhammad Ali International Humanitarian Award (2015), a recipient of an honorary award from the Honorable Chairman Senate Islamic Republic of Pakistan, and an Asian Girls Ambassador.

Howard White is a research leader serving as the chief executive officer of the Campbell Collaboration, an international social-science research network that produces evidence syntheses relevant for decision-making. Howard has spent his career supporting the use of robust evaluation and previously served as the founding executive director of the International Initiative for Impact Evaluation (3ie), as well as led the impact-evaluation program of the World Bank's Independent Evaluation Group. Howard has advised government agencies in many countries, across many sectors, around the world. He has received awards from the governments of Benin and Uganda for his services in the field of evaluation. As an academic, he leans towards work with policy relevance, and working in the policy field believes in academic rigour as the basis for policy and practice. Howard started his career as an academic researcher at the Institute of Social Studies in The Hague, and the Institute of Development Studies, University of Sussex.

Jan Minx is an impact-oriented scholar working as a professor of climate change and public policy at the Priestley International Centre for Climate at the University of Leeds. Based in Germany, he also heads up the Applied Sustainability Science working group of the Mercator Research Institute on Global Commons and Climate Change, a scientific think tank combining economic and social science analyses to guide public policy. Jan has contributed substantially to the recent work of the Intergovernmental Panel on Climate Change (IPCC) as a coordinating lead author of the IPCC's Sixth Assessment Report, where he co-leads the chapter on emission trends and drivers in the Mitigation of Climate Change working group. He also played a major role during the fifth assessment cycle, where he coordinated the report process as head of the Technical Support Unit. Jan's research spans climate, environmental and sustainability policy. Methodologically, a primary focus of his work is evidence synthesis, exploring how artificial intelligence can help to scale evidence-synthesis methods to very large bodies of evidence and apply them in the context of global environmental assessments where modelling is the dominant methodological approach, and developing new evidence-synthesis methods to advance scientific policy advice and global environmental assessments. He holds a PhD in environmental economics and management from the University of York and completed his undergraduate degree in economics and political science at the University of Cologne.

Jinglin He is a non-governmental organizational leader working as the director of The Red Leaf Groups, adjunct professor of the Institute of Health Data Science of Lanzhou University, and consultant of the Tsinghua University's Research Centre on Aging Society. Previously, Jinglin has served as a full-time consultant of the United Nations Population Fund, the executive manager of the China Council of the Lions Club, and a senior program officer and regional coordinator at UNICEF, the Joint United Nations Programme on HIV/AIDS, and the World Health Organization. Earlier in her career, Jinglin taught and undertook research in the School of Public Health of Peking University. She brings expertise in public health and social development (specifically in the fields of policy development, advocacy and cross-sectoral cooperation) and in empowerment (in areas such as communicable diseases, road safety, active aging, gender equality, disabled and rights, youth, and life skills). Jinglin received her bachelor's, master's and PhD in public health from Peking University.

Julia Belluz is a respected journalist working as Vox's senior health correspondent. Reporting on medicine, science, and global public health across platforms and media, Julia is an evidence intermediary skilled in health and social policy journalism. Before joining Vox, Julia was a Knight Science Journalism fellow at the Massachusetts Institute of Technology. Her writing has appeared in a range of international publications, including the BMJ, the Chicago Tribune, the Economist and Economist's Intelligent Life magazine, the Globe and Mail, the LA Times, Maclean's, the National Post, ProPublica, Slate, and the Times of London. In 2015, she contributed a chapter to the book *To Save Humanity: What Matters Most for a Healthy Future*. Julia has been honored by numerous journalism awards, including the 2016 Balles Prize in Critical Thinking, the 2017 American Society of Nutrition Journalism Award, and three Canadian National Magazine Awards (in 2007 and 2013). She was a 2019 National Academies of Sciences, Engineering, and Medicine Communications Award finalist. Outside of reporting, she speaks regularly at universities and conferences the world over. She holds an M.Sc. from the London School of Economics.

Julian Elliott is one of the world's leading clinician researchers in the use of technology for evidence synthesis. He is chair of the Australian Living Evidence Consortium, based at Cochrane Australia within Monash University's School of Public Health and Preventive Medicine, and until recently was the executive director of the Australian National COVID-19 Clinical Evidence Taskforce. Julian is a distinguished evidence producer, having developed the 'living evidence' model – high-quality systematic reviews and guidelines that are updated as soon as new evidence becomes available. This model dramatically improves the currency of high-quality evidence and is now being adopted worldwide, including by the World Health Organization and other major guideline groups. Julian is actively involved in the development of new technologies to improve knowledge translation. He co-founded and is chief executive officer of Covidence, a not-for-profit technology company that provides the most widely used software platform for evidence syntheses globally. In 2017, Julian was the recipient of the Australian Health Minister's Award for Excellence in Health and Medical Research. He is an infectious-diseases physician at the Alfred Hospital in Melbourne, Australia and worked previously for the Cambodian Ministry of Health, and served as a consultant to the WHO, the Joint United Nations Programme on HIV/AIDS, and the World Bank.

Kenichi Tsukahara is an engineering leader working as the director of the Disaster Risk Reduction Research Centre and professor in the civil engineering department at Kyushu University in Japan. He has held various senior-level positions in the Ministry of Land, Infrastructure and Transport with the Japanese government. He brings over three decades of experience internationally, having served as a senior advisor with the Japan International Cooperation Agency, deputy director general of the Secretariat of Asia-Pacific Water Forum, strategy and policy officer in the Asian Development Bank, and first secretary for economic cooperation, Embassy of Japan in Indonesia. He is a member of the Science Council of Japan, leader of the water-related disaster group of the Disaster Risk Management Committee of the World Federation of Engineering Organizations, and senior professional civil engineer with the Japan Society of Civil Engineers Regional Science Association International. Kenichi holds a PhD from the Department of Regional Science at the University of Pennsylvania and a civil engineering degree from Kyushu University.

Kerry Albright is an international public servant working as the deputy director ad interim and chief, Research Facilitation and Knowledge Management, at UNICEF's dedicated research centre, the Office of Research-Innocenti (UNICEF-Innocenti), based in Florence, Italy. In her evidence intermediary role, she oversees research quality assurance and ethical evidence-generation standard-setting for UNICEF's 190+ offices and 15,000 staff worldwide. She also has oversight of UNICEF-Innocenti activities in research governance, evidence synthesis and knowledge management, research capacity-building, research uptake and impact, and behavioural-sciences research and implementation research. Kerry's work focuses on strengthening an evidence and learning culture across UNICEF and working with external partners in support of a global community of practice around evidence for children. Prior to joining UNICEF in 2015, Kerry worked in various roles at the UK's Department for International Development, now the Foreign, Commonwealth and Development Office, where she was head of the Evidence to Action Unit and also co-founded the Global Open Data for Agriculture and Nutrition initiative.

Larry Hedges is an applied statistician working as the Board of Trustees Professor of Statistics at Northwestern University in Chicago in the US. He is chair of the Department of Statistics, with appointments as a faculty fellow at the Institute for Policy Research, the School of Education and Social Policy in the Department of Psychology, and the Weinberg School of Medicine. Larry is an elected member of the National Academy of Education, and a Fellow of the American Academy of Arts and Sciences, the American Statistical Association, the American Psychological Association and the American Educational Research Association. He co-founded the Society for Research on Educational Effectiveness and was honoured by the establishment of the annual Hedges Lecture in 2016. He is known for bringing evidence synthesis into educational policy and practice. Larry received the Yidan Prize for Education Research in 2018. Prior to Northwestern, he was the Stella M. Rowley Distinguished Service Professor at the University of Chicago. He received a PhD from Stanford University in 1980.

Maureen Smith is a citizen leader committed to evidence-based medicine and patient/citizen engagement in research. Her commitment stems from her lived experience with the health system subsequent to a rare disease diagnosis in childhood. Maureen is the chair of Cochrane's Consumer Network Executive and is involved in several global Cochrane projects and advisory committees. In Canada, she is the chair of Ontario's Strategy for Patient-Oriented Research (SPOR) SUPPORT Unit's Patient Partner Working Group and sits on the board of directors. She is also a member of SPOR's Evidence Alliance. She has been a patient member on the Ontario Committee to Evaluate Drugs since 2014, and on the Ontario Health Technology Advisory Committee for the past four years. Most recently, Maureen became the citizen-partnership lead for the COVID-19 Evidence Network to support Decision-making (COVID-END), a global evidence network to support decision-making. She also brought the consumer perspective as a co-investigator on the e-COVID-19 living map of recommendations global initiative. Previously, Maureen served on the Executive of the Canadian Organization for Rare Disorders and Rare Disease International.

Modupe Adefeso-Olateju is a recognized organizational leader and policy expert specializing in public-private partnerships and citizen-led assessments in education, and works as the managing director of The Education Partnership Centre, which is Nigeria's pioneering education-partnership organization. Mo advises policymakers, corporations and international think tanks, and leads workstreams on a range of education-sector support initiatives funded by multilateral organizations and corporate funders. She is a member of the team that is drafting Nigeria's mid- and long-term strategic plans. Mo sits on the boards of Malala Fund, Slum2School Africa, and Unveiling Africa Foundation, and is an advisory board member of the People's Action for Learning (PAL) Network. She offers technical advice on scaling education innovation to the Brookings Institution's Center for Universal Education Millions Learning project and the Global Schools Forum Learning Labs. As a Centenary Scholar, she graduated from the UCL Institute of Education with a PhD in Education and International Development and is a Fellow of the Asia-Global Institute in Hong Kong.

Neil Vora is a physician with Conservation International where he leads efforts at the interface between conservation efforts – addressing the underlying drivers of pathogen emergence such as deforestation – and pandemic prevention. He was previously with the US Centers for Disease Control and Prevention (CDC), which he first joined in 2012 as an Epidemic Intelligence Service officer. While with CDC, Neil deployed to Liberia and the Democratic Republic of the Congo to assist in the responses to the two largest Ebola outbreaks on record, and to the country of Georgia to lead an investigation of a newly discovered virus related to the smallpox virus. In 2020-2021, he led New York City's COVID contact-tracing program composed of over 3,000 staff. He is currently an associate editor at CDC's Emerging Infectious Diseases journal and an adjunct professor of internal medicine at Columbia University. Neil still sees patients in a public tuberculosis clinic in New York City.

Petrarca Karetji is the head of Pulse Lab Jakarta of the United Nations Global Pulse network. Pulse Lab Jakarta was established as a big-data innovation lab and is now emerging as an analytic partnership accelerator for development and humanitarian action. Petra has more than 25 years of professional experience, undertaking a range of international-development industry roles. These include as team leader of the Knowledge Sector Initiative in Indonesia for RTI International, an independent, non-profit research institute dedicated to improving the human condition; senior partnerships advisor for the Australian Department of Foreign Affairs and Trade; director for Poverty, Decentralisation and Rural Development in AusAID; director of the Eastern Indonesia Knowledge Exchange/BaKTI and team leader for the Multidonor Support office for Eastern Indonesia within the World Bank; and director of Austraining Nusantara. He holds a bachelor's degree in education and a master's degree in development studies from Satya Wacana Christian University.

Soledad Quiroz Valenzuela is a government science advisor in environmental policy working as the executive secretary of the Chilean Scientific Committee on Climate Change. Soledad was recently appointed to the role of vice-president for policy of the International Network for Government Science Advice (INGSA) and serves on the steering committee of INGSA's Latin American and Caribbean chapter. She has been a lecturer and researcher in science and technology policy, science advice, and science diplomacy. She participates in the Science Diplomacy Network for Latin America and the Caribbean (DiploCientifica). Soledad holds a PhD in biochemistry and molecular biology from Michigan State University, and a master's degree in public policy and management from Carnegie Mellon University.

Steven Kern is the deputy director, Quantitative Sciences, at the Bill and Melinda Gates Foundation, based in Seattle, Washington, US. He leads a team that provides a crucial evidence-intermediary role, providing quantitative analysis – including data analytics and other forms of evidence – to support foundation teams for therapeutics projects. Before joining the foundation, he was global head of pharmacology modeling at Novartis Pharma AG (based in Basel, Switzerland), where he led a team that provided model-based drug-development support to therapeutics projects in many disease areas and across all stages of drug development. Earlier, he was an associate professor of pharmaceuticals, anesthesiology, and bioengineering at the University of Utah in Salt Lake City, where he served as co-investigator for the National Institutes of Health–funded Pediatric Pharmacology Research Unit. Steven has designed, conducted, and served as a principal investigator for clinical pharmacology studies that span the population from preterm infants to elderly adults. Steven has a bachelor's degree in mechanical engineering from Cornell University, a master's degree in bioengineering from Penn State University, and a doctoral degree in bioengineering from the University of Utah. He has published more than 60 papers in the areas of pharmacokinetic and pharmacodynamic modeling, applying principles of control-systems engineering to drug delivery and clinical pharmacology.

8.3 Secretariat

John N. Lavis



Co-Lead, Evidence
Commission Secretariat

Jeremy Grimshaw



Co-Lead, Evidence
Commission Secretariat

Jenn Thornhill Verma



Executive Lead, Evidence
Commission Secretariat

The secretariat included two scientific co-leads (John Lavis and Jeremy Grimshaw) and an executive lead (Jenn Verma), and many full-time and contract staff of the McMaster Health Forum (unless otherwise noted). Secretariat members played many roles over the life of the commission, including the following roles specific to the final report.

- **John Lavis** acted as the lead report writer and led the drafting and revising of the text (including text in visuals) and recommendations
- **Jenn Thornhill Verma** led the creative process of making the report's visuals as engaging as possible and led much of the engagement with commissioners, advisors and funders
- **Jeremy Grimshaw** (from the Ottawa Hospital Research Institute) helped shape the report and provided feedback on early drafts of key sections
- **Kaelan Moat** led many of the evidence reviews drawn on in drafting the text
- **Kartik Sharma** led many of the analyses drawn on in drafting the sections related to global commissions
- **Hannah Gillis** contributed to many of the analyses drawn on in drafting the sections related to global commissions
- **David Tovey** (a senior advisor to COVID-END) provided a synthesis of the papers that formed the foundation of [section 4.12](#) (weaknesses in a health-research system) and provided feedback on select other sections
- **Jorge Barreto** (from Fiocruz Brasilia) supported the engagement of our Brazilian commissioner
- **Ileana Ciurea** provided overall project management and coordinated the involvement of key staff at the McMaster Health Forum, including:
 - **Brittany Dinallo** who provided marketing advice
 - **Cristian Mansilla** who undertook the analyses of COVID-END database content drawn on in drafting select sections and who helped with checks of the Spanish translation of the report
 - **François-Pierre Gauvin** who provided input to the citizen-related aspects of the report and who provided oversight of the French translation of the report
 - **James McKinlay** who undertook the analyses of Social Systems Evidence content drawn on in drafting [section 4.5](#)
 - **Julie Baird** who provided operational support
 - **Kerry Waddell** who helped with citation management
 - **Paul Ciurea** who helped with ensuring alignment between the Word and InDesign versions of the content
 - **Saif Alam** who helped with citation data entry
 - **Sarah Holden** who helped with some early graphic-design work
 - **Steve Lott** who provided communications support
- **Christy Groves** led the graphic design of the infographics and other visuals and full report
- **Amy Zierler** led the initial report-editing process
- **Sue Johnston** led the final copy-editing process

The bios and contact information for many members of secretariat members based at the McMaster Health Forum can be found on the Forum's website.

The secretariat benefited significantly from input from the COVID-END Advocating working group and from input received in its role as a co-sponsor (with WHO) of the Cochrane Convenes event held in October 2021.

8.4 Funders

The commissioners and secretariat gratefully acknowledge the following funders:

American Institutes for Research



Canadian Institutes of Health Research through a grant to the McMaster Health Forum on behalf of the COVID-19 Evidence Network to support Decision-making (COVID-END)



CMA Foundation / Fondation AMC



Healthcare Excellence Canada



Health Research Board



Michael Smith Health Research BC



8.5 Commissioner and secretariat affiliations and interests

The Evidence Commission did not make specific recommendations that would financially benefit (or harm) or otherwise affect the pecuniary or non-pecuniary interest of an organization. However, the Evidence Commission provided many examples of organizations, among many others, that could financially benefit if particular recommendations were acted upon. The following are examples of the organizations with which one or more commissioners or secretariat staff members (or their spouses) have affiliations or have had affiliations over the last five years, which are grouped by the existence and nature of any financial considerations. Additional details about our approach to conflict of interest is provided in an annex (8.9) at the end of these appendices.

- Employee
 - Australian Living Evidence Consortium, Monash University (Julian Elliott)
 - Alfred Health (Julian Elliott)
 - Behavioural Insights Team (David Halpern)
 - Bill and Melinda Gates Foundation (Steven Kern)
 - Campbell Collaboration (Howard White)
 - Centers for Disease Control and Prevention (Neil Vora)
 - Conservation International (Neil Vora)
 - Girls United for Human Rights (Hadiqa Bashir)
 - Government of Abu Dhabi, United Arab Emirates (Asma Al Mannaei)
 - Government of Ethiopia (Fitsum Assefa Adela)
 - Government of Trinidad and Tobago (Donna-Mae Knights)
 - Government of the United Kingdom, Cabinet Office (David Halpern)
 - Kyushu University (Kenichi Tsukahara)
 - McMaster University, which hosts the McMaster Health Forum that acts as the secretariat for COVID-END and the Evidence Commission (John Lavis and Jenn Verma)
 - National Council for the Evaluation of Social Development Policy of Mexico, or CONEVAL (Gonzalo Hernández Licóna)
 - National COVID-19 Clinical Evidence Taskforce (Julian Elliott)
 - National Institute for Health and Care Excellence (Gillian Leng)
 - Northwestern University (Larry Hedges)
 - Omar Niode Foundation (Amanda Katili Niode)
 - Ottawa Hospital Research Institute (Jeremy Grimshaw)
 - Parliament of Australia (Andrew Leigh)
 - President's Special Envoy for Climate Change (Amanda Katili Niode)
 - Pulse Lab Jakarta, UN Global Pulse Initiative, which is administered in Indonesia by the United Nations Development Programme (Petarca Karetji)
 - RTI International (Petarca Karetji)
 - Save the Children (Antaryami Dash)
 - Scientific Committee on Climate Change, Chile (Soledad Quiroz Valenzuela)
 - The Climate Reality Project (Amanda Katili Niode)
 - The Education Partnership (TEP) Centre (Modupe Adefeso-Olateju)
 - The Red Leaf Groups (Jinglin He)
 - UNICEF (Antaryami Dash and Kerry Albright)
 - United Nations Development Programme (Petarca Karetji)
 - University of Leeds (Jan Minx)
 - University of Ottawa (Jeremy Grimshaw)
 - University of Oxford, which hosts the Multidimensional Poverty Network (Gonzalo Hernández Licóna)
 - Universidad Santo Tomás (Soledad Quiroz Valenzuela)
 - Vox Media (Julia Belluz)
- Ownership stake in a for-profit firm
 - Australia 200 ETF (family member of Andrew Leigh)
 - Vanguard Ethically Conscious International Shares Index ETF (family member of Andrew Leigh)

- Ownership stake in an incorporated not-for-profit entity
 - Behavioural Insights Team (David Halpern)
 - Covidence (Julian Elliott)
- Intellectual property (e.g., licences and patents) fees and royalties
 - Black Inc. Books – book royalties (Andrew Leigh)
 - MIT Press – book royalties (Andrew Leigh)
 - Penguin Random House – book royalties (David Halpern)
 - Polity – book royalties (David Halpern)
 - Yale Press – book royalties (Andrew Leigh)
- Contracts or grants to undertaken projects
 - American Institutes for Research (Larry Hedges)
- Board (or advisory board) member receiving a retainer, honorarium or other remuneration for their services
 - American Institutes for Research (Larry Hedges)
 - Campbell Collaboration (Jeremy Grimshaw)
- Long-term and/or full-time consultant or advisor receiving fees, honoraria or other remuneration for their services
 - UN Population Fund (Jinglin He)
- Short-term and/or limited-term consultant or advisor receiving fees, honoraria or other remuneration for their services (including the reimbursement of travel expenses)
 - 3ie (Gonzalo Hernández Licona)
 - Inter-American Development Bank (Gonzalo Hernández Licona)
 - Oxford Poverty and Human Development Initiative (Gonzalo Hernández Licona)
 - UNICEF (Gonzalo Hernández Licona)
 - World Health Organization, which hosts the secretariat for EVIPNet (John Lavis)
 - World Bank (Gonzalo Hernández Licona)
- Speaking or authorship fees, honoraria or other remuneration for giving a talk or authoring a report
 - Not applicable
- Meeting attendance (e.g., participation, travel or meals) costs paid
 - Bill and Melinda Gates Foundation (Howard White)
 - Guidelines International Network (Gillian Leng)
 - William and Flora Hewlett Foundation (Kerry Albright)
- Volunteer (including board member) not receiving remuneration for their services
 - Cochrane (Jeremy Grimshaw, John Lavis, Julian Elliott)
 - Intergovernmental Panel on Climate Change (Jan Minx)
- Relationship with organizations with financial links or other affiliations (e.g., professional society)
 - Academy of the Social Sciences in Australia (Andrew Leigh)
 - Academy of Social Sciences in the United Kingdom (David Halpern)
 - Bill and Melinda Gates Foundation (Steven Kern)
 - Campbell Climate Solutions Coordinating Group (Jan Minx)
 - Campbell South Asia (Howard White)
 - Campbell UK and Ireland (Howard White)
 - Canadian Task Force on Preventive Health Care (family member of Jeremy Grimshaw)
 - Cochrane Group on Effective Practice and Organisational Change (Gillian Leng, Jeremy Grimshaw)
 - Evidence Synthesis International (Jeremy Grimshaw)
 - Heywood Foundation (David Halpern)
 - International Centre for Evaluation and Development (Howard White)
 - International Network for Government Science Advice (Soledad Quiroz Valenzuela)
 - Royal Society of Medicine (Gillian Leng)
 - Society for Research on Educational Effectiveness (Larry Hedges)

- Relationship with organizations that advocate industry or policy positions
 - Bill and Melinda Gates Foundation (Steven Kern)
 - Canadian Organization for Rare Disorders (Maureen Smith)
 - Conservation International (Neil Vora)
 - Government of the United Kingdom, Business, Energy and Industrial Strategy (Gillian Leng)
 - People's Action for Learning Network (Modupe Adefeso-Olateju)
 - The Awakening, a program of IPHC World Missions (Hadiqa Bashir)

8.6 Advisors and other acknowledgements

The commissioners and secretariat gratefully acknowledge the many advisors who provided input to help shape the report, feedback on draft sections, and ideas for pathways to influence:

- COVID-END partners (see [section 1.5](#) as well as the [COVID-END partners](#) webpage)
- funder representatives (see [section 8.4](#))
- co-organizers of a number of events where draft sections and/or Evidence Commission recommendations were discussed, including:
 - ‘Cochrane Convenes,’ which was co-organized by Cochrane, COVID-END, and the World Health Organization (WHO)
 - Engaging Evidence 2021, which was co-organized by Cochrane, GIN, GRADE and JBI centres in Australia and New Zealand
 - Bat-Sheva de Rothschild webinar on re-thinking the path from evidence to decision-making, which was co-organized by IS-PEC and WHO’s Evidence to Policy and Impact unit
 - Global Evidence-to-Policy Summit, which was organized by WHO’s Evidence-Informed Policy Network
 - Evidence for Policymakers 2021, which was co-organized by the Strengthening and Transferring Evidence for Policies and Politics Society and Universiteit Leiden.

The commissioners and secretariat also gratefully acknowledge the six organizations that financially supported translations of the Evidence Commission report.



We also gratefully acknowledge Hari Patel and his colleagues at Akshari Solutions for preparing the final report layout in English and in six other languages.

8.7 Timeline

Abbreviated timeline



The active period of the Evidence Commission takes place from July to December 2021, with occasional optional touchpoints through 2022.

	Milestone	Date
Deliberation and shaping the report	Inaugural meeting to: <ul style="list-style-type: none"> establish terms of reference and formalize workplan prioritize topics for analyses and evidence syntheses deliberate on first round of sections (infographics, tables and text boxes) and ideas for pathways to influence (advisors and events) 	July 2021
	Deliberate on second round of sections	August 2021
	Deliberate on third round of sections and on draft recommendations	September 2021
	[Optional] Attend Cochrane Convenes and other events to gather stakeholder feedback on key messages	October 2021
	Deliberate on fourth round of sections and on recommendations	October 2021
	Review penultimate version of final report and finalize the recommendations	November 2021
	[Optional] Attend Global Evidence-to-Policy Summit and other events to gather stakeholder feedback on key messages	November 2021
Publication	Finalize report in English	December 2021
	Publish final report in seven languages (Arabic, Chinese, English, French, Portuguese, Russian and Spanish)	Late January 2022
Dissemination and implementation	Pursue pathways to influence, such as: <ul style="list-style-type: none"> profiling key messages at or alongside global meetings (e.g., G7, G20 and World Health Assembly) liaise with groups that are well-positioned to identify and support the achievement of future milestones 	January – December 2022
	Report on progress after one and three years	January 2023 and January 2025



8.8 Annex to appendix 8.1 – List of global-commission reports

Name of commission (and reports if more than one)	Year published	Anticipated publication date	Number of recommendations
3-D Commission: Health determinants, data, and decision-making (2)	2021		10
Business and sustainable development commission			
• Better business, better world: The report of the business and sustainable development commission (3)	2017		9
• Better finance, better world: Consultation paper of the Blended Finance Taskforce (4)	2018		6
• Better finance, better food: Investing in the new food and land-use economy (5)	2020		7
• Infra 3.0: Better finance, better infrastructure (6)	2019		4
Champions 12.3 (7)	2020		6
Commission on a global health-risk framework for the future (8)	2016		26
Education commission (9)	2016*		38
Food and land-use coalition (10)	2019		44
G20 high-level independent panel on financing the global commons for pandemic preparedness and response (11)	2021		19
Global commission for post-pandemic policy (12)		ns**	0
Global commission for urgent action on energy efficiency (13)	2020		10
Global commission on adaptation			
• Adapt now: A global call for leadership on climate resilience (14)	2019		26
• Building forward better from COVID-19: Accelerating action on climate adaptation (15)	2020		15
Global commission on drug policy			
• Enforcement of drug laws: Refocusing on organized crime elites (16)	2020		5
• Classification of psychoactive substances: When science was left behind (17)	2019		3
• Regulation: The responsible control of drugs (18)	2018		6
• The world drug perception problem: Countering prejudices about people who use drugs (19)	2017		6
• Advancing drug policy reform: A new approach to decriminalization (20)	2016		5
• Drug policy and city government (21)	2021		4
• Drug policy and deprivation of liberty (22)	2019		4
• Drug policy and the sustainable development agenda (23)	2018		1
Global commission on internet governance (24)	2016		65
Global commission on the economy and climate			
• The sustainable infrastructure imperative (25)	2016		12
• Unlocking the inclusive growth story of the 21st century: Accelerating climate action in urgent times (26)	2018		72
Global commission on the future of work (27)	2019		12
Global commission on the stability of cyberspace (28)	2019		6
Global commission to end energy poverty (29)	2020		14
Global education evidence advisory panel (30)	2020*	ns**	10
Global health crises task force (31)	2017		48
Global high-level panel on water and peace (32)	2017		40

Global ocean commission (33)	2016		14
Global task force on cholera control (34)	2017		17
Global zero (35)	2017		49
High-level commission on health employment and economic growth (36)	2016		20
High-level panel for a sustainable ocean economy (37)	2020		35
High-level panel of experts on food security and nutrition			
• Promoting youth engagement and employment in agriculture and food systems (38)	2021		40
• Food security and nutrition: Building a global narrative towards 2030 (39)	2020		62
• Agroecological approaches and other innovations for sustainable agriculture and food systems that enhance food security and nutrition (40)	2019		31
• Multi-stakeholder partnerships to finance and improve food security and nutrition in the framework of the 2030 Agenda (41)	2018		23
• Nutrition and food systems (42)	2017		37
• Sustainable forestry for food security and nutrition (43; 44)	2017		37
• Sustainable agricultural development for FSN: what roles for livestock? (44)	2016		48
High-level panel of legal experts on media freedom			
• Advice on promoting more effective investigations into abuses against journalists (45)	2020		7
• Report on providing safe refuge to journalists at risk (46)	2020		9
• A pressing concern: Protecting and promoting press freedom by strengthening consular support to journalists at risk (47)	2020		5
• Report on the use of targeted sanctions to protect journalists (48)	2020		11
High-level panel on access to medicines (49)	2017		24
High-level panel on digital interdependence (50)	2019		11
High-level panel on humanitarian financing (51)	2016		15
High-level panel on internal displacement (52)	2021		78
High-level panel on international financial accountability, transparency and integrity for achieving the 2030 agenda (53)	2021		34
High-level panel on the future of multilateral development banking (54)	2016		10
High-level panel on water (55)	2018		31
High-level panel on women's economic empowerment			
• A call to action for gender equality and women's economic empowerment (56)	2016		23
• Taking action for transformational change on women's economic empowerment (57)	2017		28
Independent panel for pandemic preparedness and response (58)	2021		28
International commission on the future of food and agriculture (59)	2019*	ns**	28
International commission on the futures of education (60)	2020*	2021/11	9
Lancet (WHO-UNICEF-Lancet) Commission: A future for the world's children? (61)	2020		10
Lancet (Guttmacher-Lancet) Commission: Accelerate progress - sexual and reproductive health and rights for all (62)	2018		12
Lancet Commission: COVID-19		2021	0
Lancet (EAT-Lancet) Commission: Food in the anthropocene - Healthy diets from sustainable food systems (63)	2018		5
Lancet (Lancet-Financial Times) Commission: Governing health futures 2030 - Growing up in a digital world (64)		2021	0
Lancet Commission: High-quality health systems in the Sustainable Development Goals era – Time for a revolution (65)	2018		13
Lancet (Lancet-Chatham House) Commission: Improving population health post COVID-19 (66)		2022	0
Lancet (UCL-Lancet) Commission: Migration and health - The health of a world on the move (67)	2018		16

Lancet Commission: Non-communicable diseases and injuries (NCDIs) and poverty - Bridging a gap in universal health coverage for the poorest billion (68)	2020		12
Lancet Commission: Our future - Adolescent health and wellbeing (69)	2016		23
Lancet Commission: Pollution and health (70)	2017		15
Lancet Commission: The global syndemic of obesity, undernutrition, and climate change (71)	2019		9
Lancet Commission: Women and cardiovascular disease - Reducing the global burden by 2030 (72)	2021		29
Partnership for health system sustainability and resilience (73)		ns**	0
Reform for resilience (74)	2021	2021	11
WHO independent high-level commission on noncommunicable diseases (75)	2019		8

* *most recent*

** *ns = not specified*



8.9 Annex to appendix 8.5 – Conflict-of-interest policy

The Evidence Commission developed a conflict-of-interest policy that involved three elements:

- completion of a disclosure form by commissioners and key secretariat staff
- screening of these disclosure forms by a member of the secretariat (Jennifer Thornhill Verma) using a risk-assessment model (and if issues arose, by an arm’s-length advisor)
- committee comprised of two independent conflict-of-interest experts to review any concerns raised through the screening process and propose a risk-management plan.

This disclosure form, risk-assessment model and risk-management process were developed with guidance from Lisa Bero, and informed by empirical research on conflict-of-interest management.(76-78)

The disclosure form was as follows:

Employment – describe current employment (add more lines if more than one in past five years)

Position in and name of employer:	
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Financial interest – disclose support only from entities that could be affected financially by the Evidence Commission report and that were received in the five years before this form is completed (note that public funding sources, such as government agencies or academic institutions, need not be disclosed)

Type of interest	Source of funding <i>(e.g., foundation X)</i>	Period of activity <i>(e.g., whether current and date range)</i>	Nature of activity <i>(e.g., speaking fee, project grant) and focus (e.g., report title or product name)</i>	Value of payment <i>(in CDN\$)</i>
Company ownership <i>(e.g., stock holdings or options)</i>				
Intellectual property <i>(e.g., licences and patents) fees and royalties</i>				
Board (or advisory board) member retainer, honoraria, etc.				
Contracts or grants to undertake projects				
Consulting or advising fees, honoraria, etc.				
Speaking or authorship fees, honoraria, etc.				
Meeting attendance <i>(e.g., participation, travel or meals) costs paid</i>				
Other private practice or professional income				
In-kind support				
Family member with any of the above financial interests				

Organizational interest – disclose relationships with additional organizations (i.e., not meeting the criteria above) that have a pecuniary or non-pecuniary interest in the Evidence Commission report and that were held in the five years before this form is completed

Type of interest	Type of relationship <i>(e.g., employment, leadership position or member)</i>	Description
Relationship with organizations with financial links or other affiliations with industry groups that stand to benefit from or may be affected by the Evidence Commission report <i>(e.g., professional society)</i>		
Relationship with organizations that advocate known industry or policy positions		
Family member with either of the above organizational interests		

Other

Are there any other relevant interests, factors or circumstances not addressed above?	
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Additional information

Is there any additional information you would like to provide relating to the above declaration of interests?	
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The risk-assessment model involved consideration of the following factors:

- context and relevance to the work of the Evidence Commission
- nature of relationship (financial, personal, relevance)
- amount of relationship (financial)
- duration of relationship
- number of relationships (e.g., financial ties with a single company or many companies)
- type of company (relevance to the work in question and whether it could profit if recommendations are favourable; reputational risk)
- direct or indirect payments (e.g., to person or institution)
- level of control (e.g., company board member versus one-off consultant)
- risk of bias (e.g., in making recommendations).

The risk-management plan considered:

- risk level (high, medium or low)
- management options, which included:
 - strategies to eliminate conflicts (e.g., good-faith effort by the secretariat to identify commissioners with no conflicts; prospective candidates do not agree to become a commissioner or eliminate all financial ties)
 - strategies to mitigate conflicts (e.g., commissioners and secretariat staff members to not participate in related discussion, in drafting or revising sections or recommendations, or in voting or ratifying recommendations).

The resulting model took the following form:

Risk level	Considerations	Examples	Management
High	<ul style="list-style-type: none"> Relevant, personal, financial – large amount, long duration, control Many relationships Reputational risk 	<ul style="list-style-type: none"> Company employee Long-term consultant Board member Spouse is company employee Ties with company with reputational risk 	<ul style="list-style-type: none"> Do not participate in committee Eliminate conflict of interest Cannot be chair Committee balance
Medium	<ul style="list-style-type: none"> Relevant, personal, financial – small amount, short duration, minimal control Few relationships Reputational risk 	<ul style="list-style-type: none"> Consulting, honoraria, travel Child works as clerk for company Grants from company 	<ul style="list-style-type: none"> Restrictions on participation Cannot be chair Eliminate conflict of interest Committee balance
Low	<ul style="list-style-type: none"> No personal financial relationships, no control 	<ul style="list-style-type: none"> Grant to institution from company Published articles in The Conversation on relevant topic Testified before government committees 	<ul style="list-style-type: none"> Full participation or some restriction
None	<ul style="list-style-type: none"> As above 	<ul style="list-style-type: none"> Academic publications only – examples of expertise, not conflict of interest 	

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COVID-19 has created a once-in-a-generation focus on evidence among governments, businesses and non-governmental organizations, many types of professionals, and citizens. Other societal challenges – from educational achievement to health-system performance to climate change – need a similarly renewed focus on best evidence. Now is the time to systematize the aspects of using evidence that are going well and address the many shortfalls, and to balance the use of evidence with judgement, humility and empathy.

Recommendation 1 — Wake-up call

Decision-makers, evidence intermediaries and impact-oriented evidence producers should recognize the scale and nature of the problem. Evidence – in all of the eight forms addressed in this report – is not being systematically used by government policymakers, organizational leaders, professionals and citizens to equitably address societal challenges. Instead decision-makers too often rely on inefficient (and sometimes harmful) informal feedback systems. The result is poor decisions that lead to failures to improve lives, avoidable harm to citizens, and wasted resources.

The cohort of decision-makers who were involved in COVID-19 decision-making, especially high-level government policymakers, now has direct experience with using many forms of evidence and with leveraging strategies that support its use. They also have direct experience with the challenges that can arise, leading evidence to be disregarded or misused. They may also have heard about the evidence supports available to their peers in other countries, such as living evidence syntheses, and wondered why they are not available or used in their own country. This cohort is uniquely well positioned to systematize what went well before and during the pandemic, and to build or improve their respective country's evidence-support system in ways that address what didn't go well.

The Evidence Commission's 25 commissioners were carefully selected to bring diverse points of view to their deliberations. They have experience with most types of societal challenges (and Sustainable Development Goals), as all types of decision-makers (government policymakers, organizational leaders, professionals and citizens), and with all major forms of evidence. They bring a spectrum of experience and seniority and come from all corners of the globe.

The Evidence Commission report contains six chapters that provide the context, concepts and shared vocabulary that underpin the Evidence Commission's recommendations. These six chapters can be used by many people, not just those

positioned to make the changes necessary to ensure that evidence is consistently used to address societal challenges. The seventh chapter provides the Evidence Commission's recommendations about how we can and must improve the use of evidence, both in routine times and in future global crises.

The report includes 52 sections that can be separately downloaded from the Evidence Commission website. These sections often include one or more infographics. They have been designed to be easily used in presentations, reports and other formats. The Evidence Commission encourages you to 'share freely, give credit, adapt with permission.'



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