

Insights from the Global Commission on Evidence to Address Societal Challenges

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1.0 Introduction

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COVID-19 has created a once-in-a-generation focus on evidence among governments, businesses and nongovernmental 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



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1.2 Commissioners (1 of 2)

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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

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1.2 Commissioners (2 of 2)

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Amanda Katili Niode Talented policy advisor and nongovernmental organization director advancing dialogue about environmental action, including climate action



Seasoned politician bring economics and legal training to public-policy writing and



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



Hadiga Bashir Young leader advocating for girls' rights and gender equality n male-dominated environments

Clinician researcher leveraging

technology for efficiently preparing

and maintaining 'living' evidence

Julian Elliott





making in international

Donna-Mae Knights

specialized in poverty reduction

and development, driving policy

Career public servant,

change towards building







syntheses and guidelines to inform decision-making Modupe Adefeso-Non-governmental organization

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



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



informed policymaking about sustainable development

analytics to support evidence-



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

Gillian Leng

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

Jinglin He Non-governmental organization leader engaging policymakers and stakeholders, as well as UN agencies, in advancing socialdevelopment initiatives

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

Soledad Quiroz Valenzuela

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



Daniel Iberê Alves da Silva

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



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

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



Maureen Smith Citizen leader championing the

meaningful engagement of patients and citizens in conducting research and using it in their decision-making

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

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Antaryami Dash

to the development and

humanitarian sector

Non-governmental organization

Fitsum Assefa Adela

bring a whole-of-government

perspective to cabinet-level

planning and development

Impact-oriented scholar bringing

innovative evidence-synthesis

approaches to domestic policy

Jan Minx

sustainability

Committed policymaker striving to

leader bringing nutrition expertise





1.4 How the commission builds on and complements past work

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2.1 Ways of looking at challenges

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3.2 Four types of decision-maker and how each may approach decisions (policymakers also build evidence and enable evidence use by others)

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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

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

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4.3 Matching decision-related questions to forms of evidence

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4.4 Interplay of local and global evidence



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4.5 Distinguishing high from low quality evidence



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	Issue	Response
	Studies (and	 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 table in the appendix for examples (RoB2, ROBINS-I, JBI checklist, AMSTAR, and AGREE II)
	in their quality (or trustworthiness)	 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)
	Bodies of evidence vary	 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 the table in the appendix for two examples (GRADE and GRADE CERQual) Tools may vield 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
	in their certainty (or the confidence you can place in them)	 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)
		 Strength-assessment tools have been developed for guideline recommendations (e.g., GRADE) – see the table in the appendix for an example (a different aspect of GRADE than the one noted above)
	Recommendations vary in their strength	 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
	Some sources	 No widely accepted tools exist to assess how much confidence can be placed in: An expert (which we return to later in this chapter and, in the case of expert opinion about model parameters, in the appendix), although examples like The Good Judgement Project do exist for forecasting
	used to generate) evidence can be	 Models used in generating some types of evidence (which we address in the appendix and which we addressed in exhibit 4.4 when talking about climate-change models) An artificial-intelligence algorithm used in generating some types of evidence, although examples like <u>TRIPOD</u> are starting to emerge
	hard to judge	11
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4.6 Coverage, quality and recency of evidence syntheses (1 of 2)





Of the 4,131 SDG-related evidence syntheses included in Social Systems Evidence as of 12 August 2021:

- coverage was uneven, with seven SDGs addressed by only 263 syntheses
- quality was uneven, with seven SDGs addressed by a stock of evidence synthesis in which at least half are of low quality
- all SDGs have a median year of last search that is five or six years ago (2016 or 2017)
- only between one in 10 and one in 20 evidence synthesis about most SDGs included at least one study from a lowand middle-income country

Note that the count for SDG 17 is likely an overcount and the count for SDG 3 is a significant undercount

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4.6 Coverage, quality and recency of evidence syntheses (2 of 2)





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

- coverage was uneven, with only 237 evidence syntheses addressing economic and social responses to COVID-19
- quality was uneven, with roughly one quarter of COVID-19 evidence synthesis being low quality and over half medium quality
- three of the four COVID-19 response categories have a median date of last search that is within 4.5 months of WHO declaring a pandemic

Note that 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 drugtreatment comparisons from a single source

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4.7 Living evidence products

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Forms of evidence	Examples of living evidence products		
Data analytics	 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 (<u>bit.ly/3DeaSlc</u>) 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 in the US The Organization for Economic Co-operation and Development (OECD) Weekly Tracker of Economic Activity provides a set of data analytics about G20 countries 		
Modelling	 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 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 intermodel comparisons (which is undertaken by different scientists for each assessment report – see <u>bit.ly/3wKQy8D</u> for an example) 		
Evidence syntheses	 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) 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 		
Guidelines	 National COVID-19 Clinical Evidence Task Force updates weekly evidence-based COVID-19 guidelines for Australian clinicians Educational Endowment Foundation regularly updates its evidence-based guidelines for UK teachers and school leaders 		
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4.8 Best evidence vs other things (and how to get the most from other things)

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If presented with	which bring with it a risk of	then	or better yet
Single study (including preprint)	'Hubcap chasing,'* or giving attention to each study that is actively promoted by the authors, their media-relations office or others	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 1 in 20 studies	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)
Expert opinion	'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	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	Engage the expert in working through what specific evidence syntheses mean for a specific jurisdiction (or ask the expert what evidence would convince them they were wrong)
Expert panel	GOBSATT, or 'good old boys sitting around the table' offering their personal opinion	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	*** 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
Jurisdictional scan	'Group think,' 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	Ask or look for any available supporting evidence or plans for generating it	15

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4.13 Weaknesses in many COVID-19 evidence-support systems (we need to move now with the current cohort of leaders who've lived it)

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4.14 Features of an ideal national evidence infrastructure (we need to particularly strengthen national evidence-support systems)



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- Evidence-support system Grounded in an understanding of a local context (including time constraints), demand-driven, and focused on contextualizing the evidence for a given decision in an equity-sensitive way examples of infrastructure:
 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, 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)

While such infrastructure is most relevant to **government policymakers and the leaders of very large organization**, similar types of infrastructure can be tailored to the leaders of smaller organizations, as well as professionals and citizens

Evidence-implementation system - 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, implementing them, evaluating their impacts, and incorporating lessons learned in the next cycle – examples of infrastructure:

- evidence-synthesis, guideline and implementation units
- 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

While such infrastructure is most relevant to **professionals and citizens**, similar types of infrastructure can be tailored to government policymakers and organizational leaders

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6.1 & 6.2 Global public goods and equitably distributed capacities

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7.2 Evidence Commission recommendations

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8	All who can take action	Two recommendations, one a wake-up call and the second a proposed new minimum standard for responding any time a claim is made (e.g., this intervention works)
	Multilateral organizations	Two recommendations, one calling for a UN resolution and the second a landmark report
	Government policymakers	 Seven recommendations: four calling for fit-for-purpose national (and sub-national) evidence-support systems (and broader evidence infrastructures), evidence-support staff and partnerships, government science advisors, and advisory bodies one calling for building a more diversified evidence base two related to open science and artificial intelligence
	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 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
	Evidence intermediaries	 Three recommendations: one addressed to dedicated evidence intermediaries, and another addressed to news and social-media platforms one more generally calling for the timely and responsive matching of best evidence to the question asked
	Evidence producers	 Seven recommendations: five addressing their roles in: 1) filling gaps and adhering to standards; 2) responding, referring or working with others; 3) learning from evidence groups in other sectors; 4) being prepared to pivot for global emergencies; and 5) making evidence understandable one addressed specifically to academic institutions, and another addressed to journals
	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
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8.7 Timeline

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Abbreviated timeline



Deliberating and shaping the report

Dissemination and implementation

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Evidence Commission report table of contents

All but those marked are available at www.evidencecommission.org



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Contact information and social media presence

Global Commission on Evidence

Social channels

- The Evidence Commission <u>website</u> is our main source for the latest information
- We also have the Evidence Commission:
 - <u>Newsletter</u>
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 - LinkedIn
- Stay tuned for January 2022 launch details



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