

Chapter 1. Introduction

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Acting on behalf of the Evidence Commission, the McMaster Health Forum welcomes feedback about the report, as well as suggestions about pathways to influence for the report's recommendations. Please send your comments to evidencecommission@mcmaster.ca.

The appropriate citation for this report is: Global Commission on Evidence to Address Societal Challenges. Chapter 1. Introduction. The Evidence Commission report: A wake-up call and path forward for decision-makers, evidence intermediaries, and impact-oriented evidence producers. Hamilton: McMaster Health Forum, 2022; p. 1-18.

ISBN 978-1-927565-31-5 (Online)

ISBN 978-1-927565-30-8 (Print)

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.

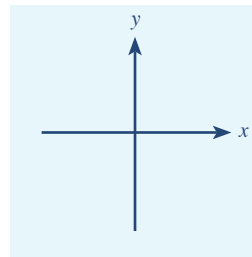


Fourth, we have Paula Kahumbu, a citizen leader, who draws on both her capacities as an ecologist and storyteller, and her motivation to get her fellow citizens to see themselves as stakeholders in conservation efforts. The author of this story, Jon Lee Anderson, describes how Kahumbu created the opportunity 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)

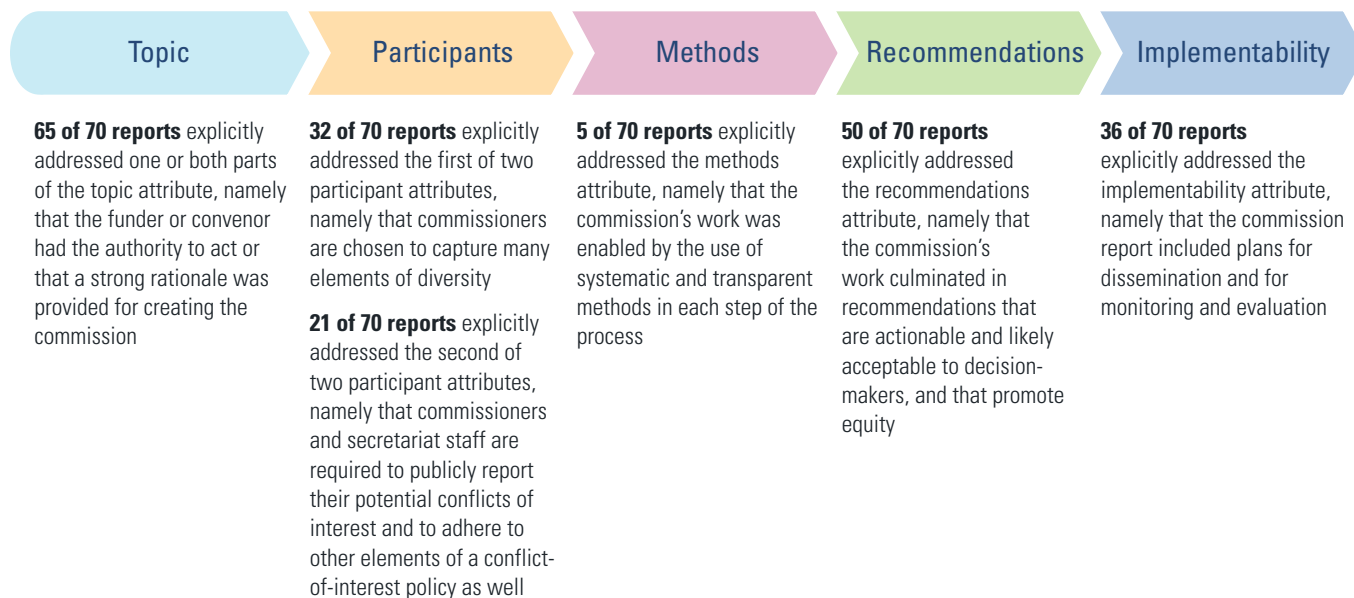
Recommendations

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

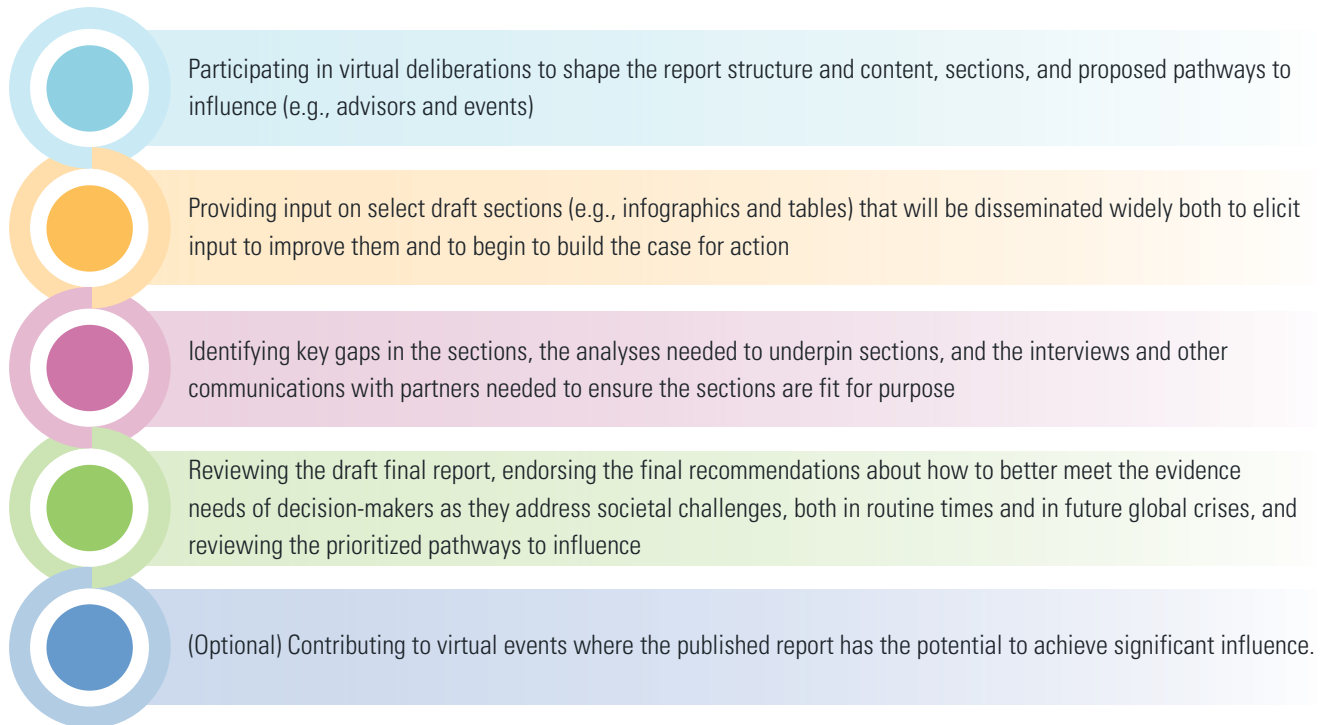


Soledad Quiroz Valenzuela

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

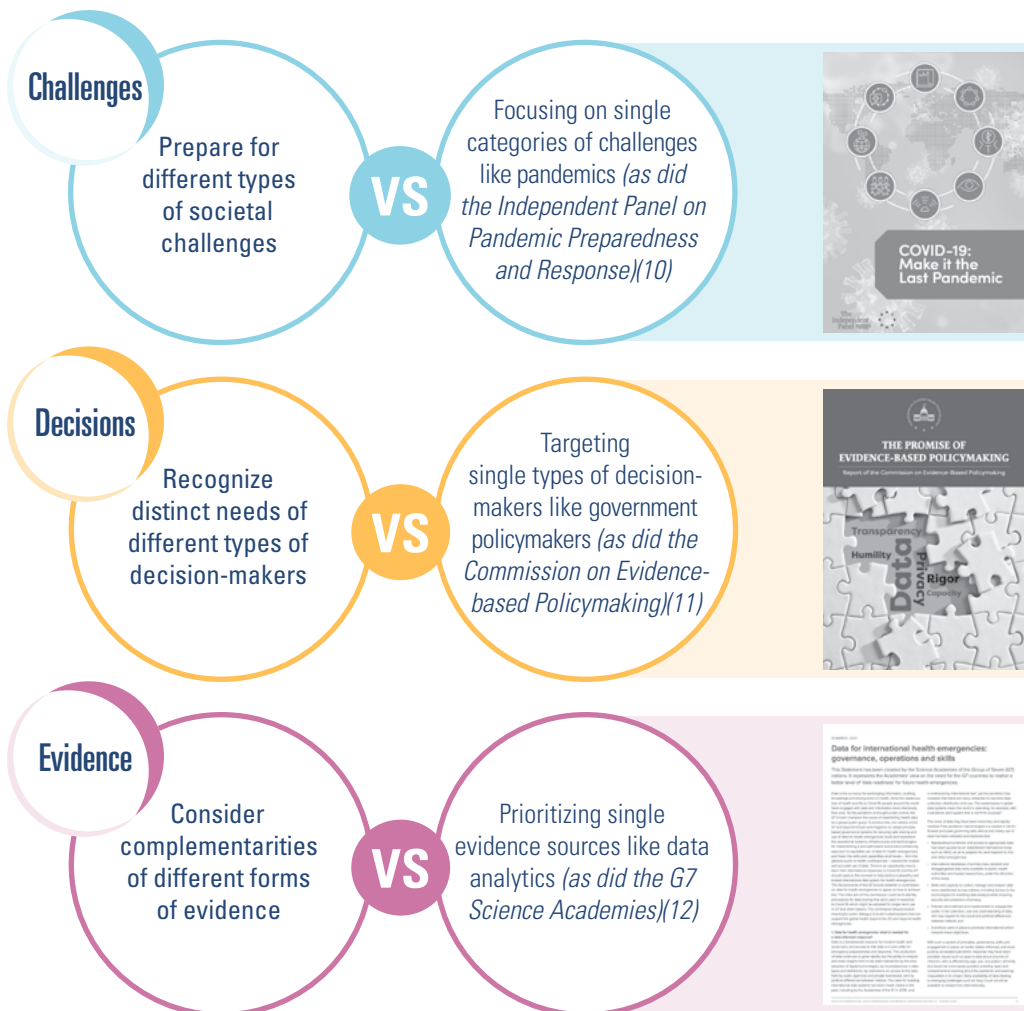
1.3 Commissioner terms of reference

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.

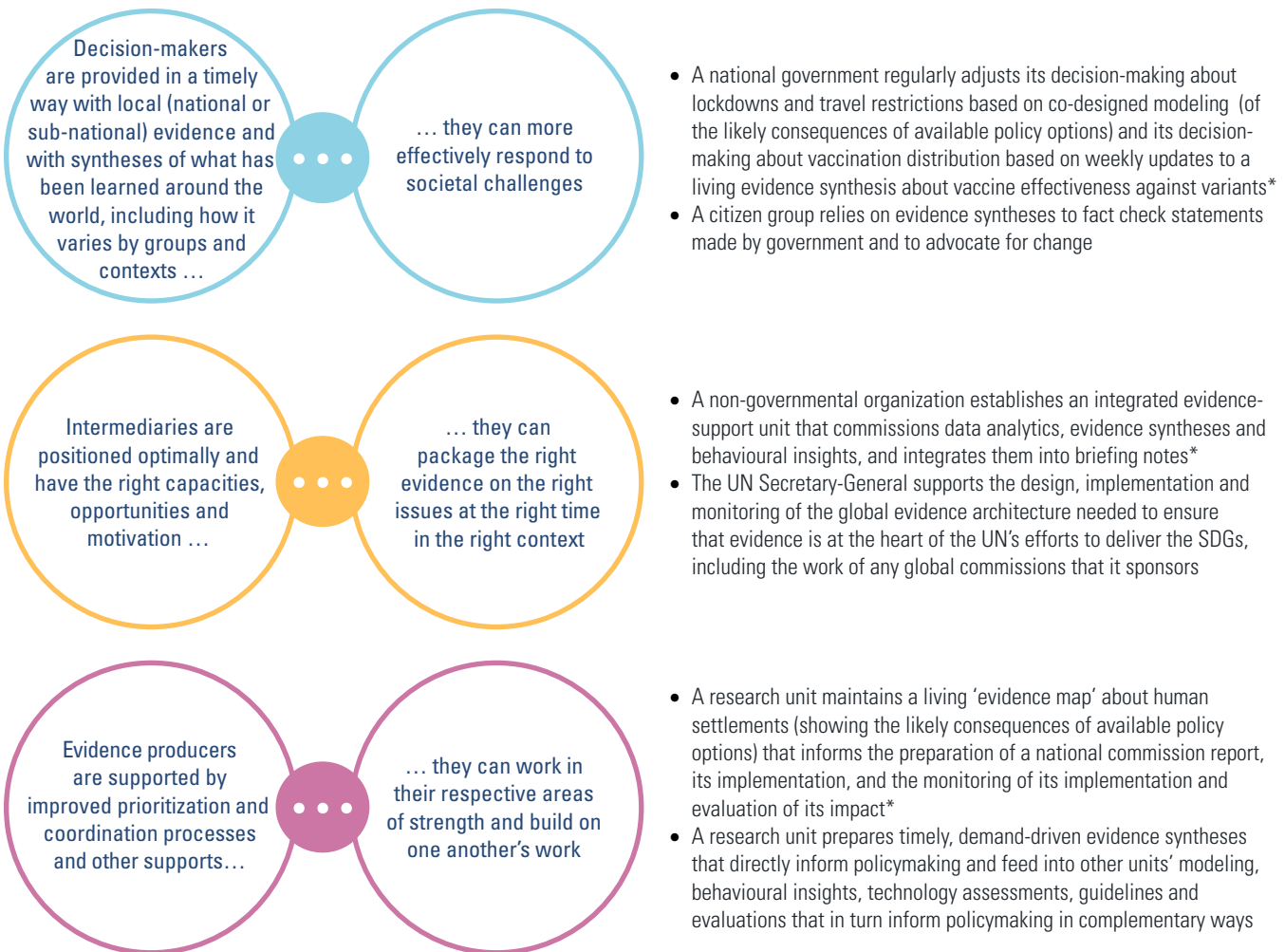
The last point brings me to the weakness of the institutions that people think of as offering definitive policy advice. The shocking truth is that, across large swathes of policy and practice, we’re stumbling in the dark. Robust evaluations are rare. At the same time, policymakers are prone to over-confidence. 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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1.9 References

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