

## 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.<sup>(4)</sup> 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.<sup>(5)</sup> 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.<sup>(6)</sup> 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.

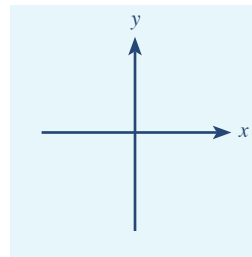


Fourth, we have Paula Kahumbu, a citizen leader, who draws on both her capacities as an ecologist and storyteller, and her motivation to get her fellow citizens to see themselves as stakeholders in conservation efforts. The author of this story, Jon Lee Anderson, describes how Kahumbu created the opportunity 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.<sup>(7)</sup> (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](https://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/3c7BOr1](https://bit.ly/3c7BOr1))
- we learned that steroids can reduce deaths in hospitalized patients (for a living guideline about drug treatments, see [bit.ly/3DehxMf](https://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](https://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**)