

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

** fao.org/3/aj137e/aj137e00.pdf

Evidence

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

- Early double-blind randomized-controlled trials – Penicillin 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.