

Methodological Briefs on Evidence Synthesis Brief 7: Resources and tools for evidence synthesis

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This series of eight briefs, produced by the UNICEF Office of Research – Innocenti, is intended to provide guidance on how to undertake, commission and manage evidence synthesis products such as systematic reviews, rapid evidence assessments and evidence gap maps. Evidence synthesis can play an important role in UNICEF's knowledge management and evidence translation efforts by collating knowledge from multiple studies on what interventions work, and why and how they work. It makes research more accessible and therefore can contribute to evidence-informed programming and policy decisions. The primary audience for these briefs is professionals, including UNICEF staff, who conduct, commission or interpret research and evaluation findings in development contexts to make decisions about policy, programming and advocacy. These briefs cover topics including:

- What is evidence synthesis? What kinds of questions can evidence synthesis products help to answer and how can they contribute to decision-making?
- How to design and undertake a systematic review, a rapid evidence assessment or an evidence gap map
- How to commission and manage an evidence synthesis product
- The future of evidence synthesis and key innovations for making the process faster and more efficient

These briefs have been written by Shivit Bakrania with input from some of the world's leading evidence synthesis experts. The other briefs in this series can be accessed at www.unicef-irc.org.

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UNICEF OFFICE OF RESEARCH – INNOCENTI METHODOLOGICAL BRIEFS

UNICEF Office of Research – Innocenti Methodological Briefs are intended to share contemporary research practice, methods, designs and recommendations from renowned researchers and evaluators. The primary audience is UNICEF staff who conduct, commission or interpret research and evaluation findings to make decisions about programming, policy and advocacy.

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To consult and download the Methodological Briefs on Evidence Synthesis and a glossary of key terms, visit the website <www.unicef-irc.org>.

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FURTHER GUIDANCE ON EVIDENCE SYNTHESIS

This series of methodological briefs is part of broader efforts by UNICEF Innocenti to support UNICEF staff to appraise, commission, generate, communicate and use research to drive change for children.

For further guidance on evidence synthesis, or to ask about anything covered in these methodological briefs, please contact the author, Shivit Bakrania, or Kerry Albright, Chief of Research Facilitation and Knowledge Management, at <research@unicef.org>.

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1. INTRODUCTION

This brief provides a list of key tools, resources, websites and organizations for evidence synthesis.

2. KEY WEBSITES FOR ACCESSING SYSTEMATIC REVIEWS

[The International Initiative for Impact Evaluation's \(3ie\) systematic review repository](#): This repository contains systematic reviews (SRs) on the effects of a range of social and economic interventions in low- and middle-income countries, many of which include a user-friendly summary of findings. The repository contains all of the organization's own SRs and is updated and populated annually with externally sourced SRs.

[The Campbell Collaboration's library](#): This library contains a range of reviews on the effectiveness of social interventions in high-, middle- and low-income countries. Many of these reviews are also accompanied by a plain language summary. All reviews in the library have been registered with Campbell and have been through a peer-review process.

[The EPPI-Centre knowledge library](#): The EPPI-Centre has conducted and supported many SRs on several social policy themes in high-, middle- and low-income countries, including on education, health, social care, developing economies, sport, environment and crime.

[Epistemonikos](#): A collaborative, multilingual database of health evidence. It is the largest source of SRs relevant for health decision-making and a large source of other types of scientific evidence.

[The Cochrane's library](#): includes SRs of primary research in human health care and policy in high-, middle- and low-income countries. This includes reviews focusing on health systems such as financing and qualitative evidence syntheses.

[The Oxfam Humanitarian Evidence Programme library](#) includes several SRs and evidence briefs that appraise and synthesize the evidence on the impact or effectiveness of a range of humanitarian interventions and approaches.

[The Evidence Aid library](#) contains a collection of SRs on different humanitarian topics.

[The United Kingdom of Great Britain and Northern Ireland's Department for International Development \(DFID\) Research for Development page](#) includes SRs that the department has commissioned.

[The Collaboration for Environmental Evidence](#) has a library of SRs on topics related to the environment and conservation.

3. KEY WEBSITES FOR ACCESSING RAPID EVIDENCE ASSESSMENTS

[DFID's collection of rapid evidence assessments \(REAs\)](#): DFID has been a prominent commissioner of REAs, which are conducted by research teams working to a deadline. The department's collection contains a range of REAs on a variety of international development themes.

4. KEY WEBSITES FOR ACCESSING EVIDENCE GAP MAPS

The UNICEF Innocenti website has a dedicated [Evidence Synthesis and Knowledge Management](#) section where the [Evidence gap Map \(EGM\) on Adolescent Well-being in Low- and Middle-income Countries](#) and the [Campbell-UNICEF Child Welfare Mega Map](#) can both be accessed.

The [3ie evidence gap map repository](#): This repository contains all the EGMs created by 3ie on a range of social and economic topics, and mostly focusing on low- and middle-income countries.

[The International Rescue Committee \(IRC\)](#) was an early adopter of EGMs (which it calls 'evidence maps'). The IRC has five main evidence maps, which are centred on the organization's five main outcome areas: [health](#), [education](#), [economic well-being](#), [safety](#) and [power](#). There are also three cross-cutting maps focused on [cash transfer interventions](#), [service delivery interventions](#) and interventions in [humanitarian emergencies](#).

[Sightsavers](#) has several EGMs on topics relevant to visual impairment. These include a [cataract gap map](#), a [diabetic retinopathy gap map](#), a [glaucoma gap map](#), a [refractive error gap map](#) and a [trachoma gap map](#).

The Centre of Excellence for Development Impact and Learning carries two EGMs, a [map of evidence maps relating to lower- and middle-income countries](#) and an [evidence and gap map of studies assessing the effectiveness of interventions for people with disabilities](#).

[The Centre for Homelessness Impact](#) carries two EGMs, one on 'what works', which captures impact evaluations and effectiveness reviews, and another on implementation issues or 'why things work or not', which focuses on the factors influencing the successful implementation of homelessness interventions.

5. KEY ORGANIZATIONS WORKING ON EVIDENCE SYNTHESIS

Apart from the various websites and organizations mentioned above where evidence synthesis products and guidance can be accessed, there are a number of other key organizations working in the evidence synthesis field, some of which are based in low- and middle-income countries.

[The Africa Centre for Evidence](#), based at the University of Johannesburg, South Africa, supports the production of evidence synthesis and the use of synthesis by decision makers.

[The African Centre for Systematic Reviews and Knowledge Translation](#) aims to build capacity for knowledge translation for public policy in Africa cutting across health, education and food security.

[The Africa Evidence Network](#) includes researchers engaged in SRs, EGMs and REAs, as well as government science advisors, statisticians, and monitoring and evaluation specialists. It aims to link people and activities across various initiatives, organizations and fields working to produce and use better evidence in Africa.

[Campbell South Asia](#) is a regional centre of the Campbell Collaboration. Its primary focus is to encourage the production and use of SRs in the South Asia region.

[The Centre of Excellence for Development Impact and Learning](#) develops and tests innovative methods for evaluation and evidence synthesis.

[The Global Evidence Synthesis Initiative](#) supports the capacity of low- and middle-income countries to produce evidence synthesis and use this to support practice and policymaking. The initiative's website includes a range of [webinars](#) on different topics related to evidence synthesis.

[The International Centre for Evaluation and Development](#) aims to advance monitoring and evaluation theory and practice in support of sustainable and resilient development in Africa.

6. GUIDANCE ON PRODUCING SYSTEMATIC REVIEWS

[‘What is a systematic review?’](#) by the Campbell Collaboration.

[Campbell Collaboration’s guidance](#) on writing a Campbell systematic review.

[‘What is a systematic review?’](#) by the EPPI-Centre.

[‘How to Write a Systematic Review’](#) by Wright et al. (2007). Open access.

[‘How to Do a Systematic Review’](#) by Pollock and Berge (2017). Open access.

[Cochrane Handbook for Systematic Reviews of Interventions](#).

7. GUIDANCE ON PRODUCING QUALITATIVE EVIDENCE SYNTHESIS

[The RAMESES Projects](#) contain guidance and training materials for qualitative and mixed method approaches to SRs.

8. GUIDANCE ON PRODUCING RAPID EVIDENCE ASSESSMENTS

[‘What is a rapid evidence assessment?’](#) by the UK Civil Service.

[‘Rapid reviews to strengthen health policy and systems: a practical guide’](#) by the World Health Organization and the Alliance for Health Policy and Systems Research.

[CEBMA Guideline for Rapid Evidence Assessments in Management and Organizations](#) by the Center for Evidence-Based Management.

[‘Rapid evidence assessments of research to inform social policy: taking stock and moving forward’](#) by Thomas et al. (2013). Requires a journal subscription for access.

9. GUIDANCE ON PRODUCING EVIDENCE GAP MAPS

[‘3ie evidence gap maps: a starting point for strategic evidence production and use’](#) by Snilstveit et al. (2017). Open access.

[‘Evidence gap maps – a tool for promoting evidence-informed policy and prioritizing future research’](#) by Snilstveit et al. (2013). Open access.

[Campbell Collaboration guidance on making an EGM.](#)

[UNICEF Innocenti podcast on the Campbell-UNICEF Child Welfare Mega Map](#), produced jointly with the Campbell Collaboration and mapped against the UNICEF Strategic Plan 2018–2021.

[UNICEF Innocenti podcast on developing the EGM on Adolescent Well-being in Low- and Middle-income Countries.](#)

10. TOOLS FOR APPRAISING THE QUALITY OF INDIVIDUAL STUDIES

There are many scales and checklists for quality appraising individual studies for inclusion in SRs and REAs. There are different checklists for studies with different research designs. Examples include:

- [Cochrane risk of bias tool for randomized controlled trials](#) (RoB 2 tool)
- [Cochrane risk of bias tool for non-randomized studies of interventions](#) (ROBINS-I tool)
- [The DFID How to Note on Assessing the Strength of Evidence](#) – which includes a section on assessing the quality of individual studies
- [Critical Appraisal Skills Programme \(CASP\) appraisal tool for qualitative studies](#)

11. TOOLS FOR APPRAISING THE QUALITY OF BODIES OF EVIDENCE

There are several scales and checklists for quality appraising the body of evidence contained within an SR or REA. There are different systems for quantitative and qualitative bodies of evidence. Examples include:

- For systematic reviews of effects:

[The 3ie checklist for making judgements about how much confidence to place in a systematic review](#) (see appendix 2 of this working paper)

[GRADE \(Grading of Recommendations, Assessment, Development and Evaluations\)](#)

- For systematic reviews of randomized controlled trials and observational studies: [AMSTAR 2 \(A Measurement Tool to Assess Systematic Reviews\) for assessing the methodological quality of systematic reviews](#)
- For systematic reviews of qualitative research: [GRADE Confidence in the Evidence from Reviews of Qualitative Research \(GRADE-CERQual\)](#)

12. GUIDANCE AND TOOLS FOR POLICY-RELEVANT EVIDENCE SYNTHESIS, TRANSLATION AND UPTAKE

[The Royal Society principles for policy-relevant evidence synthesis](#), including a brief and a full-length report.

[SURE Guides for Preparing and Using Evidence-based Policy Briefs.](#)

[How to write a plain language summary of a Cochrane intervention review](#) by Cochrane on how to write a plain language summary of an evidence synthesis product.

[‘Learning from Research: Systematic reviews for informing policy decisions’](#) by the Alliance for Useful Evidence.

[‘Stakeholder engagement for development impact evaluation and evidence synthesis’](#) by Oliver et al. (2018). Open access.

The World Conference of Science Journalists 2019 podcast on [‘What science journalists should know about systematic reviews before reporting on them’](#).

13. EVIDENCE PORTALS

The UK's [What Works Network](#) is made up of 10 independent What Works Centres, including: the National Institute for Health and Care Excellence, the Education Endowment Foundation, the College of Policing What Works Centre for Crime Prevention, the Early Intervention Foundation, the What Works Centre for Local Economic Growth, the What Works Centre for Wellbeing and What Works for Children's Social Care.

The US's [What Works Clearinghouse](#) incorporates evidence portals on a range of social policy-related topics, including literacy, mathematics, science, behaviour, children and youth with disabilities, English learners, teacher excellence, early childhood, and post-secondary education.

The [Evidence-based Policing Matrix](#) categorizes and visualizes evaluated police tactics according to three common dimensions of crime prevention – the nature of the target, the extent to which the strategy is proactive or reactive, and the specificity or generality of the strategy.

The Education Endowment Foundation's [Teaching and Learning Toolkit](#) is an evidence portal providing accessible summaries of educational research. It provides guidance for teachers and schools on how to use their resources to improve the attainment of disadvantaged pupils.

The Education Endowment Foundation's [Early Years Toolkit](#) is an evidence portal providing accessible summaries of educational research for early years teaching.

[Evidence Aid](#) has a range of evidence collections on topics related to natural disasters, humanitarian crises and major health emergencies.

14. JOURNALS WHERE EVIDENCE SYNTHESIS CAN BE PUBLISHED

[Systematic Reviews](#): Publishes high-quality SR products including SR protocols and SRs related to a very broad definition of health.

[Campbell Systematic Reviews](#): An open access journal under the editorial control of the Campbell Collaboration. The journal publishes SRs, EGMs and methods research papers. Topic areas include methods, social welfare, disability, education, international development, crime and justice, training, knowledge translation and implementation, and business and management.

[PLOS ONE](#): Open access and accepts research in over 200 subject areas across science, engineering, medicine, social sciences and humanities.

[The Royal Society's Proceedings B journal](#): Publishes evidence synthesis articles in the biological sciences sector.

15. REPOSITORIES WHERE PROTOCOLS CAN BE PUBLISHED

[Campbell Collaboration](#): Requires registration of the project and acceptance of a peer-review process led by Campbell.

[PROSPERO](#): This is a free repository and does not involve publication costs or peer-review processes.

[Research Registry](#): This is a free repository and does not involve publication costs or peer-review processes.

16. SOFTWARE TOOLS AND APPLICATIONS

16.1 Reference management software

Reference management applications such as [Zotero](#) and [Mendeley](#) are both free up until a certain storage limit is exceeded; [EndNote](#) requires a paid licence. These applications are useful for storing and managing the large quantities of references retrieved from searches of databases (for more details, *see Brief 4, section 8*).

16.2 Dedicated evidence synthesis management and workflow software

These applications are designed for the development of evidence synthesis products, from storing the results of systematic searches (reference management), to screening, data extraction and synthesis. Importantly, they help to manage the process and workflow. [EPPI-Reviewer](#), [Covidence](#) and [DistillerSR](#) all require paid subscriptions (for more details, *see Brief 4, section 8*).

[PredicTER](#) is a free tool that allows users to enter the number of citations captured by the searches. It then estimates the number of hours that must be allocated to conduct the work and generates an estimate of the time needed to complete each step of the project.

16.3 Other software and tools for improving efficiency and timeliness

The [Systematic Review Toolbox](#) is an online catalogue of tools that support various tasks within the evidence synthesis process. This includes tools for protocol development, automated searches, study selection, quality appraisal, data extraction (and coding), analysis and report writing (for more details, *see Brief 6, section 2*).

The [Evidence Synthesis Hackathon](#) series of workshops has been held annually since 2017. The workshops bring together researchers, practitioners and coders to produce open-source tools that help solve problems and support the evidence synthesis process. Links to useful software can be found on the website (for more details, *see Brief 6, section 2*).