

WEIRD (Ways of Evaluating Important and Relevant Data) tool

Questions to guide assessment / critical appraisal of programme descriptions, implementation descriptions and other mainly descriptive types of evidence

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Background

Critical appraisal is key to assessing whether evidence is reliable and trustworthy. A wide range of tools is available for critical appraisal of different kinds of primary and secondary research (see [Types of source material for which this tool is not applicable](#)). However, there are few tools available for critical appraisal of programme descriptions, descriptions of the implementation of interventions or programmes (for example, in programme evaluation reports) and other largely descriptive types of information. This tool aims to address this gap.

In the text below, we use the term 'source material' to refer to the types of information (typically available in the form of documents) to which this tool could be applied. We have chosen this term as some (but not all) of these source materials are not empirical studies or the product of a research process but may be generated as part of the routine planning and implementation of interventions, programmes or policies. These source materials include but are not restricted to (i) documents such as peer reviewed journal papers, programme reports, white papers, policy briefs etc., and (ii) websites and other online material.

Purpose of the tool

The purpose of this tool is to guide critical appraisal, or assessment of the limitations of source materials.

Types of source material to which this tool could be applied

- Descriptions of 'real world' (i.e. not part of experimental studies) health, welfare or other programmes or interventions or policies or reforms
- Descriptions of the implementation of programmes or interventions or policies in the field
- Descriptions of policy processes and system reforms. This could include descriptions of contextual determinants of policy or programme implementation and of how system settings (e.g., welfare system, health system) influence the impacts of programmes, interventions or policies

Types of source material for which this tool is not applicable

This tool should not be applied to types of empirical studies for which other specific, well developed critical appraisal and risk of bias tools exist. For example:

- Randomised studies such as randomized trials and cluster randomized trials
- Non-randomised studies as ITS, CBAs, cohort studies, case-control studies
- Other observational studies such as regression analyses
- Primary qualitative studies
- Systematic reviews of the effectiveness of interventions
- Qualitative evidence syntheses / systematic reviews of qualitative evidence

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Guidance for undertaking a critical appraisal of source materials

Critical appraisal of the source material (sometimes called assessment of limitations) is based on the judgements made for each of the (relevant) questions in the tool. Please note the following:

- In some instances, several sources or documents may contribute to a description of a specific programme or a policy process. In these cases, you should look across all of the contributing documents or sources when undertaking the WEIRD assessment
- Information relevant to your questions (for example, to describe a policy process) may be found in several sections of the source material and not only in the 'Results' section

Your concerns regarding the limitations of the source material should be described using the following categories:

- No or very minor concerns
- Minor concerns
- Moderate concerns
- Serious concerns

'*No or very minor concerns*' should be selected when the answer to most questions in the tool is YES. '*Minor concerns*' should be chosen when the answer to many questions in the tool is YES and only a few questions are assessed as UNCLEAR. '*Moderate concerns*' should be selected when the answer to many questions in the tool is UNCLEAR. '*Serious concerns*' should be chosen when the answer to one or more questions in the tool is NO.

Assigning numeric values or scores to these assessments is not recommended as these assessments are judgements and scoring is likely to give a spurious level of certainty to the assessment process.

How the results of this critical appraisal can contribute to an overall assessment of confidence in the evidence

This assessment of the limitations of source material can feed into a wider assessment of how much confidence to place in findings from a synthesis, for example using the GRADE-CERQual approach [1].

How this tool relates to the Programme Reporting Standards (PRS) for SRMNCAH¹

The PRS checklist outlines key reporting items related to the design, context, development, implementation, and monitoring and evaluation processes of sexual, reproductive, maternal, newborn, child and adolescent health (SRMNCAH) programmes. The PRS can be used across the life cycle of a programme,

¹ For more information on the PRS see: <http://prs.srhr.org/>

and covers not only the reporting of processes and outcomes but also programme design and development. The PRS includes 24 items across five sections: (a) programme overview; (b) programme components and implementation; (c) monitoring of implementation, (d) evaluation and results; and (e) synthesis.

The items included in the PRS informed the WEIRD assessment criteria described below. However, the WEIRD tool can be applied to both programme descriptions and a wide range of other materials (see [Types of source material to which this tool could be applied](#)). For many source materials, no reporting standards like the PRS exist at this time. Where SRMNCAH programmes have been reported using the PRS, this may facilitate critical appraisal of these sources. It should be noted that not all items in the PRS are relevant to critical appraisal of a programme. Relevant items are reflected in the WEIRD tool assessment criteria.

The WEIRD tool

Description of the document or source	
<i>Authors</i>	
<i>Title</i>	
<i>Date of publication or access (if web-based)</i>	
<i>Publisher</i>	
<i>Place published or URL</i>	
<i>ISBN</i>	
<i>DOI</i>	

Pre-assessment questions	
Is the source material based on, or does it include, empirical data (i.e. information collected through measurement or observation, either quantitative or qualitative)?	If YES , than also include the assessment questions highlighted in green below.
Please select the type of source material to which the assessment tool will be applied	<input type="checkbox"/> Description of a programme or intervention or policy or reform (e.g., a health or welfare or environmental programme or intervention) <input type="checkbox"/> Description of the implementation of a programme or intervention or policy or reform <input type="checkbox"/> Description of a policy process or an aspect of this process

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	<input type="checkbox"/> Commentary on a programme or intervention or policy or reform (e.g., a health systems or development sector policy or reform) <input type="checkbox"/> Other [please describe]:
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Assessment criteria	Sub-questions for each criterion ²	Applicability of each criterion	Assessment: choose one of YES, NO or UNCLEAR <i>[To be completed by the user and should include a justification for the assessment made, preferably supported by extracts (with page numbers) from the source material that is being assessed]</i>
1. Is there a clearly stated aim, objective or purpose for the source material?	<ul style="list-style-type: none"> Does the source material state its aim, objective or purpose clearly? If the aim, objective or purpose is not stated clearly by the authors, can it be derived from the material? 	Any kind of source materials	
2. Is there a clear description of the source of the information reported (transparency)?	<ul style="list-style-type: none"> Are the sources (key informants, own experience, research study etc.) described? Where applicable, is there a clear description of who collected the information? <p><i>If you are using multiple documents or sources to describe a programme or policy or reform, you should look across all of these when making this assessment</i></p>	Any kind of source materials	
3. Is there a clear description of the programme or intervention or	<ul style="list-style-type: none"> Are the rationale, goals or objectives of the programme or intervention or policy or reform described? 	Any kind of source materials that describe an	

² Not all of these sub-questions will be relevant for all types of source material.

<p>policy or reform on which the source material focuses?³</p>	<ul style="list-style-type: none"> • Is the content of the programme or intervention or policy described, including all of the important facets or elements? • Are the stakeholders or groups involved in delivering the programme or intervention or policy described, including their characteristics / background, skills or expertise, training and responsibilities? • Is the target/s of the programme or intervention or policy described? • Is a theory or change or logic model, that outlines how the programme or intervention or policy will work, described? • Are the methods used to implement the programme or intervention or policy, including the mode of delivery (e.g. face-to-face, via the internet) and any relevant training, described? • Are any materials used in the programme or intervention described? • Does the source material describe clearly any infrastructure and resources required for the programme or intervention or policy? • Does the source material describe when the programme or intervention or policy was started, when it finished, its intensity and whether there were any changes to the programme or intervention or policy over time? • Does the source material describe any mechanisms used to ensure that the programme or intervention or policy or reform was implemented as intended (e.g. 	<p>intervention or programme or policy</p>	
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³ A description of the programme or intervention or policy or reform may be the main focus of some source materials. Where that is the case, this question may overlap with question 6.

	supervision and support of personnel, trainings, implementation checks, incentives)?		
4. Is there a clear description of the context/s to which the information described in the source material relates?	<ul style="list-style-type: none"> • Does the source material describe where the programme or policy or reform took place (e.g., country name(s), specific locations, urban/rural environments)? • Does the source material describe clearly the context for the material, including (where relevant): <ul style="list-style-type: none"> ○ The setting (country, service, community) to which the description relates ○ The system (e.g., health or welfare system), including the system level (e.g., frontline level) ○ The historical, socio-cultural, socioeconomic or ethical context ○ The political, legal, governance, policy and / or practice context, including relevant key events or policy initiatives? • Does the source material describe clearly the stakeholders to which the description relates, including (where relevant): <ul style="list-style-type: none"> ○ The target population(s) or group(s) for the programme or intervention or policy ○ Implementing organization(s) for the programme or intervention or policy ○ Any other partners and stakeholders • Does the source material describe clearly how the different stakeholders were involved in the programme or intervention or policy or reform? 	Any kind of source materials	
5. Is the information accurate (<i>source materials other</i>)	<ul style="list-style-type: none"> • Is there a clear description of whatever is the focus of the source material? 	Source materials that include little	

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<p>than empirical studies)?</p>	<ul style="list-style-type: none"> • Does the information presented appear to be reasonably complete? • Does the source material describe any efforts to ensure that the information presented is complete and reliable? 	<p>or no empirical data</p>	
<p>6. Is the information accurate (<i>empirical studies only</i>)?⁴</p>	<ul style="list-style-type: none"> • Does the source material have clearly stated methods, including (where relevant) the type of empirical study conducted and when the programme or intervention or policy was evaluated? • Was the basis for selecting cases or people or clusters appropriate for the purpose of the study? • Were the methods and tools for data collection appropriate for the purpose of the study? • Were the data collectors appropriately trained and supported in their tasks? • When were the data collected, and was the timespan of the study long enough to address the core issues fairly? • Was the quality of the data collected monitored and was the quality shown to be adequate? • Is the method of analysis reported clearly? Is the method of analysis appropriate for the purpose of the study? • Is there a clear description of the outcome/s measured (where relevant)? • Is the outcome measure reliable (where relevant)? • Were these outcomes measured appropriately (where relevant)? 	<p>Only source materials that include empirical data</p>	

⁴ Note that whether the source material has clearly stated research aims or objectives is covered by assessment question 1 above. This question also draws on the risk of bias assessment described in 2. Gaitonde R, Oxman AD, Okebukola PO, Rada G: **Interventions to reduce corruption in the health sector**. *The Cochrane database of systematic reviews* 2016(8):CD008856.

	<ul style="list-style-type: none"> Do these outcomes provide a reasonable assessment of the issue being considered (where relevant)? Are the linkages between the data that were reported and any inferences or conclusions made transparent? 		
7. Is the evidence representative?	<ul style="list-style-type: none"> If the evidence is drawn from a sample of the population of interest, is there a clear description of how the sampling was conducted? Was the sampling approach appropriate (where applicable)? If generalisations were made to wider population(s) or setting(s), is there a rationale for doing so and a description of how this was done? Were any generalisations made informed by the populations, settings or other contextual aspects covered by the source material? In other words, do the generalisations made appear to be appropriate? 	Any kind of source materials, but may be more relevant to sources that include empirical data	
8. Are any limitations of the information and / or methods discussed in the source material?		Any kind of source materials	
9. Is evidence provided to support any findings or conclusions made?	<ul style="list-style-type: none"> Are the findings or conclusions (where applicable) supported by evidence? Are the findings or conclusions reasonable, in relation to the evidence presented? 	Any kind of source materials	
10. Are relevant rights and ethics considerations described?	<p>Consider whether:</p> <ul style="list-style-type: none"> The source material discusses relevant rights and ethics considerations The source material indicates whether ethics approval was sought and obtained 	Any kind of source materials	

	<ul style="list-style-type: none"> The source material reports how consent to provide data or information was obtained 		
11. Are any interests declared and any potential conflicts of interest noted?	<p>Consider whether:</p> <ul style="list-style-type: none"> The source material indicates if any of the authors are affiliated with the organisation or entity whose programme or intervention or policy is described The source of funding for developing the material is reported The source material indicates if any of the authors are affiliated with the organisation or entity that has funded the programme or policy described Any potential conflicts of interest are described The author indicates how any potential conflicts of interest were addressed 	Any kind of source materials	

<p>Overall assessment Please choose one of:</p> <ul style="list-style-type: none"> <i>no or very minor concerns</i> <i>minor concerns</i> <i>moderate concerns</i> <i>serious concerns</i> 	Explanation of overall assessment
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How WEIRD was developed

A paper describing how WEIRD was developed will be available in due course. Key sources included: the SUPPORT Tools for Evidence-informed Policymaking (STP) series [3], McGrath 2006 [4], the TIDieR checklist [5] and the AACODS checklist [6, 7].

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