NYU SCHOOL OF GLOBAL PUBLIC HEALTH

Implementing Sustainable Evidence-based Interventions through Engagement (ISEE) Lab

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ENVISSION Toolkit Guide

Workflow overview and user guide: using each tool from start to finish

Evidence Navigation and Synthesis for Validating Interventions through Systematic and Scoping Reviews for ImplementatiON • ISEE Lab, NYU School of Global Public Health • Updated June 24, 2026

What this guide is for This implementation research (IR) toolkit guide will assist authors and practitioners in the proper use of all of the ENVISSION Tools. This is simply a guide and should be used based on how individuals conduct scholarly research. For example, if the IR-PICO question has been determined, you simply need to determine the type of review that will be conducted. Each of the tools can be modified to support the user's research question and methods. A link will be provided for access to a clean version of each tool at the end of each instructional section. While this guide is based on the following sickle cell disease (SCD) systematic review, the methods are easily adaptable for scoping and other types of literature reviews.

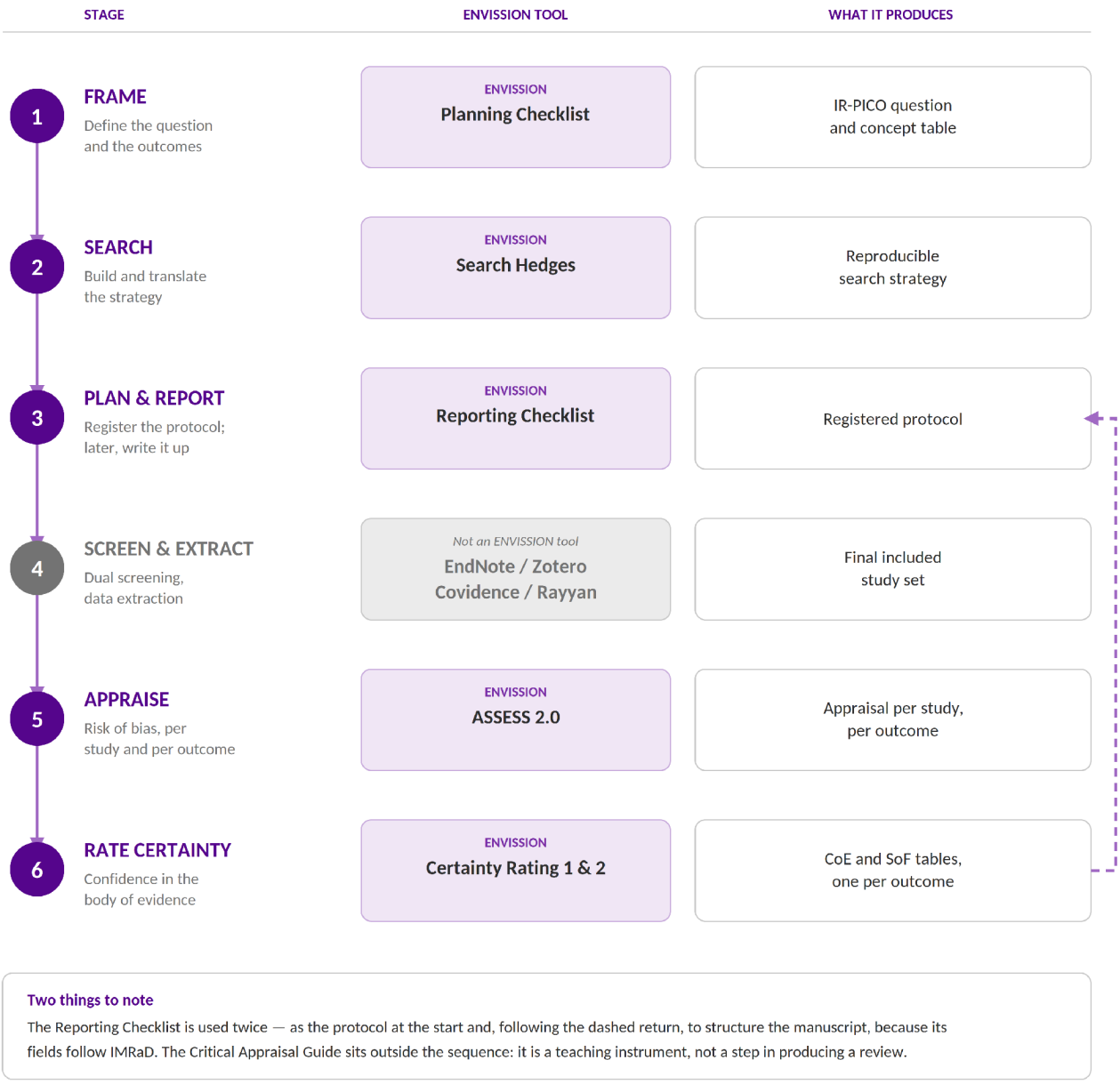
Worked example used throughout Gyamfi, J., Ojo, T., Epou, S., Diawara, A., Dike, L., Adenikinju, D., Enechukwu, S., Vieira, D., Nnodu, O., Ogedegbe, G., & Peprah, E. (2021). Evidence-based interventions implemented in low- and middle-income countries for sickle cell disease management: A systematic review of randomized controlled trials. *PloS** One, 16*(2), e0246700. https://doi.org/10.1371/journal.pone.0246700

1. The ENVISSION workflow

ENVISSION is a linked set of instruments for conducting implementation research evidence synthesis — systematic and scoping reviews — from framing the question through rating the certainty of the evidence. Existing reporting and appraisal instruments were built for clinical outcomes; implementation outcomes differ in that they are context-dependent, frequently non-clinical, and often measured without standardized instruments. ENVISSION retains the structure of PRISMA, CASP, and GRADE while making explicit how each applies to that evidence.

Reviews rarely run in a straight line — you will return to the question and the search as the evidence takes shape. The sequence in Figure 1 is the order most reviews follow. Five of the six stages have a corresponding ENVISSION tool; the sixth, screening and extraction, is served by established reference managers and review platforms. Each tool consumes what the one before it produced, so the right-hand column is worth reading as a dependency chain.

Figure 1. The ENVISSION workflow: the tool used at each stage and what it produces



Two things to note

The Reporting Checklist is used twice — as the protocol at the start and, following the dashed return, to structure the manuscript, because its fields follow IMRaD. The Critical Appraisal Guide sits outside the sequence: it is a teaching instrument, not a step in producing a review.

Not every tool is needed for every review

A scoping review may not require a full certainty rating. A review restricted to randomized trials will use a small part of ASSESS 2.0. Every tool is editable and is expected to be edited — delete fields that do not apply, add any your question requires, and note substantive modifications in your protocol so they are transparent to readers.

The hand-off that matters most

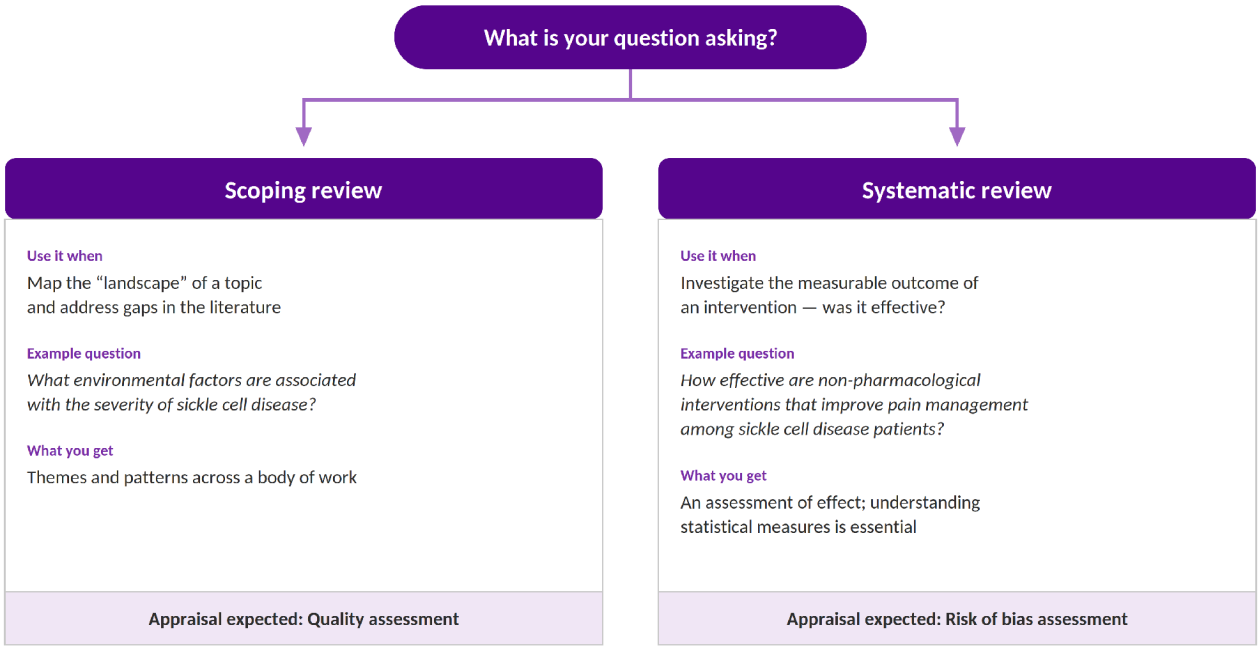
ASSESS 2.0 results are the input to the risk-of-bias domain of the certainty rating. Do not re-appraise from scratch at the certainty stage — carry the per-outcome appraisal results forward, or your ratings cannot be traced back to the evidence that generated them.

2. Determining the type of review

There are more than 10 types of literature reviews. ENVISSION is scoped to two of them — systematic reviews and scoping reviews — and its instruments have been developed and tested only against syntheses of primary studies. Treat the instruments as untested for any other synthesis design. It is important to distinguish which type of review is best, and Figure 2 should assist you in deciding. Click here to access the PubMed citation on other types of literature reviews.

The right choice follows from what your question is asking, not from how much literature exists. It also determines which appraisal instruments you will need later, so make this decision before formalising the question.

Figure 2. Choosing between a scoping and a systematic review



Once the review type is settled

The IR-PICO table and search strategy can be developed. If you would like to develop your "blueprint" for constructing the review first, please jump to the ENVISSION Reporting Checklist in Section 5. The Reporting Checklist will circle back to the IR-PICO question and search strategy.

3. Developing the ENVISSION Planning Checklist

PICO is an acronym that stands for **p**atient, **i**ntervention, **c**omparison and **o**utcome. It has been modified for many healthcare specialties, and below is the modification for an Implementation Research-specific review question.

The problem: Trying to identify evidence-based interventions (EBI) implemented in low- and low-middle income countries (L-LMICs) that address Sickle Cell Disease (SCD) management *based on implementation research outcomes* reported in published RCTs.

Table 1. IR-PICO worked example

Population / Problem	Intervention	Comparison (if applicable)	Outcome (measurable or descriptive)	IR outcome variables*
Sickle Cell Disease Low-middle income countries	Evidence-based interventions (RCTs)	n/a	Improved SCD management	__Acceptability __Adoption __Feasibility __Fidelity __Cost __Sustainability __Appropriateness __Penetration **X All implementation outcomes**

** Based on Proctor et al. (2011) implementation outcomes.*

The IR-specific review question: Among the population with **SCD** living in **low and low-middle income countries**, what **evidence-based interventions** are **effective** at improving **SCD management** based on **IR outcomes**?

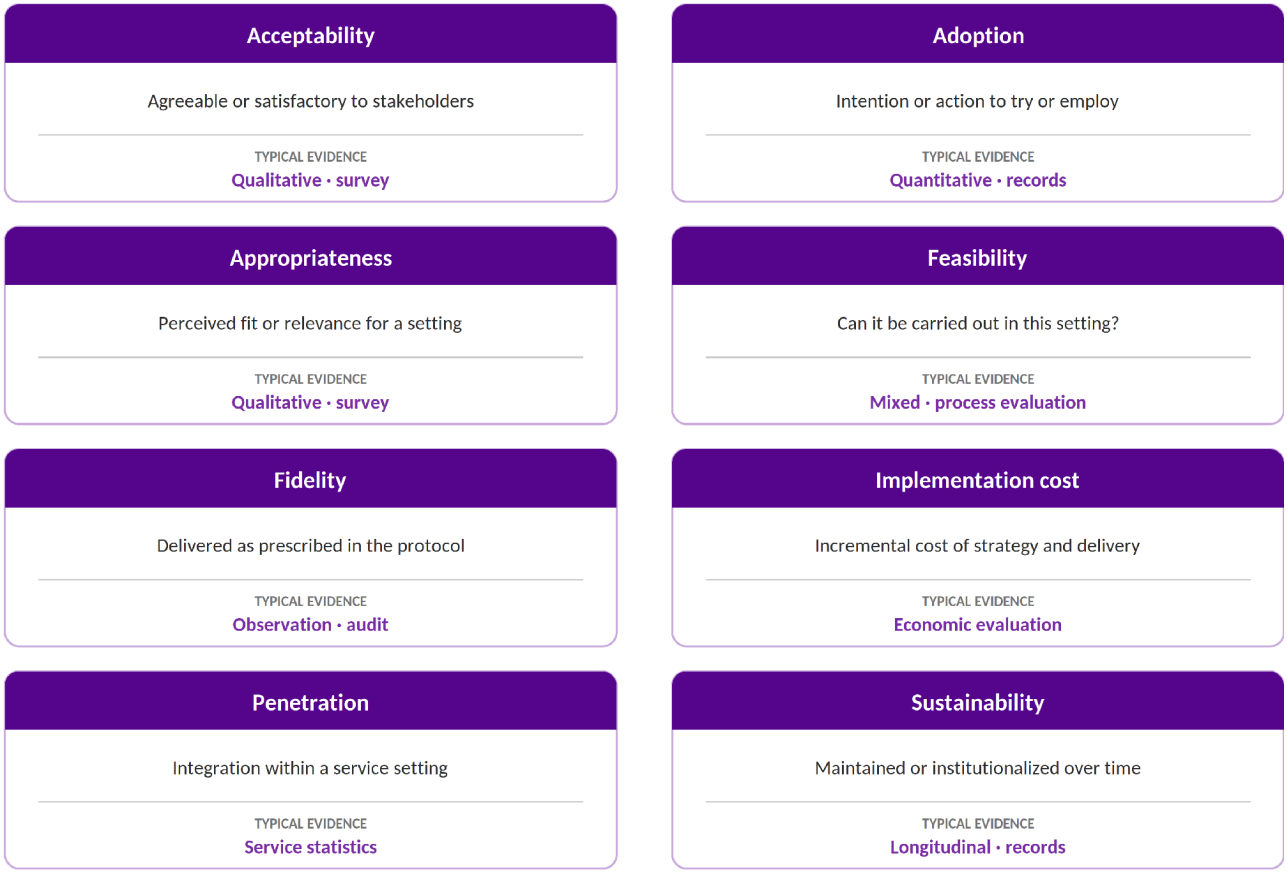
Before moving on to developing the IR search strategy, highlight the key concepts in the review question. Note, this review was assessing high-quality evidence using the study design RCTs, which is near the top of the evidence-based pyramid.

3.1 Selecting your implementation outcomes

The fifth column of the IR-PICO table is where a review is really scoped. Outcomes follow Proctor and colleagues (2011); Figure 3 gives the eight constructs with the kind of evidence each typically draws on, which is also a practical guide to the appraisal instruments your review will need.

Figure 3. The eight Proctor implementation outcomes and their typical evidence sources

ENVISSION carries a ninth outcome, **scalability** — the effort to increase an intervention's impact widely — which is not part of Proctor's original taxonomy but was added after it proved to be the most frequently described outcome in one of the reviews used to develop the toolkit. Scalability appears as a selectable outcome in the ENVISSION Planning Checklist, the ENVISSION Critical Appraisal Guide, and ENVISSION ASSESS 2.0. A dedicated search hedge for scalability has not yet been built; until it is, use the comprehensive implementation research hedge and screen for scalability at full text.



Select outcomes deliberately Choose the outcomes that matter to the decision your review informs, not those with the most available data, and include outcomes that are relevant even where evidence is sparse. Limit the final set to fewer than seven; larger sets make the trade-off between desirable and undesirable effects unmanageable. Each outcome you select is appraised and rated separately — see Section 6.

Get the tool Click here for a clean copy of the document to develop the ENVISSION Planning Checklist.

4. Developing the IR search strategy

You must use a combination of subject headings and keywords (the terms we would consider) to develop a comprehensive search strategy. Medical Subject Headings (MeSH) is the thesaurus used for PubMed. It is best to use field codes for precision results. PubMed uses [tiab] and [tw] for title and abstract or textword, respectively. It is best to work with a librarian for search strategy development. If you cannot, it is important to learn the searching syntax for each database. Sign up for a free TERA (formerly SR-Accelerator) account, which can translate a PubMed search strategy to other databases using the *polyglot* feature.

Table 2. Search concept table — worked example

Concept 1	Concept 2	Concept 3	Concept 4
Use the OR operator for terms in each column and the AND operator to combine each concept.			
SCD Sickle Cell Disease Sickle Cell Anemia Hemoglobin SC disease HbS disease Acute chest syndrome	The ISEE Lab has developed a search "hedge" for L-LMICs. Click here to incorporate the comprehensive search strategy if searching L-LMICs.	Intervention* Program* Health promotion Evidence-based Therap*	The ISEE Lab has developed search "hedges" for individual and comprehensive IR terms. Click here and incorporate the relevant search strategies.

* is the wild card symbol to retrieve various endings (therap* = therapy, therapies and therapeutic).

4.1 Assembling the strategy

To see the exact full search strategy for the article, please refer to Supplement 1 in the Gyamfi, 2021 article.

(sickle cell disease OR sickle cell anemia OR acute chest syndrome OR hemoglobin SC disease OR HbS disease) **AND** (insert L-LMIC strategy here) **AND** (evidence-based interventions OR evidence based practice OR health care outcomes assessment OR clinical trials OR evidence based medicine OR comparative effectiveness OR interventions OR clinical trials OR clinical trial OR outcome studies OR outcome measures OR outcomes assessment OR randomized controlled trial OR clinical study OR clinical studies OR randomized OR randomised OR implementation OR implementation science OR randomized control trial) **AND** (insert IR terms strategy here)

A common mistake
We do not need to search for the term "**effective**". This information will be addressed in the results section with statistical measures (p-values, means, etc.).

5. ENVISSION Reporting Checklist

The ENVISSION Reporting Checklist is your blueprint to develop the systematic plan for conducting the literature review. There are 16 fields to complete initially: title, authors, structured abstract, rationale & aims, IR-specific review question, objectives, protocol registration, IR strategy & outcomes, eligibility criteria, information sources, search strategy, selection of sources of evidence, data assessment process, data items, critical appraisal of individual sources of evidence, and synthesis of results.

Register the checklist, also referred to as a protocol, and complete and conduct the steps outlined in the checklist. A bibliographic management program such as EndNote or Zotero (free), and a literature review program such as Covidence or Rayyan (free) should be used to organize the research project.

The ENVISSION Reporting Checklist will also assist when writing the manuscript, as the tool follows the structure for writing the Introduction, Methods, Results and Discussion (IMRaD). This is the return shown by the dashed line in Figure 1.

Get the tool Click the link for a clean copy of the document: ENVISSION Reporting Checklist

6. Conducting the risk of bias / quality assessment — ENVISSION ASSESS 2.0

If conducting a literature review, i.e. systematic, scoping or other review, best practices require an assessment of the quality of the research articles. Most commonly referred to as a risk of bias assessment for systematic reviews and quality assessment for scoping reviews, both perform the same function — to ensure that the articles meet scholarly standards for scientific research.

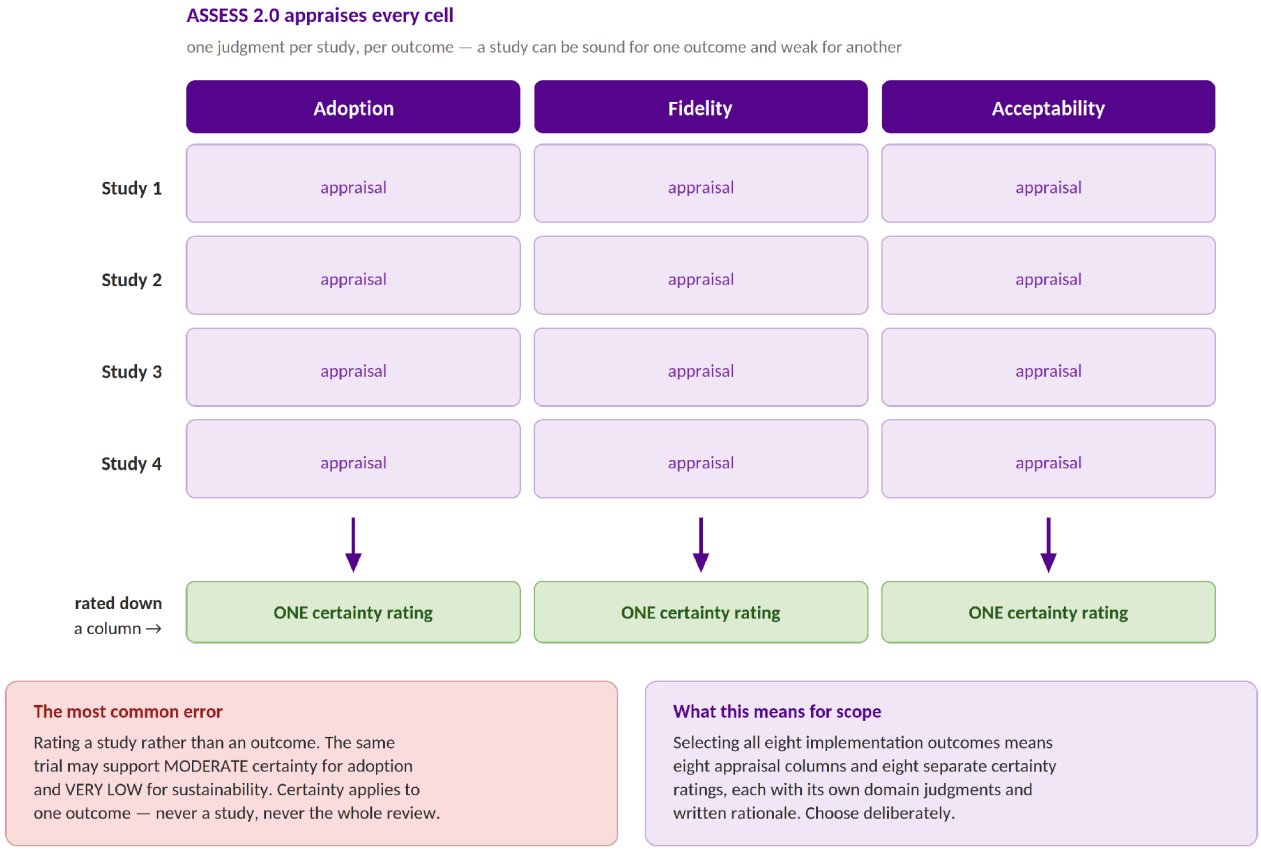
The ENVISSION ASSESS 2.0 tool was developed as a computer-based tool to improve upon the Excel spreadsheet that was reported in the Ryan, Vieira et al., 2022 article. It is an internet-enabled Google Form, so responses are captured and collated automatically for the review team.

Authors, please edit this tool to meet your quality assessment needs. For example, if only RCTs are going to be assessed as part of the research project, the unneeded fields can be deleted.

6.1 The unit of assessment

The single most consequential convention in ENVISSION is that appraisal and certainty are recorded **per outcome, not per study**. A study can be well conducted for adoption and poorly conducted for fidelity; a single overall study rating obscures that. Figure 4 shows the relationship: ASSESS 2.0 populates every cell of a study-by-outcome grid, and the certainty rating in Sections 7 and 8 aggregates down each column to one rating per outcome.

Figure 4. Appraisal is recorded per study and per outcome; certainty is rated per outcome



Two appraisers Standard practice is for at least two reviewers to appraise independently and reconcile, with a third resolving persistent disagreement. Keep the completed forms — they are the evidence for your risk-of-bias judgments and are needed for the certainty rating and for peer review.

Get the tool

ENVISSION ASSESS 2.0 is openly available as an internet-enabled form: open the form, or use the printable version for offline paper-based assessment. To request a copy of the ENVISSION ASSESS 2.0 tool, please email gph.isee@nyu.edu and place **ENVISSION ASSESS 2.0 Tool** in the subject line.

7. ENVISSION Certainty Rating 1

ENVISSION Certainty Rating 1 uses a "simplified" guide to rate the body of IR evidence based on study design and the strength. Using an alphanumeric score based on the table and pyramid image below, the Certainty Rating guides in "grading" the evidence. The ENVISSION ASSESS 2.0 should be used with this tool to appraise the methodologic rigor of the study, which applies to the strength of evidence.

Strength of Evidence QUALITY based on study design	Strong Recommendation 1	Moderate Recommendation 2	Weak Recommendation 3	Not Recommended 4
High Level Evidence A	1A Systematic Reviews of Randomized Controlled Trials (RCT) with or without Meta-analysis	2A Individual Randomized Controlled Trials (RCT)		
Moderate Level Evidence B	1B Systematic Review of Cohort Studies or Untreated Control Groups in RCT	2B Retrospective analysis of Cohort Studies or or Untreated Control Groups in RCT	3B Outcome Studies, Ecological Studies, with follow-up of untreated control patients	4B Individual/Single Cohort Study
Low Level Evidence C	1C Systematic Review of Case-Control Studies or non-randomized controlled trial	2C Case Series (poor quality [limit] cohort/sample size & Case control studies)	3C Qualitative Studies	4C Individual/Single Case-Control Study or non-randomized controlled trial
Very Low/Weak Level Evidence D				4D Expert Opinion Background Information

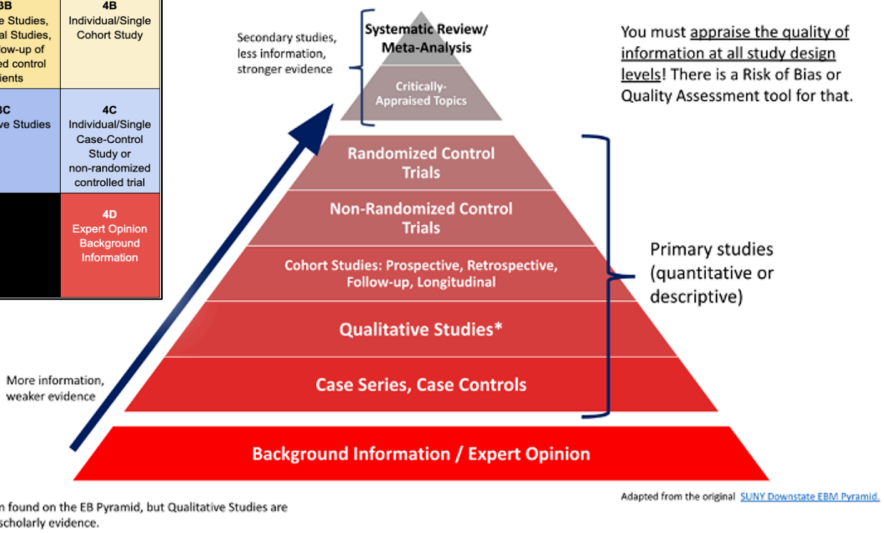


Figure 5. Certainty of evidence within the evidence-based pyramid

Get the tool Click here for a clean copy of the document: ENVISSION Certainty Rating 1

8. ENVISSION Certainty Rating 2

The ENVISSION Certainty Rating 2 is very complex and should be used by skilled, expert IR practitioners. This IR tool aligns with the tools created by the GRADE Working Group and uses explicit criteria to determine certainty of IR studies. It is strongly recommended when applying the highest standards for evaluating IR scholarly research, particularly for manuscript publication. This tool will help practitioners understand such detailed concepts as **dissemination bias, study design and additional tools that appraise study design, and so much more.**

Certainty is rated across five domains that lower it — risk of bias, inconsistency, indirectness, imprecision, and dissemination bias — and three that may raise it for non-randomized evidence. Every domain requires a recorded

rationale, including domains judged to raise no concern: an evidence profile that explains only its downgrades cannot be audited, replicated, or updated.

Get the tool Click here for a clean copy of the document: ENVISSION Certainty Rating 2

9. ENVISSION Critical Appraisal Guide

For students and practitioners new to a field, it can be difficult to understand the "quality" of research. Scholars in the field of evidence-based practice have developed tools to help with understanding the results of research. The Critical Appraisal Skills Programme (CASP) is internationally known for its set of tools or checklists used for evaluation of various study designs. The ENVISSION Critical Appraisal Guide is meant for internal use when training entry-level professionals how to evaluate evidence-based research. The ENVISSION Critical Appraisal Guide asks a series of questions to help determine if an article appropriately addresses the IR evidence.

As Figure 1 shows, this tool sits outside the review sequence. It builds appraisal judgment and is not a substitute for a formal appraisal instrument in a published review.

Get the tool Click here to access a clean copy of the ENVISSION Critical Appraisal Guide

10. Tool inventory

Table 3. ENVISSION tools, stages, and formats

Tool	Stage	What it does	Format
ENVISSION Planning Checklist	1. Frame	Structures the question using IR-PICO and lays out the concept table from which the search strategy is built.	Editable document
ENVISSION Search Hedges	2. Search	Pre-built, tested search blocks for L-LMICs and for implementation research terms, in broad and narrow forms.	Search strings
ENVISSION Reporting Checklist	3. Plan and report	The protocol and the manuscript blueprint. Sixteen fields modelled on PRISMA, ordered to follow IMRaD.	Editable checklist
ENVISSION ASSESS 2.0	4. Appraise	Risk-of-bias and quality assessment for implementation outcomes across qualitative, quantitative, and mixed methods studies.	Internet-enabled Google Form
ENVISSION Certainty Rating 1	5. Rate certainty	A simplified alphanumeric rubric combining study design with strength of recommendation.	Editable document
ENVISSION Certainty Rating 2	5. Rate certainty	Full domain-based GRADE guidance for implementation outcomes, with worksheet and evidence profile.	Worksheet and guidance
ENVISSION Critical Appraisal Guide	Training	A 13-question critical appraisal checklist adapted from CASP, for teaching trainees how to evaluate implementation evidence.	Editable checklist
Evidence-Based Pyramid	Reference	Locating study designs by level of evidence, used when deciding what the review will include.	Reference figure

Tool	Stage	What it does	Format
ENVISSION Toolkit User Guide	Reference	This document: workflow overview and step-by-step guidance for using each instrument.	Editable document
Suggestions for Improvement Form	Reference	Single feedback route for every ENVISSION instrument and resource.	Internet-enabled form

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Feedback For questions, comments or suggestions for improving the ENVISSION Tools, please click here.