

Healthcare Information & Decision Equation: **Information → Decision → Action → Outcome**  
 Is it true → Is it useful → Is it usable?

**Evidence Synthesis** is the process of summarizing systematically obtained and critically appraised evidence. Frequently clinical recommendations are created from evidence syntheses.

### Creating Your Synthesis

Summarize the best available evidence. This may be a **text statement** or a **table** documenting characteristics of the evidence you have identified as being the best available. **There is no one correct way to summarize the evidence** — you will have to apply **judgment**. **Quantitate** as you can.

### Evidence Grading

For individual studies, you grade the study or conclusions. For summaries of the evidence, you rate the level of evidence.

### Level of Evidence (LOE) or Strength of Evidence (SOE) Example

- **High:** More than one grade A or B study
- **Moderate:** At least one grade A or B study
- **Borderline:** At least two grade B-U studies with consistent results
- **Inconclusive:** Single grade B-U study, B-U studies with conflicting results or Grade U studies

### Elements You May Choose to Summarize

- Key clinical question
- Quality of the evidence
  - Key threats
- Type, number and size of studies (the “n”)
- PICPOTS: population/condition, intervention, comparators, study performance outcomes (i.e., on-study adherence, on-study use of co-interventions, etc.), outcomes, timing, setting
  - Population description (see inclusions, exclusions and baseline characteristics)
- Interventions used and how
- How measured, successful outcome as defined as what?
- Results
- Limitations
- Reviewer conclusions and/or comments

### Format Suggestion: Supporting Documentation

- Background
- Drug information
- FDA information
- Representation in Guidelines
- Expert Commentary
- Balance Sheet Information (Triangulations)
- Measurement Instruments and Interpretations
- Ideal study parameters
- Evidence synthesis tables
- Search & filtering strategy (efficacy, harms, other)
- Selection criteria for studies
- Methods used to determine validity and usability
- Grading scheme
- Table of included studies
- Critical appraisals of included studies
- Table of excluded studies
- References
- Glossary
- Conflicts of interest
- Reviewers
- Preparers
- Date

### Example of Evidence Synthesis: MRI Use for Women At High Risk of Breast Cancer

- The strength of the evidence (SOE) is insufficient to conclude that, in high risk women, the addition of MRI to mammographic screening reduces the need for mammography or ultrasound.
- Adding MRI will change treatment plans and result in more extensive surgery for some women (SOE: Borderline), but may not change incomplete excision rates or breast cancer recurrence rates (SOE: Inconclusive).
- We found no evidence that adding MRI to conventional screening in women at high risk of breast cancer will reduce mortality rates (SOE: Inconclusive).