ISO METRIK INSTITUTE

PUBLIC EDUCATION / FIELD GUIDE

Evidence Literacy Field Guide

A practical guide to reading health claims, recognizing research designs, evaluating relevance, and asking better questions.

STATUS
Available as a free Institute educational publication. This resource is not peer-reviewed research, individualized medical advice, professional certification, or accredited continuing education.

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How to use this guide

Read carefully before relying on a health claim.

This guide supports EL-101: Foundations of Evidence Literacy. It can also be used independently when reviewing a health article, study summary, presentation, advertisement, program description, or public statement.

Intended audience

Patients, caregivers, community members, students, volunteers, nonprofit staff, early-career learners, and professionals seeking a general evidence-literacy refresher.

Learning objectives

- Distinguish a claim, research question, result, interpretation, and recommendation.
- Recognize common study designs and the limits of the conclusions they can support.
- Identify the population, comparison, outcomes, duration, setting, and practical relevance.
- Look for uncertainty, limitations, oversight, registration, funding, and conflicts of interest.
- Apply a five-question check before acting on a claim.

IMPORTANT LIMIT
This guide does not evaluate a particular product, intervention, diagnosis, or personal circumstance. Use the complete source and qualified professional guidance.

1 / Separate the parts of a claim

Do not let one sentence do five different jobs.

A strong evidence review begins by identifying what kind of statement is being made.

Claim

A statement that something is true, useful, safe, effective, associated, better, or recommended.

Research question

A focused statement of what investigators are trying to learn.

Result

What was observed or measured under the study conditions.

Interpretation

What the authors or others believe the result may mean.

Recommendation

A proposed action. It should consider evidence, benefits, risks, alternatives, values, resources, and context.

PRACTICE
Rewrite the claim in one neutral sentence. Remove adjectives, certainty words, testimonials, and calls to action. What remains?

2 / Recognize the design

Different designs answer different questions.

Design	Useful for	Key limit
Bench or laboratory	Mechanism, materials, performance, feasibility	Does not by itself establish benefit in people
Case report or series	Describing an experience or generating a hypothesis	Cannot usually establish frequency or causation
Observational	Patterns and associations in real settings	Confounding, selection, and measurement may affect findings
Randomized trial	Comparing assigned interventions while reducing important bias	Quality depends on design, size, adherence, outcomes, and follow-up
Systematic review	Structured synthesis of available studies	Only as reliable as the included evidence and review methods
Expert opinion	Context, judgment, and interpretation	Not a substitute for direct evidence

MATCH THE CONCLUSION

A more controlled design can reduce some uncertainty, but no design removes every limitation. Match the claim to what the design directly studied.

3 / Check relevance

Ask whether the evidence answers your question.

Record the following before deciding whether a result applies:

- Population: Who was included and excluded?
- Setting: Where and under what conditions did the study occur?
- Intervention or exposure: What exactly happened?
- Comparison: What was the alternative or control?
- Outcome: What was measured, when, and how?
- Duration: Was follow-up long enough for the claim?
- Applicability: How closely does the evidence match the people and decision at issue?

Questions that reveal limitations

- Was the sample large and representative enough for the stated conclusion?
- Were important outcomes measured consistently and reported completely?
- Were participants lost to follow-up, and could that affect the result?
- Were harms, burdens, costs, and alternative explanations visible?

CAUTION
Evidence from one population, body area, device, dose, setting, or outcome should not be transferred to another without a clear scientific basis.

4 / Understand size and uncertainty

A result can be statistically detectable and still be small or unimportant.

Ask for the actual size of the effect, not only whether a threshold was crossed. Look for absolute numbers, the comparison group, uncertainty intervals, baseline risk, and the time period.

Relative and absolute change

A relative change can sound large when the starting risk is small. Whenever possible, ask: how many people experienced the outcome in each group?

Surrogate and meaningful outcomes

A laboratory value or intermediate measure may be useful, but it is not automatically the same as how a person feels, functions, survives, or participates.

Multiple outcomes

When many outcomes or subgroup analyses are tested, some may appear positive by chance. Ask which outcomes were planned in advance and whether all results were reported.

REMEMBER
Statistical significance does not automatically mean clinical, practical, or personal importance.

5 / Look for transparency and oversight

The result is only one part of responsible research.

- Who designed, conducted, analyzed, funded, and reported the work?
- Were relevant financial, commercial, intellectual-property, governance, or personal relationships disclosed?
- For human-participant research, was the appropriate ethics or IRB review described?
- Was the study registered when applicable, and were outcomes specified before results were known?
- Are the methods, exclusions, missing data, adverse events, limitations, and negative findings visible?
- Can the full source be located, or is the claim based only on a headline, abstract, testimonial, or promotional summary?

Conflicts of interest

A disclosed conflict does not automatically make a study false. It signals a need to examine independence, controls, data access, analysis, publication rights, replication, and whether conclusions extend beyond the evidence.

SLOW DOWN
Missing methods, missing results, undisclosed relationships, changed outcomes, or conclusions beyond the studied population are reasons to seek more information.

6 / Apply the five-question evidence check

Use one repeatable process.

1	**What exactly is the claim?** Write it in one neutral sentence.
2	**What evidence directly supports it?** Identify the design and whether the evidence is direct or indirect.
3	**Who and what were actually studied?** Compare the population, setting, intervention, outcome, and duration with the claim.
4	**What could change the interpretation?** Look for uncertainty, bias, missing data, conflicts, limitations, and alternative explanations.
5	**What responsible next step follows?** Read the full source, compare evidence, ask a qualified professional, or wait for stronger evidence.

7 / Practice

Work from a neutral summary.

EXAMPLE CLAIM
A small study found that participants using Program A improved a short-term score more than participants receiving usual information. Therefore, Program A works for everyone.

Questions to ask

- How many people participated, and who were they?
- How were groups formed?
- What did usual information include?
- Was the score validated and meaningful?
- How large was the difference, and how uncertain was it?
- How long were participants followed?
- Were harms, withdrawals, missing data, and funding disclosed?
- Does the evidence support everyone, or only the studied population?

More responsible interpretation

The study may provide preliminary evidence that Program A affected the measured short-term score under the study conditions. The size, quality, limitations, population, durability, harms, and replication should be examined before making a broader claim.

8 / EL-101 knowledge check

Record one answer for each item.

A score of at least 7 out of 8 is required to request manual review for the non-credit EL-101 completion certificate.

QUESTION
1. An association automatically proves causation. [ ] True [ ] False

QUESTION
2. Which design explores performance under controlled, non-clinical conditions? [ ] Bench [ ] Randomized trial [ ] Case series

QUESTION
3. Why identify population and setting? [ ] Judge applicability [ ] Guarantee benefit [ ] Remove uncertainty

QUESTION
4. Statistical significance always means an effect matters to patients. [ ] True [ ] False

QUESTION
5. A balanced review includes: [ ] Benefits only [ ] Limitations only [ ] Benefits, risks, limitations, uncertainty

QUESTION
6. A disclosed conflict automatically makes a study false. [ ] True [ ] False

QUESTION
7. If a conclusion extends beyond the studied population: [ ] Accept it [ ] Ask for direct evidence [ ] Ignore all research

QUESTION
8. A course payment or completion certificate proves accreditation. [ ] True [ ] False

Completion record

EL-101 participant record.

Participant name

Completion date

Answers 1-8

ATTESTATION
I completed all five EL-101 modules, reviewed the knowledge-check explanations, and understand that the course provides 0 CE/CEU/CME or academic credits and does not confer professional certification, licensure, or authorization to practice.

Participant signature or typed name

Certificate request

Send the participant name, completion date, answers 1-8, and attestation to info@isometrik.com with subject: EL-101 completion review. Do not send medical records or payment credentials. Processing target: 10 business days.

Glossary and responsible next steps

Keep the language precise.

Association

A relationship between variables. It does not by itself establish causation.

Bias

A systematic influence that can move a result away from the truth.

Confidence interval

A range expressing uncertainty around an estimate under stated assumptions.

Confounding

A factor related to both the exposure and outcome that may distort an observed association.

Outcome

A measured event, condition, function, score, or other result.

Peer review

Evaluation by qualified reviewers before publication. It is a quality-control process, not a guarantee that a conclusion is correct.

Registration

Public recording of specified study information, often before enrollment, when required or appropriate.

Responsible next step

Locate the complete source, compare it with other relevant evidence, identify what remains uncertain, and discuss personal decisions with an appropriately qualified professional.

Publication notice

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