

If key features of the mechanism by which *A* causes *B* in the source population are also present in the target population, and there are no additional counteracting mechanisms in the target population, the source population studies can help confirm causation in the target population.

Evaluation

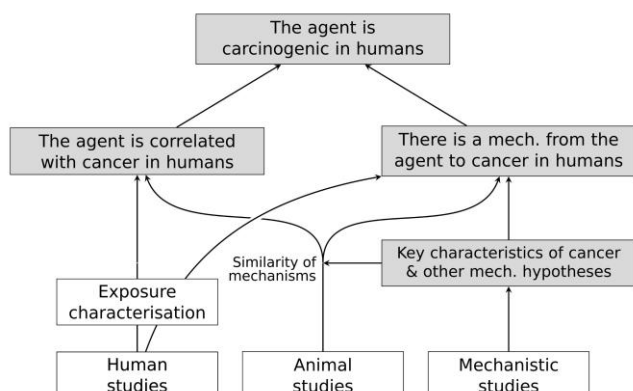
The orthodox approach to evaluation, which dominates evidence-based medicine (EBM) and evidence-based policy (EBP), focuses exclusively on association studies. Mechanistic studies are typically excluded on the grounds that they are 'low quality' or have 'high risk of bias':



This is a category error: mechanistic studies have a wide variety of research designs (e.g., RCT, quasi-experimental, observational, in vitro, in silico, biomedical imaging, mathematical modelling, ethnography); it makes no sense to say that mechanistic studies in general are low quality.

EP leads to new approaches to evaluation—EBM+ and EBP+—which scrutinise mechanistic studies in addition to the association studies that are the focus of orthodox evaluation.

An example of an organisation that follows the EP approach to evaluation is the International Agency for Research on Cancer, which assesses whether chemicals and other agents cause cancer:



Systematic review

New methods for systematic review are being developed that systematise the EP-motivated approach to evaluation.

This is the topic of an interdisciplinary project, funded by UKRI and involving the Universities of Manchester, Oxford and Exeter.



UK Research
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Evidence-based law

The emerging field of evidence-based law (EBL) aims to use the best available evidence to justify legal decision making and new legislation.

A research project at the University of Manchester, funded by the Leverhulme Trust, is developing an EP-motivated approach to evidence-based law, EBL+.



Further reading

Parkkinen & co. 2018. *Evaluating evidence of mechanisms in medicine: Principles and procedures*, [Springer](#).

Wilde 2023. The EBM+ Movement, [The International Journal of Biostatistics](#) 19(2): 283-293.

Williamson 2019. Establishing causal claims in medicine, [International Studies in the Philosophy of Science](#) 32(1): 33-61.

Shan & Williamson 2023. *Evidential Pluralism in the Social Sciences*, [Routledge](#).

Trofimov & Williamson 2025. Applying Evidential Pluralism to evidence-based law: EBL+, [Jurisprudence](#).

Samet & co. 2020. The IARC Monographs: Updated procedures for modern and transparent evidence synthesis in cancer hazard identification, [Journal of the National Cancer Institute](#) 112(1):30-37.

