Ensuring Quality in Peer Review and Editorial Practice for Evidence Synthesis

A Concerning Trend: Flawed “Systematic Reviews” Are Penetrating Peer-Reviewed Journals

It is concerning to observe the trend of ‘methodologically flawed systematic reviews' being published in peer-reviewed indexed journals

Systematic reviews are the cornerstone of evidence-based practice, but their credibility is being diluted

Many published reviews, especially those by a single author, are failing to adhere to adhere to established, rigorous methods

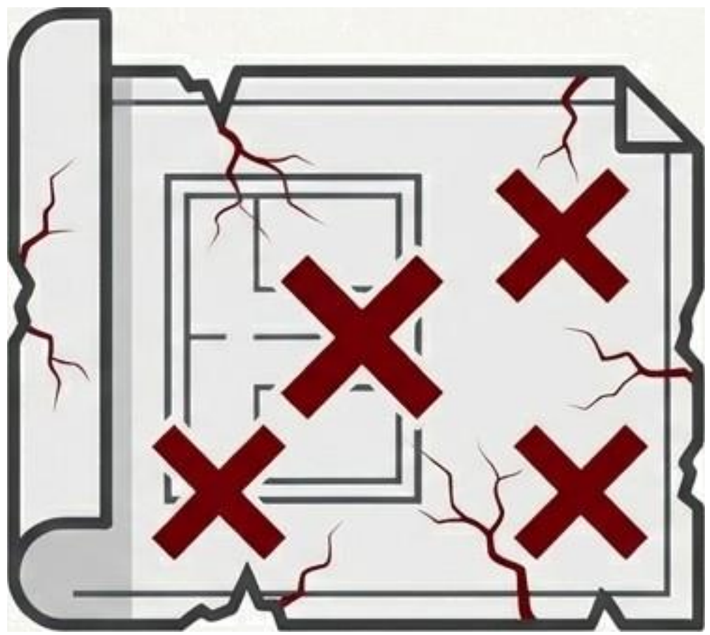
This trend threatens to undermine the very foundation of evidence we rely on

Anatomy of a Flawed Review: Key Methodological Failures

Single Authorship
Circumvents necessary collaboration and cross-verification.

Incomplete Search
Lacks a comprehensive search of relevant databases.

No Dual Verification
Fails to perform dual independent screening and data extraction.



No Risk of Bias Assessment
Omits the critical step of assessing the risk of bias in included studies.

Inappropriate Synthesis
Applies incorrect methods for evidence synthesis.

No Certainty Assessment
Neglects to assess the certainty of the overall body of evidence.

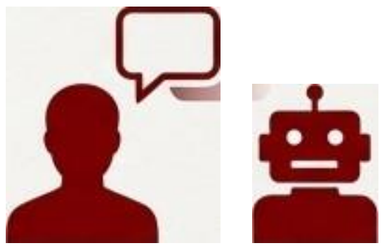
Undeclared Conflicts
Authors' conflicts of interest are often not declared.

AI Can Assist, But Cannot Replace, Rigorous Human Judgment

Potential Role of AI

- Serve as a ”second reviewer”for screening citations and data extraction.
- Potentially enforce reporting guidelines with desk rejections for missing steps.

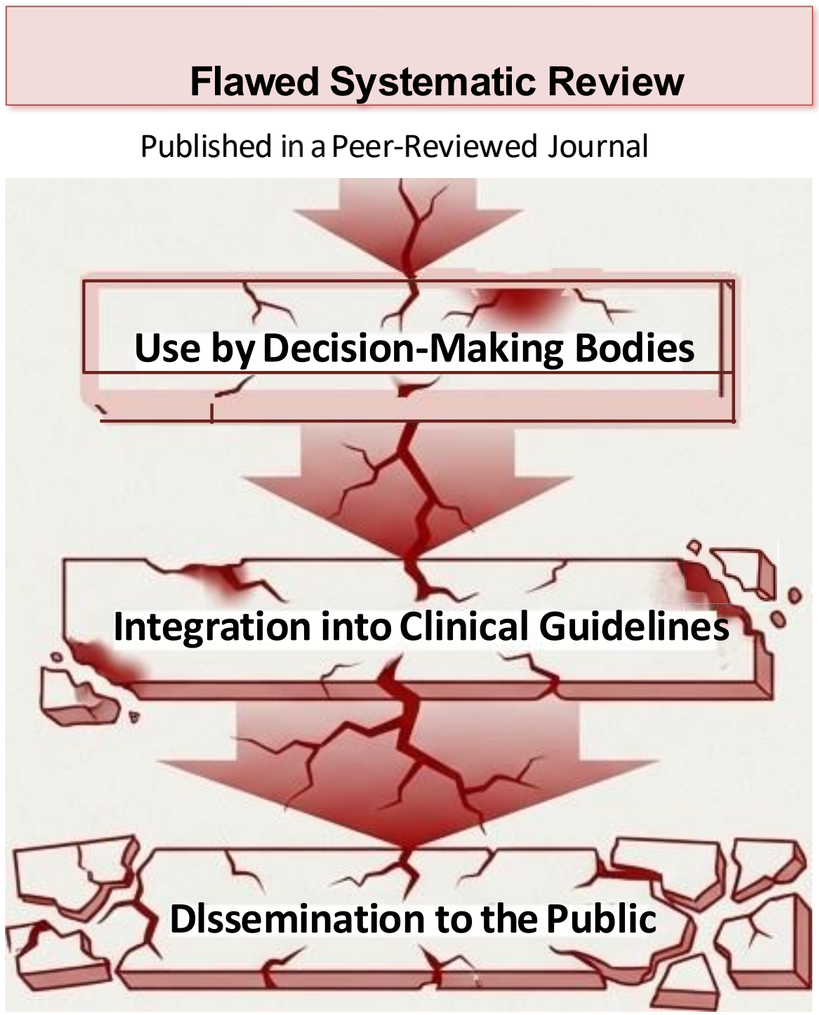
Current Limitations of AI



- Unexplored: Role in assessing risk of bias and certainty of evidence is not established.
- Key Loss: Reduces the”benefit of detailed conversations between professionals with differing perspectives,"which improves the thoughtful quality of a review.

Key Takeaway: Technology is a supplement, not a substitute, for core scientific methodology and collaborative debate.

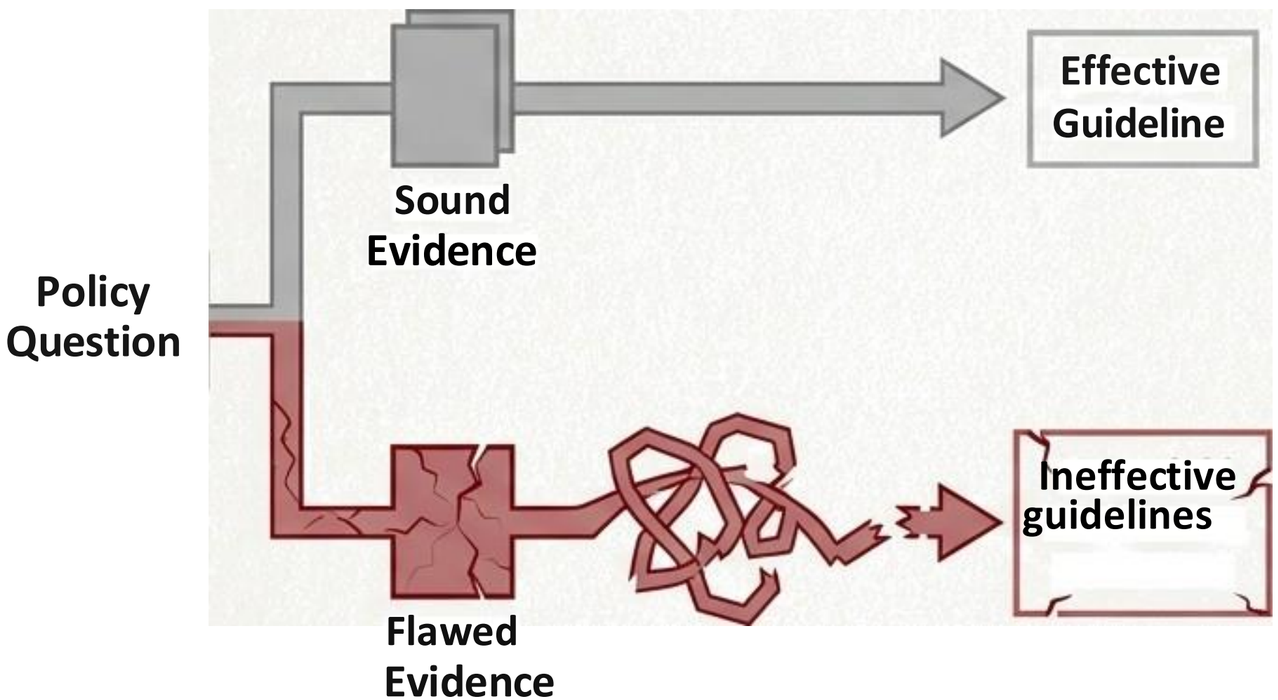
The Ripple Effect: How One Flawed Review Corrupts the Evidence Ecosystem



- A single flawed review systematic review does not exist in isolation.
- It enters the stream of scientific knowledge, leading to flawed policies and eroding public trust.

Misleading the Decision-Makers

"...if a proper 'evidence-to-decision' process is not followed, methodologically flawed research labelled as 'systematic reviews' can mislead decision-makers"

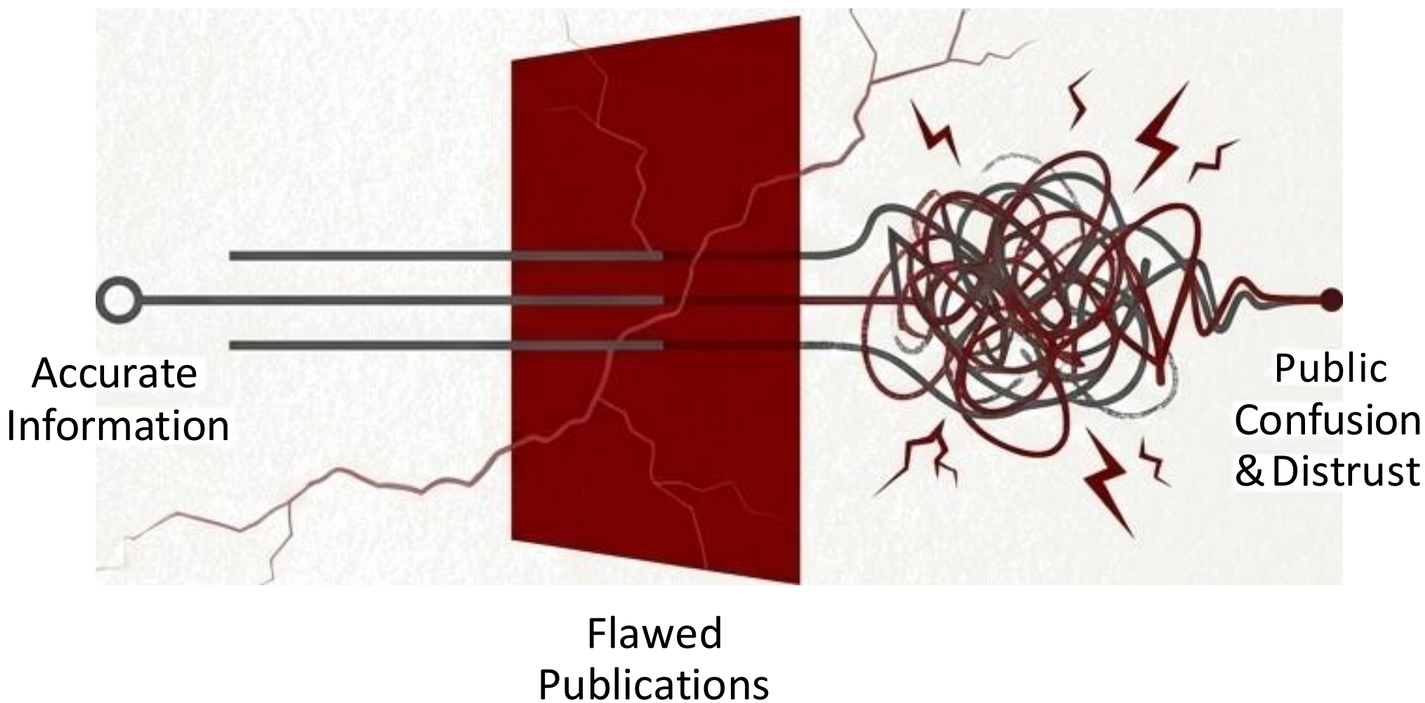


- Systematic reviews are considered 'precise evidence' for creating clinical and public health guidelines.
- When flawed reviews are published, they can lead to the implementation of ineffective or harmful policies.
- This undermines the entire structure of evidence-based practice.

Eroding Public Trust and Fueling Misinformation

Methodologically flawed systematic reviews will mislead the public and undermine scientific validity.

- Researchers use systematic reviews as the“best evidence for knowledge translation" to provide the public with accurate information.
- Publishing poor-quality systematic reviews under this trusted label directly contradicts efforts to combat misinformation (e.g., health fact-checking sites).
- This damages the public's perception of scientific authority and reliability.



What Is Enabling Poor-Quality Reviews?

1. Lax Enforcement of Standards

Journals state adherence to reporting guidelines (e.g., PRISMA-2020) in author instructions.

However, meta-research shows these standards are often not strictly enforced.

2. Over-Reliance on Voluntary Expertise

The peer review process and editorial activities are largely voluntary.

This can lead to engaging reviewers and editors who “lack sufficient experience and expertise.”

Expert researchers may decline to participate without incentives.

Be aware of research waste!

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What should journals do to prevent the publication of methodologically flawed systematic reviews?

KM Saif-Ur-Rahman

Evidence Synthesis Ireland and Cochrane Ireland, University of Galway, Galway, Ireland
Centre for Health Research Methodology, College of Medicine, Nursing and Health Sciences, University of Galway, Galway, Ireland

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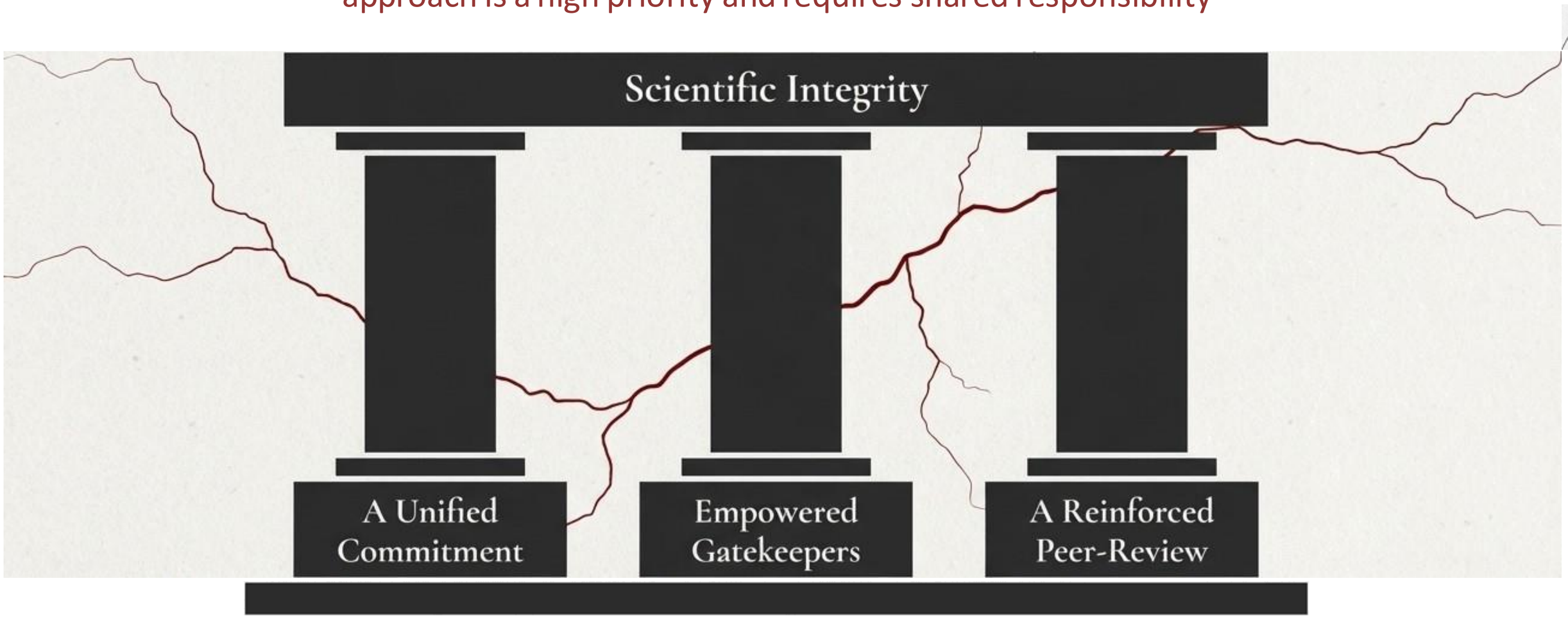
Strategies to Restore Methodological Rigor

A comprehensive
approach is a high priority and requires shared responsibility



These actions require commitment from journal editors, editorial boards, and peer reviewers

Solution: Strict Adherence to Reporting Guidelines

Core Action

- Journal editors of indexed publishing hubs should ensure committing to strict adherence to reporting guidelines (e.g., PRISMA-2020).

Supporting Actions

- Journals can leverage technology (AI) to enforce compliance, issuing desk rejections if core methodological steps are not followed.

Solution: Improve Editorial Awareness and Incentivise Expertise

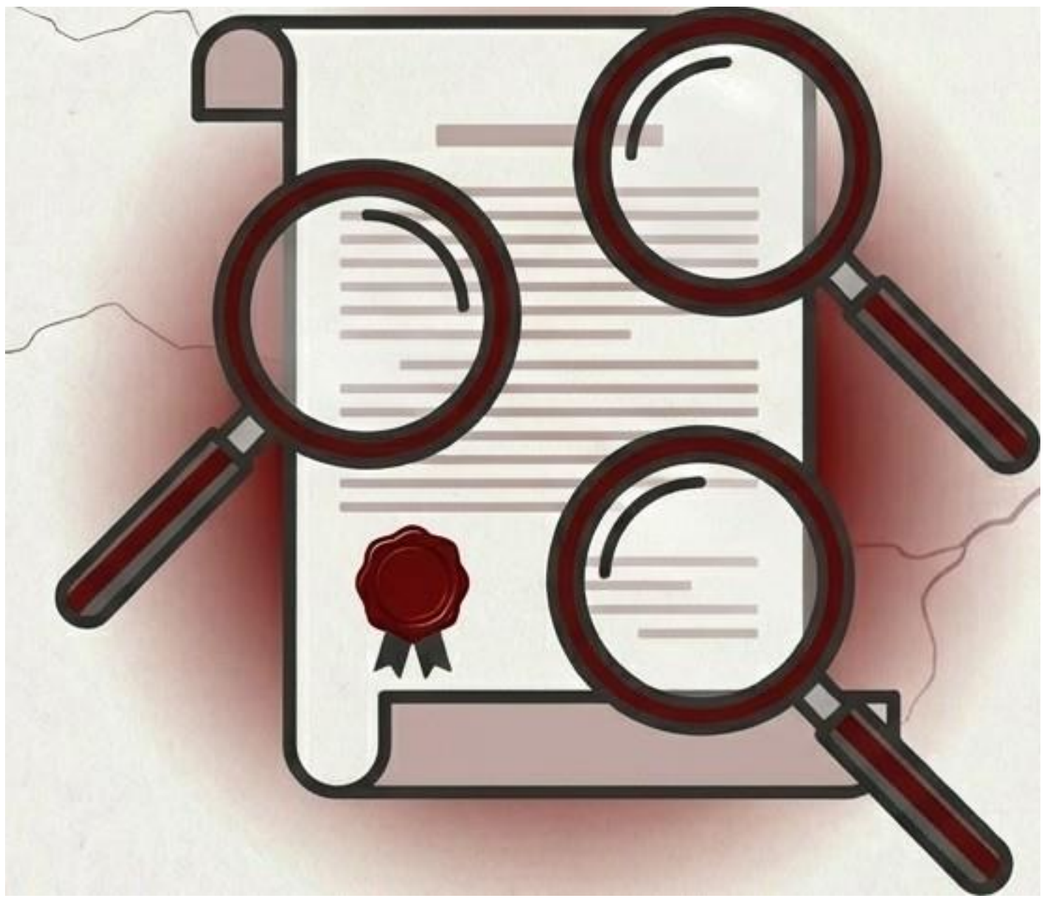
Core Action

- Journals must ensure the right expertise is in place to evaluate complex evidence synthesis.

Supporting Actions

- Assign Specialists: Assign specific editors with sufficient expertise in systematic review methodology.
- Provide Training: Offer regular training for new editorial board members.
- Reduce Reliance on Volunteerism: Offer incentives to attract and retain expert researchers, acknowledging that their time is valuable and quality editorial work requires significant effort.

Solution: Reinforce the Peer-Review Process



Core Action

- While finding reviewers is challenging, journals must prioritize expertise over availability.

Supporting Actions

- Ensure Reviewer Expertise: Vigorously vet invited peer reviewers to ensure they have sufficient expertise
- Incentivise Quality Review: Providing incentives can increase the likelihood of engaging experienced researchers.
- Emphasize Reviewer Responsibility : Agreed-upon reviewers have a professional duty to update their own methodological knowledge before reviewing a manuscript.

A Review Is Not a ‘Systematic Review’ By Name Alone

Such works should not be considered ‘systematic reviews’

Systematic Review
Reserved for research that meets all methodological standards

- Comprehensive Search
- Dual Verification
- Risk of Bias Assessment
- Appropriate Synthesis
- Certainty Assessment

“Personal View” or
“Traditional Literature Review”

- A subjective summary of literature without standardized, replicable methods.

"Call for Reclassification: Label them as ‘Personal Views’ or ‘Traditional Literature Reviews’

Upholding Scientific Integrity: A Shared Responsibility

Maintaining methodological standards and reporting integrity in publishing systematic reviews is crucial

Researchers

Responsible for conducting rigorous science.

Journal Editors

Responsible for enforcing standards and safeguarding the scientific record.

Peer Reviewers

Responsible for expert, diligent evatuafion.

Three groups must work in concert to protect the quality of published evidence

Thanks to all