The Structure of the Review Paper

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Basic Paper Format

- Problem Statement or Motivation
- Research Question or Thesis Statement
- Content of Paper
- Main Finding or Conclusion
- Implications or Public Health importance
Recap: Types of Reviews

Table 1
An overview of the key characteristics of five knowledge synthesis methods.

<table>
<thead>
<tr>
<th>Synthesis method</th>
<th>Brief method description</th>
<th>Agri-food public health example questions</th>
<th>Key advantages</th>
<th>Key disadvantages</th>
<th>Approximate timeline to completion (months)</th>
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<tbody>
<tr>
<td>Structured rapid review</td>
<td>Streamlined systematic review conducted within a short timeframe or with limited resources and that leads directly into decision-making (Tianan et al., 2010)</td>
<td>What are the public attitudes towards emerging food technologies? (Four-month rapid review conducted for the UK Food Standards Agency) (Lyndhurst, 2009)</td>
<td>• Less resource-intensive than a full systematic or scoping review</td>
<td>• Lack of standardized and validated procedures</td>
<td>≤3</td>
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<td>Scoping review</td>
<td>Review of a broad research question to map out the key characteristics of a knowledge area and the main sources and types of information available (Arksey and O'Malley, 2005)</td>
<td>What is the characterization and distribution of published primary research about microbial hazards in leafy green vegetables? (Ree et al., 2012)</td>
<td>• Rapid timeframe used to provide urgent advice for policy- and decision-making</td>
<td>• Lack of standardized and validated procedures</td>
<td>6–12</td>
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<td>Mixed-method and qualitative reviews</td>
<td>Modified systematic review that includes a diverse range of qualitative and quantitative sources of knowledge (Mays et al., 2000)</td>
<td>What are the key principles of knowledge transfer and exchange and their potential applicability to the agri-food public health sector? (Rajić et al., 2013)</td>
<td>• Some flexibility in the procedures</td>
<td>• Usually does not include a risk-of-bias assessment</td>
<td>3–18</td>
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<td>Systematic review</td>
<td>A structured review of a clearly defined question (Sargeant et al., 2006; Higgins and Green, 2011)</td>
<td>Intervention: What is the efficacy of chilling interventions to reduce <em>Salmonella</em> contamination of chicken carcasses during processing? (Bucher et al., 2012)</td>
<td>• Is rigorous, transparent, and reliable method</td>
<td>• Lack of standardized and validated procedures</td>
<td>3–18</td>
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<td>Uses systematic and explicit procedures to identify, select, critically appraise, extract, and analyze data from primary research (Sargeant et al., 2006; Higgins and Green, 2011)</td>
<td>Risk factor: What is the role of swine, pork and pork products as a potential source of zoonotic hepatitis E virus in humans? (Wilhelm et al., 2012)</td>
<td>• Provides a comprehensive and credible summary of the state of knowledge on a specific topic</td>
<td>• Some study designs typically excluded (e.g., observational)</td>
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<td>Diagnostic test accuracy: What is the diagnostic accuracy of culture and PCR to detect <em>Salmonella</em> in swine? (Williams et al., 2010)</td>
<td>Framework and procedures are well-defined and established</td>
<td>• Framework and procedures are well-defined and established</td>
<td>• Some advanced methods require specialized expertise and are still under development</td>
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<tr>
<td>Meta-analysis</td>
<td>The statistical combination of data from multiple individual studies (Boersma et al., 2009; Gonzales-Barron and Butler, 2011)</td>
<td>Fixed-effect meta-analysis: What is the best estimate of risk to affect the risk of clinical mastitis in dairy cattle? (Fookes et al., 2003a)</td>
<td>• Can increase precision and power of effect estimates</td>
<td>• Is only reliable if model assumptions are adhered to, with well-conducted studies, and if data are sufficiently reported and comparable</td>
<td>1–3 (in addition to the time required for completion of the systematic review)</td>
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<td></td>
<td>Refer to Table 2 for an overview of traditional and advanced approaches</td>
<td>Random-effects meta-analysis: What is the average estimate of efficacy of Type III protein vaccines to reduce faecal shedding of <em>E. coli</em> Ø157 in cattle faeces? (Siebers et al., 2012)</td>
<td>• Estimates can be used as credible inputs for risk- and decision-analysis models</td>
<td>• Some advanced methods require specialized expertise and are still under development</td>
<td></td>
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</tbody>
</table>

Systematic reviews

- Comprehensive and reproducible search process
- Critique and synthesis of the literature
- Based on guidelines (PRISMA, Cochrane)
- Involves team approach

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Methods
(search strategy, review process)

Results
(narrative and tabular summary)

Synthesis & Critique
Narrative reviews

- Review of literature based on thesis or goal
- Many different sub-types
  - Critical review
  - Overview

Narrative Review Format

Problem Statement or Motivation

Research Question or Thesis Statement

Content of Paper

Main Finding or Conclusion

Implications or Public Health importance

Brief search methods (sometimes at end)

Results (narrative and tabular summary)

Frame thesis in synthesis (critique of lit optional)
Lit Review in Grant Proposals

- Motivation for research question
  - Background related to question
- Identification of knowledge gap
  - Salient findings from the literature
  - Explicit identification of novelty of proposed work
- Use of persuasive language
  - Build argument for need to undertake the work
Basic NIH-style Aims Format

- Problem Statement or Motivation
- Overarching Goal or Research Question
- **Knowledge Gaps** (should preview aims)
- **Specific Aims**
- Implications or Public Health importance