PART I: CONDUCTING A SYSTEMATIC LITERATURE REVIEW

Rachel Adams, University of Colorado Boulder
Haorui Wu, Dalhousie University
Candace Evans, University of Colorado Boulder

Conducting a systematic literature review is an essential part of the research process. By identifying and critically evaluating available knowledge on a research topic, researchers can identify gaps and/or inconsistencies in the existing literature. This can inform the development of innovative research questions and help prioritize what perishable and time-sensitive data should be collected in the disaster aftermath as well as establish longer-term research agendas for mitigation, preparedness, and recovery oriented research.

It is important that literature reviews are conducted in a systematic fashion that is objective, thorough, and reproducible. Adapted from Kugley et al. (2016), we provide the following recommendations for systematically reviewing the

1. **USE MULTIPLE DATABASES.** Given the multidisciplinary nature of disaster research and the variety of databases that exist, searches should be conducted in more than one database to capture the diversity of the literature. Consider using both subject-specific databases (e.g., PsycINFO®) and interdisciplinary databases (e.g., Web of Science), as well as databases published in different languages and countries to avoid biased search results.

2. **USE BOTH KEYWORDS (NATURAL LANGUAGE) AND CONTROLLED VOCABULARY TO CONDUCT YOUR LITERATURE SEARCH.** Keywords are the words and phrases used by the author in the title, abstract, subject, and/or text. Controlled vocabulary includes standardized subject terms assigned by indexers. These terms are useful because they provide a way of retrieving articles that use different terms to describe the same concept. For example, for the keyword "major depression," the controlled vocabulary defined by the Library of Congress Subject Headings is "depression, mental" and includes dejection, depression, unipolar, depressive disorder, depressive psychoses, melancholia, mental depression, and unipolar depression.

3. **USE BOOLEAN OPERATORS (AND, OR, NOT) TO SPECIFY YOUR SEARCH.** In general, a search strategy will have different sets of terms or phrases that you can combine using the appropriate operators.

4. **USE PROXIMITY OPERATORS (NEAR AND WITHIN) AND TRUNCATION (*) SYMBOLS TO SEARCH FOR WORDS OR PHRASES WITH VARIANT SPELLING.** These methods will also allow you to find derivations of the same word or phrase.

5. **CHOOSE CLEAR STUDY INCLUSION AND EXCLUSION CRITERIA.** In most databases, advanced search bars allow you to search by language, date, publication type, and other options that can help to narrow your search results. You may also include certain literature based on quality indicators, such as source credibility, research design, or citation ranking. When describing your literature review criteria in an article, it is important to acknowledge your exclusion criteria. For example, if you are conducting research on children and choose to include terms such as "child and children" but NOT the word "youth" you would need to explain why that search term was excluded. This helps to clearly bound the results of your literature review.

6. **REVISIT AND MODIFY THE LITERATURE SEARCH PERIODICALLY.** Conducting literature searches is an iterative process. While it is ultimately up to the researcher to decide when the search is over, search terms may be modified over time to capture additional relevant literature. Make sure to systematically document all search terms used in your review.

7. **INCLUDE AND USE GREY LITERATURE.** Consider including and using grey literature sources, such as conference proceedings, technical reports, and white papers in your review. These documents are typically published by government agencies, professional organizations, non-governmental organizations, industry, and academic institutions. Although grey literature may not undergo extensive peer review, it can still provide valuable insight into your research topic.

8. **REVIEW THE REFERENCES CITED IN RELEVANT LITERATURE.** This is particularly helpful for review articles, which may direct you to additional resources related to your topic.

9. **SAVE ALL REFERENCES IN REFERENCING MANAGEMENT SOFTWARE.** Referencing management software, such as EndNote, Mendeley, or Zotero, can help you manage the references identified in your search. Search results can be imported directly into a central database and then exported using a variety of citation styles.

10. **SUMMARIZE RELEVANT SEARCH RESULTS IN A SYSTEMATIC LITERATURE REVIEW TABLE.** (See *Part II: Systematic Literature Review Table*). A Systematic Literature Review Table can help you summarize and keep track of important elements of each publication (e.g., study design and methods, key findings, etc.).

REFERENCE:

Kugley, S., Wade, A., Thomas, J., Mahood, Q., Jørgensen, A. M. K., Hammerstrøm, K., & Sathe, N. (2016). Searching for Studies: A Guide to Information Retrieval for Campbell. *Campbell Systematic Reviews*.

CONVERGE | **Natural Hazards Center** | **CU Boulder**
483 UCB | Boulder, CO 80309-0483 | (303) 735-5844
converge@colorado.edu | hazards.colorado.edu