Getting Started on Your Systematic Review: the PRISMA-P Checklist

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Systematic reviews are time-intensive research projects that require teams to find, appraise, and synthesize all the available evidence to answer a research question. To do this, teams are expected to apply a systematic methodology that includes the development of a comprehensive search strategy, two screening phases, and the adoption of tools to assess bias, rate quality, and extract data from the literature. Teams pursuing meta-analysis have to take into account additional statistical requirements.

While many review teams successfully publish their systematic reviews, many teams stall somewhere along the process for various reasons. Teams interested in successfully completing a systematic review should plan the process using the Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (PRISMA-P) checklist. Completing the checklist will help teams understand the logistics of conducting a systematic review and allot time to meet the project’s demands.

The PRISMA-P checklist contains three sections with 17 items considered essential elements of a systematic review. The following highlights selected items.

Section 1: Administrative Information

This section establishes the foundation of the review. Although systematic reviews require a minimum of two authors, teams may draw upon people with expertise in the subject matter, literature searches, and statistical analysis. Contributors who make “substantive intellectual contributions” should be listed as an author (Item 3a). Teams should also register (Item 2) their completed protocol to reduce bias and arbitrary decisions, promote transparency, and prevent duplication. Teams can register their protocol on PROSPERO, a free registry of systematic reviews protocols.

Section 2: Introduction

Use this section to explain the rationale (Item 6) and objectives (Item 7) behind the systematic review. The PICO (Patient/population/problem, Intervention/exposure, Comparator, and Outcomes) framework will help teams identify the key components of their research question. The PICO elements are similarly instrumental in identifying information for the eligibility criteria (Item 8) in the Methods section.

Section 3: Methods

The items listed in this section help teams define their plan to find, select, process, and analyze information about the
research question. To minimize publication bias, teams should consider a range of bibliographic databases and grey literature sources for their information sources (Item 9). There are resources to assist with data management (Item 11a) including EndNote. Online screening tools such as Covidence and Rayyan can assist with the selection process (Item 11b).

While tools for data collection (Item 11c) and assessing the risk of bias (Item 14) should be appropriate for and tailored to the research question, teams can find examples such as the data extraction form adapted from the Cochrane Collaboration and risk of bias checklists on the Tools for Reviewers GalterGuide page. Galter Library has statistical books with additional information on data synthesis (Item 15). Teams that are interested in a meta-analysis should consider contacting the Biostatistics Collaboration Center (BCC) for further assistance. To report the confidence in cumulative estimate (Item 17), teams should review the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach.

The resources listed above are just of few of many that may help systematic review teams plan their reviews using the PRISMA-P checklist. Review teams can and should similarly consult with a librarian at the outset of the project. Librarians at Galter can work with teams as consultants where a librarian provides guidance on the process. Librarians can also assists as collaborators/co-authors which includes research question and search strategy development to running the searches in all the databases. Talk to your librarian to learn more about conducting a systematic review.