

Systematic Reviews for the PGE Scholarly Activity Project

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What is a systematic review?

The minimal requirement for the scholarly activity project is a “systematic review” of the literature. The Cochrane Collaboration (www.cochrane.org) defines a systematic review as “a review of a clearly formulated question that uses systematic and explicit methods to identify, select, and critically appraise relevant research, and to collect and analyze data from the studies that are included in the review. Statistical methods (meta-analysis) may or may not be used to analyze and summarize the results of the included studies.”

The method of a systematic review is an explicit approach that aims to minimize bias and allows readers of the review to assess the author’s assumptions, procedures, evidence and conclusions, rather than taking the author’s conclusions on faith. It also allows other people to later update the review to integrate new findings.

What are the core features of a systematic review?

Core features of a systematic review ensure that the review is **objective, transparent and replicable** (Khan et al, 2003). The minimum expectations for the PGE scholarly activity project include:

- A clear, concise question;
- An electronic search of the literature with a specified database and specified search terms;
- Clear criteria for selection of papers to include in the review;
- A narrative summary of results that integrates the findings (both efficacy and harms, if applicable); and
- An assessment of the quality and limitations of the evidence.

What is an example of a systematic review for the PGE scholarly activity project?

- A clear, concise question – e.g., Is lisdexamfetamine effective as an add-on treatment for patients with major depressive disorder that haven’t responded to an antidepressant?
- An electronic search of the literature with a specified database and specified search terms – e.g., PubMed was searched up to December 11, 2017 using combinations of the following search terms: lisdexamfetamine, amphetamines, stimulants, major depressive disorder, antidepressants, clinical trial, randomized.

- Clear criteria for selection of papers to include in the review – e.g., randomized controlled trials using DSM diagnostic criteria for MDD, with lisdexamfetamine added to an antidepressant, and using a validated depression outcome scale.
- A narrative summary of results that integrates the findings – e.g., a table describing the main features of each study and their general conclusions, how consistent are the findings of the studies, and what the results mean for clinical practice.
- An assessment of the quality and limitations of the evidence – e.g., a description of limitations of the studies, such as sample size, whether conditions were blinded, whether dropouts were taken into account, etc.

How is this different from a Cochrane systematic review?

While the core features are similar, Cochrane and published systematic reviews generally use more rigorous methodology such as using Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA, www.prisma-statement.org) guidelines (Moher et al, 2009).

For example, a Cochrane systematic review would search many databases and use more detailed methods to find all the available evidence, such as inspecting reference lists of papers for other eligible studies, and looking for published and unpublished studies by contacting experts and authors in the field. It would also include a stringent method for extracting data (e.g., having 2 people do it independently and then compare and resolve conflicts) and a formal assessment of quality and bias of studies using checklists. Finally, formal systematic reviews in peer-reviewed journals often use quantitative means to integrate findings, such as meta-analysis. For these reasons, formal systematic reviews are considered to be research outputs and are at the top of the “hierarchy of evidence” for evidence-based medicine.

We do not expect these rigorous methods to be used for a typical resident PGE scholarly activity project, in which the core features of a systematic review are sufficient. However, we encourage residents who want to conduct a more intensive research project to consider “upgrading” to a [formal systematic review](#) with intent to publish in a peer-reviewed journal.

Can I use my Grand Rounds presentation for the systematic review?

Yes! The criteria for a systematic review are also included in what we expect from a scholarly Grand Rounds presentation (see the [Scholarly Grand Rounds checklist](#)). We encourage residents to use a systematic review as the foundation for their Grand Rounds, and then write it up for the scholarly activity project!

Where can I get more information and resources?

Check the [Scholarly Activity Project web page](#). There is also a designated scholarly activity resource faculty in each program (check with your Program Director). Or, check with the Associate Program Director, Scholarly Activity (Dr. Erin Michalak, erin.michalak@ubc.ca).

References

Khan KS, Kunz R, Kleijnen J, Antes G. Five steps to conducting a systematic review. *J R Soc Med.* 2003; 96:118-21.

Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group. Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLoS Med* 2009; 6: e1000097.