HRM 743 2023 – Systematic Review Methods
Course outline
Winter semester Thursdays 1300-1600
Lecture room MDCL 3023

1. Brief Description

This course covers the methods of comprehensive syntheses of research evidence. Rigorous review methods will be highlighted, such as searching for potentially relevant articles; selecting primary articles using explicit, reproducible criteria; appraisal of studies; quantitative data synthesis; and, interpretation. The course uses the framework provided by the GRADE Working Group to evaluate certainty of estimates and present and interpret evidence. The focus of the course is on systematic reviews of interventions, which typically include randomised trials and non-randomised studies that evaluate therapeutic interventions and outcomes. This focus is to ensure that students understand and apply the fundamental processes to conduct a systematic review. The process can be applied to other review topics and study designs (such as diagnostic accuracy and prognosis) which will be briefly covered in the course. Students are required to conduct a systematic review of an intervention during the course. Students can conduct a review of a different topic but will need to ensure they have methodological support in addition to what is provided within the course.

2. Prerequisites

1. HRM 721 and HRM 702 (or permission of course coordinator)
2. one-page outline of the topic of systematic review approved by the course coordinator.

3. Course objectives

Students who successfully complete this course will have knowledge and skills related to concepts and methods of systematic reviews of interventions; and apply this knowledge and these skills to conduct a systematic review.

4. Course tutors and lecturers (TO BE UPDATED)

Nancy Santesso, RD, MLIS, PhD (Course coordinator)
Associate Professor, Department of Health Research Methods, Evidence, and Impact (McMaster University) Email: santesna@mcmaster.ca

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Joanna Dionne, MSc, PhD
Assistant Professor, Medicine, Faculty of Health Sciences
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Part-time Assistant Professor, Department of Health Research Methods, Evidence, and Impact
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Bradley Johnston, PhD
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Rebecca Morgan,
Part-time Assistant Professor, Department of Health Research Methods, Evidence, and Impact
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Gian Paolo Morgano, MSc, PhD
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Bram Rochwerg, MD, MSc
Associate Professor, Department of Medicine, Division of Critical Care and Department of Health Research Methods, Evidence, and Impact (McMaster University)

Lina Santaguida, BSc, MSc, PhD
Assistant Professor (Part-time), Department of Health Research Methods, Evidence, and Impact

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Post-Doctoral Fellow, Department of Health Research Methods, Evidence, and Impact (McMaster University)

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Part-time Assistant Professor, Department of Health Research Methods, Evidence, and Impact
(McMaster University)

Yuan (Ray) Zhang, BM, PhD
Part-time Assistant Professor, Department of Health Research Methods, Evidence, and Impact
(McMaster University)

5. Classes and dates

Classes are from 1300-1600 on most Thursday afternoons during the winter semester. The classes are typically a lecture from 1300-1415 and tutorial from 1430-1600. During tutorials, students can apply concepts learnt in the lecture through hands-on exercises. For some classes, the lecture and tutorial may be one interactive session (e.g., see introduction, searching and meta-analysis classes).

Session/Date	Topic	Tutorial	Assignment Due
1: January 12	Introduction to course, different study designs and reviews – interactive activities		Confirm review topic by searching for other reviews and updates (NOT AN ASSIGNMENT)
2: January 19	Develop the systematic review question and inclusion criteria	Groups: Discussion of student PICOs	-
3: January 26	Search and Screen studies		1 - Submit Background, PICO, inclusion/exclusion criteria (10%)
4: February 2	Data abstraction, forms, numbers	Groups: Practice data abstraction	Develop and conduct your search (NOT AN ASSIGNMENT)
5: February 9	Risk of bias (RCT)	Groups: Use risk of bias tool for RCT	-
6: February 16	Risk of bias (Non-randomised studies)	Groups: Use risk of bias tool for non-randomised studies	-
February 23	NO CLASS: Semester break		
7: March 2	Principles of meta-analysis, Part 1		2 - Submit risk of bias assessment (15%)
8: March 9	Principles of meta-analysis, Part 2		-
9: March 16	Narrative synthesis, heterogeneity, and subgroups	Groups: Narrative synthesis and subgroups	-
10: March 23	RESEARCH DAY		
11: March 30	Interpreting results and GRADE	Tutorial session: Apply GRADE Watch Online module: Summary of findings tables, GRADEpro	
12: Week of April 5 or 6	Students present methodological issue (10%)		3 – Submit GRADE assessment (15%) – April 6 at 23:59
April 21			4 - Submit systematic review (40%)

6. Student evaluation

Final marks are calculated based on assignments and participation in tutorials. Participation in tutorials includes preparation by reading required materials, applying principles, and engaging in conversation. Detailed descriptions of each assignment and marking scheme will be available in the course materials on Avenue.

Assignment 1: Background, PICO, inclusion/exclusion criteria (10%)
Assignment 2: Risk of bias assessment (15%)
Assignment 3: GRADE assessment (15%)
Presentation: Methodological issue in systematic review (10%)
Assignment 4: Systematic review (40%)
Participation: Tutorials (10%)

Grades in graduate courses at McMaster University are reported as letter grades:
A+ = 90 to 100 (consistently outstanding)
A = 85 to 89 (overall superior quality)
A– = 80 to 84 (high achievement)
B+ = 77 to 79 (competent, but not consistently high quality)
B = 73 to 76 (satisfactory quality)
B– = 70 to 72 (only marginally acceptable)
F = failure (inadequate work)

7. Materials

The text book from which there are many readings is

Users' Guide to the Medical Literature: A Manual for Evidence-Based Clinical Practice. Third Edition. Gordon Guyatt, Drummond Rennie, Maureen O. Meade, Deborah J Cook. *American Medical Association.* 2014.

Additional readings are also required and are described in each Session outline.

8. Assignments

Assignments should be electronically submitted on Avenue to Learn in the corresponding folder. Please submit as a **word document** (do not send as PDF – we would like mentors to be able to add comments directly to the document). Assignments should be named "HRM 743 Assignment [insert assignment #] [insert your last name]"

9. Office Hours

The instructor will be available 30 minutes before class to answer questions and for weekly office hours in person or through various online platforms (e.g., Skype, Facetime, WhatsApp, phone)

To schedule a meeting, contact Nancy at santesna@mcmaster.ca – the subject line should include "HRM 743" or send a text/WhatsApp to cell number: 289 407 1505

For questions about course registration, contact Abir Abdulla at hrmasst@mcmaster.ca
For questions about logistics of the course, contact Shahrzad Motaghi at shahrzad.motaghi@gmail.com
For questions about course content, contact Nancy Santesso santesna@mcmaster.ca

When contacting us, please use 'HRM 743' in the subject line of the email.