EVIDENCE SYNTHESIS
IRELAND

Network Meta-Analysis Training (3 days)

Aim

This course will focus on the role of network meta-analyses in comparative effectiveness research for healthcare interventions.

Learning outcomes

In this course participants will be enabled to:

- Understand the concept and the main principles of network meta-analysis
- Write a protocol for a network meta-analysis
- Understand and evaluate the assumptions of a network meta-analysis
- Interpret the results of a network meta-analysis
- Identify the limitations and potential sources of bias within a network of interventions
- Critically appraise the results from a network meta-analysis
- Synthesize the data from a network of interventions (Day 3 only)
- Create visualizations and prepare the final report (Day 3 only)

Target Audience

Healthcare professionals, academics, researchers, decision makers, librarians, information specialists, and Evidence Synthesis Ireland fellows and teaching faculty who **meet the below prerequisites** and would like to learn more about network meta-analysis

Teaching strategies

The workshop will consist of a mixture of lectures and interactive sessions. Day 3 will include practical sessions in R.

Date:
26th – 28th April 2023

Time:
09:30 – 16:30

Location:
University of Galway

Skill level:
Intermediate (Day 1 & 2), Advanced (Day 3)

Facilitator:

Dr. Anna Chaimani
Senior Research Scientist
Université Paris Cité, Inserm
https://www.cer-methods.com/
@AChaimani

Dr. Theodoros Evrenoglou
Postdoctoral Research Associate
Université Paris Cité, Inserm
https://www.cer-methods.com/
@TEvrenoglou

Places:
28 places open to residents on the island of Ireland with limited places available for international attendees

Fee:
Student €250
Regular Academia / Clinical €500
Industry €650

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Prerequisites:
Participants must have a solid understanding of systematic reviews and meta-analyses, and a basic knowledge of statistics including pair wise meta-analysis. The program assumes this knowledge as these prerequisites do not form part of the program content. Experience with R is necessary for any participants attending Day 3.

Course content/timetable

Wednesday	
09.30 - 10.00	Welcome and introductions
10.00 - 10.15	**Lecture 0.** Data formats and exemplar dataset
10.15 - 11.00	**Lecture 1.** Reminder on pairwise meta-analysis and scope of network meta-analysis
11.00 - 11.15	Coffee break
11.15 - 11.45	**Lecture 2.** Indirect and mixed comparisons
11.45 - 12.30	**Lecture 3.** Assumptions and validity of network meta-analysis
12.30 - 13.30	Lunch break
13.30 - 15.00	**Lecture 4.** Different approaches for performing a network meta-analysis
15.00 - 15.15	Coffee break
15.15 - 16.30	**Practical 1**. Performing network meta-analysis and presenting relative effects with NMAstudio

email: esi@nuigalway.ie @EvidSynIRL #evidencesynthesis

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Thursday	
09.30 - 09.45	Review of first day and questions
09.45 - 10.30	**Lecture 5.** Different approaches for modelling and assessing incoherence in network meta-analysis
10.30 - 11.00	**Lecture 6.** Different approaches for ranking interventions and interpreting results
11.00 - 11.15	Coffee break
11.15 - 12.30	**Lecture 7.** Evaluating the confidence of the evidence from a network meta-analysis
12.30 - 13.30	Lunch break
13.30 - 14.15	**Practical 2.** CINeMA
14.15 - 15.00	**Lecture 8.** Preparing the protocol for a network meta-analysis
15.00 - 15.15	Coffee break
15.15 - 15.45	**Practical 3.** Evaluating incoherence and ranking interventions with NMAstudio
15.45 - 16.30	Group discussion. Discussion on published network meta-analyses and on challenges from participants' network meta-analysis projects

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Friday	
09.30 - 09.45	Review of second day and questions
09.45 - 10.30	**Practical 4 (R):** Indirect and mixed comparisons
10.30 - 11.00	**Lecture 9.** A graph-theoretical approach for network meta-analysis and overview of the netmeta package in R
11.00 - 11.15	Coffee break
11.15 - 12.00	**Practical 5 (R):** Performing network meta-analysis and presenting relative effects
12.00 - 12.30	**Practical 6 (R):** Evaluating incoherence and ranking interventions
12.30 - 13.30	Lunch break
13.30 - 14.15	**Lecture 10.** Different approaches for network meta-analysis with rare events
14.15 - 15.00	**Lecture 11.** Modelling components of interventions and application with netmeta
15.00 - 15.15	Coffee break
15.15 - 16.00	**Lecture 12.** Including covariates in the network meta-analysis model
16.00 - 16.30	**Group discussion.** Discussion on software issues from participants' network meta-analysis projects and closing of the course

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