



EVIDENCE SYNTHESIS
IRELAND



Cochrane
Ireland

ESI Summer School

26th, 27th & 28th May 2026

Introduction to Evidence Synthesis: Summer School on Systematic Reviews and Beyond

Áras Moyola, University of Galway

Build your evidence synthesis skills: hands-on training in systematic reviews at University of Galway

HR^B An Bord
Taighde Sláinte
Health Research
Board

HSC Public Health
Agency
Research and Development



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UNIVERSITY OF GALWAY

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Introduction to Evidence Synthesis: Summer School on Systematic Reviews and Beyond

Overview:

Systematic reviews and evidence syntheses are powerful tools that compile and evaluate all relevant research on a particular question, providing a high-quality evidence base for decision-making. They are crucial for informing policy, guiding practice, and identifying future research needs—not just in health but across various sectors.

Join us for our Summer School at University of Galway from May 26th to 28th, 2026, for a hands-on three-day summer school on “Introduction to Evidence Synthesis.” This course is tailored for beginners and those looking to refresh their skills. While the focus is on health, the methods taught are applicable in multiple fields. Through interactive lectures, discussions, and practical exercises, you’ll learn how to conduct systematic reviews and evidence syntheses that can influence research and policy decisions.

Learning outcomes:

By the end of this summer school participants will:

- Understand the importance and principles of evidence synthesis, including systematic reviews.
- Understand how to formulate clear and focused research questions using appropriate frameworks.
- Learn how to develop a systematic review protocol following established guidelines.
- Know how to conduct comprehensive literature searches across multiple databases and sources.

Date/Time:

May 26, 27, & 28th 2026

Location:

Áras Moyola,
University of Galway

Places:

100

Fee:

General admission
(researchers, academia,
clinicians etc): €300

Student: €200

Industry: €600

Public and patients:

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Introduction to Evidence Synthesis: Summer School on Systematic Reviews and Beyond

- Gain knowledge of selecting relevant studies and extracting necessary data effectively.
- Understand the principles of assessing the risk of bias in different types of studies using standard tools.
- Understand the principles of both quantitative and qualitative synthesis methods.
- Be introduced to tools like GRADE to evaluate the certainty of evidence.
- Understand the application of these methods to their own research or professional practice across various sectors.
- Connect with peers and experts.

Audience

Beginners and those with some knowledge seeking to learn or refresh their skills in evidence synthesis, Systematic review authors, guideline developers, health and social care professionals, academics, researchers, postgraduate students, policy and decision-makers, Evidence Synthesis Ireland Fellows and other professionals, anyone interested in evidence synthesis methods.

Pre-requisites:

- Laptop required
- A basic understanding of research methods (not limited to health research)
- An interest in learning or enhancing knowledge on systematic reviews and evidence synthesis

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Introduction to Evidence Synthesis: Summer School on Systematic Reviews and Beyond

Day 1, 26th May: Foundations of Evidence Synthesis

09:30 – 10:00

Welcome & Evidence Synthesis Basics – Prof Declan Devane, University of Galway

- Course objectives and overview
- Introduction of instructors
- Brief history and importance of evidence synthesis

10:00 – 10:55

Understanding evidence synthesis – Prof Declan Devane, University of Galway

- Types of evidence synthesis (systematic reviews, meta-analyses, scoping reviews, etc.)
- Key principles and steps in the evidence synthesis process
- Differences between traditional literature reviews and systematic reviews
- Interactive poll: Identifying different types of reviews from examples

10:55 – 11:10 Break

11.10 – 11:55

Formulating research questions – Dr Linda Biesty, University of Galway

- Frameworks for question formulation
- Defining scope and objectives
- Importance of a well-formulated question
- Individual laptop activity: Developing a research question using a provided template

11:55 – 12:50

Comprehensive Search Strategies - Kavita Kothari, Health Information Specialist

- Database selection, Boolean operators, MeSH terms, grey literature



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Introduction to Evidence Synthesis: Summer School on Systematic Reviews and Beyond

Day 1, 26th May: Foundations of Evidence Synthesis

12:50 - 13:20

Search demo - Kavita Kothari, Health Information Specialist

13:20 - 14:15 Lunch

14:15 - 15:05

Developing Protocols - Dr David Moher, University of Ottawa

- PRISMA-P guidelines, protocol components, PROSPERO registration

15:05 - 15:20 Break

15:20 - 16:20

Study Selection and Screening - Dr KM Saif Ur Rahman, University of Galway

- Developing inclusion and exclusion criteria
- Title/abstract and full-text screening processes
- Introduction to screening tools (e.g., Covidence, Rayyan)
- Individual laptop activity: Screening a set of abstracts using an online tool

16:20 - 16:45

Day 1 Feedback & Reflection Session

- Review of key concepts
- Open forum for questions and discussion



Introduction to Evidence Synthesis: Summer School on Systematic Reviews and Beyond

Day 2, 27th May: Data Management and Critical Appraisal

09:30 – 10:45

Data Extraction and Management inc. Exercise (Short practical data extraction exercise)
– Dr Paula Byrne, University of Galway

- Designing extraction forms (paper-based vs. electronic)
- Types of data to extract (study characteristics, outcome data, etc.)
- Strategies for managing extracted data
- Tools for data management
- Individual laptop activity: Extracting data from a sample study using a provided electronic form

10:45 – 11:00 Break

11:00 – 12:00

Assessing risk of bias - Dr KM Saif Ur Rahman, University of Galway

- Concept of bias in primary studies
- Overview of risk of bias tools (e.g., Cochrane RoB 2 for RCTs, ROBINS-I for non-randomised studies)
- Common domains of bias (selection, performance, detection, attrition, reporting)

12:00 – 12:15

Practical session: Risk of Bias Assessment - Dr KM Saif Ur Rahman, University of Galway

- Individual laptop activity: Participants apply risk of bias tool to a sample study
- Live polling to compare assessments across the group
- Instructor-led discussion of challenging aspects and best practices

12:15 – 13:15 Lunch



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Introduction to Evidence Synthesis: Summer School on Systematic Reviews and Beyond

Day 2, 27th May: Data Management and Critical Appraisal

13:15 – 14:15

Introduction to Meta-Analysis – Prof Declan Devane, University of Galway

- Dichotomous
- Continuous
- Forest plots

14:15 – 15:15

Advanced Quantitative Methods – Prof Declan Devane, University of Galway

- Fixed vs random effects
- Heterogeneity Subgroup analysis, meta-regression, network meta-analysis

15:15 – 15:45

Day 2 recap and Q&A

- Review of key concepts
- Open forum for questions and discussion

Day 3, 28th May: Synthesis Methods and Knowledge Translation

09:00 – 10:30

Introduction to GRADE: Assessing certainty of evidence – Dr Sinéad Duggan, Queen's University Belfast

- Overview of GRADE approach for assessing certainty of evidence
- GRADE domains: risk of bias, inconsistency, indirectness, imprecision, publication bias
- Distinction between risk of bias and overall certainty of evidence
- Creating and interpreting Summary of Findings tables
- Introduction to GRADEpro software
- Individual laptop activity: Rating certainty of evidence and creating a Summary of Findings table



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10.30 - 11.30

Qualitative synthesis methods - Dr Linda Biesty, University of Galway

- Overview of qualitative synthesis approaches (e.g., thematic synthesis, meta-ethnography)

11.30 - 11.45 Break

11:45 - 12:45

GRADE-CERQual - Dr Linda Biesty, University of Galway

- Introduction to GRADE-CERQual for assessing confidence in qualitative synthesis findings
- Individual laptop activity: Applying GRADE-CERQual to sample qualitative findings

12:45 - 13:45 Lunch

13:45 - 14:45

**Technology and tools in evidence synthesis (Covidence demo, AI tools, software)
- Prof James Thomas, University College London**

Overview of key tools and automation in evidence synthesis

- Demonstration of major platforms (e.g., Covidence, Rayyan)
- Machine learning applications in systematic reviews
- Individual laptop activity: Hands-on experience with screening tools
- Group discussion: Integration of tools into review workflow



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14:45 - 15:30

PPI in evidence syntheses - Dr Nikita Burke, University of Galway and Maureen Smith, ESI PPI Advisor

15:30 - 15.45

Course wrap-up and final Q&A

- Review of key learning points
- Discussion on applying skills in participants' work contexts
- Resources for further learning and support
- Final Q&A and course evaluation

15.45 Close

Tickets Terms and Conditions:

Tickets are available for the full three days only. Group registration rate is available for groups of more than 5 attendees and can be paid by invoice. All other payments are via Eventbrite. You do not require a PayPal account to make payment via the PayPal facility on Eventbrite. ESI is a non-profit organisation. ESI charges a nominal fee for workshops in order to cover costs associated with events and reduce the incidence of no-shows. Fees are subsidised via funding from Health Research Board (HRB) and the Health and Social Care, Research and Development (HSC R&D) Division of the Public Health Agency in Northern Ireland. Refund requests made seven days or less before the event will only be refunded if the place can be reallocated to the event wait list.

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