

Evidence integration in hazard identification and characterisation

Welcome & objectives

Intro to HI

Lecture 1: Introduction to evidence integration for HI: overview of qualitative and quantitative methods and challenges

Intro to HC

Lecture 5: Introduction to dose-response modelling to derive health-based guidance values: current practice and challenges

Lecture 2: Integrating evidence within and across evidence streams using qualitative methods

Lecture 3: Recent developments for combining evidence within evidence streams: bias-adjusted meta-analysis

Lecture 4: Quantitative approaches to combining evidence across evidence streams

Lecture 2: Combining evidence on multiple endpoints in dose-response assessments: multivariate models

Lecture 7: Lecture Other quantitative methods for combining multiple studies and endpoints



DISCUSSION GROUP 1

Qualitative methods for integrating evidence within- and across evidence streams for HI

The discussion will focus on:

- Is GRADE sufficient? Does it satisfactorily address within-stream uncertainty and how different streams influence the integration and development of conclusions? If not, how do we preserve evidence-based principles in a rich integration process?
 - How do you best combine ("integrate") evidence streams for hazard identification?
- What/which/are there other components that could or should be included in the evidence integration process?
- How are the ratings for certainty integrated within the findings to develop/ systematize weight of the evidence conclusions? And how can the ratings be used to evaluate contradictory data?
- Recommendations for future developments in the field.



DISCUSSION GROUP 2

Bias-adjusted meta-analysis

The discussion will focus on:

- Comparing currently available methodologies for bias adjustment: advantages and limitations;
- Comparing these methodologies to the traditional meta-analytical approaches: benefits and issues;
- Identifying sources of evidence to inform bias adjustments, and how to account appropriately for all sources of uncertainty when making the adjustments;
- Possible solutions to the issues related to the use of currently available methodologies for bias adjustment;
- Recommendations for future developments in the field.



DISCUSSION GROUP 3

Quantitative approaches to combining evidence across evidence streams for HI

The discussion will focus on:

- Comparing available quantitative approaches for combining evidence across streams: advantages and limitations, possibility to reconcile different theoretical perspectives, identification of contexts in which one method is better than others;
- Identification of issues unaddressed by the currently available approaches;
- Recommendations for future developments in the field.



DISCUSSION GROUP 4

Using multiple endpoints and multiple studies for dose-response modelling: quantitative approaches

The discussion will focus on:

- Current practices when defining health based guidance values based on dose-response models: pros and cons;
- Available knowledge and methods to incorporate several endpoints within a study when modelling dose-response data: multivariate models or other statistical technique;
- Incorporating variability and uncertainties coming from different studies in dose response modelling that include several endpoints: Bayesian methods or other modelling frameworks;
- Recommendations for future developments in the field