

Swiss Epidemiology Winter School 2022



Systematic Reviews and Meta-analysis of Diagnostic Test Accuracy Studies

28 – 30 March 2022

Faculty

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Venue

CH – 3823 Wengen | SWITZERLAND

Hotel Sunstar (see map on <https://www.epi-winterschool.org/course-hotel-locations/>)

Description

This course will focus on the systematic review process to identify, critically appraise and summarise data from diagnostic test accuracy (DTA) studies. DTA studies evaluate the performance of a diagnostic test, for example to gauge how good a test is at discriminating between diseased and non-diseased persons. A systematic review is a useful design to summarise all evidence on the clinical performance of a diagnostic test for a specific disease or condition.

This course starts with a basic introduction to what a DTA study is and what estimates such as sensitivity and specificity mean. Thereafter, the course participants are introduced to the steps involved in the conduct of a high quality systematic review, including the planning, organisation and conduct of the statistical analyses (meta-analyses).

Objectives

By the end of this course participants will:

- Understand the different objectives and designs of DTA studies
- Understand the basic elements of a thorough literature search for DTA studies
- Understand potential risk of bias and concerns regarding applicability of DTA study results
- Understand the concepts underlying different approaches to meta-analysis of DTA studies
- Perform different types of meta-analyses of DTA studies (in RevMan and Stata)
- Describe summary estimates and interpret results from meta-analyses appropriately.

Target audience

The target audience are epidemiologists, statisticians and others who wish to conduct or appraise systematic reviews and meta-analyses of DTA studies. Participants should have a basic understanding of general statistical and epidemiological principles. Although exercises are done in STATA and RevMan, no prior experience with these packages is required.

Contact:

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Outline	<p>The course will run over three days and consist of lectures, group work and computer practical sessions. We start early in the morning with a review of the previous day. During the extended break in the afternoon participants review course materials, catch up on emails or go skiing. We reconvene at 4:30 pm for the computer sessions.</p> <p><i>Monday, 28 March (8:00 – 12:00 16:30 – 18:30)</i></p> <ul style="list-style-type: none"> • Lecture: General introduction to the course • Lecture: Design and analysis of a single test accuracy study • Lecture: General structure of systematic reviews of DTA studies • Lecture: Building a search strategy • Practical session: Searching in PubMed for DTA studies <p><i>Tuesday, 29 March (8:00 – 12:00 16:30 – 18:30)</i></p> <ul style="list-style-type: none"> • Lecture: Data extraction & quality assessment • Practical session: Using QUADAS-2 and calculating estimates of diagnostic test accuracy • Lecture: Approaches for DTA meta-analysis • Practical session: Using RevMan and Stata for meta-analyses <p><i>Wednesday, 30 March (8:00 – 12:00 16:30 – 18:30)</i></p> <ul style="list-style-type: none"> • Lecture: Comparing tests and investigating heterogeneity • Lecture/Exercise: Planning analysis • Practical session: Using Stata for test comparisons and investigations of heterogeneity • Lecture/Exercise: Interpreting results and drawing conclusions • Question and answer session, and feedback on the course
Credits	1.0 ECTS
To bring along	<p>Students should bring their own portable computers. Prior to the course, we will provide instructions regarding the installation of the software packages that will be used in the course. These are the freeware RevMan (http://tech.cochrane.org/revman/download) and STATA. STATA is a widely used statistical software package. We will install it on your computer at the start of the course. University of Bern IT staff onsite can provide help upon request per e-mail (it@ispm.unibe.ch)</p>
Course book	<p>Electronic copies of lecture slides, exercises and practicals will be provided. In addition, a course booklet of the exercises and practicals will be provided in print.</p>
Course fee	<p>SSPH+ students: CHF 700 Academic: CHF 900 Industry: CHF 2000</p>
Registration	<p>You can register on the Winter School website www.epi-winterschool.org.</p>
Accommodation	<p>Participants must book their accommodations themselves. Please see our recommendations on https://www.epi-winterschool.org/course-hotel-locations/) for special prices.</p>