

# Swiss Epidemiology Winter School 2025



## Introduction to the economic evaluation of healthcare interventions 20 - 22 January 2025

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### Faculty

#### **Dr. Mark Pletscher**

Novartis Pharma AG, Switzerland

#### **Niklaus Meier**

Institute of Health Economics and Health Policy, Bern University of Applied Sciences, Switzerland

#### **Prof. Georgia Salanti**

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### Venue

#### **CH – 3823 Wengen | SWITZERLAND**

Hotel Edelweiss ([maps](#))

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### Course description

Economic evaluations of healthcare interventions are essential tools for informing reimbursement decisions, healthcare policy and treatment guidelines. The goal of economic evaluations is to measure and compare costs and health effects of alternative uses of limited resources to support reimbursement and policy decisions.

This course aims to give an introduction into the basic concepts of economic evaluation with a focus on cost-effectiveness analysis. We will introduce the key principles and results of cost-effectiveness analysis and show how such evidence can be used in funding decisions. The course will cover important methodological aspects of the design and implementation of cost-effectiveness studies with a strong focus on model-based cost-effectiveness analysis. The theoretical concepts will be applied in practical tutorials in R.

Participants do not need prior experience in economic evaluation or clinical research, but a solid understanding of basic statistical concepts and general methods for the clinical evaluation of health care interventions is expected. The practical sessions require previous experience with R.

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### Contact:

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<b>Course objectives</b>	<p>By the end of our course, participants will:</p> <ul style="list-style-type: none"> <li>• Understanding the basic principles of cost-effectiveness analysis and resource allocation decision making under uncertainty.</li> <li>• Understanding the evidence requirements for informing resource allocation decisions in health care</li> <li>• Implementing simple cost-effectiveness analyses in R</li> </ul>
<b>Course audience</b>	<p>Researchers in health sciences, as well as decision-makers from public, commercial, and academic organizations, who need to conduct cost-effectiveness analyses in healthcare or want to gain a deeper understanding of the challenges health economists encounter in these analyses.</p>
<b>Course outline</b>	<p>The course runs over three days and consists of lectures, group work, and computer practical sessions.</p> <p>We start early in the morning by reviewing the previous day. During extended afternoon breaks, participants review course materials, catch up on email, or ski. We reconvene at 4:30 pm for practical sessions.</p> <p><b>Monday, 20 January 8:15 am – 12:15 pm   4:30 pm – 6:30 pm</b></p> <ul style="list-style-type: none"> <li>• Introduction to economic evaluation: Resource allocation in health care, types of economic evaluations, methodological aspects of economic evaluations.</li> <li>• Introduction to cost-effectiveness analysis: Concepts of cost-effectiveness analysis, decision making based on cost-effectiveness analysis, willingness to pay thresholds.</li> <li>• Computer practical: Basic concepts of cost-effectiveness modelling in MS Excel.</li> </ul> <p><b>Tuesday, 21 January 8:15 am – 12:15 pm   4:30 pm – 6:30 pm</b></p> <ul style="list-style-type: none"> <li>• Introduction to cost-effectiveness modelling: Overview of Decision trees, Markov models, and parametric survival models, introduction of basic concepts of cost-effectiveness modelling.</li> <li>• Handling uncertainty in cost-effectiveness analysis: Probabilistic sensitivity analysis, sensitivity analyses, decision making under uncertainty</li> <li>• Computer practical: Cost-effectiveness modelling in R.</li> </ul> <p><b>Wednesday, 22 January 8:15 am – 12:15 pm   1:15 pm – 3:15 pm</b></p> <ul style="list-style-type: none"> <li>• Estimation of clinical input parameters: Methods for estimating Markov transition probabilities (observed rates, multinomial logit, multistate models), parametric survival analysis, reporting of results for probabilistic analyses.</li> <li>• Use of indirect treatment comparisons in economic models: Basic concepts of indirect treatment comparisons, overview of methods for indirect treatment comparisons, implementation of outputs from indirect treatment comparisons in economic models,</li> <li>• Computer practical: Estimation of transition probabilities and parametric survival models in R.</li> </ul>
<b>Credits</b>	1.0 ECTS
<b>Course materials</b>	<p>Bring a portable computer with the latest versions of MS Excel, R and Rstudio installed.</p> <p><i>We strongly recommend only bringing computers you have administration rights for to the course.</i></p> <p>Onsite University of Bern IT staff provides support upon e-mail (<a href="mailto:it.ispm@unibe.ch">it.ispm@unibe.ch</a>) request.</p>

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<b>Course book</b>	We recommend the following book for further reading. <i>Edlin, R., McCabe, C., Hulme, C., Hall, P., &amp; Wright, J. (2015). Cost effectiveness modelling for health technology assessment: a practical course (No. 12404). Cham: Springer International Publishing.</i>
<b>Course fee</b>	PhD Bern Students: CHF 600 PhD Students: CHF 800 Academic: CHF 1000 Industry: CHF 2000
<b>Registration</b>	Register on the <a href="#">Winter School website</a> . Pre-Registration starts 26 August 2024 at 12:00 pm (CET) until 1 September 2025.
<b>Accommodation</b>	Book your accommodation separately. Please see <a href="#">recommendations for special prices</a> .

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