



Spring 2019  
Hall in Tirol, Austria

4-DAY CERTIFIED COURSE

## Registration Fee

\_ **Course fee academic/public** ..... Euro 1,250  
Early booking fee before 15 February 2019 Euro 980

\_ **Course fee commercial** ..... Euro 1,950  
Early booking fee before 15 February 2019 Euro 1,580

### \_ Discounts

#### **Group Registrations – Save 15 %**

Register with three or more colleagues and save!

#### **Students/Alumni – Save 20 %**

If you have previously participated in a Continuing Education Program Course on HTADS, you are eligible for a discount on selected future programs.

Course fees include a comprehensive syllabus, an extensive binder with background reading material, course certificate, snacks and lunch, but not accommodation. Certificates will be provided to all participants. You can earn 4 ECTS credits if you pass the exam at the end of the course.

**Registration for this course can be made online or by fax. Payment details, cancellation policy and registration form in PDF format are available on [www.umat.at/htads](http://www.umat.at/htads)**

## Contact & Course Location

**Continuing Education Program on  
HTA & Decision Sciences (HTADS)**

**Institute of Public Health, Medical Decision  
Making and HTA**

**UMIT – University for Health Sciences,  
Medical Informatics and Technology**

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# Causal Inference in Observational Studies and Clinical Trials Affected by Treatment Switching

A Practical Hands-on Workshop



# What is the Continuing Education Program on Health Technology Assessment & Decision Sciences (HTADS)?

Prof. Uwe Siebert, MD, MPH, MSc, ScD  
HTADS Program Director

## Health Technology Assessment (HTA)

has been defined by the International Network of Agencies for HTA (INAHTA) as “a multidisciplinary field of policy analysis studying the medical, economic, social, and ethical implications of development, diffusion and use of health technologies (e.g., drugs, devices, surgical procedures, prevention techniques)”. In conducting HTA, the discipline of decision sciences has become increasingly relevant.

## Decision Science (DS)

is the application of explicit and quantitative methods to analyze decisions under conditions of uncertainty (e.g., meta-analysis, decision-analytic modeling, cost-effectiveness analysis). In recent years, HTA and DS have become very important to health care policymakers. In order to keep pace with these developments, the UMIT – HTADS Program was designed to provide excellent quality education and comprehensive training in the key issues of HTA and DS for anyone involved in the health sector. The course faculty is drawn from leading international experts from universities, industry, HTA agencies and representatives from other relevant areas who are committed to provide independent teaching of state-of-the-art principles.

## Further HTADS Courses

### Winter School in Clinical Epidemiology

5-Day Certified Course, 21-25 January 2019

### Modeling Approaches for HTA:

A Practical Hands-On Workshop

3-Day Certified Course, 10-12 April 2019

### Scientific Writing for Life Sciences

3-Day Certified Course, Fall 2019

### Introduction to Health Technology Assessment

4-Day Certified Course, April 2020



## Course Faculty

### Prof. Uwe Siebert, MD, MPH, MSc, ScD

Professor of Public Health (UMIT), Adjunct Professor of Health Policy and Management (Harvard University), Chair Dept. of Public Health, Health Services Research and Health Technology Assessment, UMIT – University for Health Sciences, Medical Informatics and Technology, Hall i.T., Austria

### Dr. Nicholas Latimer, BSc, MSc, PhD

Senior Research Fellow in Health Economics, Health Economics and Decision Science, School of Health and Related Research, University of Sheffield, Sheffield, UK, Post-Doctoral Research Fellow, National Institute for Health Research (NIHR)

### Prof. Ian White, MA, MSc, PhD

Professor of Statistical Methods for Medicine  
MRC Clinical Trials Unit at University College London

## Target Audience

The 4-Day Certified Course in Causal Inference is aimed at members of:

- \_ Healthcare & health policy organizations, national HTA agencies
- \_ Regulatory agencies (EMA, FDA, etc.)
- \_ Pharmaceutical & medical device industry
- \_ Academia and research institutions
- \_ Health insurances/sickness funds
- \_ Consultancy organizations

This is an introductory course. A pre-requisite is basic knowledge of biostatistics and familiarity with the software package STATA or the willingness to learn. Course language is English. Computer examples will be programmed in STATA.

## Course Description

Causal inference in epidemiology and medicine is the process of drawing a conclusion about a causal connection between an exposure/intervention and an outcome. It provides important information for health policy decision makers, HTA agencies, clinical guideline developers and researchers to derive valid causal interpretations from study results in health and medicine.

This course covers the key concepts and methodological approaches to causal inference in observational and experimental studies with a specific focus on adjustment for treatment switching in clinical trials. Further aspects include adjustment for time-varying confounding, adjustment for compliance, adjustment for multiple lines of treatments, study design with real world data analysis, and the use of causal graphs.

The course combines lectures on theoretical concepts, discussions, case study exercises, and hands-on computer lab sessions. Practical applications using real world case examples address health interventions from different health technologies and different disease areas.

By the end of the course, participants will be familiar with:

- \_ Concepts and methods of causality, counterfactuals and causal inference
- \_ Framing and interpreting causal research questions
- \_ Use of causal diagrams (directed acyclic graphs, DAGs) in observational studies and clinical trials
- \_ The paradigmatic shift from traditional statistical analysis to causal analysis and the difference between naive methods and causal methods
- \_ Adjustment for fixed and time-varying confounding and treatment switching/adherence
- \_ Use of causal methods (g-formula, inverse probability weighting with marginal structural models, g-estimation with structural nested models)
- \_ The target trial concept
- \_ Applying publicly available software to case examples
- \_ Programming analyses in STATA using inverse probability weighting (IPW) with marginal structural models (MSM) and g-estimation with rank-preserving structural failure time models (RPSFTM)
- \_ How to identify the appropriate adjustment method
- \_ Recommendations and guidelines on adjustment methods