

Causal Inference in Infectious Disease Epidemiology

Hybrid Workshop of the *Infectious Disease Epidemiology Working Group* and the *Cross-Sectional Initiative on Causal Inference*, Thursday 12.12. to Friday 13.12.2024

Venue: Bernhard Nocht Institute for Tropical Medicine (BNITM), Hamburg, Germany

Causal inference provides innovative and powerful approaches for designing observational studies, selecting appropriate analysis methods, and inferring causal relationships from observational data. Some of these methods have become routine approaches in epidemiological analyses, such as the use of directed acyclic graphs for variable selection in regression modelling. However, other causal inference methods, such as g-methods to control for time-varying confounding, and design concepts, such as the target trial emulation framework, are not yet fully integrated into the toolbox of many epidemiologists.

Causal Inference in Infectious Disease Epidemiology is the topic of this year's workshop organised by the *Infectious Disease Epidemiology Working Group* and the *Cross-Sectional Initiative Causal Inference*. The aim of the workshop is to provide an overview of current developments, with a focus on target trial emulation and vaccine effectiveness studies. We have two keynote speakers on these topics: William Hulme from the Bennett Institute for Applied Data Science, University of Oxford (UK), and Marc Lipsitch from the Harvard T.H. Chan School of Public Health (USA). We also have a hands-on workshop with practical exercises and examples on causal inference methods led by Uwe Siebert from the UMIT TIROL, University for Health Sciences and Technology (Austria).

The first day of the workshop (12.12.2024) will be hybrid and will take place at the BNITM in Hamburg, and will comprise the keynotes and an abstract session. The hands-on tutorial will take place on the second day (13.12.2024) and will be held in presence at the BNITM. The hands-on tutorial will include introductions to causal principles and methods, case examples from infectious diseases, hands-on exercises, and a Q&A session where participants can discuss questions from their own research.

We invite colleagues to submit abstracts of their own work on causal inference and infectious disease epidemiology to be presented in a session on 12.12.2024. Please submit your abstract (300 words) to ag01@dgepi.de by 24.11.2024.

The workshop is sponsored by DGEpi and gmds and is free of charge. Please register for the workshop by 24.11.2024 at <https://bit.ly/CausalInferenceAndIDEpi>.

Best wishes from the organising team

Veronika Jäger, Heiko Jahn, Ralf Krumkamp and Uwe Siebert

For legal reasons, we have to state the following:

If the number of participants is too low or there is another important reason, the organisers of the event have the right to cancel or postpone the workshop or to change the programme.

Registered participants will be notified immediately. There are no further claims, in particular reimbursement of travel and accommodation costs or loss of working hours.

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Thursday, 12.12.2024 (hybrid)

Time	Topic	Lecturer
12:00–13:00	<i>Reception / light lunch</i>	
13:00–14:30	Challenges Estimating COVID-19 Vaccine Effectiveness using Routine Data in the OpenSAFELY Platform	William Hulme, University of Oxford
14:30–14:45	<i>Break</i>	
14:45–16:15	Improving Randomized and Observational Studies of Vaccine Effectiveness	Marc Lipsitch, Harvard T.H. Chan School of Public Health (online)
16:15–16:45	<i>Break</i>	
16:45–18:00	Abstract presentations	
from 19:00	Come together & Dinner (self-payer)	

Friday, 13.12.2024 (in presence at the BNITM)

Time	Topic	Lecturer
09:00–10:30	Hands-on Tutorial Causal Inference and Target Trial Emulation in Infectious Diseases	Uwe Siebert, UMIT TIROL & Harvard T.H. Chan School of Public Health
10:30–10:45	<i>Break</i>	
10:45–12:15	Hands-on Tutorial cont'd	
12:15–12:45	<i>Lunch break</i>	
12:45–14:00	Hands-on Tutorial cont'd	
14:00	Workshop Conclusion and Farewell	