



Causal Mediation Analysis in Epidemiology (ws13 – 5)

January 24 - 26, 2013

Faculty

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Introduction

Mediation analysis concerns assessing the mechanisms and pathways by which causal effects operate. The course will cover the relationship between traditional methods for mediation in epidemiology and the social sciences and those that have been developing within the causal inference literature. For dichotomous, continuous, and time-to-event outcomes, discussion will be given as to when the standard approaches to mediation analysis are valid. Using ideas from causal inference and natural direct and indirect effects, alternative mediation analysis techniques will be described when the standard approaches will not work. The use and implementation of sensitivity analysis techniques to assess the how sensitive conclusions are to violations of assumptions will also be covered. Discussion will be given to how such mediation analysis approaches can be extended to settings in which data come from a case-control study design.

The methods will be illustrated by various applications to perinatal, genetic and social epidemiology. Familiarity with linear and logistic regression will be required to fully benefit from the course; some knowledge of counterfactuals would be desirable but is not necessary. SAS, SPSS and Stata macros to implement these techniques will be covered and distributed to course participants.

Course objectives

- To become familiar with the recent developments in causal mediation analysis
- To understand the importance and implementation of sensitivity analysis
- To implement these techniques in popular statistical packages

What you have to bring

Students will bring their own laptops with an up to date version of either Stata, SPSS or SAS installed. Students with no access to any of these packages will be given course license for Stata.

Outline of course

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Maximum number of participants

The maximum number of participants on this course will be 20.

Course venue

Buehlstube (5 minutes walking distance from Sunstar Hotel and 15 minutes walking distance from Hotel Edelweiss)

Course hotels

Course participants will stay either at Sunstar Hotel or Hotel Edelweiss in Wengen. See <http://wengen.sunstar.ch> or www.edelweisswengen.ch for details on the hotels.

Course fee and hotel costs

Course fee: CHF 1000

Sunstar Hotel (including breakfast buffet and four-course dinner, transfer from/to train station, free use of swimming pool, sauna and steam bath):

Arrival January 23, departure January 27 (four nights)

Single occupancy CHF 600.-

Double occupancy CHF 560.-

Hotel Edelweiss (including breakfast buffet and four-course dinner, sauna, transfer from/to train station):

Arrival January 23, departure January 27 (four nights)

Single occupancy CHF 460.-

Double occupancy CHF 460.-

Triple occupancy CHF 400.-

Quadruple occupancy CHF 400.-

Please note that the hotel bill will have to be settled by each participant upon departure.