SSPH+ INTER-UNIVERSITY GRADUATE CAMPUS SWISS SCHOOL OF PUBLIC HEALTH

in collaboration with Swiss TPH

Introduction into multilevel modelling of clustered data

Facilitator

Prof. Martin Röösli
Swiss TPH, University of Basel

Description

Real data are often clustered such as repeated measurements on the same subject or measurements in grouped subjects (e.g. family or school studies). Failure to allow for clustering results in erroneous standard errors and confidence intervals. The aim of the course is to provide participants with an under-standing of the basic concepts and general techniques in the analysis of clustered data. Valid analysis methods appropriate for clustered data will be introduced. The course software will be Stata, although R may also be used. Main concepts to be covered include: clustering, random intercept, random slope, linear and logistic random-effects models (multilevel models, mixed models, hierarchical models), robust standard errors, generalized estimating equations (GEE), modelling strategy, model diagnostics.

Objectives

By the end of the course participants will be able to define the appropriate analysis method for a clustered data set. Participants will be able to perform and evaluate own analyses of clustered data.

Dates

05 – 07 July 2023

Eligibility

The course is aimed at SSPH+ PhD students, clinicians, researchers, public health specialists and other health care professionals who want to perform analyses of data with clustered structures. This is an advanced statistical course. Participants should know the principals of linear and logistic regression modelling and practical experience with linear regression analysis is required. Basic knowledge of Stata is an advantage. Alternatively, skilled R users are also welcome but have to expect less technical support for their scripts.

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Course Structure

This is a statistical methods course. We will follow a nonmathematical approach and focus on the practical application of the techniques on datasets from epidemiology and prevention research. The course consists of interactive lectures and computer practicals. You have to bring your own laptop to the course (Stata has to be installed.) We will conclude with a workshop discussing your own data.

Assessment

Written exam

Credits

1 ECTS

Preparation Work: 4 h, Contact: 24 h, Follow Up: 2 h

(1 ECTS corresponds to appr. 25-30 hours workload)

Location

University of Basel, details will be announced

Course Fees

	1 ECTS
SSPH+IGC Students	30 CHF
Postdocs from SSPH+ partner institutes	30 CHF
External PhD students and MD students	500 CHF
Others	1'000 CHF

Registration

www.conftool.com/ssph-phd-courses2023

Deadline for Registration

05 June 2023

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