Missing data in observational epidemiologic studies including non-detects

Facilitators	**Prof. Martin Röösli**, Head of the Environmental Exposures and Health Unit Swiss TPH, Basel **Dr. Jan Hattendorf**, Swiss TPH, Basel
Description	Missing data are common in real datasets. Most often data are not missing randomly. Also, non-participation and loss to follow-up are in fact (not-random) missing data problems, which can severely compromise a study's validity. Another form of not-random missing data are measurement values which are below the detection limit of a measurement device or diagnostic tool, which results in censored observations of low values.
	Failure to adequately deal with missing data produces biased results. The aim of the course is to provide participants with an understanding of the basic concepts and general techniques for dealing with missing data. The course software will be R. Main concepts to be covered include: imputation techniques for missing data, dealing with selection bias and lost to follow-up from the perspective of "missing data", censoring of data, analysis of data with measurements below the detection limit, tobit regression and statistical tests with censored data.
Objectives	By the end of the course, participants will be able to adequately deal with missing data. Participants will be able to perform and evaluate own analyses of missing data.
Dates	**07 - 09 September 2022**
Eligibility	This course is aimed at SSPH+ PhD students, clinicians, researchers, public health specialists and other health care professionals who want to perform epidemiological data analyses. 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. Knowledge of the statistical software R is needed (see also PhD course introduction to R).

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Course Structure	This is a statistical methods course. We will follow a non-mathematical 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 (R has to be installed.) We will conclude with a question and answer session and an exam.

Assessment Written exam

Credits

1 ECTS

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

(1 ECTS corresponds to approx. 30 hours' work)

Location **Basel**, details will be announced

Course Fees

SSPH+ PhD Students	30.-	CHF
External MD/PhD Students	300.-	CHF
External Academics	850.-	CHF
Others	1250.-	CHF

(The cost scheme depends on the Number of ECTS. Per ECTS participants are asked to pay 300.- CHF, 850.- CHF or 1250.-CHF, respectively)

Registration https://www.conftool.com/ssph-phd-courses2022

Deadline for Registration 07 August 2022

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