

Basic Biostatistics

Description

Statistics is the discipline that deals with randomness and probabilities and how to extract information from data in the face of randomness. Each scientific discipline attempting to learn about real world phenomena deals with statistical issues. Biostatistics is the sub-discipline of Statistics that focuses on applications in medicine and public health. In this module you learn how to describe transparently data that was collected for a given study. In addition you learn how to make inferences and conclusions that go beyond the current data set and make statements about the underlying population of interest. Furthermore, the information in the data set has to be condensed and presented in an understandable fashion. For this

- you reduce data by calculating group level quantities (like means, risks etc.)
- you quantify and interpret the amount of statistical uncertainty in your data, mostly by using 95% confidence intervals
- you make the first steps in using a statistical software (Stata) for data description, data transformation and simple statistical analyses
- you communicate appropriately the results obtained
- you translate specific questions into relevant statistical quantities of interest

Objectives

- Quantities of descriptive statistics and the fundamentals of statistical inference
- Uncertainty due to randomness
- 95% confidence intervals
- Calculating and transforming probability statements
- The interpretation of a p-value

SSPH+PhD Program:

Program Coordination Ann Walser

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Dates	20 – 21 August and 27 – 28 August 2018
Eligibility	Students of the SSPH+ PhD Program in Public Health
Course Structure	The course is based on the textbook «Essential medical statistics» (https://www.blackwellpublishing.com/essentialmedstats/) and is a mixture of lectures and solving practical problems on concrete examples and data sets (in-class and at home). With this you will develop a solid understanding of the main concepts of statistical inference biomedical sciences.
Assessment	Written exam during the course
Credits	3 ECTS Preliminary Work: 12 h , Contact: 26 h , Off class work between the course days: 24 h (1 ECTS corresponds to appr. 30 hours' work)
Facilitator	Prof. Marcel Zwahlen, Institute of Social and Preventive Medicine, University of Bern
Location	University of Bern, Room: tba
Course Fees	SSPH+ PhD Students 0.- CHF
Registration	Please register online on our homepage Registration is only possible for SSPH+ students
Deadline	20 June 2018

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