Organization

Venue
The course will take place in Heidelberg at the university campus “Im Neuenheimer Feld”. A detailed description of how to get there as well as other pertinent information will be sent with the confirmation of your registration.

Registration
Deadline for registration is June 05, 2008.

Course fee
The fee for the course is € 645; for university employees € 430.

Cancellation
Cancellations after June 12, 2008 will be charged with 25 % of the course fee.
In case of cancellation after June 19, 2008 the total fee is due.
A substituting participant can be named.

Information
www.biometrie.uni-heidelberg.de/master

Concept and Contents
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June 26 - 28, 2008
Goals and Contents

A cluster randomization trial (CRT) is a trial in which clusters of individuals, rather than individuals themselves, are randomized to different intervention groups. CRTs have come to be an important tool in the evaluation of nontherapeutic interventions, including lifestyle modification, educational programmes and innovations in the provision of health care. The units of randomization in such trials are diverse, ranging from relatively small clusters such as households or families, to entire neighbourhoods or communities, but also including places of work, hospital wards, classrooms and medical practices. The focus of this course is on primary care trials, which are typically conducted to assess methods of health care delivery.

This course will consider the design and analysis of such trials. The primary outcome variable in most cluster randomization trials is continuous or binary. Therefore, the statistical methods discussed in our course will present approaches to handle both cases: Models for random effects and generalized estimation equations (GEE). A short review of relevant theory as well as hints how to use available software will be demonstrated on real data sets.

The appropriate interpretation of statistical outcome will play an important role. With CRTs, there are two sample size issues: How many clusters and how many patients per cluster? Sample size estimation is usually based on the ICC, the intra-cluster correlation. There are problems related to the use of the ICC which depend - like the Pearson correlation coefficient - on the choice of the independent variable. Issues discussed are the estimation and range of values of the ICC found in general practice, and the associated sample size problems. Practical aspects of CRTs like ethics, handling of drop-outs, formulation of the intervention, and techniques in maximising compliance will be discussed. A critical review of the literature and hints how to read a paper on performed CRTs will be given.

References


Topics

- Introduction in CRT
- Summary measures
- Sample size considerations and ICC
- Classical Hierarchical Models for the analysis of Gaussian outcome data
- Classical Hierarchical Models for the analysis of binary outcome data
- Critique of papers
- Bayesian approach: theory and example
- GEE approach: theory and example
- Interpreting statistical outcome: comparison of marginal and cluster specific models
- Practical aspects of CRTs: ethics, drop-outs, formulation of the intervention, maximising compliance
- Supervised student work

Lecturers

- Dr. Rumana Omar, Department of Statistical Science, University College London, 1-19 Torrington Place, London WC1E 6BT
- Prof. Martin Bland, Dept. of Health Sciences, Seebohm Rowntree Building Area 2, University of York, Heslington, York YO10 5DD
- Prof. Dr. rer. nat. Ulrich Mansmann, University of Munich, Institute for Medical Information Processing, Biometry und Epidemiology, University of Munich

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Teaching language is English