

# THE CAMBRIDGE STATISTICS DISCUSSION GROUP

Wednesday 13<sup>th</sup> April 2011 7:15 for 7:45

The Large Seminar Room, Institute of Public Health,  
University Forvie Site, Robinson Way, Cambridge, CB2 0SR

## Missing Data: What are the Options?

**Shaun Seaman**  
MRC Biostatistics Unit

**Abstract:** Almost all datasets collected for medical or social research are missing some information that was intended to be collected. This complicates their analysis.

A commonly used approach is to exclude individuals with missing data. However, estimates obtained from this 'complete-case' analysis may be biased if the excluded individuals are systematically different from those included. Also, this approach can be inefficient.

In this talk, I shall discuss a variety of methods for handling missing data, including inverse probability weighting, multiple imputation, full-likelihood and doubly-robust methods. In addition, two particular areas of interest of mine will be discussed: combining inverse probability weighting and multiple imputation; and handling missing predictors of missingness when using inverse probability weighting. An illustration will be given using data from the National Childhood Development Study.

**Speaker:** Shaun's current main interest is the treatment of missing data in observational studies, particularly in cohort studies caused by, for example, individuals dropping out of the study. He works with epidemiological researchers in a variety of MRC units, with the aim of helping improve the way that missing data are handled. Shaun also has a long-standing interest in HIV/AIDS epidemiology and injecting drug use epidemiology. He currently works for the Medical Research Council, but has previously worked for INSERM (Paris), the Max-Planck Institute for Psychiatry (Munich) and UCL (London).

**Directions:** (From Central Cambridge) Turn right off Hills Road into the Addenbrooke's site then turn left at the hospital roundabout onto Robinson Way. Follow Robinson Way until you see an access road on the left signed 'Forvie Site' (but note that the sign is on your right). Turn into the access road and follow signs - first to the Institute and then to the Large Seminar Room. There is ample car parking. The front doors will be locked at 7:45. Arrivals after 7:45pm can gain admittance by contacting the secretary on 07761769436.

### Provisional Next Meetings:

11<sup>th</sup> October – Andrew Conlan (Cambridge Infectious Diseases Consortium).

November – Tim Eisen (Cambridge Cancer Centre).

15<sup>th</sup> March 2012 – David Daniels (Perse School) on 'Mathematics at the Perse school'.

3<sup>rd</sup> April – Lawrence Sherman (Institute of Criminology).

**Supper:** Some members eat regularly in the University Centre before each meeting at 5-45pm. Feel free to join them.

**Subscriptions:** of 1 pound are now due for attending the 2010-2011 session.

**Secretary:** Peter Watson, MRC Cognition and Brain Sciences Unit, 15 Chaucer Road, Cambridge CB2 7EF;  
telephone 01223 355294 Extension 801; E-mail [peter.watson@mrc-cbu.cam.ac.uk](mailto:peter.watson@mrc-cbu.cam.ac.uk)

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