



Biostatistics Unit

A Workshop on Sample Size Determination

The Biostatistics Unit of the South African Medical Research Council is presenting a one and half day workshop on **Sample Size Determination** to be held at the SA-MRC Pretoria offices from 27 to 28th October 2011.

In order to address the objectives of any research project (including survey research designs), choosing an appropriate sample size is a common problem. Data and conclusions resulting from inadequate sample size may be questionable and misleading; thus wasting resources used to collect the data. This workshop will provide participants with a practical introduction to sample size determination through essential steps including the design of a study; primary and secondary outcome variables; hypothesis tests, significant and power to detect set differences of clinical importance (Type I and II errors). It will also cover balances between recourses (time and cost), feasibility and reliability of the results to arrive at a final sample size. These will be done in the context of some of the commonly used significance tests in both experimental and survey designs.

Examples from the medical, public health and allied backgrounds will be used to highlight the problems associated with sample size determination, and potential solutions suggested. Formulae and algebraic notation will be kept to a minimum. A statistical software STATA will be used to demonstrate the calculations of various sample size scenarios. Participants are advised to download a free specialized sample size software PS - Power and Sample Size Calculation. Information on additional software is given.

Scientists and researchers who need to address the problem of sample size determination in planning a study need to attend the course. They will be given a sound introduction to sample size determination. Participants will be given an opportunity to discuss general issues related to sample size.

The workshop will, among others, cover the following:

- ✓ Problems of having inadequate sample size
- ✓ Concepts of type I error, type II error and power in relation to significance tests
- ✓ Sample size determination for comparisons of two means or proportions, analysis of variance (ANOVA) designs, repeated measures designs, regression designs
- ✓ Practical problems associated with sample size determination and possible solution
- ✓ Why it can be difficult to determine sample size

The workshop will be facilitated by **Professor Samuel OM Manda PhD**, Senior Specialist Statistician, Biostatistics Unit, SA-Medical Research Council, South Africa.

Applications to attend are invited from interested persons. A maximum of 20 participants can be accommodated. The workshop will be from 8:30 to 16:30 on the 27th, and to 12:30 on the 28th, October 2011.

The fee per participant is R1500 (inclusive of VAT) to be paid in advance. This includes all course materials, teas and lunches. Participants are responsible for their own travel, accommodation and dinner arrangements.

Enquiries and application to Mrs Emily Gomes: email: emily.gomes@mrc.ac.za; tel: +27 (0) 12 339 8523; fax +27 (0) 12 339 8582 giving at least your name, highest qualification in statistics, the institution you work for. Please register by mailing the completed form below and fee payment (ref: **BSU_SampleSize2011**) to Mrs. Emily Gomes before the 30st **September, 2011**.

Registration Form

Biostatistics Sample Size Determination Workshop, 27 – 28 October 2011 at the Medical Research Council, Pretoria

Name :
Title :
Institution :
Department :
Mailing Address :
Phone :
Fax :
E-mail :

Enclosed, deposit slip or a bank draft/cheque/postal order/local order for the amount of ZAR 1800 payable to South African Medical Research Council; First National Bank, Corporate Account Services Branch; Account Number 621 42728750; Branch Code 204 109; Swift Code FIRNZAJJ.
