

## **Faculty Specific Criteria for Promotion of Applied Biostatisticians in the Faculty of Medicine**

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### **Issue**

Need for Faculty specific criteria for candidates in the Faculty of Medicine whose academic work is conducted in the field of Applied Biostatistics.

### **Discussion**

The Faculty of Medicine, through its Schools and affiliated Centres and Institutes conducts research in an increasing number of domains where expertise in applied biostatistics is integral to the success of the research program. These include the Schools of Psychiatry and Public Health and Community Medicine, National Centre for HIV Epidemiology and Clinical Research, National Drug and Alcohol Research Centre as well as others with focussed groups of smaller scale. A number of academic staff with expertise in this disciplinary area in the Faculty of Medicine fill key roles in ensuring the excellence of these research programs as well as make significant contributions to their long term sustainability and growth.

Based upon repeated concerns over the last five years expressed by Faculty Promotion Committees, the following draft text and guidelines are proposed for consideration by the FSC. Any such set of guidelines with preamble should serve potential candidates (and their Heads of School, Institute or Centre) in preparing the submission for promotion as well as the FPC and QC in considering the application.

### **DRAFT PREAMBLE AND GUIDELINES**

These criteria apply to academic staff members who work in the field of Applied Biostatistics in the Faculty of Medicine and who are applying for promotion to the rank of Associate Professor. Promulgation of these criteria recognises that the role of biostatistician as key academic contributor within a clinical trials or epidemiological research groups within the Faculty is a relatively new one. The nature the academic role of an applied biostatistician in the Faculty of Medicine is necessarily distinctive from that of a biostatistician whose work focuses on pure aspects of biostatistics. The scale and complexity of clinical and epidemiological studies being conducted within the Faculty reflects the growing trend over the last 10-15 years both nationally and internationally to study large cohorts of patients with complex sets of variables. Such studies are generally only possible through collaborative efforts which bring staff together from a number of key disciplinary areas. It is in this domain that biostatistical expertise is crucial in adding to the clinical, translational and biomedical expertise for the research program. These criteria seek to codify and make explicit the elements of academic work which should be considered when promotion applications are being reviewed for such individuals.

The Faculty recognises that whilst much of the work in this discipline within the Faculty is as "collaborating biostatistician", the technical requirements of certain analyses or projects mean that the role is equally as often one of leadership. This could be in the design stage of research projects in relation to potential sampling (including sample size) and non sampling errors, data collection and the management of large complex data sets, directing or performing particularly complex

statistical analyses of existing data sources, adjustment for confounding, clustering or multiple testing, or leading complex modelling exercises.

The following list provides specific indication of some of the types of contributions which an applied biostatistician might expect to submit as a part of their promotion application.

- Leadership of and responsibility for biostatistical aspects in the design and analysis of national or international biomedical studies
  - Biostatistical leadership for large collaborative studies, including membership of study steering committees for national and international studies
  - Lead biostatistician on successful national and international competitive grant applications
  - Primary investigator on biomedical studies, including defining study objectives, leading study conduct and working procedures, obtaining grant support, publication in clinical and epidemiological journals.
- Development or application of biostatistical methodology in clinical trials or epidemiology
  - Leading contributions to clinical and epidemiological methodology, including study design, conduct or analysis
  - Leading the development of new hypotheses to be investigated, or leading the conduct of complex statistical analyses
- Development and application of mathematical or statistical models to investigate trends in disease and effects of interventions
  - Lead investigator on modelling projects, including defining objectives, identifying data sources, developing modelling methodology, and publication in journals, or government and technical reports
- Management, training, education and mentoring of a biostatistics group
  - Management staff for delivery of biostatistical support services in a professional and timely fashion
  - Training and education of staff, including development of standard approaches to study design and analysis, standard operating procedures, and development of junior staff to more responsible roles
- Post graduate education in biostatistics and epidemiological methods
  - Training in course work biostatistics and epidemiological methods, supervision of research students in biostatistical or methodological projects.
- Research or development of new biostatistical or epidemiological methods
  - Development or application of new analytical methodologies including methods for statistical, epidemiological or health policy assessment.

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