

research units



Biostatistics & Research Design Unit

The Biostatistics and Research Design Unit provides statistical collaboration and consultation in the design, conduct, analysis, interpretation, and reporting of research studies conducted by investigators at King Edward Memorial Hospital campus and affiliated institutions.

Our activities comprise study design, data collection methods, data analysis of completed studies, manuscript preparation, grant proposal preparation, review of grants and manuscripts, student supervision and presentation of seminars on statistical methods in medical research.

Biostatistical input into the research studies contributes considerably towards their successful completion. Our involvement in research projects ranges from short-term consultations to ongoing long-term collaborations on studies supported by research funding. The majority of our activities involve ongoing, long term collaborations on research studies which begin at a study conception and continue until its completion and dissemination of results. Most research projects supported by competitive grants benefit from ongoing statistical collaboration, and that collaboration is most effective if it is initiated at the study design stage. Effective research design requires robust data collection that follows a clearly delineated and adaptable plan formulated before the study commences and is carefully executed throughout the study.

Our activities are centered on design and conduct of observational studies and clinical trials and statistical analysis of data arising from these experiments. In the design stage, we often consider the study objectives and the appropriate study design to meet these objectives. We help define primary and secondary outcomes and formulate the associated statistical hypotheses, advice on collection of pilot data and estimate the sample size to attain required statistical power. We develop plans for statistical analysis and evaluate potential major confounding variables that may affect outcomes when they are not directly related to the outcome of interest. We consider if stratification is appropriate and necessary when the study outcomes are expected to differ distinct patient groups. We prepare randomisation schedules facilitate blinding of principal investigators whenever possible. We are also involved in the formulation of data collection and data management procedures, including implementation issues such as reproducibility and validity of the utilised measurement tools. During the conduct of a study we involved with database development and support, as well as coordination of data entry.

Research studies supported by the Unit span all areas of women's reproductive health and their offspring's health from the neonatal period until young adulthood. We look forward to meeting the existing and emerging biostatistical challenges in women's health and reproduction in coming year.

Professor (Adj) Dorota Doherty
Head, Biostatistics and Research Design Unit

collaboration
&
consultation



L-R Prof (Adj) Dorota Doherty,
James Humphreys, Liz Nathan