Victorian Centre for Biostatistics

SEMINAR

9:30-10:30am, Thursday 23rd April

Zoom videoconferencing

https://monash.zoom.us/j/828592210

Bayesian adaptive designs for phase III randomised controlled trials

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Phase III randomised controlled trials (RCTs) are typically long and expensive, restricting their use and resulting in long lead times to answer important clinical questions. Researchers and funders have recognised the need for trials to become more efficient, yet the overwhelming majority of trials continue to use traditional methods, particularly with fixed designs.

Bayesian adaptive trial methods have the potential to allow trials to answer their questions more efficiently, often meaning that effectiveness can be determined with fewer patients and in a shorter time. We aim to demonstrate that implementation of adaptive designs for phase III trials in the Bayesian framework can be achieved fairly easily, and using detailed examples, will demonstrate the process of how a Bayesian adaptive design for a phase III trial can be constructed, and the decisions that need to be made during the design phase. We will also show how these approaches can improve the trial efficiency and provide results that can easily be interpreted. This will be achieved by re-designing and performing virtual re-executions of large, multicentre RCTs that were designed using traditional methods.

Dr Elizabeth (Liz) Ryan provides biostatistical support to the UQ Faculty of Medicine through the Research and Statistical Support Service. Liz also delivers biostatistics clinics at the Translational Research Institute, Child Health Research Centre and Sunshine Coast HHS via QFAB. Liz was previously based at the Cancer Research UK Clinical Trials Unit at the University of Birmingham and the Warwick Clinical Trials Unit, University of Warwick; working on a UK MRC funded project on Bayesian adaptive designs for phase 3 effectiveness trials. Liz completed her PhD in Statistics at QUT in 2014, investigating optimal methods for Bayesian experimental design with an emphasis on designing pharmacokinetic studies.

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