VICTORIAN CENTRE FOR BIOSTATISTICS

ViCBiostat

Victorian Centre for Biostatistics

ONE DAY WORKSHOP

Friday 16th March 2018

9.00am to 5.00pm

Murdoch Children's Research Institute,

50 Flemington Rd, Parkville, Cox-Walford Room, Level 5

Sources of bias in randomized trials and non-randomized studies of interventions: a causal inference perspective

Professor Jonathan Sterne

University of Bristol

The assessment of risk of bias in randomized trials (RCTs) and non-randomized studies of interventions (NRSI) has evolved substantially in recent years. These changes are reflected in newly available tools (ROB 2.0 for randomized trials and ROBINS-I for NRSI; see www.riskofbias.info). These new tools are based on key concepts in modern causal inference. In this course Jonathan will:

- Introduce the key features of the RoB 2.0 and ROBINS-I tools (domain-based bias assessments, use of signalling questions and algorithms to guide risk of bias judgements), and derivation of the overall risk of bias in a specified result).
- Describe the domains of bias appropriate to assessment of RCTs and NRSI.
- Describe how modern epidemiological understanding of confounding (including time-varying confounding), selection bias and misclassification bias informs the new tools.
- Explain the importance of specification of whether the effect of interest is that of assignment to intervention (the "intention to treat" effect) or that of starting and adhering to intervention (the "per protocol" effect).

Participants will use one of the new tools to assess risk of bias in either a RCT or an NRSI.

Jonathan Sterne is Professor of Medical Statistics and Epidemiology in the University of Bristol's Department of Population Health Sciences, and Deputy Director of the NIHR Bristol Biomedical Research Centre. Jonathan has a longstanding interest in methods for systematic reviews and meta-analysis, led development of the ROBINS-I tool for assessing risk of bias in non-randomised studies of interventions, and contributed to the development of the Cochrane risk of bias tool for randomised trials. He also leads a large collaboration of HIV cohort studies that led to advances in our understanding of prognosis of HIV-positive people in the era of effective antiretroviral therapy. He has authored highly-cited papers on causal inference, including methods for instrumental variable analyses of Mendelian randomisation studies. Other research interests include methodology for epidemiology and health services research and the epidemiology of asthma and allergic diseases.

Registration details coming soon on ViCBiostat website: www.vicbiostat.org.au

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