



HSRAANZ Webinar Series –The crisis in health and medical statistics

Presenter – Professor Adrian Barnett, Queensland University of Technology

Thursday 1 August 2019 at 11:00am Sydney, Melbourne, Canberra

There is no cost to attend the Webinar, but registration is essential. Please register at:

https://zoom.us/webinar/register/WN_nnzRBISctUSQqKvHBu_F0A

The Webinar will be about 1 hour including time for Q and A.

Abstract: Health and medical research is vital for improving the lives of Australians. At its best it involves skilled researchers testing relevant questions using rigorous methods that translate into practice. Unfortunately, much research that uses statistics fails to improve health because of long-standing issues such as inadequate training, poor regulation and perverse incentives that reward quantity over quality. Recent attempts to reproduce peer reviewed papers in health and medicine had failure rates between 75% and 90%, and an estimated 85% of research is currently lost due to poor research practices.

Poor statistical practices are central to this “reproducibility crisis”. Many health and medical researchers – even those with years of experience – have little understanding of the correct definition of a p-value, confidence interval or confounder. Too many researchers follow the “publish or perish” maxim and salami slice their research and promote “statistically significant” findings that are not reproducible. The bias to publish “statistically significant” results means crucial evidence that fails to show a difference is often never published. Other crucial evidence may be suppressed because of conflicts of interest.

The problem with statistics is not the methods themselves but in the way they are applied. Hence statisticians have a key role in tackling the current crisis by promoting best practice and training their colleagues. We can also study the problems and design evidence-based interventions to reduce them as part of the new field of meta-research or “research on research”. Although the current situation is grim there is enormous potential to increase the value of health and medical research by promoting better statistical practice.

Biography: Professor Barnett has a Bachelor of Science in Statistics from University College London and a PhD from the University of Queensland. He has worked for over 21 years as a statistician, working for drug companies, research councils and universities. He is an NHMRC Senior Research Fellow with a project title of: “Meta-research: Using research to increase the value of health and medical research”. He is the current president of the Statistical Society of Australia.

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