

**Victorian Centre for Biostatistics****Seminar****Thursday 23<sup>rd</sup> October 2014****9.30am to 10.30am****Ella Latham Theatre, Royal Children's Hospital****Ground floor, 50 Flemington Rd, Parkville****The use of duration models in the estimation of causal effects:  
Applications from health economics**

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**Melbourne University**  
**Department of Economics**

This talk describes two approaches used in economics to identify causal effects, and illustrates their use with applications drawn from health economics. The first approach described is the difference in difference estimator. This estimator is used widely in the economics literature that seeks to identify the effects of government policies. We demonstrated how this framework can be extended to the context of a hazard model and used to investigate the impact of decriminalization on initiation into cannabis. The second method we present is the mixed proportional hazard model, and it is extended to a bivariate framework to address the issue of simultaneity. This method is applied to study the relationship between the onset of suicidal ideation and initiation into cannabis use.

**Prof Jenny Williams** is a Professor in the Department of Economics at the University of Melbourne in Australia. Prior to joining the University of Melbourne, she held an appointment at the University of Adelaide and a visiting appointment at University of Illinois at Chicago. Her research interests lie broadly within the area of applied microeconomics with a focus on (risky) behaviour of youth. The common theme in her research is empirically investigating the ways in which decisions and circumstances faced in youth impact on success in later life. She has applied this perspective to study the causes and consequences of delinquent and criminal behaviour, the determinants of substance use (including government policies), the impact of substance use on health and education, and labour market outcomes, as well as the determinants of child health, and fertility related decisions of young women.

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