



## The value of full disease models to inform the efficient and equitable allocation of scarce financial and physical resources

Presented by

Associate Professor Jon Karnon

**Date:** Wednesday 15<sup>th</sup> October 2008  
**Time:** 1:00-2:00pm  
**Venue:** RB Scotton Room  
2<sup>nd</sup> Floor, Building 75  
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Full disease models that describe the population course of a disease from incidence to death have been used as a framework for the economic evaluation of screening programmes since the 1970s. Relatively few screening evaluations have been undertaken, but the recent surge of interest around the evaluation of preventative public health interventions has increased awareness and interest in the use of full disease models. Another area of application for such models concerns analyses of cost-effectiveness that represent the true opportunity cost of physical resources (i.e. health benefits foregone).

In this seminar I present two case study evaluations. Firstly, a full disease model of age-related macular degeneration (AMD) that was used to evaluate potential screening programmes. This model incorporated innovative model development (a hybrid Markov – individual sampling model) and model analysis (probabilistic calibration) techniques. I will also discuss the extensions that might be required to the model to enable the evaluation of preventative interventions for AMD.

The second case study model represents the progression of glaucoma in the cohort of patients attending outpatient clinics at the Royal Adelaide Hospital. The model predicts the health consequences of alternative approaches to organising outpatient clinics, as well as the impact of alternative clinical decision variables that impact on health as well as the use of the scarce resources available to provide outpatient clinics.

### Presenter

Jon Karnon started work at the University of Adelaide in September 2007. Previously, he worked at the School of Health and Related Research at the University of Sheffield, the Health and Safety Laboratory, and the Health Economics Research Group at Brunel University. His principle research focus is around the use of decision modeling techniques as a framework for the economic evaluation of health care technologies. Methodologically he has compared the costs and benefits of alternative modeling techniques, and led a review of modeling methodologies for the evaluation of screening programmes. He is currently developing a new modeling framework for the combined analysis of health service delivery, patient choice, equity and efficiency ([www.adelaide.edu.au/esip](http://www.adelaide.edu.au/esip)), a framework for the economic evaluation of community-based initiatives ([www.adelaide.edu.au/pcsip](http://www.adelaide.edu.au/pcsip)), and research to identify equitable and efficient solutions to handling additional hospital demand ([www.adelaide.edu.au/hdm](http://www.adelaide.edu.au/hdm)).