

## Centre For Health Economics Seminar Series 2018

### A NOVEL APPROACH TO LATENT CLASS MODELLING: IDENTIFYING THE VARIOUS TYPES OF BODY MASS INDEX INDIVIDUALS

Presenter: Professor Mark Harris, Curtin University  
Date: Wednesday, 3 October 2018  
Time: 12.00pm - 1.00pm  
Venue: RB Scotton Room  
Centre for Health Economics



#### Abstract

Given the increasing prevalence of adult obesity, furthering the understanding of the determinants of measures such as Body Mass Index (BMI) remains high on the policy agenda. We contribute to existing literature on modelling BMI by proposing an extension to latent class modelling, which serves to unveil a more detailed picture of the determinants of BMI. Interest here lies in latent class analysis with: a regression model and predictor variables explaining class membership; a regression model and predictor variables explaining the outcome variable within BMI classes; and instances where the BMI classes are naturally ordered and labelled by expected values within class. A simple and generic way of parameterising both the class probabilities and the statistical representation of behaviours within each class is proposed, that simultaneously preserves the ranking according to class-specific expected values and yields a parsimonious representation of the class probabilities. Based on a wide range of metrics, the newly proposed approach is found to dominate the prevailing one; and moreover, results are often quite different across the two.

#### Presenter

Mark is a John Curtin Distinguished Professor, in the School of Economics, Finance and Property, Curtin University, and is Director of the Health Economics Cluster (at Curtin University). Prior to Curtin, he held teaching and research appointments at Monash University and the University of Melbourne. Mark has made significant contributions to the field of Applied Economics and was nominated by the Australian Research Council (ARC) College of Experts as 'expert of international standing'. He is also a member of the ARC's ERA 2018: Economics and Commerce Committee. His research and publication interests have been focused on the areas of applied economics and econometrics, across a wide range of subject areas. Recently Mark has undertaken a significant amount of research into the broad area of Health Economics and Big Data. He gained his PhD from Monash University, in 1997, and a BA (Honours), First Class, Economics, in 1989, from the University of Sussex, UK. He teaches primarily into the econometric streams. He has published in leading journals such as the: *Journal of Econometrics*, *Journal of Health Economics*, *Transportation Research B*, *Journal of the Royal Statistical Society A*, *Health Economics* and *Journal of Economic Behavior & Organization*. He has also been the recipient of numerous ARC Discovery Projects and has held continual ARC funding since 2003

#### VISITORS ARE MOST WELCOME

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