

August 2014

Welcome to HERU's August 2014 Newsletter.

In this edition we highlight key achievements over the past four months, as well as some current research activities across our themes.

I hope you enjoy reading our newsletter. Further information is available on our website and you can receive more frequent updates on the HERU Twitter page (http://twitter.com/HERU_Abdn).

Professor Mandy Ryan
Director, HERU

HERU's Summer Internship Programme

Three undergraduate students have recently taken up summer internship placements. Our interns will be given a taste of research work in HERU as they work alongside HERU staff undertaking tasks such as literature searching, assisting in the analysis of existing data and conducting pilot work in the development of surveys.

We welcome:

Jonathan Edwards, who recently graduated with an MA in Economics from the University of Edinburgh. Jonathan will work on 'A literature review of the use of discrete choice experiment's applied to optimal skill mix in the health service', and 'Investigating survey mode effects in willingness to pay surveys'.



Yingyu (Judith) Guo, who is about to enter her 3rd year studying for a BSc in Banking and Finance at the University of Leicester. Judith will work on 'Nudging consumers towards a healthy food choice: A pilot discrete choice experiment', 'An analysis of cost and quality of life data for Prolapse interventions' and, 'The relationship between provider and patient reported quality of primary care'.



Amy Humphreys, who recently graduated with a BSc in Economics from the University of Leicester. Amy will work on 'A literature review on priority setting in healthcare', and "A discrete choice experiment survey of telecare".



HERU welcomes visit from Dr Dean Regier



Dr Dean Regier left HERU after completing his PhD 8-years ago. He is currently a senior health economist at the Canadian Centre for Applied Research in Cancer Control and an Assistant Professor at the school of

Population and Public Health, University of British Columbia.

On his visit to Aberdeen Dean said "I feel my month-long visit to HERU was very productive from a research perspective. I was particularly impressed with the ongoing, novel research into stated preference methods at HERU, from my discussions with PhD students, to visiting the experimental economics lab within the business school, to the mini choice conference outlining novel research methods.

HERU's Stated Preference Conference

The Methods of Benefit Valuation theme organised a half-day Stated Preference Conference. The conference brought together presentations from researchers and PhD students in HERU (Sebastian Heidenreich, Dr Nicolas Krucien, Professor Mandy Ryan and Dr Verity Watson), Dr Simone Cerroni from the Rowett Institute of Nutrition and Health, and Dr Dean Regier from the Canadian Centre for Applied Research in Cancer Control at the British Columbia Cancer Agency and the School of Population and Public Health at University of British Columbia.

The presentations were organised around two themes: 'Decision Heuristics and Stated Preference Responses' and 'Information and Framing in Stated Preference Tasks'. The conference was attended by researchers and students in HERU as well as colleagues from across the University of Aberdeen.

Further details of the day are available at <http://www.abdn.ac.uk/heru/heruevents/statedpref/>

HERU workshop at Scottish Government: What can economics contribute to self-management?

Professors Paul McNamee, Marjon van der Pol and Mandy Ryan presented a workshop at the Scottish Government in May on economics and self-management. The aim of supported self-management is to enable people to better maintain their health and to manage periods of ill-health. Self-management is of particular importance in people with multiple and chronic illnesses. The workshop focused on using economics to understand self-management behaviour, preferences for self-management and cost-effectiveness of self-management interventions.





Income related inequalities (IRI) in health and health behaviours (smoking, obesity, fruit and vegetable and alcohol consumption)

have been a persistent problem in the UK. This project has investigated the impact on health inequalities of targeting policies to improve health behaviour.

Data on respondents aged 18-64 from the 2003 and combined 2008/2009 Scottish Health Surveys and the 2003 and 2008 Health Survey for England were used to compare results within and between Scotland and England. The main inequality measure is the concentration index which measures the extent to which

good health or health behaviour is concentrated amongst the rich relative to the poor. This measure can be used to assess the contribution of social and demographic determinants to relative health and health behaviour inequality, as well as to analyse what factors explain differences in health and health behaviour inequality.

As expected, significant IRI in health and health behaviour were found in Scotland, favouring those on highest incomes. Over time, significant relative improvements were found amongst the general health measures only for self-reported very good and good general health in Scotland. However, no significant relative improvements were found for any health behaviours

in Scotland, whilst absolute inequalities in health behaviours and very good and good general health reduced significantly. Compared to England, Scotland's relative health and health behaviour inequalities are worse. Inequalities and differences in inequalities between Scotland and England, and over time, are largely explained by income, economic inactivity status and education. Education is a particular contributor to health behaviour inequalities. Whilst health behaviours as health determinants only make small contributions to IRI in general health, they make larger contributions to IRIs in health behaviours.

Finally, we find that, in the short term, reducing the impact

of disadvantage on health and health behaviours has more effect on IRIs than changes in the underlying distribution of income, economic activity and education. Our results suggest that the targeting of health improvement interventions to disadvantaged groups may be more effective, in the short term, than reducing IRIs in underlying socio-economic factors. This is consistent with programmes such as Keep Well, which focus on improving health and health behaviour in disadvantaged groups.

Further details can be obtained by contacting Dr Barbara Eberth at Barbara.Eberth@ncl.ac.uk or Professor Anne Ludbrook at a.ludbrook@abdn.ac.uk

Socioeconomic inequalities in health and behaviour: Application of novel Approaches to identify health inequality in Scotland and England to inform Policy

HERU investigators: Barbara Eberth (now at University of Newcastle), Anne Ludbrook and Rodolfo Hernandez

Other investigator: Ulf-G Gerdtham (Lund University)

HERU Health Economists' Study Group (HESG) Papers

Time preference and physical activity

HERU Investigator: Marjon van der Pol (HERU)

Other investigators: Barbara Eberth (University of Newcastle), Dmitri Kemenev (BaseCase, Berlin)



Increasing the level of physical activity in the population remains a major policy concern. In order to devise effective interventions it is crucial to know what determines whether people engage in physical activity. Several potential determinants have been explored including socio-economic characteristics, time constraints and motivation. Economists view physical activity as a health investment which has short term costs (time and financial costs of engaging in physical activity) and long term benefits (improved health). Given the differential timing of costs and benefits, it can be hypothesised that individuals with high time preference rates (who are more present oriented) are less likely to invest. The main interest in this Health Economic Study Group (HESG) paper is in the role of time inconsistent preferences. Individuals often plan to engage in physical activity next week but fail to follow through when next week arrives. This can be explained by the enhanced significance that individuals attach to outcomes that occur now (present bias). This paper examines the relationship between time preference, present bias and physical activity participation? The paper uses the 2006 National Longitudinal Survey of Youth (NLSY) data which has a rich set of variables including time preferences elicited using stated preference methods and a relatively large sample of over 6000 individuals for analysis. Preliminary results show that i) time preferences significantly impact women's physical activity participation but not men's, and ii) that present bias influences physical activity participation decisions in women but not in men. The results suggest that pre-commitment strategies may be effective in encouraging physical activity participation in women. Further analysis is currently being conducted.

For further information please contact Professor Marjon van der Pol at m.vanderpol@abdn.ac.uk

Using eye tracking methods to understand information processing strategies when responding to discrete choice experiments

HERU investigators: Nicolas Krucien and Mandy Ryan

Other investigator: Frouke Hermens (School of Psychology, University of Aberdeen)



The increased use of discrete choice experiments (DCEs) in health economics has been accompanied by an interest in how individuals respond to such choice tasks. More specifically, researchers have questioned whether individuals respond to DCEs in the way economic theory predicts. Quantitative methods employed to date have been argued to be limited in addressing this question. In this Health Economic Study Group (HESG) paper we explore the use of eye-tracking methods to shed further light on how individuals respond to DCEs. The results provide evidence of a left-to-right and top-to-bottom bias, suggesting practitioners should randomise the order of alternatives and attributes. We also find that some attributes are not considered in the decision-making process and that incorporating visual attention into DCE models improves model fit, potentially improving the validity of welfare estimates and thus the delivery of healthcare. This research is in its early stages, future work will extend analysis around DCE data as well and look at the application of eye-tracking methods to research more broadly within HERU.

For further information, please contact Dr Nicolas Krucien at Nicolas.krucien@abdn.ac.uk or Professor Mandy Ryan at m.ryan@abdn.ac.uk

'In with the old, out with the new' In search of ways to help health economists' break their addiction to technology adoption

HERU Investigators: Graham Scotland and Stirling Bryan

This Health Economic Study Group (HESG) paper, recently presented at HESG (Glasgow) and iHEA (Dublin), explored ways in which health economists might begin to redress the observed imbalance between the evaluation of new technologies (for adoption decision making) and existing technologies in widespread routine use. The focus was on identifying ways in which health economists can facilitate the ready identification of inefficiencies in the current mix of technologies, and so in turn promote allocative efficiency through better decision making.

There are two main aspects to the argument:

- (1) we should move away from the adoption focus towards management, with more analytic consideration of in-use technologies; and
- (2) we should consider a move away from the current 'piece-wise' approach to economic evaluation, where individual technologies are evaluated in turn, to a broader frame for the decision problem, with explicit consideration of opportunity costs.

Underlying the first point is the contention that the analytic approach to economic evaluation for new technologies, typically model-based cost-effectiveness analysis, is appropriate and equally relevant to the evaluation of in-use technologies. Whilst there may be greater uncertainty due to a lack of contemporaneous trial data for some in-use technologies, this should not preclude decision modelling being used to inform potential withdrawal (Karnon et al 2009).

Behind the second aspect of our argument is the recognition that incremental cost-effectiveness analysis, in its current form, does not explicitly quantify opportunity cost. Rather, the framework implicitly assumes that when a new technology (of higher cost and greater benefit) is recommended for adoption, the additional resources will come from displaced activities of lower value elsewhere in the system. One way to address this limitation is to broaden the scope of economic evaluation (Birch and Gafni, 1992; Murray et al. 2000; Tappenden et al. 2012), to assess the net costs and health consequences of simultaneous investment(s) and disinvestment(s) at different points within a care or disease pathway. The feasibility of adopting this broader frame of pathway management was explored using a case study in the area of prostate cancer.

In conclusion, the paper advocates rejection of the current, almost exclusive, emphasis on technology adoption, the use of modelling to help identify inefficiencies in current care pathways, and broadening the scope of decision modelling to consider the net value of pathway reconfigurations.

For further information please contact Dr Graham Scotland at g.scotland@abdn.ac.uk

We warmly welcome Laura Dysart, an MSc Student from University of York, who will spend three months in HERU conducting her MSc dissertation. She will investigate the role of time and risk preference in the intergenerational transmission of health behaviours using British data from the 'Understanding Society' survey.



Education and Training

- Health Economics Postgraduate Certificate Distance Learning
- MSc Economics of Health

APPLICATIONS
CURRENTLY BEING
ACCEPTED

For further information:
<http://www.abdn.ac.uk/heru/courses/>

Selection of Conference Presentations.....

The 2014 European Health Economic Conference (ECHE) and international Health Economic Association (iHEA) joint congress: 'Health Economics in the Age of Longevity' took place at Trinity College in Dublin 13th-16th June. HERU staff and students were well represented holding three organised sessions and number of oral presentations. Details of these can be viewed at: <http://www.abdn.ac.uk/heru/publications/presentations/heru-conferences/ihea--eche-2014/>

Boyers, D., Hernández, R., Vale, L., Elders, A. and Cuthbertson, B.H. 'The value of future research to determine the cost-effectiveness of fluid loading prior to high risk major elective surgery: the use of expected value of sample information', *Society for Medical Decision Making, 15th Biennial European Meeting, Special Focus on Clinical Decision Making in the Era of Personalized Medicine*, Antwerp, Belgium, 8-10 June 2014.

Goemaere, S., Dellaert, B., Dirksen, C., van der Weijden, T., Reginster, J.Y., **Watson, V.**, Boonen, A. and Hilgsmann, M. 'Patients' preferences for osteoporosis drug treatment in Belgium: a discrete choice experiment', *International Osteoporosis Foundation (IOF) International Society for Clinical Densitometry (ISCD) Skeletal Health Meeting*, Orlando, Florida, 20-22 February 2014.

Mc Morrow, L., Ludbrook, A., Macdiarmid, J.I. and **Olajide, D.** 'The determinants of fruit and vegetable consumption: a focus on individual attitudes', *Health Surveys User Conference*, University College London, 15 July 2014.

Discrete Choice Experiment Workshop

Our workshop being run in November 2014 is currently full. We will be running this workshop again in November 2015. Should you wish to join the waiting list for 2015 please see <http://www.abdn.ac.uk/heru/courses/workshops/> for more details.

Research Support Awarded.....

M Kilonzo in conjunction with Dr M Abdel-Fattah and colleagues from the Division of Applied Health Sciences were awarded £1.4M from the National Institute for Health Research (NIHR) on a project entitled 'Adjustable anchored single-incision mini-slings versus standard tension-free mid-urethral slings in the surgical management of female stress urinary incontinence: a pragmatic multicentre non-inferiority randomised controlled trial: The SIMS Trial'.

National Institute for Health Research award contracts to Technology Assessment Review Teams – Following a commissioning process that completed on 19 June, the University of Aberdeen had its NIHR contract to conduct Technology Assessment Reviews (TARs) renewed to April 2021. The bid was a joint collaboration between the Health Services Research Unit (HSRU), HERU and McMaster Development Consultants Ltd. As a result, the Assessment of Technologies theme will continue to provide health economics expertise on TARs commissioned to support NICE and other policy customers' health and social care assessment processes.

Selection of Publications.....

Honda, A., **Ryan, M.**, van Niekerk, R. and McIntyre, D. (2014) 'Improving the public health sector in South Africa: eliciting public preferences using a discrete choice experiment', *Health Policy and Planning*, [Epub ahead of print].

Krucien, N., Gafni, A. and Pelletier-Fleury, N. (2014) 'Empirical testing of the external validity of a discrete choice experiment to determine preferred treatment option: the case of sleep apnea', *Health Economics*, [Epub ahead of print].

Norwood, P., Eberth, B., Farrar, S., Anable, J. and **Ludbrook, A.** (2014) 'Active travel intervention and physical activity behaviour: an evaluation', *Social Science & Medicine* 113(July), 50-58.

Ormston, R., **Pol, M. van der, Ludbrook, A.,** McConville, S. and Amos, A. (2014) 'quit4u: the effectiveness of combining behavioural support, pharmacotherapy and financial incentives to support smoking cessation', *Health Education Research*, [Epub ahead of print].

Robertson, C., Archibald, D., Avenell, A., Douglas, F., Hoddinott, P., Van Teijlingen, E., **Boyers, D.**, Stewart, F., Boachie, C., Fioratou, E., Wilkins, D., Street, T., Carrol, P. and Fowler, C. (2014) 'Systematic reviews of and integrated report on the quantitative, qualitative and economic evidence base for the management of obesity in men', *Health Technology Assessment*, 18(35).



HERU is supported by the Chief Scientist Office (CSO) of the Scottish Government Health and Social Care Directorates. The views expressed are not necessarily those of the CSO.

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