

Health Economics Research Centre

HERCnews



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In this issue: HERC's progress since 2012 • Evaluation of PROMs in UK and China • Diabetes complications – the true costs? • New HERC checklist helps to identify quality of studies in equity-focused reviews • Spotlight on Richéal Burns • Latest staff news, presentations and publications



Welcome to the tenth HERC newsletter

Happy New Year from all at HERC and welcome to the tenth edition of our quarterly newsletter.

There have been some important and exciting changes since the publication of our first newsletter in November 2012. HERC has grown considerably and taken on several major new projects. In addition, in July 2013 we became part of the new Nuffield Department of Population Health (NDPH), a strategic move by the University of Oxford to bring together ten leading research units working to reduce premature death and disability from human disease in the UK and around the world. Other highlights over the past two years include our hosting of the Health Economists' Study Group 40th Anniversary meeting, increased media interest in HERC research in eye disease and the burden of cancer in the EU, and our involvement in two new NIHR Health Protection Research Units in gastrointestinal infections and antimicrobial resistance.

This period of change culminated in late 2014 with a move away from the Rosemary Rue Building, our home for nearly 20 years, to temporary accommodation. Work has already begun on a replacement building, the Big Data Institute, and we look forward to its completion in 2016. We were able to make the most of the inevitable disruption during the move by holding an away day.

This was a great opportunity to take stock of current (and future) HERC activities, and it also resulted in the above photograph, a snapshot of HERC (minus a few absentees) as of December 2014.

Moving onto current activities, in this issue you can read about the latest results from the landmark UK Prospective Diabetes Study, in which we quantify the substantial immediate and long-term healthcare costs associated with diabetes-related complications. In addition, Yaling Yang introduces two projects which focus on the validation and application of patient-reported outcome measures, while Rachael Morton reports on a recently published systematic review which considers the impact of social disadvantage in chronic kidney disease. Finally, we shine the spotlight on Richéal Burns, who joined HERC in 2014, and introduce several new researchers who are joining us in 2015.

I hope that you enjoy reading this edition of our newsletter. If you wish to be added to the mailing list, please send your details to herc@dph.ox.ac.uk. You can receive more frequent news updates by subscribing to our Facebook and Twitter pages.

Alastair Gray
Director

Applying patient-reported outcome measures in the UK and China

Yaling Yang

Patient-reported outcome measures (PROMs) focus on measuring health status or quality of life in relation to a health condition and its treatment, as perceived and reported directly by patients, without interpretation by physicians or others. PROMs provide a unique perspective because some effects of a health condition and its treatment are only known to patients and may not be reflected by clinical tests. There has been increasing interest in using PROMs in both clinical practice and research settings, and also for the evaluation of health care provider performance.

HERC researchers are currently collaborating with researchers in Primary Care Health Sciences, University of Oxford and Nanjing University, China on two exciting new PROMs projects. The first uses three NIHR-funded large scale clinical studies of chronic kidney disease treatment, monitoring and management in primary care to validate three PROMs: the EQ-5D-5L, the ICEpop CAPability measure for Adults (ICECAP-A) and the Quality of Life Visual Analogue Scale (QoL VAS). This study, also funded by the NIHR, will explore the relationship between the PROMs, aiming to measure disease symptoms, general health status, and overall quality of life, using both cross-sectional and longitudinal data.

The second study aims to develop a framework to incorporate PROMs, patient experiences and satisfaction data in an evaluation of the performance of Chinese public hospitals adopting different reform strategies. This project, funded by the Chinese National Science Fund, is an important initiative to meet the national policy focus of a 'people-centred health service'. The study will define and assess PROMs in a Chinese context, select outcome measures for use in primary health facilities and hospitals, and pilot a system to collect this data in line with China's culture and context.

Taken together, we hope that these two studies in very different settings will contribute to the fast developing area of PROMs, informing both micro-level clinical practice and macro-level health care policy making.

For more information: **HERC**



New estimates of the costs associated with diabetes complications

Project team: Maria Alva, Alastair Gray, Bobby Mihaylova, José Leal



Diabetes complications are believed to be associated with substantial healthcare costs, but few studies have analysed the impact of complications on healthcare costs using patient-level data. HERC researchers have recently published new estimates of the immediate and long-term inpatient and non-inpatient healthcare costs for Type 2 diabetes-related complications in the UK, using data from the longstanding UK Prospective Diabetes Study (UKPDS).

The work builds on the widely cited UKPDS paper 65, adding 10 further years of follow-up data (1997–2007), which allows the healthcare costs of more recent disease management strategies to be estimated. We obtained the costs of all consultations, visits, admissions and procedures in the period 1997–2007 using hospitalisation records for the 2791 UKPDS patients in England, and resource use study questionnaires were administered to all 3589 UKPDS patients across the UK.

For all outcomes we reported any substantial differences between the short-term and long-term effects of complications on inpatient and non-inpatient costs. The largest average annual inpatient and non-inpatient costs were attributable to amputation, ischaemic heart disease, myocardial infarction and stroke. We also found that the proportion of costs attributable to non-inpatient care has steadily risen over time, and currently accounts for around 30% of total costs.

The external validity of our findings was carefully examined, and the benefits of working with UKPDS data have been widely recognized (including low loss to follow up and comprehensive and repeated measures of resource use). Given this, we anticipate that the results of this study will be extremely helpful for researchers and health policy analysts estimating the impacts of interventions that prevent diabetes complications.

For more information: **HERC**

HERC leads the way in equity-focused systematic reviews

Project team: Rachael Morton, Iryna Schlakow, Bobby Mihaylova, Alastair Gray

Four members of HERC have published one of the first 'equity-focused' systematic reviews that utilises the new Campbell and Cochrane Equity Methods Group's 'PROGRESS' acronym for identification of factors of social disadvantage. PROGRESS stands for Place of residence, Race/ethnicity, Occupation, Religion, Education, Socio-economic status and Social capital.

The review was applied to chronic kidney disease (dialysis and pre-dialysis populations) where the outcomes included access to specialist healthcare, kidney disease progression, cardiovascular events and all-cause mortality. Our aim was to identify areas of inequity that could be addressed through targeted policy and priority setting in the delivery of health services for those with the greatest need.

We devised a new checklist to assess the methodological suitability of studies for finding an effect of social disadvantage. This focused on the statistical analyses used in the primary studies to reduce the possibility of bias. Suitable studies were more likely to contain a hypothesised relationship between the factor of interest and the outcome, make appropriate adjustments for

confounding variables, and avoid both collinearity issues and over-adjustment for effect-mediators.

Among studies of good suitability our review found socially disadvantaged pre-dialysis and dialysis patients experience poorer access to specialist cardiovascular health services, and higher rates of cardiovascular events and mortality than their more advantaged counterparts. Most notably, people with the lowest education levels, lowest incomes, no home ownership and those who were most geographically remote had significantly worse cardiovascular and mortality outcomes than those in the more advantaged social groups. Further studies are required to identify effective interventions to reduce social disadvantage in this population with chronic disease.

This review will help inform equity considerations in the next development of the GRADE system, for evaluating the quality of evidence for outcomes reported in systematic reviews.

For more information: <http://www.ncbi.nlm.nih.gov/pubmed/25564537>



Place of residence



Religion



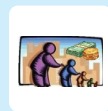
Race, ethnicity, culture, language



Education



Occupation



Socioeconomic status



Gender, sex



Social capital



Images reprinted from Journal of Clinical Epidemiology, Volume 67, Issue 1. Authors: Jennifer O'Neill, Hilary Tabish, Vivian Welch, Mark Petticrew, Kevin Pottie, Mike Clarke, Tim Evans, Jordi Pardo Pardo, Elizabeth Waters, Howard White, Peter Tugwell. Applying an equity lens to interventions: using PROGRESS ensures consideration of socially stratifying factors to illuminate inequities in health. Chapter 3, Table 1, Pages 56–64, Copyright 2014, with permission from Elsevier.

Spotlight on RICHEÁL BURNS



I joined the HERC team in October 2013 as an affiliate researcher while working as an applied health economist with the Surgical Intervention Trials Unit at the Nuffield Orthopaedic Centre in Oxford. In October 2014, I was appointed as a senior researcher at HERC where I am currently working on a range of projects including a costing analysis of blood disorders across Europe, the UKTAVI trial examining the cost-effectiveness of Transcatheter Aortic Valve Implantation, and the European COPE trials examining the cost-effectiveness of methods of organ storage for liver and kidney transplants.

I trained in Ireland securing a BA in economics and political science in 2009 and an MSc in health economics in 2010 from NUI Galway. Following on from research conducted throughout my MSc, I then worked on a research project examining the suitability of quality of life measures used in Inflammatory Bowel Disease (IBD) studies. This research assisted in designing a pragmatic trial for assessing the

cost-effectiveness of an education-based intervention to improve self-management of symptoms and quality of life in patients with IBD.

In January 2011, I began a PhD examining the cost-effectiveness of prostate specific antigen testing for the secondary prevention of prostate cancer in Ireland under the supervision of Professor Ciaran O'Neill, NUI Galway. The PhD afforded the opportunity to regularly visit HERC under the mentorship of José Leal and Jane Wolstenholme. I plan to continue to work in the clinical areas of prostate cancer and IBD in the future. I also have a strong interest in methodological considerations in measuring quality of life, evaluations in mental health and the long term impacts of childhood inequalities. My time at HERC to date has been a very rewarding experience and the quality and expertise of my colleagues has ensured a nurturing working environment.

Staff News – Welcome to:



Peter Eibich

Peter joined HERC in January 2015. He is currently completing his thesis for a PhD in Economics at the University of Hamburg, Germany. His research focuses on the economics of aging and retirement as well as regional variation in health. Peter has worked for the Berlin Aging Study II at DIW Berlin. He holds an MSc in Statistics from Humboldt University Berlin. At HERC, Peter will work on the cost-effectiveness of hip and knee replacements in the ACHE study.



Lucy Fulford-Smith

Lucy joined HERC in December 2014. She is working with Ramón Luengo-Fernandez on a systematic review focusing on the quality of life of patients who have suffered a stroke. She is also assisting Filipa Landeiro in her work on the Fracture Free Study. Lucy is a foundation year two doctor who graduated from the University of Nottingham in 2013, with a BMBS and BMedSci. She is hoping to return to the Nuffield Department of Population Health in October 2015 to study an MSc in Global Health Sciences before continuing her clinical studies.



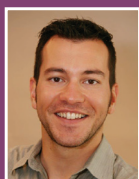
Robert Kemp

Robert is a fourth year medical student at the University of Oxford, undertaking a four week placement at HERC as part of his medical degree. Robert is working with Sarah Wordsworth in collaboration with Professor Ian Tomlinson at the Wellcome Trust Centre for Human Genetics (University of Oxford) on a bowel cancer study. Previously, Professor Tomlinson's group has highlighted 25 genetic markers which influence the risk of developing bowel cancer. Building on this work Robert and Sarah are exploring the potential to modify the NHS bowel cancer screening programme using genetic information and assessing whether such an approach is likely to be cost effective.



Christopher Rooney

Chris is a foundation doctor currently undertaking a four month rotation in HERC. He is working on a literature review of chronic kidney disease progression and data collection for the on-going fracture free project.



Apostolos Tsiachristas

Apostolos joined HERC in January 2015 as a senior researcher. His work includes the economic evaluation of self-management and integrated care models (Oxford CLAHRC), process changes in breast cancer screening (CO-OPS trial), and hospital-at-home in geriatric care Comprehensive Geriatric Assessment (CGA trial). Prior to his current position, Apostolos worked as a researcher at the Institute for Medical Technology Assessment (IMTA), Erasmus University Rotterdam. His research at IMTA focused mainly on the economic evaluation of disease management programs and new professional roles in integrated care as well as the methodological development and application of Multi-Criteria Decision Analysis in evaluating complex interventions. He also worked for two years as consultant at APE bv, a public economics consultancy located in The Hague.

Presentations by members of HERC

Economics Departmental Seminar Series

National University of Ireland (NUI) Galway, October 2014

Laurence Roope

Inequality and Growth: a simple structural relationship

Edinburgh Critical Care Research Methods Course

The University of Edinburgh, October 2014

Helen Campbell

Health Economics: the basics

ISPOR 17th Annual European Congress, Finalist in ISPOR Poster Awards

Amsterdam, November 2014

Helen Campbell, Francesco Fusco, M Newman and K Barker

Rehabilitation in resurfacing hip arthroplasty patients: Preliminary cost-effectiveness results from a clinical trial

American Society of Nephrology (ASN) Kidney Week

Philadelphia, November 2014

Iryna Schlackow, Boby Mihaylova on behalf of the SHARP Collaborative Group

A lifetime model in Chronic Kidney Disease: the SHARP CKD-CVD disease model

ASN Kidney Week, Poster presentation

Philadelphia, November 2014

Iryna Schlackow, Boby Mihaylova on behalf of the SHARP Collaborative Group

Lifetime benefits and cost-effectiveness of LDL-cholesterol lowering in Chronic Kidney Disease: results from the Study of Heart and Renal Protection (SHARP)

Seminar in Primary Care

University of Oxford, December 2014

Iryna Schlackow, Boby Mihaylova on behalf of the SHARP Collaborative Group
A lifetime health outcomes model in chronic kidney disease

Nuffield Department of Population Health Annual Symposium

University of Oxford, January 2015

Ramón Luengo-Fernandez, José Leal
Is diabetic eye-screening cost-effective?



Boby Mihaylova

Lifetime benefits and cost-effectiveness of LDL-cholesterol lowering in Chronic Kidney Disease: results from the Study of Heart and Renal Protection (SHARP)

Seamus Kent

Effects of vascular and non-vascular events and of extended release niacin/laropiprant on health-related quality of life and hospital care costs

HERC Seminars Convenor: Jilles Fermont

HERC runs a series of seminars with invited speakers from the health economics community who talk on a wide range of applied and methodological topics.

During the Michaelmas Term, two speakers visited the Department: in November, **Graham Scotland**, Senior Research Fellow from the Health Economics Research Unit at University of Aberdeen, presented *In with the old, out with the new. In search of ways to help health economists break their addiction to technology adoption*.

And in December we welcomed **Yiu-Shing Lau**, PhD student at the University of Manchester, who presented *Is the weekend effect on mortality attributable to variations in the quality of care received?*

Details of forthcoming talks can be found on the HERC website:



To be added to our mailing list for future seminars, email us at herc@dph.ox.ac.uk

Recent Publications

Yiin GSC, Howard DPJ, Paul NLM, Li L, **Luengo-Fernandez R**, Bull LM, Welch SJV, Gutnikov SA, Mehta Z and Rothwell PM (2014). *Age-specific incidence, outcome, cost, and projected future burden of atrial fibrillation-related embolic vascular events: a population-based study*. *Circulation*, 130(15):1236-44.

Lewsey JD, Lawson KD, Ford I, Fox KAA, Ritchie LD, Tunstall-Pedoe H, Watt GCM, Woodward M, **Kent S**, Neilson M and Briggs AH (2014). *A cardiovascular disease policy model that predicts life expectancy taking into account socioeconomic deprivation*. *Heart*, doi: 10.1136/heartjnl-2014-305637. [Epub ahead of print].

Saw RPM, Armstrong BK, Mason RS, **Morton RL**, Shannon KF, Spillane AJ, Stretch JR and Thompson JF (2014). *Adjuvant therapy with high dose vitamin D following primary treatment of melanoma at high risk of recurrence: a placebo controlled randomised phase II trial (ANZMTG 02.09 Mel-D)*. *BMC Cancer*, 14:780.

Watts CG, Cust AE, Menzies SW, Coates E, Mann GJ and **Morton RL** (2014). *Specialized surveillance for individuals at high risk for melanoma: a cost analysis of a high-risk clinic*. *JAMA Dermatol*, EPub Nov 2014. doi:10.1001/jamadermatol.2014.1952.

Alva ML, Gray A, Mihaylova B, Leal J and Holman RR (2014). *The impact of diabetes-related complications on healthcare costs: new results from the UKPDS (UKPDS 84)*. *Diabet Med*, doi: 10.1111/dme.12647.

Morton RL, Schlackow I, Mihaylova B, Staplin ND, Gray A, Cass A (2015). *The impact of social disadvantage in moderate-to-severe chronic kidney disease: an equity-focused systematic review*. *Nephrology Dialysis Transplantation* 2015; doi: 10.1093/ndt/gfu394.

Cholesterol Treatment Trialists' (CTT) Collaboration† including **Mihaylova B** (2015). *Efficacy and safety of LDL-lowering therapy among men and women: meta-analysis of individual data from 174 000 participants in 27 randomised trials*. *The Lancet* Jan 2015. doi:10.1016/S0140-6736(14)61368-4.

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