



**In this issue:** Improving access to diagnostic tests • Health economics of integrated care • Managing missing PROM data in RCTs • Wellbeing over the age of 50 • Spotlight on Joel Smith • Latest staff news, recently funded projects, courses, presentations and publications



## Improving access to diagnostic tests

**Project team:** Jane Wolstenholme, James Buchanan, Yaling Yang, Lucy Abel

**Researchers at HERC are currently collaborating with health economists in the Oxford Diagnostic Evidence Co-operative (DEC) at the Nuffield Department of Primary Care Health Sciences on a new programme of work focused on improving access to diagnostic tests. The main aim of the Oxford DEC is to collect evidence to support the development and implementation of effective and cost-effective diagnostic tests in the NHS. From a health economics perspective this primarily involves early-stage cost-effectiveness modelling and this has led to a number of ongoing projects.**

The first of these projects, the multiple myeloma project, is a collaboration between Jane, Yaling, and Lucy (supported by NIHR Research Capacity Funding), the Churchill Immunology lab, Binding Site Ltd and the Oxford DEC. This comprises a lab-based prospective observational study which will inform a cost-effectiveness analysis (CEA). This CEA will explore whether adding a diagnostic test to the existing primary care diagnosis pathway would be cost-effective, reduce diagnostic delay and improve outcomes for patients with this notoriously difficult-to-diagnose cancer.

A second project, funded by the Small Business Research Initiative, will consist of an early assessment of the cost-

effectiveness of a point of care test to detect Chronic Obstructive Pulmonary Disease exacerbations. This will enable patients to monitor their own condition, prevent exacerbations which lead to patients becoming housebound and enable stratification of patients to appropriate therapies.

A third project, funded by the NIHR Oxford Collaboration for Leadership in Applied Health Research and Care, will evaluate the cost-effectiveness of using Serum Natriuretic Peptides as part of a new algorithm to identify patients at risk of heart failure, and then stratify these patients to different interventions in primary care.

Alongside these applied projects, Yaling, Lucy and James are also conducting a review and critical appraisal of the use of decision analytic modelling in Health Technology Assessments of diagnostics. This review will demonstrate the current state of play, identify areas in need of methodological development, inform future studies, and further enhance the value of these collaborative projects.

For more information: <http://www.phc.ox.ac.uk/research/medical-statistics/projects/assessing-the-accuracy-and-cost-effectiveness-of-diagnostic-tests>



# Wellbeing over the age of 50

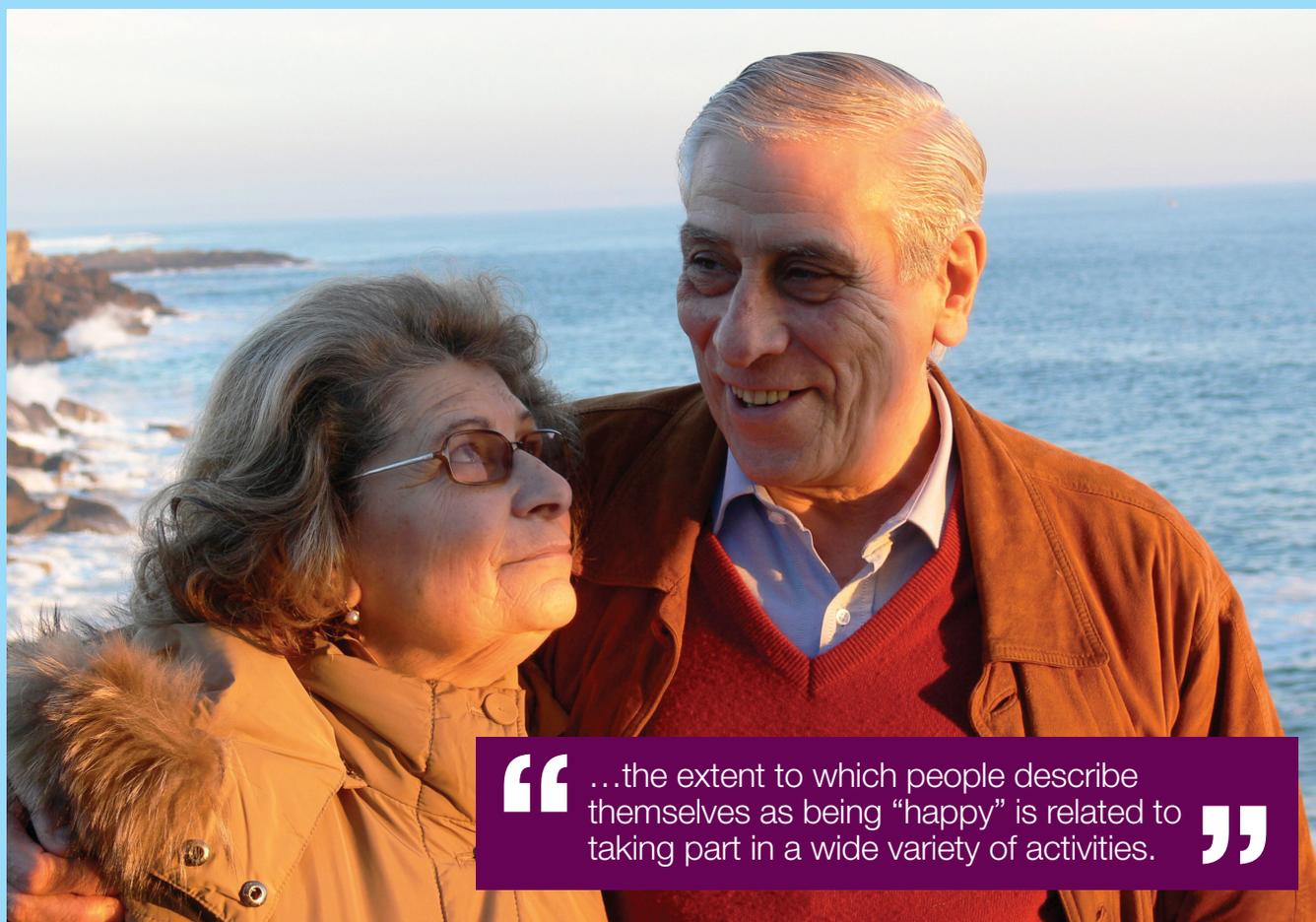
**Project team:** Paul Anand, Alastair Gray, Laurence Roope, Ranjeeta Thomas

Many studies have found a strong association between age and “happiness”, which typically dips in middle age and then gradually increases. However, relatively little is known about other aspects of wellbeing later in life, and a recent study involving HERC researchers attempted to address this research question. This work formed part of a wider project, funded by the Leverhulme Trust and led by the Open University, which sought to demonstrate how Nobel Laureate Amartya Sen’s capabilities approach could be applied to illuminate our understanding of wellbeing across the life course, from early childhood until old age. Using panel data from the English Longitudinal Survey of Aging, our study illustrated how the capabilities approach can be used to shed light on wellbeing in older age.

We estimated models related to three aspects of a person’s wellbeing: daily activities, happiness and capabilities. A recurring theme in our results was the importance of engagement in activity for quality of life in older age. We found that the extent to which people describe themselves as being “happy” is related to taking part in a wide variety of activities. However, having the capability to participate in activities can be constrained by lack of financial resources, socio-economic status and gender. In addition, different groups react to the growing constraints of old age in different ways. For example, men experience increasing frustration as they enter their 80s, possibly due to declining health, whereas women with no post-school education appear to adjust gradually and continually to their changing health status throughout their 80s.

The overall picture that emerged from the study is that happiness in older age is related to many different facets of life, including health, marital status, and how people spend their time, and it is also related to involvement in social activities and institutions – especially for women.

For more information: <http://www.sciencedirect.com/science/article/pii/S2212828X150002X>



“...the extent to which people describe themselves as being “happy” is related to taking part in a wide variety of activities.”

## Spotlight on JOEL SMITH

I joined HERC in September 2015 as a Senior Researcher to lead, promote and coordinate the economic research of the NIHR Oxford Biomedical Research Centre (OxBRC). The diverse clinical activity of the OxBRC has allowed me to further develop my interest in methodological research and complements my existing research portfolio in vascular disease and cancer. My current research within OxBRC includes the development of a discrete event simulation model for hospital process change and a dynamic transmission model to assess the cost-effectiveness of a vaccine, as well as methods for quantifying the economic value of early phase medical research.

Before joining HERC, I was a Health Economist at the University of Edinburgh providing economic support across the Edinburgh Clinical Trials Unit, Centre for Population Health Sciences, Edinburgh Health Services Research Unit and NHS Lothian. The role involved providing advice on study design and methodological support. I was also a member of the NHS Lothian Joint Formulary Committee. My research portfolio at the University of Edinburgh adopted econometric methods for experimental, quasi-experimental and observational study designs. I was course coordinator and sole lecturer on the Resource Allocation and Health Economics module of the Masters in Public Health course at the University of Edinburgh and also contributed to teaching on the undergraduate Medical School programme. My research has been supported by the ESRC, NIHR, CSO and the European Commission.

## Staff News – Welcome to:



### Paige Barrows

Paige, an NHS junior doctor on a four-month rotation with HERC, is currently working with Filipa Landeiro on a systematic review of interventions that have proved effective in reducing social isolation in individuals aged over 60 worldwide.



### Katharina Schwarze

Katharina is a postgraduate student who has joined HERC on a three-month research placement from her home institution, University Duisburg-Essen, where she is studying for a Master's in Management for Health Professionals. Katharina will be hosted by Sarah Wordsworth and James Buchanan and the title of her thesis will be *Estimating the costs and outcomes associated with whole genome sequencing in the UK NHS*.

## Recently Funded

### Analysis of the cost-effectiveness of LiverMultiScan vs. state of the art in diagnosis and management of suspected fatty liver disease.

This EU Horizon2020 grant funded project will begin in June 2016. HERC will be collaborating with Perspectum Diagnostics, an Oxford based, university/NHS invested company, who will be conducting a large multicentre international trial using their own diagnostic tool, LiverMultiScan (LMS). LMS is a non-invasive imaging device which looks at liver disease progression. The economic analyses will be led by Bobby Mihaylova and Joel Smith and the health economics work will include a literature review and liver disease modelling.

## HERC Seminars

### Convenor: Laurence Roope

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 Hilary Term, **Paula Lorgelly**, Deputy Director, Office of Health Economics visited HERC to give a talk on *Predicting cancer patients' quality of life: an analysis of the relationship between utility, treatment regimes and time*.

In April 2016 we welcomed **Frank Sandmann**, from the London School of Hygiene and Tropical Medicine who gave a presentation on *Opportunity costs of healthcare beds: How to estimate them properly?*

To complete this series of talks, in May, **Thomas Siedler**, Professor in Economics, University of Hamburg presented on *Banning alcohol sales at night and hospital admissions in Germany* which explored the effect of a novel policy measure to curb excessive drinking in Baden-Württemberg.

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



To be added to our mailing list for future seminars, email us at:

## Presentations by members of HERC

### Diabetes UK conference

Glasgow, March 2016

### Peter Eibich

#### Poster presentation

*Costs and pathways of medication therapy for type 2 diabetes in the UK: the scope for stratification*

### NiHR Health Protection Research Unit in Gastrointestinal Infections annual scientific meeting

Oxford, March 2016

### Mara Violato

*Family income and exposure to Norovirus in childhood: Findings from the UK Millenium Cohort Study*

### The impact of the genomics revolution on global health - how can governments respond?

Foreign Office, London, March 2016

### Sarah Wordsworth

*The economics of genomics technologies*

### Personalised Medicine Family Evening

St Anne's College, Oxford, March 2016

### James Buchanan

*Challenges associated with implementing personalised medicine in the NHS: a health economics perspective*

### 8th Institute of Mathematics and its Applications Conference on Quantitative Modelling in the Management Of Health and Social Care

London, March 2016

### Jacqueline Murphy

*Estimating the long term effects of introducing FIT for colorectal cancer screening in England using decision analytic modelling*

### Health Economics Research Group, Brunel University

London, May 2016

### James Buchanan

*Identifying the most appropriate economic evaluation approach in genomics: a comparison of methods*

## PUBLICATIONS

Anand P, **Gray A**, Liberini F, **Roope L**, Smith R, Thomas R. *Wellbeing Over 50*. The Journal of the Economics of Ageing 2015. 6:68-78. doi:10.1016/j.jeoa.2014.12.001

Boland MR, Kruis AL, Huygens SA, **Tsiachristas A**, Assendelft WJ, Gussekloo J, Blom CM, Chavannes NH, Rutten-van Molken MP. *Exploring The Variation in Implementation of a Copd Disease Management Programme and its impact on Health Outcomes: A Post Hoc Analysis of the Recode Cluster Randomised Trial*. NPJ Prim Care Respir Med 2015 Dec 17. 25:15071. doi: 10.1038/npjpcrm.2015.71

Boland MR, Kruis AL, **Tsiachristas A**, Assendelft WJ, Gussekloo J, Blom CM, Chavannes NH, Rutten-van Molken MP. *Cost-Effectiveness of Integrated Copd Care: The Recode Cluster Randomised Trial*. BMJ Open 2015 Nov 1. 5(10):e007284. doi: 10.1136/bmjopen-2014-007284

Boland MR, **Tsiachristas A**, Rutten van Molken M. *COPD Performance Indicators in an Integrated Care Program and its impact on Health Outcomes: The Recode Cluster Randomized Trial*. Value Health 2015 Nov. 18(7):A505. doi: 10.1016/j.jval.2015.09.1442

Morris S, Patel NV, Dobson J, Featherstone RL, Richards T, **Luengo-Fernandez R**, Rothwell PM, Brown MM, International Carotid Stenting Study investigators. *Cost-Utility Analysis of Stenting Versus Endarterectomy in The International Carotid Stenting Study*. Int J Stroke. 2016 Feb 15. PMID: 26880056. [Epub ahead of print]

Cholesterol Treatment Trialists' (CTT) Collaboration (Writing committee: Reith C, Blackwell L, Emberson J, **Mihaylova B**, Armitage J, Fulcher J, Keech A, Simes J, Baigent C, Collins R). *Protocol for Analyses of Adverse Event Data from Randomized Controlled Trials of Statin Therapy*. American Heart Journal 2016 January 176: 63-69. doi:10.1016/j.ahj.2016.01.016

**Rombach I**, Rivero-Arias O, **Gray AM**, Jenkinson C, Burke Ó. *The Current Practice of Handling and*

*Reporting Missing Outcome Data in Eight Widely Used Proms in Rct Publications: A Review of the Current Literature*. Qual Life Res. 2016 Jan 28. [Epub ahead of print]

Rose TC, Adams N, Taylor-Robinson DC, Barr B, Hawker J, O'Brien S, **Violato M**, Whitehead M. *Relationship Between Socioeconomic Status and Gastrointestinal Infections in Developed Countries: A Systematic Review Protocol*. Systematic Reviews 2016 5:1. doi: 10.1186/s13643-016-0187-7

**Slade I**, Hanson H, George A, Kohut K, Strydom A, **Wordsworth S**, Rahman N; MCG programme. *A Cost Analysis of a Cancer Genetic Service Model in the Uk*. Journal of Community Genetics. 2016 Feb 27. [Epub ahead of print]

Storror W, Fogg C, Brown T, Dennison P, Yu LM, Dewey A, **Luengo-Fernandez R**, Dean T, Rahman N, Mansur A, Howarth PH, Bradding P, Chauhan AJ. *Temperature-Controlled Laminar Airflow in Severe Asthma for Exacerbation Reduction (The Laser Trial): Study Protocol for a Randomised Controlled Trial*. Trials. 2016 Jan 8;17(1):15. doi: 10.1186/s13063-015-1134-y

Verbeek NA, Franken M, **Tsiachristas A**, Koopmanschap MA, Rutten-van Molken MP. *A Triple Aim Framework for the Performance Assessment of Disease Management Programs*. Value Health 2015 Nov. 18(7):A400. doi: 10.1016/j.jval.2015.09.920

Verbeek NA, **Tsiachristas A**, Franken M, Koopmanschap MA, Rutten-van Molken MP. *Performance Score Extraction from Panel Data for Multi-Criteria Decision Analysis (MCDA) Using a Regression-Based Approach*. Value Health 2015 Nov. 18(7):A718. doi: 10.1016/j.jval.2015.09.2717

Wartolowska K., Collins GS, Hopewell S, Judge A, Dean BJ, **Rombach I**, Beard DJ, Carr AJ. *Feasibility of Surgical Randomised Controlled Trials with a Placebo Arm: A Systematic Review*. BMJ Open 2016; 6:e010194 doi:10.1136/bmjopen-2015-010194

Health Economics Research Centre  
Nuffield Department of Population Health, University of Oxford  
Old Road Campus, Headington, Oxford OX3 7LF UK  
tel: +44 (0) 1865 289272/3 • email: herc@dph.ox.ac.uk

To receive this newsletter quarterly email [herc@dph.ox.ac.uk](mailto:herc@dph.ox.ac.uk)

**Academic editorial team:** James Buchanan, Jacqueline Murphy, Filipa Landeiro  
**Production co-ordinator:** Barbara Kitchener

# HERC

[www.herc.ox.ac.uk](http://www.herc.ox.ac.uk)



<http://www.facebook.com/healtheconomicresearchcentre>



[http://twitter.com/HERC\\_Oxford](http://twitter.com/HERC_Oxford)



UNIVERSITY OF  
OXFORD