

# ANNUAL REPORT 2011–12



Health Economics Research Centre

DEPARTMENT OF PUBLIC HEALTH, UNIVERSITY OF OXFORD



Annual Report 2011–12

# Health Economics Research Centre

Department of Public Health

University of Oxford



*Cover: St Hugh's College, location of Health Economists' Study Group summer 2012 meeting.  
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## Abbreviations

ART	Alzheimer's Research Trust
ASCOT	Adult Social Care Outcomes Toolkit
BHF	British Heart Foundation
CRUK	Cancer Research UK
CTSU	Clinical Trial Service Unit, University of Oxford
DfID	Department for International Development
DH	Department of Health
DPH	Department of Public Health, University of Oxford
DTU	Diabetes Trials Unit, University of Oxford
EC	European Commission
ESRC	Economic and Social Research Council
HESG	Health Economists' Study Group
HSRU	Health Services Research Unit
HTA	Health Technology Assessment
iHEA	International Health Economics Association
JR	John Radcliffe Hospital, Oxford University Hospitals Trust
LSHTM	London School of Hygiene and Tropical Medicine
MDM	Medical Decision Making (journal)
MRC	Medical Research Council
NHS R&D	NHS Research and Development
NICE	National Institute for Health and Clinical Excellence
NIHR	National Institute for Health Research
NOC	Nuffield Orthopaedic Centre NHS Trust
NPEU	National Perinatal Epidemiology Unit, University of Oxford
OECD	Organisation for Economic Co-operation and Development
OHE	Office of Health Economics
ORH	Oxford Radcliffe Hospitals NHS Trust
PROMs	Patient Recorded Outcome Measures
QALY	Quality-Adjusted Life-Year
UKPDS	UK Prospective Diabetes Study

## Introduction

The Health Economics Research Centre (HERC) was established by the University of Oxford in 1996. Our aim is to improve health and healthcare in the UK and internationally, by conducting research on economic aspects of health and disease, the costs and benefits of prevention and treatment, and the design and evaluation of health systems.

Members of HERC are primarily engaged in research. As part of the University of Oxford, the group is well placed to enter into collaborative relationships in the health research community in Oxford and further afield and this is reflected in the large number of research projects in which HERC is involved. Applied work on a wide range of health and healthcare related topics, and development of methodology, are the two broad planks of our research programme.

We also have an active teaching and training programme, including undergraduate lectures, teaching and supervision of MSc and DPhil students, and a wide range of short courses, workshops and presentations. In addition, several members of HERC's staff are themselves engaged in doctoral research.

HERC is part of the Department of Public Health within the University's Medical Sciences Division, and is located on the Old Road Campus in Headington, where the major population health and health services research groups in Oxford are now gathered.

HERC was originally established as a collaboration between the University of Oxford and the National Health Service's Research and Development programme, with a remit to carry out independent research and to support NHS research activities. It now forms part of the Oxford Academic Unit, together with the Centre for Statistics in Medicine, the Unit of Healthcare Epidemiology and the Health Services Research Unit. Core funding for the Academic Unit comes from the National Institute of Health Research, and in HERC this covers one senior research post and some administrative support. Other direct support comes from the NIHR Research Design Service. Senior posts are also supported by the Department and University, but most research activities of HERC are funded from project, programme and fellowship awards, from the NIHR Health Technology Assessment programme, the Medical Research Council, the NIHR Personal Awards schemes, industry and charitable foundations.

This "Annual" Report provides a summary of the group's activities during the 18-month period from January 2011 to June 2012. After that date we will continue to document our work via our website and regular newsletters, but will no longer prepare an annual summary. To obtain more information on any aspect of our work please visit our website, where there is a page for every research project and contact details for the academic staff working on them.

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## Staff and Associates

### Director

Alastair Gray, Professor of Health Economics

### Staff

#### Professors

Winnie Yip, Professor of Health Policy and Economics

#### Senior Researchers

Helen Campbell

José Leal

Jingky Lozano-Kühne (from November 2011)

Ramón Luéngo-Fernández

Emma McIntosh (until August 2011)

Borislava Mihaylova

Tim Powell-Jackson (from August 2011)

Oliver Rivero-Arias

Eduardo Fe (from June 2012)

Iryna Schlackow (from November 2011)

Judit Simon

Mara Violato

Jane Wolstenholme

Sarah Wordsworth

#### Researchers

Giselle Abangma (until May 2012)

Meghan Bruce (until October 2011)

James Buchanan

Helen Dakin

Reem Hafez (from February 2011)

Wei Han (from January 2011)

Melissa Ouellet (until June 2011)

Elizabeth Stokes

Ranjeeta Thomas

#### Doctoral Students

Maria Alva

Anup Karan

Filipa Landeiro (from January 2012)

Anees Pari

#### Administration

Claire Ashfield (from June 2012)

Amanda Fruin

Alison Gater

### Associates

#### Senior Visiting Fellows

Paul Fenn, Norwich Union Professor of Insurance Studies, University of Nottingham Business School

Adrian Towse, Director of the Office of Health Economics

#### Research Associates

Paul Anand, Professor of Economics, Decision Sciences and Philosophy, Open University

Andrew Briggs, Lindsay Professor of Health Policy and Economic Evaluation, University of Glasgow

Philip Clarke, Professor of Health Economics, Centre for Health Policy, Programs & Economics, Melbourne School of Population Health, University of Melbourne

Stavros Petrou, Professor of Health Economics, University of Warwick

Sasha Shepperd, Professor of Health Services Research, Department of Public Health, University of Oxford

#### Visiting Academics

Shunping Li, University of Shandong (from September 2011 to September 2012)

Weiyan Jian, University of Beijing (from September 2011 to February 2012)

## Director's Report

This report covers the 18 months January 2011–June 2012 and will be the last report in this format. From now on we will continue to document our work via our website and by means of regular newsletters, but will no longer prepare and distribute an annual summary.

### Expansion and Staff Changes

The group has expanded considerably over the last 18 months as the volume of our funded research has continued to grow. In the health systems research group run by Winnie Yip, there are now four staff working on large projects concerned with TB control in China and health financing in Asia. We were pleased to welcome Tim Powell-Jackson to work on the TB control project in Ningxia (China) while retaining part-time responsibilities at LSHTM. Wei Han was a visiting student through 2011, successfully completed her doctorate and joined the staff in Spring 2012 to work on the Ningxia project, and Eduardo Fe has recently joined the same team from the University of Manchester.

Other new posts since the beginning of 2011 have been filled to expand our programme of work on large clinical trials in collaboration with the Clinical Trials Service Unit here in Oxford. Jingky Lozano-Kuhne and Iryna Schlackow both joined HERC in November 2011, Jingky from the Georg-August-Universität Göttingen, and Iryna from the Infectious Diseases and Microbiology group of the Nuffield Department of Clinical Medicine in Oxford. They both work with Boby Mihaylova, at present on evaluation of cost-effectiveness of interventions aimed at cardiovascular disease risk reduction in patients with chronic renal insufficiency.

Ranjeeta Thomas also joined in 2011 from the Centre for Health Economics at the University of York to work with HERC Associate Paul Anand, Alastair Gray and Professor Ron Smith at Birkbeck College London on a project funded by the Leverhulme Trust on the application of the capabilities approach to economic progress and human welfare. Further recruitment is taking place at the time of writing to new training fellowships and research posts.

It has also been a pleasure to have long-term visitors from China working alongside us. Shunping Li from Shandong University has been with us since September 2011, and Weiyang Jian from Beijing University spent 6 months here from September 2011. We look forward to welcoming further visiting researchers from China on an annual basis, and will also be hosting academic visitors from the Oxford University Clinical Research Unit at the Hospital for Tropical Diseases in Ho Chi Minh City, Vietnam, and from the University of Southern Denmark.

To keep pace with continued academic expansion, we recruited an additional full time administrative assistant in mid 2012. Claire Ashfield is a most welcome addition to the team.

Congratulations go to Winnie Yip who became Professor of Health Policy and Economics, and a Research Fellow at Green Templeton College, to Boby Mihaylova who has been appointed a University



Research Lecturer, and to Sasha Shepperd, HERC Associate, who became Professor of Health Services Research in the Department of Public Health.

There have also been a few departures. Emma McIntosh left after over 10 years with HERC to work nearer home at the University of Glasgow. Her work on the economics of Parkinson's Disease continues to involve members of HERC, but her academic experience is of course missed. Meghan Bruce was with us from May 2010 for 18 months, and contributed much to the early stages of the China projects. She left to join a malaria control programme (ACTwatch) in Nairobi with Population Services International. Melissa Ouellet spent several years as a research assistant on many HERC projects, most recently contributing to work on the economic impact of coeliac disease, and on mapping disease-specific instruments into generic health outcomes or utility values. And Giselle Abangma left in June 2012 to join Swiss Re after four years in HERC as a research assistant on many projects, in particular on the blood services projects and the compilation of ICoHDE, the Interactive Compendium of Health Datasets for Economists. We wish them all well and thank them for their contribution to HERC.

In total, HERC is now a group of twenty one researchers, four doctoral students and three administrative staff, with further recruitment in process as this report is finalised.

### **Development of the Research Programme**

The section of this report on the Research Programme lists new work taken on during 2011–12 so far, together with ongoing projects.

Work on population-level questions has grown. Notable among these is the expansion of work in collaboration with the Department of Primary Care Health Sciences, where Jane Wolstenholme has developed collaborative work on the cost-effectiveness of disease monitoring and diagnostics, and on a range of prevention and treatment programmes. In genetics James Buchanan won a NIHR doctoral fellowship to study the economics of genomic diagnosis for specific genetic diseases, and Sarah Wordsworth also took on two new studies concerned with the application of genetics nationally.

International work has also expanded, with the two major China-based studies in full swing, and a new comparative project on care of the elderly in China and the UK. We have also undertaken to work with Oxford University Clinical Research Unit in Ho Chi Minh City on two clinical trials related to HIV infection. Our expertise in comparative international cost of disease studies has been further used in an EU funded study of the costs of cancer across Europe.

Our large body of work in the economic evaluation of health interventions has continued to grow. For example, Helen Campbell has taken on work on two more trials with NHS Blood and Transplant. Bobby Mihaylova is working with CTSU on two more large trials in heart disease prevention, SHARP (on lipid lowering in kidney disease patients) and REVEAL (on a new lipid modulating intervention). In diabetes, a substantial programme of work continues with the new version of the UKPDS Outcomes Model, and a new trial concerned with screening for diabetic retinopathy is underway with José Leal working on the economic component. Anees Pari, NIHR Academic Clinical Fellow, started work on a DPhil in bipolar disorder, and two other projects in mental health were taken on.

### High impact research findings

What effect does our work have? The impact on policy, on public opinion, or indeed on behaviour are all very difficult to assess. However, one initial measure is press coverage, and two of our recent papers received substantial coverage:

The IVAN trial results, published in May 2012, demonstrated that the NHS could save £84m a year by using a cheaper drug to treat a leading cause of sight loss. The economic analysis supporting this study was contributed by Sarah Wordsworth, Helen Dakin and Giselle Abangma.

Also in May 2012, Boby Mihaylova was lead author on a much-publicised report which presented compelling evidence that wider statin use in individuals at relatively low risk of cardiovascular disease could still have major benefits and might save 2,000 lives a year in the UK.

### Publications

HERC authors published 27 papers in peer-reviewed journals in 2011, and had 18 accepted for publication in the first six months of 2012. The journals in which we publish include the BMJ, Lancet, Journal of Health Economics, Health Economics, European Journal of Health Economics, and many others. These are all listed in full at p. 24.

### Conferences and Meetings — Highlights

2011 and the first half of 2012 were a particularly busy period for HERC's conference activities. Eight members of HERC presented papers at the International Health Economics Association (iHEA): 8th World Congress on Health Economics 'Transforming Health & Economics' in July 2011 in Toronto.

Paul Anand co-organised New Directions in Welfare, a conference hosted by OECD in Paris in July 2011, and Judit Simon contributed to the opening roundtable on 'Broadening the Measurement and Concept of Economic Progress'.

Winnie Yip was a Panellist at a workshop organised by the University of Oxford China Centre 'Well-being of the Elderly in China' in January 2012.

In June 2012 we collaborated with Philip Clarke from the University of Melbourne to organise the 6th "Mount Hood" meeting on diabetes outcomes modelling: this took place at Johns Hopkins University in Baltimore in June 2012 and was attended by around 80 delegates.

Last, but by no means least, HERC had the privilege of hosting the 40th anniversary meeting of Health Economists' Study Group (HESG) in Oxford in June 2012. This was one of the largest HESG meetings ever, with most activities at St Hugh's College, a panel discussion session, and a celebratory dinner at Balliol College.



## Research Programme

### Introduction

In this chapter we list the many and varied ‘projects’ and work programmes that have been active in HERC during the 2011–June 2012 period. New work is identified – any work that started during this period. Work that was completed during the period is also noted. By completion, we mean the final publication and dissemination of the results of the work, not merely the end of the funding which may precede completion by some time.

The items of work are grouped under the same broad headings as we use on our website. These can never be entirely satisfactory. Many studies cross the boundaries. Aspects of ‘economic evaluation’ for instance will appear in many more broadly focussed projects, in particular those that appear under the ‘Economics of Population Health’ heading.

We do not report here on the scale of the projects. They vary greatly in terms of their size and the commitment of time they represent. Some are led by a Principal Investigator in HERC. The majority are led by a Principal Investigator who is from a clinical or other discipline than economics, and in these we provide the economic element as a collaborator in a multi-disciplinary study. These vary from studies requiring several person years for the economics, and some follow-on studies which are entirely economic, to at the other end of the scale studies where we provide a few person months of work to design and carry out an economic analysis alongside the main study.

Finally, our DPhil students are integrated into the group. Their work is part of the programme, and they appear in this listing accordingly.

### Design and Evaluation of Healthcare Systems

Understanding Inequality in Elderly Well-being in China and the UK. With the Department of Economics, University of Oxford. Funded by ESRC. Contact Winnie Yip.

Health Equity and Financial Protection in Asia. With European partners led by Erasmus University. Funded by the European Commission. Contact Winnie Yip.

TB Control in China: Alignment of Health System Incentives. With Harvard University; Provincial Government of Ningxia; Ningxia Medical University; Fudan University; Shandong University. Funded by Bill and Melinda Gates Foundation. Contact Winnie Yip.

Consumer choice of health insurance and its impact on financial risk protection in rural China. DPhil research topic, Reem Hafez.

The health-related financial burden on households in India. DPhil research topic, Anup Karan.

### Economics of Population Health

#### Capabilities

The capabilities approach to economic progress and human welfare. With Professor Paul Anand,

Open University. Funded by the Leverhulme Trust. Contact Ranjeeta Thomas.  
Capabilities measurement in individuals with mental health disorders. Contact Judit Simon.

### **Disease Cost Studies**

#### ***New work***

The costs of cancer: The economic burden of malignant neoplasms in the EU. With Professor Richard Sullivan, King's College London. Funded by the Centre for Global OncoPolicy & Health. Contact José Leal.

Different strategies for the management of secondary fracture prevention after hip fracture: a health service costs and clinical outcomes study within the South Central Region. With Dr Andrew Judge, Nuffield Orthopaedic Centre and Prof Michael Goldacre, Department of Public Health, University of Oxford. Funded by NIHR Service Delivery and Organisation programme. Contact José Leal.

#### ***Ongoing Projects***

Resource use and costs in coeliac disease. Funded by Coeliac UK. Completed in 2012. Contact Mara Violato.

CVD Costs in Europe: The economic burden of cardiovascular disease in the enlarged European Union. Updating previous analysis. With the BHF Health Promotion Research Group, University of Oxford. Funded by the British Heart Foundation and European Heart Network. Contact José Leal.

### **Patient Safety**

#### ***New work***

Finding clinical negligence cases: access to justice at reasonable cost? With Prof Paul Fenn, University of Nottingham Business School, and Prof Neil Rickman, University of Surrey. Funded by the Nuffield Foundation. Contact Alastair Gray.

### **Primary Care: Monitoring, Diagnostics, Prevention, Treatment**

#### ***New work***

A pilot randomized controlled trial of a nurse-led psycho-educational intervention delivered in primary care to prostate cancer survivors. With Prof Eila Watson, School of Health and Social Care, Oxford Brookes University. Funded by Prostate Cancer Charity. Contact Jane Wolstenholme.

Early antibiotics use in 'at risk' children with influenza in primary care. With Prof Anthony Harnden, Department of Primary Care Health Sciences, University of Oxford. Funded by HTA programme grant. Contact Jane Wolstenholme.

Monitoring Long Term Conditions in Primary Care. With Dr Rafael Perera, Department of Primary Care Health Sciences, University of Oxford. Funded by NIHR Programme Grant for Applied Research. Contact Oliver Rivero-Arias.

TOAST: Do oral corticosteroids provide effective symptom relief for sore throat? With Dr Matthew Thompson, Department of Primary Care Health Sciences, University of Oxford. Funded by NIHR National School of Primary Care Research. Contact Jane Wolstenholme.

#### ***Ongoing Projects***

MaDOx: Monitoring and Diagnosis in Oxford. With the Department of Primary Care Health Sciences, University of Oxford. Funded by NIHR. Contact Jane Wolstenholme.

## Genetics

### *New work*

Economic Analysis of Genomic Diagnostic Technologies for Multifactorial Genetic Diseases in the UK NHS. NIHR Doctoral Research Fellowship. Contact James Buchanan.

Next Generation Sequencing Analysis: A Clinical Study to Implement an Innovative Cancer Care Model in the UK, with Health and Economic Benefits. Funded by Department of Health and Wellcome Trust. Contact Sarah Wordsworth.

Implementation of microbial whole-genome sequencing for individual patient care, local outbreak recognition and national surveillance. With Dr David Wylie and Prof D Crook, University of Oxford. Funded by Wellcome Trust and Department of Health, Health Innovation Challenge Fund. Contact Sarah Wordsworth.

## Tropical Diseases

### *New work*

IVAP: Itraconazole versus amphotericin B in the induction treatment of penicilliosis in HIV-infected adults. With Hospital for Tropical Diseases, Oxford University Clinical Research Unit, Ho Chi Minh City, Vietnam. Funded by Wellcome Trust and MRC. Contact Alastair Gray.

Clinical trial of dexamethasone for cryptococcal meningitis in Vietnam, Thailand and Malawi. With Dr Jeremy Day, Hospital for Tropical Diseases, Oxford University Clinical Research Unit, Ho Chi Minh City, Vietnam. Funded by MRC, Wellcome Trust and DfID. Contact Alastair Gray.

### *Ongoing Projects*

Artesunate suppository as a pre-referral intervention for severe malaria. With the World Health Organisation. Funded in-house. Contact Borislava Mihaylova.

Economic case for a suppository intervention for treatment of neonatal sepsis in a community setting. With Prof Nicholas J White FRS, Professor of Tropical Medicine at University Mahidol Thailand and University of Oxford. Funded by Wellcome Trust. Contact Borislava Mihaylova.

## Inequalities

Ethnic differences in the income/child health gradient: the role of antenatal care and maternal health behaviours. Contact Mara Violato.

## Radon

RADPAR: Radon Prevention and Remediation. With European partners and led by Dr John Bartzis. University of West Macedonia. Funded by the European Commission. Contact Alastair Gray.

## Resource Allocation

NICE's cost-effectiveness threshold. With Prof Nancy Devlin, Office of Health Economics. Funded by a consortium of pharmaceutical companies. Contact Helen Dakin.

National Obesity Observatory e-tool: Development of an economics tool to guide commissioning. With Cavill Associates. Funded by National Obesity Observatory. Contact Jane Wolstenholme.

## Economic Evaluation of Healthcare Technologies

### Blood Services

#### *New work*

TOPPS: Prophylactic versus non-prophylactic platelet transfusion in patients with haematological malignancies. With NHSBT Oxford Centre. Funded by NHS Blood and Transplant (NHSBT). Contact Helen Campbell.

TriGGER: Transfusion In Gastrointestinal bleeding. A multi-centre, feasibility, cluster randomised controlled trial comparing restrictive versus liberal blood transfusion strategies in adult patients with acute upper gastrointestinal bleeding. With Prof Mike Murphy, NHSBT Oxford Centre. Funded by NHS Blood and Transplant (NHSBT). Contact Helen Campbell.

#### *Ongoing Projects*

ABLE: Age of BLOOD Evaluation trial in the resuscitation of critically ill patients: a multicentre randomised controlled superiority clinical trial. With Prof Timothy Walsh, Royal Infirmary of Edinburgh (lead on the UK arm of the trial). Funded by NIHR HTA programme. Work started in 2011. Contact Helen Campbell.

Development of a multi-modality blood conservation strategy in cardiothoracic surgery. With Prof Barney Reeves, University Hospitals Bristol NHS Foundation Trust. Funded by NIHR programme grant. Contact Elizabeth Stokes.

Traumatic Coagulopathy and Massive Transfusion. With Dr Simon Stanworth, National Blood Service, and Prof Karim Brohi, Royal London Hospital. Funded by NIHR programme grant. Contact Helen Campbell.

TITRe2: A multi-centre randomised controlled trial of Transfusion Indication Threshold Reduction on transfusion rates, morbidity and healthcare resource use following cardiac surgery. With Prof Barney Reeves, University of Bristol. Funded by NIHR HTA programme. Contact Elizabeth Stokes.

The economics of blood transfusion in the NHS. DPhil research topic, Elizabeth Stokes.

### Cancer

#### *New work*

STRATEGIC: Strategies to increase cervical screening uptake at first invitation. With Prof Henry Kitchener, University of Manchester. Funded by NIHR HTA. Contact Alastair Gray.

De-ESCALaTE HPV: Determination of Epidermal growth factor receptor-inhibitor (cetuximab) versus Standard Chemotherapy (cisplatin) early And Late Toxicity Events in Human Papillomavirus-positive oropharyngeal squamous cell carcinoma. With Prof Hisham Mehanna, University Hospitals Coventry and Warwick. Funded by Cancer Research UK. Contact Alastair Gray.

#### *Ongoing Projects*

B-AHEAD: Breast Activity and Healthy Eating after Diagnosis. With Dr Michelle Harvie, Wythenshawe Hospital Manchester. Funded by NIHR Research for Patient Benefit programme. Contact Jane Wolstenholme.

FACS: Follow-up After Colorectal Surgery. With the University Surgical Unit, University of Southampton. Funded by DH R&D programme. Contact Helen Campbell.

Foxtire: First line treatment of patients with liver metastatic colorectal cancer. With Radiology Oncology Biology Unit, Oxford. Funded by CRUK and Sirtex Technology Pty Ltd. Contact Jane Wolstenholme.

PSA Testing: Assessing the costs and cost-effectiveness of PSA testing in the secondary prevention of prostate cancer: towards evidence-based policy and practice. Advisory, with the Irish Health Research Board. Contact Jane Wolstenholme.

## **Cardiovascular disease**

### ***New work***

REVEAL: Randomized Evaluation of the Effects of Anacetrapib through Lipid-modification. With the Clinical Trial Service Unit, University of Oxford. Funded by Merck Sharp & Dohme Corp. Contact Borislava Mihaylova.

SHARP: Study of Heart and Renal Protection. With the Clinical Trial Service Unit, University of Oxford. Funded by Merck Sharp & Dohme Corp. Contact Borislava Mihaylova.

An Evaluation of the Clinical and Cost-Effectiveness of Transcatheter Aortic Valve Implantation in Patients at High Operative Risk or Ineligible for Conventional Aortic Valve Surgery (TAVI). With Dr Bill Toff, Glenfield Hospital Leicester. Funded by NIHR HTA programme. Contact Alastair Gray.

The renoprotective benefits of leukodepletion in heart valve surgery: a pilot randomised controlled trial (ROLO trial). With Dr Augustine Tang, Lancashire Cardiac Centre, Dr Sally Spencer, University of Lancaster, Prof Barney Reeves, University of Bristol. Funded by NIHR Research for Patient Benefit programme. Contact Sarah Wordsworth.

Benefit to patients and the NHS of Cardiovascular Magnetic Resonance imaging (CMR) after primary percutaneous coronary intervention (PPCI). With Prof Barney Reeves, University of Bristol. Funded by NIHR Health Services Research Programme. Contact Sarah Wordsworth.

### ***Ongoing projects***

ACST-2: Asymptomatic Carotid Surgery. With John Radcliffe Hospital, Oxford; Clinical Trial Service Unit Oxford. Funded by NIHR HTA Programme. Contact Borislava Mihaylova.

ART: Arterial Revascularisation Trial. With John Radcliffe and Royal Brompton Hospitals. Funded by MRC. Contact Helen Campbell.

CRISP: Coronary artery grafting in high risk patients: off-pump vs on-pump surgery. With Nuffield Dept Surgery Oxford and Bristol Heart Institute. Funded by MRC and BHF. Trial was ended due to low recruitment, hence only limited economic analysis was possible. Contact Helen Campbell.

Statins: Cost-effectiveness of different statin regimens in people at different levels of vascular risk using data from large statin trials. CTSU Oxford. Funded by BHF. Contact Borislava Mihaylova.

Stroke: Evaluation of the healthcare costs and health outcomes associated with stroke, using data from the Oxford Vascular Study (OXVASC). Stroke Prevention Research Unit, Oxford. Post-doctoral research fellowship funded by DH, MRC and ESRC, Ramón Luéngo-Fernández.

## **Diabetes**

### ***New work***

Development of a cost-effectiveness model for optimization of the screening interval in diabetic retinopathy screening. With Dr Henry (Peter) Scanlon, Consultant Ophthalmology, Gloucestershire Hospitals NHS Foundation Trust. Funded by NIHR HTA programme. Contact José Leal.

### ***Ongoing Projects***

ACE: Acarbose Cardiovascular Evaluation trial. With Diabetes Trials Unit, University of Oxford, and University of Beijing. Funded by Bayer Shering Pharma. Contact Alastair Gray.

AFORRD: Atorvastatin and fish oil in diabetes. With Diabetes Trials Unit, University of Oxford. Funded by Pfizer. Contact Helen Dakin.

Diabetes Outcomes Model. Economic analysis of the UK Prospective Diabetes Study. With Diabetes Trials Unit, University of Oxford. Funded by MRC. Contact José Leal.

Economic analysis of the UK Prospective Diabetes Study. DPhil research topic, Maria Alva.

Exscel: Exenatide once weekly cardiovascular outcomes trial. With Diabetes Trials Unit, University of Oxford; and Duke University. Funded by Amilyn/Lilly. Contact Oliver Rivero-Arias.

TECOS: Trial Evaluating Cardiovascular Outcomes With Sitagliptin. With Diabetes Trials Unit, University of Oxford; and Duke University. Funded by Merck. Contact Oliver Rivero-Arias.

## **Eye Disease**

IVAN: randomised controlled trial of alternative treatments to Inhibit VEGF in Age-related choroidal Neovascularisation. With University of Belfast; University of Bristol. Funded by NIHR HTA programme. Contact Helen Dakin.

## **Genetics**

MassTAG: Can rapid integrated PCR-based diagnostics for gastrointestinal pathogens and direct sequence typing of clostridium difficile improve routine hospital infection control practice? With Dr Derrick Crook, Nuffield Department of Medicine, University of Oxford. Funded by NIHR HTA programme. Contact James Buchanan.

Next generation sequencing in sudden cardiac death. With Wellcome Centre for Human Genetics, Oxford. Funded by Oxford Biomedical Research Centre. Contact Sarah Wordsworth.

Cost-effectiveness of genetic testing for Chronic Lymphocytic Leukaemia (CLL). With Wellcome Centre for Human Genetics, Oxford. Funded by Oxford Biomedical Research Centre. Contact James Buchanan.

Genetic testing of somatic mutations in common cancers. With Wellcome Trust Centre for Human Genetics; All-Wales Laboratory Genetics Service; Cancer Research UK; West Midlands Regional Genetics Laboratory. Funded by Department of Health. Completed in 2011. Contact Sarah Wordsworth.

## **Mental Health**

### ***New Work***

Treatment of child anxiety in primary care via guided CBT self-help: RCT. With Prof Peter Cooper and Dr Cathy Cresswell, University of Reading. Funded by NIHR Research for Patient Benefit programme. Contact Mara Violato.



Poles apart — Bipolar disorder collaborative disease management: from research to real life settings.

Funded NIHR Academic Clinical Fellowship in Public Health. DPhil research topic, Anees Abdul Pari. Treating insomnia. With David Freeman, Department of Clinical Psychology and Psychiatry, Oxford University. Funded by NIHR Research for Patient Benefit programme. Contact Ramón Luéngo-Fernández.

### ***Ongoing Projects***

IPS-Lite: Refining Individual Placement and Support for UK practice and establishing its cost-effectiveness in a pragmatic, non-inferiority RCT. Led and funded by Dept Psychiatry Oxford. Contact Judit Simon.

ACTIONS: Anti depressant Controlled Trial for Negative symptoms in Schizophrenia. With Department of Psychological Medicine, Imperial College. Funded by NIHR HTA programme. Contact Judit Simon.

CEQUEL: Comparative Evaluation of QUetiapine-Lamotrigine, treatments for people with bipolar depression. With the Department of Psychiatry, University of Oxford. Funded by MRC. Contact Judit Simon.

OCTET: The Oxford Community Treatment Order Evaluation Trial. With the Department of Psychiatry, University of Oxford. Funded by NIHR and DH. Contact Judit Simon.

OXTEXT: Mood monitoring by sms/text messaging and mood intervention service for people with bipolar disorder. With the Department of Psychiatry, University of Oxford. Funded by NIHR. Contact Judit Simon.

MACH: Treatment of Child Anxiety Disorder in the context of Maternal Anxiety: a randomised controlled trial. With Dr Cathy Creswell, University of Reading. Funded by MRC. Contact Mara Violato.

Overcoming your child's fears and worries: a randomised controlled trial of guided self-help for childhood anxiety disorders. With Prof Peter Cooper and Dr Cathy Creswell, University of Reading. Contact Mara Violato.

### **Obesity**

#### ***New work***

BYBAND: Gastric BYpass or adjustable gastric BANDing surgery to treat morbid obesity: a multi-centre randomised controlled trial. With Prof Jane Blazeby and Prof Barney Reeves, University of Bristol. Funded by NIHR HTA programme. Contact Sarah Wordsworth.

### **Orthopaedics**

#### ***New work***

CSAW: Can Shoulder Arthroscopy Work? Is Arthroscopic Sub-Acromial Decompression (ASAD) more effective than Arthroscopy Only (AO) for shoulder pain? With Prof David Beard, Musculoskeletal Sciences, Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences, University of Oxford. Funded by Arthritis Research UK. Contact Alastair Gray.

PROVE: Physiotherapy Rehabilitation for Osteoporotic Vertebral Fracture. With Dr Karen Barker, Nuffield Orthopaedic Centre NHS Trust. Funded by NIHR Health Technology Assessment Programme. Contact Helen Campbell.

### ***Ongoing Projects***

KAT: Knee Arthroplasty Trial. With University of Aberdeen; University of Dundee. Funded by NIHR HTA programme. Contact Helen Dakin.

TOPKAT: Total or Partial Knee Arthroplasty. With the Nuffield Orthopaedic Centre Oxford. Funded by NIHR HTA programme. Contact Helen Campbell.

UKUFF: United Kingdom Rotator Cuff Trial. With the Nuffield Department of Surgery, Oxford; HSRU Aberdeen. Funded by NIHR HTA programme. Contact Alastair Gray.

### **Parkinson's Disease**

Economic costs of Parkinson's: strengthening the evidence base on costs, benefits and cost-effectiveness. Three-year Fellowship funded by Parkinson's UK. Contact Emma McIntosh, now at the University of Glasgow.

PD MED: Parkinson's Disease Medicines Trial. With Clinical Trials Unit Birmingham. Funded by NIHR HTA programme. Contact Alastair Gray.

PDSURG: Parkinson's Disease Surgery Trial. With Clinical Trials Unit Birmingham. Funded by MRC. Contact Alastair Gray.

### **Surgery Outcomes**

S3: Safer Delivery of Surgical Services: a Reliable Teamwork Approach. With the Nuffield Department of Surgery, University of Oxford. Funded by NIHR programme grant. Contact Oliver Rivero-Arias.

The ONE Study: cellular immunotherapy approaches that improve transplant and patient outcomes while reducing the need for pharmacologic immunosuppression. With the University of Regensburg Department of Surgery; Nuffield Department of Surgery, Oxford. Funded by the European Commission. Contact Ramón Luéngo-Fernández.

## **Methodology of Economic Evaluation**

PROMS: Patient reported outcome measures in primary care. With Professor Ray Fitzpatrick, Department of Public Health, University of Oxford. Funded by Department of Health. Contact Alastair Gray.

Economic evaluation of factorial trials. DPhil research topic, Helen Dakin.

Evaluating the cost-effectiveness of interventions using observational studies. Contact Borislava Mihaylova.

Modelling disease progression. Methodological work alongside the Statins and SHARP projects. Contact Borislava Mihaylova.

Mapping algorithm to estimate EQ-5D utilities from responses to the Oxford Knee Score. Contact Helen Dakin.

Missing data in the health-related quality of life EQ-5D instrument: should we impute individual domains or the actual "tariff"? Contact Judit Simon.

Developing new models for collecting patient experience information in the NHS. Contact Ramón Luéngo-Fernández.

## Capacity Building, Teaching and Dissemination

### Research Design Service

HERC is funded by the NIHR to provide health economics support to research proposals led by NHS-based investigators. Three members of staff, Jane Wolstenholme, Ramón Luéngo-Fernández and Oliver Rivero-Arias, devote a proportion of their time to providing advice to NHS-based researchers who need to incorporate health economic analysis into their research proposals. In some instances, HERC goes on to provide the research input to proposals that are funded.

### Senior Investigator award

Professor Alastair Gray holds a Senior Investigator award from the NIHR. This supports his own research work and the group more generally. Under this award HERC holds a Research Training Fellowship for which we are recruiting at the time of writing.

### Supervision

#### *Doctoral Research Completed*

**José Leal**, Multiparameter evidence synthesis in economic evaluation. DPhil successfully defended 2011.

**Wei Han**, visiting PhD student from Catholic University of Milan, Catastrophic health expenditure in China: from a social experiment in Ningxia. Supervisor: Winnie Yip. Awarded April 2012.

#### *Current DPhil students based in HERC*

Our DPhil students are integrated into the group. Their work is part of the overall research programme.

**Maria Alva**. Economic analysis of the UK Prospective Diabetes Study. Supervisor: Alastair Gray.

**Helen Dakin**. Economic evaluation of factorial trials. Supervisor: Alastair Gray.

**Reem Hafez**. Consumer choice of health insurance and its impact on financial risk protection in rural China. Supervisor: Winnie Yip.

**Anup Karan**. The health-related financial burden on households in India. Supervisor: Winnie Yip.

**Filipa Landeiro**. The cost of loneliness among older people to the NHS. Supervisor: José Leal.

**Anees Abdul Pari**. Poles apart: Bipolar disorder collaborative disease management. From research to real life settings. Supervisor: Judit Simon.

**Elizabeth Stokes**. The economics of blood transfusion in the NHS. Supervisor: Helen Campbell.

#### *Supervision of Doctoral Research outside HERC*

**Jamila Headley**, Dept Public Health Oxford, Health priorities and policy in Barbados. Supervisor: Jane Wolstenholme. Due to submit autumn 2012.

**Ryan Manuel**, Dept Economics Oxford, Conflicts between incentives and public policies of China's new cooperative medical scheme. Supervisor: Winnie Yip.

**Joelle Castellani**, Faculty of Health Medicine and Life Sciences, University of Maastricht, Factors determining access to care, death or survival of children with severe febrile illness in rural Tanzania. Supervisor: Borislava Mihaylova.

#### *Other External Supervision*

**Dr Emma McLaren**, Foundation Doctor, The healthcare journey of migrant workers and their families attending clinics on the Thai-Myanmar border in Tak Province in cases of acute febrile illness requiring in-patient treatment. Co-Supervisor: Borislava Mihaylova.

## Teaching

### *Undergraduate Teaching*

Introduction to health economics, taught and examined as part of 5th year medical students course in public health.

### *Graduate Teaching*

Health economics elective module, taught and examined as part of MSc in Global Health Sciences.

MSc students hosted from University of York Masters programme in health economics, for summer dissertation, July–September 2012: Eleonora Lovato, working on blood transfusion economic evaluation under supervision of Helen Campbell; and Claire Simons, working on multiple imputation in the EQ-5D under supervision of Oliver Rivero-Arias and Judit Simon.

### *GP Training*

Health economics and economic evaluation. Lecture for GP Registrars as Continuing Education at Berkshire and Wexham Park Hospitals.

### *HERC Short Courses*

HERC first started offering courses on economic evaluation for health professionals and health economists in 1999. They have a strong take-up and are now offered with greater frequency to meet demand. The numbers attending have been kept small enough to maintain the quality of the learning experience on both courses.

**Introduction to Health Economic Evaluation**, one-day course delivered four times per year, in April and October.

**Applied Methods of Cost-Effectiveness Analysis**, three-day course twice per year June/July and December.

## Meetings organized and promoted by HERC

**New Directions in Welfare**, a conference co-organised by Paul Anand and hosted by OECD in Paris in July 2011. Judit Simon contributed to the opening roundtable on 'Broadening the Measurement and Concept of Economic Progress'.

**Well-being of the Elderly in China**, a workshop organised by the University of Oxford China Centre in January 2012. Winnie Yip was a Panellist.

**Economics, Modelling and Diabetes: The Mt Hood 2012 Challenge.** We collaborated with our erstwhile HERC colleague Philip Clarke to host the 6th meeting on diabetes outcomes modelling in Baltimore in June 2012.

**Health Economists' Study Group (HESG):** HERC hosted the HESG meeting in June 2012 at St Hugh's College, combining this with celebrating the 40th anniversary of HESG's foundation with a panel discussion and dinner.

## HERC Seminar Series

**Dr Tom Van Ourti**, Erasmus School of Economics, Erasmus University, Rotterdam, Netherlands  
The contribution of lifestyles to 'unfair' inequality in mortality in the Netherlands

**Dr Timothy Powell-Jackson**, Research Fellow in Health Economics, London School of Hygiene and Tropical Medicine  
Financial incentives for maternal health in Nepal

**Dr Verity Watson**, Research Fellow, Health Economics Research Unit, University of Aberdeen  
Using lab experiments to investigate incentive compatibility and hypothetical bias in discrete choice experiments

**Professor Nancy Devlin**, Office of Health Economics; and Professor David Parkin, NHS South East Coast and City University  
The use of PROMS as measures of provider performance

**Professor Adrian Towse**, Director, Office of Health Economics, London  
Value-based differential pricing: setting optimal prices for drugs cross-nationally

**Professor Barbara McPake**, Director, Institute for International Health and Development, Queen Margaret University, Edinburgh  
Health systems research to improve maternal health in low income countries

**Professor Simon Eckermann**, Australian Health Services Research Institute, University of Wollongong and the Centre for Clinical Change & Health Care Research, Flinders University  
Value of information and pricing new health care interventions

**Professor Ann Netten**, Professor of Social Welfare and Director, Personal Social Services Research Unit (PSSRU), University of Kent  
ASCOT: Development of a QALY for Social Care

**Professor James Nazroo**, Professor of Sociology / Director of The Cathie Marsh Centre for Census and Survey Research, University of Manchester

Ethnicity and health: the role of social and economic inequalities

**Professor Sonia Bhalotra**, Professor of Economics, Department of Economics, University of Bristol  
Shadows of The Captain of the Men of Death Long-Run Impacts of Early Life Pneumonia Exposure  
Abstract

**Professor Werner Brouwer**, Professor of Health Economics, Department of Health Policy & Management and Institute for Medical Technology Assessment, Erasmus University, Rotterdam, The Netherlands

The values behind the values — a plea for more debate on the ethical framework for health care decisions

**Rachael Morton**, Research Fellow, Health Economics, Department of Public Health, University of Sydney

Dialysis modality preferences of patients with chronic kidney disease and family carers: A discrete choice study

**Sandy Tubeuf**, Senior Research Fellow, Academic Unit of Health Economics, University of Leeds  
Mediating role of education and lifestyles in the relationship between early-life conditions and health: evidence from the 1958 British cohort

**Professor Stephen Birch**, Department of Clinical Epidemiology and Biostatistics; and Centre for Health Economics and Policy Analysis (CHEPA), McMaster University; and part-time Chair in Health Economics at the University of Manchester

Uncertainty and the Decision-Maker: Assessing and Managing the Risk of Undesirable Outcomes

**Dr Claire McKenna**, Research Fellow, Centre for Health Economics, University of York

Optimal Shopping: an Evaluation of Decision Rules in Cost-Effectiveness Analysis

**Dr Alison Hayes**, Research Fellow, School of Public Health, The University of Sydney

Simulation of patient outcomes in Type 2 diabetes: the UKPDS Outcomes Model revisited

## Presentations January 2011 – June 2012

5–7 January 2011

**Health Economists' Study Group (HESG), University of York**

Ramón Luéngo-Fernández, A Gray, P Rothwell. 'Impact of baseline resource use on disease costs: the example of cerebrovascular events'

31 January 2011

**Annual meeting of Network of Hubs for Trials Methodology Research, Birmingham**

Borislava Mihaylova. 'Modelling for clinical trial driven economic analyses: development and validation issues'

15–16 February 2011

**ICE-CAP Workshop, University of Birmingham**

Judit Simon. 'Capability measurement in the OCTET mental health trial: The OXCAP MH15'

16 February 2011

**Sociology Group Seminar Series, Nuffield College, University of Oxford**

Mara Violato. 'Ethnic differences in the income/child health gradient: the role of antenatal care and maternal health behaviours'

1 March 2011

**International Longevity Centre UK (ILC-UK) and the Actuarial Profession Joint Debate: The Future Economic, Health and Social Care Costs of Dementia, London**

Ramón Luéngo-Fernández. 'Economic Cost of Dementia'

25–27 March 2011

**10th Workshop on Costs and Assessment in Psychiatry: Mental Health Policy and Economics, Venice, Italy**

Judit Simon. 'Health Economic Preparatory work for OXTEXT: The development and evaluation of cost-effective systems of collaborative disease management for people with bipolar disorder'

10–12 April 2011

**Westlake Forum III, Healthcare Reform in China and the U.S.: Similarities, Differences and Challenges, Emory University, Atlanta, USA**

Winnie Yip. 'Poor incentive structure: The culprit of health care cost inflation in China'

9 May 2011

**Erasmus University, Diploma Course in International Health Policy and Economics**

Winnie Yip. 'Provider behavioural response to incentives change: preliminary findings from a social experiment in rural China'

11 May 2011

**Incentives for Health Provider Performance Network, University of Auvergne, Clermont-Ferrand, France**

Winnie Yip. 'P4P in the reform in China'

9–11 June 2011

**9th International Conference on Bipolar Disorder, Pittsburgh, USA**

Judit Simon. 'Impact of True Colours mood monitoring on mental health service utilisation' Simon J, Budge KV, Foster JE, Bell S, Goodwin G, Geddes J. (poster presentation)

24–28 June 2011

**American Diabetes Association 71st Scientific Sessions Conference, San Diego**

Maria Alva. 'Outpatients resource utilisation of type-2 diabetes patients: new evidence from the UKPDS'

6–8 July 2011

**New Directions in Welfare, OECD Paris, France**

Judit Simon. 'Operationalising the capabilities approach for mental health studies (OxCAP-MH)'

10–13 July 2011

**iHEA 8th World Congress on Health Economics: Transforming Health & Economics, Toronto, Canada**

Giselle Abangma, Helen Dakin, Sarah Wordsworth and the IVAN trial group. 'Micro-costing, Gross-costing or HRGs: Does the choice of cost approach matter in clinical trials?'

Maria Alva, Alastair Gray, Borislava Mihaylova and Phillip Clarke. 'The effect of diabetes related complications on marginal utility: Estimating the bias due to unobservable heterogeneity using the UKPDS'

Helen Dakin and Alastair Gray. 'Economic evaluation of factorial randomised controlled trials: Why the method of analysis matters'

Mara Violato, Stavros Petrou, Ron Gray and Maggie Redshaw. 'Ethnic differences in the income/child health gradient: the role of antenatal care and maternal health behaviours'

Winnie Yip. 'Evaluating the impact of a social experiment on improving financial risk protection for chronic patients in rural China'

Winnie Yip. 'Impacts of Capitation and Pay-for-performance on Health Expenditure and Vertical Integration: A social experiment in rural China'

José Leal. 'Evidence Synthesis Frameworks to inform healthcare decision making: A practical application to prostate cancer screening'

Borislava Mihaylova. 'Parametric methods for modelling and extrapolation in clinical trials: Implications for economic evaluation and ways forward'

Ramón Luéngo-Fernández . 'UK research expenditure on chronic diseases: Is the level of spending related to the burden of disease?' Poster Presentation



15–16 September 2011

**EuroQol Plenary Meeting 2011, Saïd Business School, Oxford**

Helen Dakin. 'Mapping Oxford Knee Score onto EQ-5D utilities and responses' Poster Presentation

4 October 2011

**MRC Clinical Trials Methodology conference 2011, Bristol**

Helen Dakin. 'What is the value of collecting detailed costing data in clinical trials?'

Maria Alva, Borislava Mihaylova. 'The effect of diabetes related complications on marginal utility: Estimating the bias due to unobservable heterogeneity using the UKPDS'

Borislava Mihaylova, Alastair Gray, Andrew Briggs. 'Parametric methods for modelling and extrapolation in clinical trials: implications for economic evaluation and ways forward'

7 October 2011

**Warwick Medical School Annual WISDDEM Clinical Symposium, Warwick**

Alastair Gray. 'Modelling the lifetime outcomes and costs of diabetes'

12 October 2011

**Health Economics Unit Seminar Series , University of Birmingham**

Oliver Rivero Arias. 'How important is parameter uncertainty around the UK EQ-5D value set when estimating treatment effects?'

13 October 2011

**Pontificia Universidad Catolica de Chile, Santiago de Chile "Elementos Para Una Política Pública Sobre Cáncer En Chile"**

Ramón Luéngo-Fernández. 'Investigaciones sobre economía del cáncer y las enfermedades crónicas (Research on the economics of cancer and chronic diseases)'

19 October 2011

**Database of Instruments for Resource Use Measurement (DIRUM) Workshop, Birmingham**

Sarah Wordsworth. 'The Annotated Cost Questionnaire: An Attempt at Standardisation'

11–13 January 2012

**Health Economists' Study Group (HESG), Inserm-IRD and Aix-Marseille Universite. Joint meeting with the College des Economistes de la Sante (CES), Aix en Provence, France.**

Alastair Gray, Oliver Rivero Arias. 'How important is parameter uncertainty around the UK EQ-5D value set when estimating treatment effects?'

14 February 2012

**Richard Doll Seminars in Public Health and Epidemiology, University of Oxford**

Winnie Yip. 'Integrating research with China's health care reform: a social experiment to improve health services delivery in rural China'

16 March 2012

**Chronic Lymphocytic Leukaemia Support Association, The Oxford Belfry**

James Buchanan. 'Health economics, genetics and CLL'

21 March 2012

**Health Informatics Centre, School of Medicine, University of Dundee**

Ramón Luéngo-Fernández, Alastair Gray, Peter Rothwell, 'Long-term outcome and costs after stroke and TIA: Evidence from the Oxford Vascular Study'

26–28 March 2012

**Royal Economic Society (RES) Annual Conference, University of Cambridge**

Ranjeeta Thomas. 'Ex ante forecasting of the distributional effects of a conditional cash transfer program on child health in Nicaragua'

29 March 2012

**IMUKA 2012 Masterclass in Knees, Maastricht, The Netherlands**

Helen Dakin. 'Can we use the Oxford Knee Score in health economic analysis?'

4 April 2012

**Public service delivery in developing countries, Centre for Market and Public Organisation: University of Bristol**

Timothy Powell-Jackson. 'Who benefits from removing user fees for health care? Evidence from a randomised experiment in Ghana'

17 May 2012

**University College London Symposium: Reversing Trends in Diabetes 2012.**

Alastair Gray. 'The costs of diabetes-related complications and the impact of changes in risk factors'

23 May 2012

**Health, Econometrics and Data Group, University of York**

Ranjeeta Thomas. 'Happiness over 50: A Capabilities Approach to Welfare Outcomes in Older Age'

7–8 June 2012

**Economics, Modelling and Diabetes The Mount Hood Six Challenge, Baltimore, USA**

Maria Alva, Alastair Gray, Borislava Mihaylova, Rury R Holman. 'Inpatient and outpatient resource utilization of type-2 diabetes patients'

25–27 June 2012

**Health Economists' Study Group, Oxford**

Maria Alva, Alastair Gray, Boby Mihaylova, Rury Holman. 'Inpatient and Non-inpatient Resource Utilization of Type-2 Diabetes Patients'

Judit Simon, Paul Anand, Alastair Gray, J Rugkasa, Y Ksenija, T Burns and the OCTET Team. 'Operationalising the Capabilities Approach for Outcome Measurement in Mental Health Studies'

Helen Dakin, Sarah Wordsworth, Giselle Abangma, Alastair Gray, B Reeves. 'Why Consider Interactions in Trial-based Evaluation'

James Buchanan, Sarah Wordsworth, J Taylor, A Schuh, SJL Knight. 'Assessing Genomic Technologies: Do We Need to Overhaul the Health Economists' Methodological Toolbox?'

28 June 2012

**Health Economics Unit, University of Birmingham**

Helen Dakin. 'Economic evaluation of factorial randomised controlled trials'

## Publications

### Publications in press at June 2012

Asukai, Y, Baldwin, M, Fonseca, T, **Gray, A**, Mungapen, L, Price, D (In Press). Improving clinical reality in COPD economic modelling: development and validation of a micro-simulation approach. *Pharmacoeconomics*

CTT\_Collaborators, (Writing\_Committee: **Mihaylova, B**, Emberson, J, Blackwell, L, Keech, A, Simes, J, Barnes, E, Voysey, M, **Gray, A**, Collins, R, and Baigent), C (In Press). Effects of lowering LDL cholesterol with statin therapy among people at low risk of vascular disease: meta-analysis of individual data from 27 randomized trials. *Lancet*.

Choy, E, Marshall, D, Gabriel, ZL, Mitchell, SA, Gylee, E, and **Dakin, HA** (In Press). A systematic review and mixed treatment comparison (MTC) of the efficacy of pharmacological treatments for fibromyalgia *Seminars in Arthritis and Rheumatism*.

Fenn, P, Vencappa, D, **Gray, A**, **Rivero-Arias, O**, and Rickman, N (In Press). The Impact of Risk Management Standards on Patient Safety: The Determinants of MRSA Infections in Acute NHS Hospitals, 2001–2008 *Oxford Bulletin of Economics and Statistics*.

Gray, LJ, Khunti, K, Williams, S, Goldby, S, Troughton, J, Yates, T, **Gray, A**, Davies, MJ, for the Let's Prevent Collaborators (In Press). Let's Prevent Diabetes: study protocol for a cluster randomised controlled trial of an educational intervention in a multi-ethnic UK population with screen detected impaired glucose regulation. *Cardiovascular Diabetology*

Hayes, A, **Leal, J**, Kelman, C, and Clarke, P (In Press). Risk equations to predict life expectancy of people with Type 2 diabetes mellitus following major complications: a study from Western Australia. *Diabetic Medicine*.

IVAN Study Investigators, (In Press). Ranibizumab versus Bevacizumab to Treat Neovascular Age-related Macular Degeneration: One-Year Findings from the IVAN Randomized Trial. *Ophthalmology* 2012.

Miklowitz, DJ, Price, J, Holmes, EA, Rendell, J, Bell, S, Budge, K, Christensen, J, Wallace, J, **Simon, J**, Armstrong, NM, McPeake, L, Goodwin, GM, and Geddes, JR (In Press). Facilitated Integrated Mood Management for Adults with Bipolar Disorder. *Bipolar Disorder*.

Prescott, A, Bailey, J, Kelly, K, Munyombwe, T, **Gray, A**, Summers, LKM (In Press). The effectiveness and cost of single and multi-factorial cardiovascular risk factor modification to guideline targets in type 2 diabetes. *Primary Care Diabetes*

Regier, D and **Petrou, S** (In Press). Economic evaluation of hypothermic neural rescue. *Cambridge University Press*.

## Publications January–June 2012

**Dakin, H, Gray, A,** Fitzpatrick, R, Maclennan, G, Murray, D, and Trial Group, (2012). Rationing of total knee replacement: a cost-effectiveness analysis on a large trial data set. *BMJ Open*, 2(1):e000332.

**Dakin, H, Gray, A,** and Murray, D (2012). Mapping analyses to estimate EQ-5D utilities and responses based on Oxford Knee Score *Quality of Life Research*, E Pub May 2012.

Edwards, SJ, **Wordsworth, S,** and Clarke, MJ (2012). Treating pneumonia in critical care in the United Kingdom following failure of initial antibiotic: a cost-utility analysis comparing meropenem with piperacillin/tazobactam. *Eur J Health Econ*, 13(2):181–92.

**Gray, A,** Dryden, M, Charos, A (2012). Antibiotic management and early discharge from hospital: an economic analysis. *Journal of Antimicrobial Chemotherapy*; doi: 10.1093/jac/dks194

**Luéngo-Fernández, R, Leal, J,** and **Gray, AM** (2012). UK research expenditure on dementia, heart disease, stroke and cancer: are levels of spending related to disease burden? *Eur J Neurol*,19(1):149–54.

**Powell-Jackson, T** and Hanson, K(2012) Financial incentives for maternal health: impact of a national programme in Nepal. *J Health Econ*, 31(1):271–84

**Violato, M, Gray, A,** Papanicolas, I, and Ouellet, M (2012). Resource use and costs associated with Coeliac disease before and after diagnosis in 3,646 cases: results of a UK primary care database analysis. *PLoS ONE*, 7(7):e41308. Doi:10.1371/journal.pone.0041308.

Wu, O, Briggs, A, Kemp, T, **Gray, A,** MacIntyre, K, Rowley, J, Willett, K (2012). Mobile Phone Use for Contacting Emergency Services in Life-threatening Circumstances. *Journal of Emergency Medicine* 42(3): 291–29.

**Yip, WC,** Hsiao, WC, Chen, W, Hu, S, Ma, J, and Maynard, A (2012). Early appraisal of China's huge and complex health-care reforms. *Lancet*, 379(9818):833–42.

## Publications 2011

Breeman, S, Campbell, M, **Dakin, H,** Fiddian, N, Fitzpatrick, R, Grant, A, **Gray, A,** Johnston, L, Maclennan, G, Morris, R, and Murray, D (2011). Patellar resurfacing in total knee replacement: five-year clinical and economic results of a large randomized controlled trial. *J Bone Joint Surg Am*, 93(16):1473–81.

**Buchanan, J, Wordsworth, S,** Ahmad, T, Perrin, A, Vermeire, S, Sans, M, Taylor, J, and Jewell, D (2011). Managing the long term care of inflammatory bowel disease patients: The cost to European health care providers. *J Crohns Colitis*, 5(4):301–16.

**Campbell, HE**, Epstein, D, Bloomfield, D, Griffin, S, Manca, A, Yarnold, J, Bliss, J, Johnson, L, Earl, H, Poole, C, Hiller, L, Dunn, J, Hopwood, P, Barrett-Lee, P, Ellis, P, Cameron, D, Harris, AL, **Gray, AM**, and Sculpher, MJ (2011). The cost-effectiveness of adjuvant chemotherapy for early breast cancer: A comparison of no chemotherapy and first, second, and third generation regimens for patients with differing prognoses. *Eur J Cancer*, 47(17):2517–30.

Charlesworth, A, **Gray, A**, Pencheon, D, and Stern, N (2011). Assessing the health benefits of tackling climate change. *BMJ*, 343:d6520.

**Dakin, H** and **Wordsworth, S** (2011). Cost-minimisation analysis versus cost-effectiveness analysis, revisited. *Health Econ*, doi: 10.1002/hec.1812. [Epub ahead of print].

**Dakin, H**, Sherman, M, Fung, S, Fidler, C, and Bentley, A (2011). Cost Effectiveness of Tenofovir Disoproxil Fumarate for the Treatment of Chronic Hepatitis B from a Canadian Public Payer Perspective. *Pharmacoeconomics*, 19(12):1075–1091.

**Dakin, HA**, Welton, NJ, Ades, AE, Collins, S, Orme, M, and Kelly, S (2011). Mixed treatment comparison of repeated measurements of a continuous endpoint: an example using topical treatments for primary open-angle glaucoma and ocular hypertension. *Stat Med* (30):2511–2535.

Edoka, I, **Petrou, S**, and Ramchandani, P (2011). Economic cost of paternal depression in the postnatal period: evidence from a British longitudinal study. *Journal of Affective Disorders*, 133(1–2): 356–60.

Kitchener, HC, Blanks, R, Cubie, H, Desai, M, Dunn, G, Legood, R, **Gray, A**, Sadique, Z, and Moss, S (2011). MAVARIC – a comparison of automation-assisted and manual cervical screening: a randomised controlled trial. *Health Technol Assess*, 15(3):iii–iv, ix–xi, 1–170.

Kitchener, HC, Blanks, R, Dunn, G, Gunn, L, Desai, M, Albrow, R, Mather, J, Rana, DN, Cubie, H, Moore, C, Legood, R, **Gray, A**, and Moss, S (2011). Automation-assisted versus manual reading of cervical cytology (MAVARIC): a randomised controlled trial. *Lancet Oncol*, 12(1):56–64

**Luéngo-Fernández, R**, Hernandez-Quesada, C, and **Rivero-Arias, O** (2011). Economic evaluation of healthcare technologies: an introduction for physicians. *Rev Neurol*, 53(2):107–115.

**Luéngo-Fernández, R**, **Leal, J**, and **Gray, AM** (2011). Cost of dementia in the pre-enlargement countries of the European Union. *J Alzheimers Dis*, 27(1):187–96.

Molana, H, Montagna, C, and **Violato, M** (2011). On the causal relationship between trade-openness and government-size: evidence from OECD countries. *Int.J.Public Policy*, 7(4,5,6):226–249.

**Petrou, S** and **Gray, A** (2011). Economic evaluation using decision analytic modelling: Design, methods, analysis and reporting. *British Medical Journal* (342:d1766).

**Petrou, S** and **Gray, A** (2011). Economic evaluation alongside randomised controlled trials: Design, methods, analysis and reporting. *British Medical Journal* (342:d1548).

**Petrou, S**, Taher, S, **Abangma, G**, Eddama, O, and Bennett, P (2011). A structured review of the recent literature on the economic consequences of preterm birth. *Archives of Disease in Childhood*, 96(3):F225–232.

**Petrou, S** and **McIntosh, E** (2011). Commentary: Using Stated Preference Discrete Choice Experiments to Elicit Womens Preferences for Aspects of Maternity Care. *Birth*, 38(1 March).

**Petrou, S**, Taher, S, **Abangma, G**, Eddama, O, and Bennett, P (2011). Cost-effectiveness analysis of prostaglandin E2 gel for the induction of labour at term. *BJOG*. doi: 10.1111/j.1471-0528.2011.02902.x. [Epub ahead of print].

Pluddemann, A, Price, CP, Thompson, M, **Wolstenholme, J**, and Heneghan, C (2011). Primary care diagnostic technology update: point-of-care testing for glycosylated haemoglobin. *Br J Gen Pract*, 61(583):139–40.

Postmus, D, **Pari, AAA**, Jaarsma, T, Luttik, ML, van Veldhuisen, DJ, Hillege, HL, and Buskens, E (2011). A trial-based economic evaluation of 2 nurse-led disease management programs in heart failure. *Am Heart J*, 162(6):1096–104.

Price, D, **Gray, A**, Gale, R, Asukai, Y, Mungapen, L, Lloyd, A, Peters, L, Neidhardt, K, Gantner, T (2011). Cost-utility analysis of indacaterol in Germany: a once-daily maintenance bronchodilator for patients with COPD. *Respiratory Medicine* 105: 1635–1647.

Sinclair, JMA, **Gray, A**, **Rivero-Arias, O**, Saunders, KEA, and Hawton, K (2011). Healthcare and social services resource use and costs of self-harm patients. *Soc Psychiatry Psychiatr Epidemiol*, 46(4):263–71.

Stevenson, J, McCann, DC, Law, CM, Mullee, M, **Petrou, S**, Worsfold, S, Yuen, HM, and Kennedy, CR (2011). The effect of early confirmation of hearing loss on the behaviour in middle childhood of children with bilateral hearing impairment. *Dev Med Child Neurol*, 53(3):269–274.

**Violato, M**, Petrou, S, Gray, R, and Redshaw, M (2011). Family income and child cognitive and behavioural development in the United Kingdom: does money matter? *Health Econ*, 20(10):1201–25.

Wang, H, Zhang, L, **Yip, W**, and Hsiao, W (2011). An experiment in payment reform for doctors in rural China reduced some unnecessary care but did not lower total costs. *Health Aff (Millwood)*, 30(12):2427–36.

**Wordsworth, S**, **Buchanan, J**, Mollison, J, Harrild, K, Robertson, L, Tay, C, Harrold, A, McQueen, D, Lyall, H, Johnston, L, Burrage, J, Grossett, S, Walton, H, Lynch, J, Johnstone, A, Kini, S, Raja, A, Templeton, A, and Bhattacharya, S (2011). Clomifene citrate and intrauterine insemination as first-line treatments for unexplained infertility: are they cost-effective? *Hum Reprod*, 26(2):369–75

## Membership of Expert Bodies

### Alastair Gray

- Member, MRC Methodology Research Programme Panel Advisory Group, 2010–present.
- Member, NHS Cancer Screening Programmes HPV Primary Screening Pilot Group, 2011–present.
- Member, MRC Expert Panel to assess proposals on methods for impact evaluation, 2011–present.
- Member, Department of Health Cancer Reform Strategy Costs and Benefits Working Group, 2007–2009.
- Member, Scientific Council, Ludwig Boltzmann Institute for Health Technology Assessment, Vienna, 2006–2011.
- Core Panel member, Department of Health Personal Awards Scheme for Career Scientist and Post Doctoral Awards, 2003–10.
- Member, HTA Clinical Trials Board, 2006–10.
- Member, Radon subgroup of the Advisory Group on Ionising Radiation, 2002–2009.
- Member and sub-group chair, WHO International Radon project. 2006–2009.
- Associate Editor, *Diabetic Medicine*, 2007–10.

### Borislava Mihaylova

- Editor, *Central European Journal of Medicine*.
- Member of REVEAL Trial Steering Committee.

### Judit Simon

- Management Board and Trial Steering Committee member for the OXTEXT programme, UK NIHR, 2009–present.

### Jane Wolstenholme

- Member of ProtecT Trial Steering Committee.
- Member of TargetCOPD – COPD case finding trial Steering Committee.

### Sarah Wordsworth

- Economics Advisor to EUROAGENTEST, the European Committee on Genetic Testing.
- Economics Advisor to Human Genetics Commission.
- Expert Advisor to Genomic Panel, Centers for Disease Control and Prevention, US.



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- Associate editor, Health Economics, 2009–present.
- Member, Admissions Committee, MSc in Global Health Science, DPH, 2008–present.
- International Advisor, National Health Survey, Ministry of Health, China, 2008–present.
- Member, Steering Committee, Capacity Building for the New Generation of Health Care Policy Researchers in China, China Medical Board, 2008–present.
- Member, Referee Panel, ESRC/MRC/NIHR Early Career Postdoctoral Fellowships in Economics of Health, 2008.
- Member, Asia Training Network, World Bank, 2008–present.
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