



In this issue: The benefits of statins in people at low cardiovascular risk • Improving healthcare quality and efficiency in rural China • HERC hits the headlines with eye trial • Resource use and costs of coeliac disease

Welcome to the first HERC newsletter

Since its establishment by the University of Oxford in 1996, HERC has been conducting exciting and innovative research on economic aspects of health and disease, the costs and benefits of prevention and treatment, and the design and evaluation of health systems, which has contributed to health and healthcare in the UK and internationally. 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 and workshops.

Our quarterly newsletter aims to keep policy makers, researchers, funding bodies, practitioners, students, collaborators and colleagues informed about recent developments at HERC, including new, current and completed research projects, presentations and publications, staff and student achievements.

In this issue, you can read about our work on the high profile IVAN trial. This study is investigating the treatment of wet age-related macular degeneration and our findings received considerable press attention. We also report estimates of the primary care costs associated with coeliac disease, present results suggesting that statins may be appropriate for people at low cardiovascular disease risk, and provide an update on the Gates Foundation funded Ningxia Project investigating TB control in China. Finally, you can read about the HESG 40th Anniversary Meeting, which we recently hosted at St Hugh's College, Oxford.

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

Alastair Gray
Director



HESG, Balliol College

HERC hosts 40th Anniversary meeting of HESG

June 25th to 27th 2012 saw more than 130 health economists from around the UK, Europe, and as far afield as Australia, gather at St Hugh's College in Oxford for the 40th Anniversary meeting of the Health Economists' Study Group (HESG).

Hosted by HERC, the meeting combined three days of presentation and discussion of novel methodological and applied health economics work with a special celebratory plenary session and dinner. The plenary session, held at the historic Taylor Institution, was thought provoking and conjured a lively discussion around the future direction of health economics as a discipline. The session was chaired by Professor Cam Donaldson, and included presentations from four prominent health economists. A special dinner, held afterwards in the magnificent dining hall at Balliol College (once home to a certain Mr Adam Smith!) was a fitting end to the anniversary celebrations.

We would like to thank all who came along and helped to make this a most memorable meeting. The 40th Anniversary celebrations continue at the 2013 Winter meeting in Exeter in January.

Download the podcast of the plenary discussion here: **HERC**

Resource use and costs of coeliac disease

Project team: Alastair Gray, Mara Violato, Irene Papanicolas, Melissa Ouellet

Despite the considerable health impact of coeliac disease, reliable estimates of the impact of diagnosis on healthcare use and costs are lacking. A UK primary care study (funded by Coeliac UK), used cohorts of 3,646 coeliac cases and 32,973 matched controls (extracted from the General Practice Research Database) to i) evaluate the impact of diagnosis on the average resource use and costs of cases; ii) assess direct healthcare costs by comparing average resource use and costs incurred by cases vs. controls, up to ten years before and after diagnosis.



Average annual healthcare costs increased by £310 per patient after diagnosis. Coeliac cases experienced higher healthcare costs than controls both before (mean difference £91) and after diagnosis (mean

difference £354). These differences were driven mainly by higher test and referral costs before diagnosis, and by increased prescription costs after diagnosis.

This study, published in PLoS ONE, shows significant additional primary care costs associated with coeliac disease. This novel evidence will assist researchers evaluating interventions in this area, and will challenge policymakers, clinicians, researchers and the public to develop strategies that maximise the health benefits of the resources associated with this disease. The work is currently being extended using an interrupted time-series approach to further understand and evaluate the effects of coeliac disease diagnosis on healthcare use and costs, also stratified by patients' socio-economic characteristics.

Project information here: **HERC**

“The NHS could save at least £84.5 million per year by switching from Lucentis to Avastin”



HERC hits the headlines with eye trial

Project team: Sarah Wordsworth, Helen Dakin, Giselle Abangma with IVAN Study Investigators

Headlines in the national media over the summer quoted HERC estimates of the cost savings possible by switching drugs for patients with eye disease. One-year results from the high profile IVAN trial, a randomised trial comparing Lucentis vs Avastin in the treatment of wet age-related macular degeneration (AMD), were reported widely in the media, including the BBC News at Ten, and the Guardian and Daily Mail newspapers.

HERC conducted costing analyses on the NIHR-funded trial, which included the cost of managing expected adverse events, as well as drug acquisition, administration and monitoring. This showed that the high cost of Lucentis was not offset by reductions in other costs and suggested that the NHS could save at least £84.5 million per year by switching from Lucentis to Avastin. Clinical and costing results were published in Ophthalmology; a full economic evaluation and primary results after a second year of treatment will follow.

Methodological work using IVAN to evaluate methods for economic evaluation of factorial trials was also presented at the HESG Summer meeting in Oxford and at Birmingham University. This work highlights the importance of considering the potential for interactions between the treatments evaluated in factorial trials and presents methods for obtaining efficient, unbiased estimates of incremental cost-effectiveness from factorial trials.

Project information here: **HERC**

Statins are effective and their benefits exceed risks even in people at low cardiovascular risk

Project team: Borislava Mihaylova, Alastair Gray, with the Cholesterol Treatment Trialists' Collaboration

Statins are the most widely prescribed drug in the UK, with about 61 million prescriptions in England alone in 2011. Supported by funding from the UK Medical Research Council, the British Heart Foundation, and the National Health and Medical Research Council (Australia), HERC researchers have been collaborating with the Clinical Trial Service Unit & Epidemiological Studies Unit (CTSU), University of Oxford, and the University of Sydney, Australia, on the largest and most reliable study ever to examine the effects of statins.

This meta-analysis of data on more than 170,000 participants from 27 randomised controlled trials found that using statins to reduce the levels of low-density lipoprotein (or "bad") cholesterol in the blood cut the risk of heart attacks, strokes and operations to unblock arteries by one third or more. The effects were consistent among a wide range of participants, including apparently healthy people, with benefits greatly exceeding any known risks associated with taking these drugs even among people at low cardiovascular risk.

The study suggests that statins, increasingly available as generic therapies, should be considered for a much wider range of people than currently treated. The work is currently being extended to evaluate the cost-effectiveness of statins for people at different vascular risk.

Project information here: **HERC**

“ Statins should be considered for a much wider range of people than currently treated ”



Re-aligning health system incentives: a social experiment in rural China

Project team: Winnie Yip, Tim Powell-Jackson, Eduardo Fe, Wei Han, Reem Hafez

Until recently the ideal of universal, affordable healthcare was very far from a reality in China. People paid a high cost for access to medical treatment: if they could not afford the costs, they went without and suffered the consequences. With the goal to balance its drive for economic growth with a matching emphasis on social development, the Chinese government has doubled its spending on health since 2009 from 1% to 2% of GDP, and introduced a national insurance scheme that now covers more than 90% of the population. However, money does not equate to services, much less high quality or cost-effective services.

“ the Chinese government has doubled its spending on health since 2009 ”

Through social experimentation in Ningxia, a poor rural province, this project designs and tests various models of innovative provider payment methods aimed to re-align the economic incentives of hospitals and primary health care providers with social goals. In addition, appropriate benefit package designs give patients incentives to use primary rather than tertiary care for simple health problems. The project gives special attention to TB and other chronic diseases prevalent in rural China, including hypertension and diabetes.

The project, which is supported by the Bill and Melinda Gates Foundation, started in 2009 and will continue until July 2014. Through data collected from longitudinal household surveys of 35,000 individuals and health facilities, and visit/admission records from management information systems, the project team is evaluating the impact of various interventions and providing information for policymakers for mid-course adjustment. The province has already scaled up the project's benefit package design and capitation plus pay for performance payment for primary care providers to the whole province.

Project information here: **HERC**

Conference Presentations

Economics, Modelling and Diabetes The Mount Hood Six Challenge

Baltimore, June 2012

Maria Alva, Alastair Gray, Borislava Mihaylova, Rury Holman

Inpatient and outpatient resource utilization of type-2 diabetes patients

Health Economists' Study Group, Oxford, June 2012

Maria Alva, Alastair Gray, Borislava 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, Alastair Gray, Chris Rogers, Giselle Abangma, Barney 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?

Health Care Financing for all in Asia Pacific Taipei, September 2012

Winnie Yip

How to finance UHC in developing countries?

HERC Seminars

Convenor: Jingky Lozano-Kühne

HERC runs a series of seminars through the year with invited speakers from the health economics community who talk on a wide range of applied and methodological topics. In May-June 2012 we welcomed **Professor Stephen Birch** from McMaster University and University of Manchester who spoke on 'Uncertainty and the decision-maker: assessing and managing the risk of undesirable outcome'; **Dr Claire McKenna** from the University of York on 'Optimal shopping: an evaluation of decision rules in cost-effectiveness analysis'; and **Dr Alison Hayes** who was visiting HERC to work with us on the diabetes outcomes model, and gave a seminar on 'Simulation of patient outcomes in type 2 diabetes: the UKPDS outcomes model revisited'.

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

Goodbye and Good Luck

Ranjeeta Thomas took a new post at Imperial, having made a big contribution to the capabilities project during the last year. **Claire Ashfield** spent a happy three months with the HERC admin team but was made an irresistible offer elsewhere. They are both missed.

Welcome to HERC

Eduardo Fe joined HERC in July from the University of Manchester. He is an econometrician and is working on payment schemes and incentives in health services in China among other topics. **Claire Simons** joined in October on an NIHR Research Methods Fellowship, working with Bobby Mihaylova and Alastair Gray. **Seamus Kent** and **Jacqueline Murphy** are joining us

shortly to work on large clinical trials. Academic Visitors from China spend a year with us working on their own research and interacting with HERC. **Shunping Li** returned to Shandong University Beijing after a year in Oxford. **Min Hu**, from Fudan University Shanghai, has arrived to take his place.

Eleonora Lovato and **Claire Simons** spent the summer with us on placements as part of the University of York Masters in health economics. Eleonora accepted a post at Brunel, and Claire has joined HERC.

Y Ling Chi is a new DPhil student working on the impact of the migration process on population health in China.

Recent Funding

Several new projects have been funded in the last few months. We are involved in NIHR programme grants on diabetes prevention, on blood transfusion, and on monitoring long term conditions in primary care. We will be conducting the economic analysis for two trials in heart valve surgery (TAVI and ROLO). And we are taking on several new pieces of work in primary care with colleagues in the Department of Primary Care Health Sciences. Information on these projects will be on our website soon.

Recent Publications

For a complete list of 2012 publications to date and in press, visit our website.

Cholesterol Treatment Trialists' (CTT) Collaborators. Writing Committee: **Mihaylova, B**, Emberson, J, Blackwell, L, Keech, A, Simes, J, Barnes, EH, Voysey, M, **Gray, A**, Collins, R, and Baigent, C (2012). The effects of lowering LDL cholesterol with statin therapy in people at low risk of vascular disease: meta-analysis of individual data from 27 randomised trials. *Lancet*, 380(9841):581-90.

Chakravarthy, U, Harding, SP, Rogers, CA, Downes, SM, Lotery, AJ, **Wordsworth, S**, and Reeves, BC (2012). Ranibizumab versus bevacizumab to treat neovascular age-related macular degeneration: one-year findings from the IVAN randomized trial. *Ophthalmology*, 119(7):1399-411.

Fenn, P, **Gray, A**, Rickman, N, **Rivero-Arias, O**, and Vencappa, D (2012). 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, doi: 10.1111/j.1468-0084.2012.00694.x.

Gray, LJ, Khunti, K, Williams, S, Goldby, S, Troughton, J, Yates, T, **Gray, A**, and Davies, MJ (2012). 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. *Cardiovasc Diabetol*, 11(1):56.

Hoque, ME, **Powell-Jackson, T**, Dasgupta, SK, Chowdhury, ME, and Koblinsky, M (2012). Costs of maternal health-related complications in Bangladesh. *J Health Popul Nutr*, 30(2):205-12.

Pluddemann, A, Thompson, M, Price, CP, **Wolstenholme, J**, and Heneghan, C (2012). Point-of-care testing for the analysis of lipid panels: primary care diagnostic technology update. *Br J Gen Pract*, 62(596):e224-6.

Pluddemann, A, Thompson, M, Price, CP, **Wolstenholme, J**, and Heneghan, C (2012). The D-Dimer test in combination with a decision rule for ruling out deep vein thrombosis in primary care: diagnostic technology update. *Br J Gen Pract*, 62(598):e393-5.

Violato, M, **Gray, A**, Papanicolas, I, and **Ouellet, M** (2012). Resource Use and Costs Associated with Crohn Disease before and after Diagnosis in 3,646 Cases: Results of a UK Primary Care Database Analysis. *PLoS ONE*, 7(7):e41308.

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