

# Health Economics Unit

Welcome to the Summer 2014 edition of HEUnews!

Summer is finally here and while some prepare to travel to far flung sunnier climes, many HEU staff have already enjoyed pre-summer travels in more temperate conditions attending health economics conference venues in the Celtic nations (see below). In this issue, we present examples of two of HEU's latest applied research projects, exploring approaches for diagnosing heart failure and treatments for severe limb ischaemia (see reports inside) and report on the influence of work on point of care tests in recent NICE guidance. In staff news we are delighted for Cara Bailey - Cara currently holds a joint appointment in Nursing and HEU, and has been promoted to senior lecturer. HEU is also proud to report recent PhD and MSc success. In particular, Tom Keeley achieved a very successful outcome to his PhD viva in June for his methodological research on capability and trials. Tom is now a member of staff in our School, further pursuing research into patient reported outcomes and trials. This PhD success follows hot on the heels of HEU's recent PhD successes for Sabina Sanghera, Jesse Kigozi, Adrian Gheorghe and Rebecca Kandiyali who shared a fabulous graduation ceremony with HEU's MSc Health Economics and Health Policy students in late July (see photo on back page). Staff development is also firmly on the HEU agenda as the Unit prepares the next programme of seminars and journal clubs for the Autumn term (more inside). But summer holidays are not yet over and whilst some colleagues have returned from further trips to Glasgow for the Commonwealth games, for others, the summer break is just getting started.

Tracy Roberts  
Head of Unit



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## What's new in HEU...

The summer conference season is well underway for HEU staff and doctoral students! Five members of HEU attended the Health Economists' Study Group Conference at Glasgow Caledonian University in June. **Louise Jackson** and **Tracy Roberts** presented work on conceptualising and measuring health and non-health outcomes for public health economic evaluations, and **Sam Husbands** presented early findings from qualitative interviews with modellers from her doctoral research. Posters were also presented by **Cristina Penaloza** (on good practice guidelines in decision-analytic modelling) and **Mark Monahan** (on iodine, IQ and income). Everyone found the conference extremely valuable and gained useful feedback on their work.

HEU's work also received an outing at the iHEA conference in Dublin in July. As well as a well-received organised session for the EconEndLife programme of work (with presentations from **Philip Kinghorn**, **Cara Bailey**, **Joanna Coast** and **Alastair Canaway**), there were excellent individual presentations of work conducted within HEU from **Louise Jackson**, **Sabina Sanghera** and **Paul Mitchell**. The EconEndLife team would like to thank Rachael Morton for her excellent chairing of their session.

There will be further HEU conference appearances in September at the Human Development and Capability Association annual conference (**Joanna Coast**) and the inaugural EuHEA conference for doctoral students (**Alastair Canaway**, **Philip Kinghorn**).

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## The REFER (REFer for EchocaRdiogram) Study

**Pelham Barton** and **Mark Monahan** are working on the economic evaluation component of this study, which is funded by the NIHR Efficacy and Mechanism Evaluation programme (EME). Heart failure is a life-threatening and costly condition and there is a need for an effective and efficient diagnostic strategy for patients presenting to primary care. Symptoms such as breathlessness, ankle swelling and fatigue may suggest heart failure but are also commonly found in other conditions. The REFER study builds on work that Pelham was involved in some years ago, in which a clinical decision rule known as MICE (Male gender, history of myocardial Infarction, basal Crepitations, oEdema) was devised. The MICE rule aims to identify patients most likely to have heart failure and rule out those who do not have the disease. If effective, the rule could help clinicians to decide which patients to refer for further investigation (usually echocardiogram) to confirm the diagnosis. The current diagnostic pathway issued by NICE in 2010 suggests that only patients with a history of myocardial infarction are referred for immediate echocardiography.

The REFER study is led by Professor Richard Hobbs (now at Oxford University). Colleagues involved at Birmingham include Dr Clare Taylor (Clinical Academic GP) and Mrs Andrea Roalfe (Head of Statistics in Primary Care Clinical Sciences). A number of GP practices have been enrolled to take part in the study. All patients presenting to these practices with the appropriate symptoms are invited to take part. If they consent to join the study, patients undergo full clinical assessment including natriuretic peptide testing and echocardiography. The study will determine how well the MICE rule performs in identifying those patients with and without heart failure.



Pelham and Mark

The economic analysis will be based on a decision tree comparing options including (1) the use of the clinical decision rule, (2) following the NICE guidelines, and (3) immediate echocardiography for all cases of suspected heart failure. The model will take account of the cost of testing and treatment, and the health loss from cases of true heart failure being missed.

## BASIL-2: Determining cost-effective treatments in Severe Ischaemia of the Leg



Every year, one in every 1000-2000 people in the UK will be diagnosed with severe limb ischaemia (SLI), an advanced stage of atherosclerosis (i.e. 'hardening' of the arteries) in which blood supply to the leg becomes so poor that it may lead to leg amputation or death within 12 months. Of the 5,000 major lower limb amputations carried out in the UK every year, about 70% are due to SLI. As well as causing great suffering, SLI places a large economic burden upon health (NHS) and social care services. Two treatments are commonly used for SLI: vein bypass (VB), where a vein is used to bypass the blockage, and endovascular treatment (BET), which involves opening up the diseased arteries with balloons and sometimes the use of small metal tubes called stents. Despite their widespread use, there is uncertainty around the effectiveness and cost-effectiveness of the available treatment strategies for SLI. To address this evidence gap, NIHR HTA has provided £2m to fund a large randomised controlled trial, the Bypass vs. Angioplasty in Severe Ischaemia of the Leg-2 (BASIL-2).

Answering these questions will enable the NHS to ensure that care provided to patients represents the most appropriate use of the available public resources. To this end, **Lazaros Andronis** and **Tracy Roberts** will be undertaking an economic evaluation alongside the BASIL-2 trial to determine the most cost-effective strategy for SLI. The evaluation will comprise a 'within-study' analysis, which will be based on data obtained within the trial follow-up period, and a 'model-based' analysis, which will capture lifetime costs and effects likely to accrue beyond the study follow-up. BASIL-2 aims to recruit 600 patients from over 30 hospitals from England, Scotland and Northern Ireland. The trial is in its relatively early stages with two of the hospitals open to recruit patients now, and the first patient having formally entered the trial on the 22nd July. The majority of the other hospitals should be open to recruitment by the end of September.



Lazaros & Tracy

More information about BASIL-2 will shortly be available via the website [www.birmingham.ac.uk/basil2](http://www.birmingham.ac.uk/basil2)

## Seminar Series

Another year of thought-provoking Health Economics seminars has come to an end. We would like to thank this year's speakers Dr Hazel Squires (Sheffield); Dr Adriana Castelli (York), Prof Matt Stevenson (Sheffield), Dr Kirsten Major (Sheffield NHS Trust), Dr Rachael Morton (Oxford), Dr Ciaran O'Neil (NUI Galway) and Prof John Brazier (Sheffield) for their excellent presentations and stimulating discussions. Details of the dates and speakers for the new seminar series, which starts in September 2014, will be available in the next edition of HEUnews.



## Pelham's Pen

*Academics sometimes need to deal with material translated from another language, and any translation has its pitfalls. An example of this is alleged to have occurred in the European Parliament. An issue affecting the French region of Normandy had been raised. An MEP representing the region was adamant that the European Parliament did not need to worry about it, as it could all be sorted out locally. He said "Ce problème sera résolu par la sagesse normande." All the other French MEPs nodded agreement. Those listening to translations into most other languages showed no visible reaction, but all the British MEPs burst out laughing, having just been told "This problem will be resolved by Norman Wisdom."*

## Have you heard...

### ...about staff capacity building in the Health Economics Unit?

The HEU newsletter always contains a section on capacity building news (usually on the back page, and often accompanied by photographs in the glorious Birmingham sunshine (!) of new MSc and PhD graduates in all their finery), but capacity building in HEU does not stop once the ink has dried on the degree certificates. HEU runs a varied programme of opportunities for staff development. These include a fortnightly journal club which provides opportunities both for discussion of papers and internal presentation of work, and a monthly external seminar series targeting national and international health economists at the forefront of research. They also include writing weeks which encourage the development of academic writing skills and provide dedicated writing time, sessions on particular issues such as responding to reviewers' comments, and the opportunity to receive comments on writing from members of the Unit not working in the particular area. HEU's capacity building programme is also supplemented through opportunities available within the wider School of Health & Population Sciences, including school-wide seminars, workshops and participation in modules on the various post-graduate programmes. Participation is also encouraged in external events including courses and conferences that can develop new skills, provide external feedback and encourage national and international networking.

## Staff news...

Congratulations to **Thomas Keeley** who successfully defended his PhD thesis "Capability as an outcome measure in randomised controlled trials". Tom's thesis assessed the validity and responsiveness of the ICECAP-O and ICECAP-A in two medium sized trials of blood pressure targets (University of Birmingham) and physiotherapy led exercise interventions (Keele University). Tom was supervised by **Joanna Coast** and **Hareth Al-Janabi** and was funded through a studentship from the MRC Midlands Hub for Trials Methodology Research.



Hareth, Tom and Jo

### Raymond Oppong

attended the 'Reducing HCAI Tackling Anti-Microbial Resistance' conference in June where his work around the cost-effectiveness of point of care C-reactive protein was discussed. In their latest guidance on pneumonia out for consultation, the National Institute for Health and Care Excellence (NICE) has recommended that Point of care C-reactive protein should be considered for patients presenting with lower respiratory tract infections in primary care if it is not clear whether antibiotics should be prescribed after clinical assessment. In reaching this decision, NICE considered evidence from Ray's publication (with **Joanna Coast** and external colleagues) on the Cost-effectiveness of point of care C-reactive protein testing to inform antibiotic prescribing decisions, published in the *British Journal of General Practice* in 2013(63(612) e465-e471).



### Congratulations to

**Cara Bailey** who has been promoted to Senior Lecturer in Nursing. In her new role, Cara is jointly based in HEU, where she works on the EconEndLife project and in nursing, leading on Postgraduate Studies and Continuing Professional Development. This is an exciting time as Nursing moves into the Medical School under its new structure led by Professor Fiona Irvine. Cara has plans to build postgraduate capacity within HAPs to meet the ever-growing needs of clinical practitioners working at advanced practice levels across clinical trusts. Cara wishes to thank everyone at HEU for their support, advice and friendship over the past few months.





## Capacity building news



### Graduation July 2014

### MSc Programmes and associated short courses

HEU runs two separate but allied MSc programmes: MSc Health Economics and Health Policy and MSc Health Economics and Econometrics. Both MSc programmes are ideal for new graduates hoping to pursue a career in health economics. The MSc in Health Economics and Health Policy is also particularly suited to those currently working in the health care sector who wish to develop skills in health economics. Both programmes explore the key principles and theories upon which health economics is based as well as developing practical skills for the conduct of empirical work. The MSc Health Economics and Econometrics is differentiated primarily by its compulsory modules in Microeconomics and Econometrics in addition to the health economics modules and requires a first degree in Economics. The following modules are shared by both programmes and are also provided as individual short courses:

- Introduction to Health Economics;
- Policy and Economics of Health Care Delivery (optional for MSc Health Economics and Econometrics);
- Economic Evaluation in Health Care;
- Modelling for Health Economics.

To learn more about the MSc's or about the short courses visit: <http://www.birmingham.ac.uk/healthconomics>, contact Helen Evans on 0121 414 7694 or email [healthconomics@contacts.bham.ac.uk](mailto:healthconomics@contacts.bham.ac.uk)

### Selected recent publications

Bishop A, Wynne-Jones G, Lawton SA, van der Windt D, Main C, Sowden G, Burton AK, Lewis M, Jowett S, Sanders T, Hay EM, Foster NE. Rationale, design and methods of the Study of Work and Pain (SWAP): a cluster randomised controlled trial testing the addition of a vocational advice service to best current primary care for patients with musculoskeletal pain. *BMC Musculoskeletal Disorders*, 2014. DOI: 10.1186/1471-2474-15-232

Coast J. Strategies for the economic evaluation of end of life care: making a case for the capability approach. *Expert Review of Pharmacoeconomics & Outcomes Research*, 2014. DOI: 10.1586/14737167.2014.914436

Coast J, Kinghorn P, Mitchell P. The Development of Capability Measures in Health Economics: Opportunities, Challenges and Progress, 2014. DOI: 10.1007/s40271-014-0080-1

Damery S, Biswas M, Billingham L, Barton P, Al-Janabi H, Grimer R. Patient preferences for clinical follow-up after primary treatment for soft tissue sarcoma: a cross-sectional survey and discrete choice experiment. *European Journal of Surgical Oncology*, 2014, DOI: 10.1016/j.ejso.2014.04.020

Dave C, Turner A, Dretzke J, Bayliss S, O'Brien D, Jowett S, Moore D. Protocol for a systematic review and economic evaluation of the clinical and cost-effectiveness of non-hospital-based non-invasive ventilation (NIV) in patients with stable end-stage COPD with hypercapnic respiratory failure. *Systematic Reviews*, 2014. DOI:10.1186/2046-4053-3-32

Fitzmaurice DA, McCahon D, Baker J, Murray ET, Jowett S, Sandhar H, Holder RL, Hobbs FDR. Is screening for AF worthwhile? Stroke risk in a screened population from the SAFE study. *Family Practice*, 2014. DOI:10.1093/fampra/cm011

Foster NE, Healey EL, Holden MA, Nicholls E, Whitehurst DGT, Jowett S, Jinks C, Roddy E, Hay EM. A multicentre, pragmatic, parallel group, randomised controlled trial to compare the clinical and cost-effectiveness of three physiotherapy-led exercise interventions for knee osteoarthritis in older adults: the BEEP trial protocol. *BMC Musculoskeletal Disorders*, 2014. DOI: 10.1186/1471-2474-15-254

Kinghorn P, Robinson, A, Smith RD. Developing a Capability-Based Questionnaire for Assessing Well-Being in Patients with Chronic Pain. *Social Indicators Research*, 2014. DOI 10.1007/s11205-014-0625-7

Mistry H, Garnvwa H, Oppong R. Critical Appraisal of Published Systematic Reviews Assessing the Cost-Effectiveness of Telemedicine Studies. *Telemedicine and e-Health*, 2014. DOI: 10.1089/tmj.2013.0259

Owen-Smith A, Donovan J, Coast J. "Vicious Circles": The Development of Morbid Obesity. *Qualitative Health Research*, 2014. DOI: 10.1177/1049732314544908

Roddy E, Zwierska I, Hay EM, Jowett S, Lewis M, Stevenson K, van der Windt D, Foster NE. Subacromial impingement syndrome and pain: protocol for a randomised controlled trial of exercise and corticosteroid injection (the SUPPORT trial). *BMC Musculoskeletal Disorders*, 2014. DOI:10.1186/1471-2474-15-81

Ryan M, Kinghorn P, Entwistle VA, Francis JJ. Valuing patients' experiences of healthcare processes: Towards broader applications of existing methods. *Social, Science & Medicine*, 2014. DOI: 10.1016/j.socscimed.2014.01.013

Sackley CM, Smith CH, Rick C, Brady MC, Ives N, Patel R, Roberts H, Dowling F, Jowett S, Wheatley K, Patel S, Kelly D, Sands G, Clarke C. Lee Silverman voice treatment versus standard NHS speech and language therapy versus control in Parkinson's disease (PD COMM pilot): study protocol for a randomized controlled trial. *Trials*, 2014. DOI: 10.1186/1745-6215-15-213