

# Health Economics Unit

Welcome to the Summer 2018 edition of HEUnews!

Whilst the World Cup is dominating the headlines and we consider international teams in relation to football, some of us in HEU have recently had the opportunity to visit international academic teams (see below).

In this edition of HEU news, we welcome six new research staff to the team (page 3) and pay tribute to our increasing squad of PhD students (page 4), who together could furnish a football team and reserve. We congratulate those who have scored success and achieved their respective goals in their recent vivas, and also pay tribute to their supervisors for the team work and support that they have provided. On that note, we are delighted to announce that two HEU staff (Emma & myself) were nominated and shortlisted from the College of Medical and Dental Sciences (MDS) for a University of Birmingham award for excellence in doctoral research supervision for 2018 and the MDS winner was HEU's own Emma Frew.

## Inside this issue:

Welcome message	1
Have you heard...	
Contact us	
Research	2
What's new in HEU...	3
Staff news	
Pelham's pen	
Capacity building news	4
Recent publications	



Tracy Roberts,  
Head of Unit

## Have you heard... about our international visits?

The University of Birmingham's Research Leaders Programme provides an opportunity for senior staff development and a platform to engage with research leaders in other Institutions as well as formulate or consolidate existing international links. As part of this programme **Tracy Roberts** visited the University of Melbourne, Australia, in March. As well as delivering seminars at the Universities of Deakin and Melbourne, the visit provided Tracy with an opportunity to catch up with HEU's **Hannah Bromley**, for whom she is lead supervisor, and meet her international co-supervisors - for the first time! The focus of the collaboration and of Hannah's PhD is the valuation of disutilities associated with breast cancer screening. Tracy commented, "Whilst Skype and other options provide an excellent medium to facilitate international collaboration, there is simply a greater enhancement and a stronger bond to the collaboration by actually meeting face to face with co-collaborators. The Research Leaders Programme and the whole Melbourne trip was extremely stimulating and the opportunity to meet the full joint supervisory team in Melbourne was invaluable".



Pictured Left to Right: (Top) Professor Bruce Mann, Tracy Roberts, Hannah Bromley, Dr Carolyn Nickson and (bottom) Dr Dennis Petrie.



Louise pictured centre

The objective of **Louise Jackson**'s recent visit to Indonesia was to engage with current and potential applicants to the University of Birmingham's postgraduate and undergraduate programmes, meet academic staff from several Indonesian Universities and initiate links for research. Louise visited Yogyakarta, Jakarta and Bandung, delivering lectures to a range of staff and students in the respective Institutions, including Public Health and Economics. Louise summed up: "It was an honour to meet staff from the various universities. I learned a lot about the challenges facing the health and health-care systems in Indonesia and the key public health issues."

## PAGE (Prenatal Assessment of Genomes and Exomes)

Fetal anomalies account for 3% of all live births within the UK. The majority of these anomalies are identified during ultrasound scans provided to women during pregnancy. If an anomaly is identified, women are then offered prenatal screening in order to detect genetic defects that can lead to health issues such as Down's syndrome. This enables clinicians to predict the outcome for the child. Anomalies that are compatible with life, however, pose a significant burden on parents, and also generate greater healthcare costs.

Whole Exome Sequencing (WES) is a relatively new technique that has been introduced to test for genetic defects prenatally. WES allows health specialists to identify a greater number of abnormalities compared to previous testing methods. The motivation for the PAGE (Prenatal Assessment of Genomes and Exomes) study is to improve pregnancy management so that parents are better prepared. This should subsequently reduce the burden posed on parents following results of a genetic defect.

HEU's **Pelham Barton** and **Shahela Kodabuckus**, together with colleagues from the Birmingham Women's Hospital, are collaborating on a model based economic evaluation of WES. The economic evaluation will take the form of a cost-effectiveness analysis based on an outcome of cost per additional case of chromosomal or genetic defect detected. A decision tree model has been developed to carry out the analysis. The model will be populated using evidence acquired during the prospective study, as well as secondary data, where appropriate.

The PAGE study is funded by the Wellcome Trust and the Department of Health through the Health Innovations Challenge Fund, and led by Dr Matthew Hurles from the Wellcome Sanger Institute.



Pelham and Shahela

## Personality and supplement use in the older population

Supplements are concentrated forms of nutrients which may be used as a treatment or preventative measure in healthcare. Almost half of the UK population uses a supplement daily, with current sales in excess of £414 million per annum. Use of supplements is more prevalent in older populations. Yet there is mixed clinical evidence on the efficacy of many supplements and limited regulation of their use. Little is known about the interactions between many supplements and other medications.

Older populations are already the largest consumers of prescription medications, have the highest levels of polypharmacy and the highest risk of adverse drug events; supplements add to polypharmacy and the risk of interactions with other supplements or medications. Supplements typically do not require a medical prescription, are readily available over the counter and research indicates that patients often don't tell clinicians that they are taking supplements.

Understanding the who and why of supplement use would help identify those at risk of interactions and perhaps allow clinicians to suggest more suitable treatment/preventative measures as well as targeted education. **Patrick Moore** is the lead on a study examining personality and supplement use with co-authors Dr Anne Nolan from the Economic and Social Research Institute (ESRI) in Dublin and Prof Rose-Anne Kenny and Dr Cathal McCrory from The Irish Longitudinal Study on Ageing (TILDA). The study uses a sample from TILDA, a large prospective population study of ageing in the Republic of Ireland. Logistic regression methods are used to examine the associations between supplement use and the big five personality traits (agreeableness, conscientiousness, extraversion, neuroticism, openness).



Patrick

## What's new in HEU?

### *Our new members of staff!*

We are delighted to welcome six new members of staff to the HEU team:

Pictured L-R: Lorraine Munetsi, Zainab Abdali, Warda Tahir, Nafsika Afentou, Chidubem Ogwulu and Shahela Kodabuckus.



Lorraine, Warda and Shahela all joined HEU as Research Associates in December, with Shahela and Warda having graduated from the MSc in Health Economics and Econometrics here at the University of Birmingham and Lorraine from the joint MSc in Economics and Health Economics at the University of Sheffield.

Lorraine is working with Tracy Roberts on the Reinforcement of Closure of Stoma Site (ROCCS) study, a randomised control trial to assess whether a biological mesh reduces the incidence of clinically detectable stoma closure site hernias compared to standard closure techniques.

Warda is finishing up her work with HEU's Tracy Roberts and Mark Monahan on the Speed of Increasing Milk Feeds Trial (SIFT), a randomised controlled trial of two speeds of daily increment of milk feeding in very preterm or very low birth weight infants. Warda has also recently started working alongside Hareth Al-Janabi on the Shifting Shapes project, a Department of Health funded study evaluating the impact of the 2014 Care Act on the quality and availability of care services provided by local councils in England.

Shahela is working with Pelham Barton and clinical colleagues from Birmingham Women's Foundation Trust Hospital on the PAGE (Prenatal Assessment of Genomes and Exomes) study, a model based economic evaluation investigating the cost-effectiveness of Whole Exome Sequencing techniques (WES).

Zainab recently joined HEU as a Research Associate helping out on a number of projects and has recently been appointed to the post of Research Fellow for the University of Birmingham's Institute of Translational Medicine. Zainab will be working with Tracy Roberts to provide health economics advice and input to collaborative projects of interest to Birmingham Health Partners and industry. Zainab is a former graduate of HEU's MSc in Health Economics and Health Policy and has a background in pharmacy with 10 years' experience in marketing.

Nafsika joined HEU in February of this year to work with Phil Kinghorn on two concurrent studies: Phil's MRC New Investigator Research Grant (which is investigating deliberative methods to set a monetary threshold for a year of sufficient capability), and a Department of Health funded project to evaluate the Care Act 2014. Nafsika gained experience as a Research Associate in Health Economics at Lund University in Sweden, where she also studied on their MSc in Public Health.

Chidubem formally joins the staff team as a Research Fellow whilst putting the finishing touches to her PhD thesis, supervised by HEU's Tracy Roberts, Louise Jackson and Phil Kinghorn. Chidubem formerly completed HEU's MSc in Health Economics and Health Policy and will be working on the NIHR HTA funded PRISM trial: a randomised, multi-centre study of the effectiveness of an intervention to reduce pregnancy losses in women with early pregnancy bleeding.



We would like to congratulate our colleague **Carol McLoughlin** on her recent marriage to **Daniel McCrum**.

We wish Carol and Dan every happiness.

### *Pelham's Pen*



*An important part of planning an economic evaluation is choosing the right comparator. Here is an example.*

*Bill and Tom are out camping when they see a bear in the distance coming towards them. Bill starts to put his running shoes on.*

*Tom says, "What are you doing? You can't outrun a bear!"*

*Bill says, "I don't have to outrun the bear - I just have to outrun you!"*



## Congratulations to...

**Arjun Bhadhuri, Magda Aguiar and Lavanya Diwakar on their PhD successes.**

**Arjun's** thesis explored the inclusion of health spillovers within economic evaluation; his supervisors were HEU's **Hareth Al-Janabi** and **Sue Jowett**, along with Professor Kate Jolly. Arjun successfully defended his thesis at a Viva held in November 2017; his examiners were Professor Claire Hulme and HEU's **Phil Kinghorn**.

**Magda** successfully defended her thesis at a Viva examination in December last year. In her PhD (supervised by HEU's **Emma Frew**, and Dr's Wolfgang Högl and Miranda Pallan from UoB), Magda developed a decision analytic model to compare the long-term cost-effectiveness of strategies to prevent population Vitamin D deficiency in the UK. Magda's examiners were Dr Richard Smith from the London School of Hygiene and Tropical Medicine and **Louise Jackson** from HEU.

The focus of **Lavanya's PhD** was paediatric allergy services in the West Midlands region. Lavanya carried out THIN and HES dataset analysis and carried out a qualitative study, as well as a DCE during her Wellcome Trust funded doctoral fellowship. Lavanya's supervisors were **Tracy Roberts** and Dr Carole Cummins. She successfully defended her thesis in March 2018, her examiners were Prof Graham Roberts from University of Southampton and HEU's **Emma Frew**.

Arjun and Magda will both graduate this summer.



**Current PhD students**

Left to right: Tuba Saygin Avşar, James Hall, Carol McLoughlin, Karen Pickering, Chudubem Ogwulu, Henry Nwankwo, Andrew Smith, Mandana Zanganeh, Lavanya Diwakar.

Not in photograph: Hannah Bromley, Katie Breheny, Dawit Zemedikun & Mark Monahan.

## We welcome Andy Smith ...

who is in the first year of a PhD using experimental economics to tackle childhood obesity, with supervision from HEU's **Emma Frew** and Dr Michalis Drouvelis from the Department of Economics (University of Birmingham). Andy completed his MSc in Economics here at the University of Birmingham and has been working in marketing insight and as a consultant, using behavioural economics in the private sector. The PhD, which is funded from the Global Challenges scholarship fund, involves working with external organisations such as supermarkets and schools to devise experiments which help 'nudge' people to make healthier choices.

**Emma** recently won a University of Birmingham Award for Excellence in Doctoral Research Supervision (an award for which HEU's **Tracy Roberts** was also nominated). Many congratulations to both!



Andy and Emma

## Health Economics 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 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. Selected modules are also accessible as short courses (see website for details). For more information visit:

[www.birmingham.ac.uk/healthconomics](http://www.birmingham.ac.uk/healthconomics) or email [healthconomics@contacts.bham.ac.uk](mailto:healthconomics@contacts.bham.ac.uk)

## Selected recent publications

Adab P, Pallan JM, Lancashire ER, Hemming K, **Frew E...** Cheng KK. Effectiveness of a childhood obesity prevention programme delivered through schools, targeting 6 and 7 year olds: cluster randomised controlled trial (WAVES study). *BMJ* 2018. DOI: 10.1136/bmj.k211

**Breheny K**, Adab P, Passmore S, Martin J, Lancashire E, Hemming K, **Frew E**. A cluster randomised controlled trial evaluating the effectiveness and cost-effectiveness of the daily mile on childhood obesity and wellbeing; the Birmingham daily mile protocol. *BMC Public* 2018. DOI: 10.1186/s12889-017-5019-8

Coast J, Bailey C, Orlando R, Armour K, Perry R, Jones L, **Kinghorn P**. Adaptation, Acceptance and Adaptive Preferences in Health and Capability Well-Being Measurement Amongst Those Approaching End of Life. *The Patient* 2018. DOI: 10.1007/s40271-018-0310-z

Khan KS, Moore P, Wilson M, Hooper R, Allard S, Wrench I, **Roberts T, McLoughlin C ... Jackson L**, Lanz D, Dodds J. A randomised controlled trial and economic evaluation of intraoperative cell salvage during caesarean section in women at risk of haemorrhage: the SALVO (cell SALVage in Obstetrics) trial. *Health Technology Assessment* 2018. DOI: 10.3310/hta22020

**Kigozi J, Jowett S**, Lewis M, **Barton P**, Coast J. Valuing productivity costs using the friction-cost approach: Estimating friction-period estimates by occupational classifications for the UK. *Health Economics Letter* 2018. DOI: 10.1002/hecl.3513

**Kinghorn P**, Coast J. Assessing the capability to experience a 'good death': A qualitative study to directly elicit expert views on a new supportive care measure grounded in Sen's capability approach. *PLOS One* 2018. DOI: 10.1371/journal.pone.0193181

Lambe T, **Frew E**, et al, on behalf of the PREDNOS Trial Team. Mapping the paediatric quality of life generic core scales (PedsQL) onto the Child Health Utility 9D (CHU-9D) index score for economic evaluation in children. *PharmacoEconomics* 2018. DOI: 10.1007/s40273-017-0600-7

McManus RJ, Mant J ... **Jowett S**, Martin U, Milner S, **Monahan M**, et al on behalf of the TASMINH4 investigators. Efficacy of self-monitored blood pressure, with or without telemonitoring, for titration of antihypertensive medication (TASMINH4): an unmasked randomised controlled trial. *The Lancet* 2018. DOI: 10.1016/S0140-6736(18)30309-X

**Monahan M, Jowett S**, Lovibond K, et al. Predicting Out-of-Office Blood Pressure in the Clinic for the Diagnosis of Hypertension in Primary Care: An Economic Evaluation. *Hypertension* 2018. DOI: 10.1161/HYPERTENSIONAHA.117.10244

**Oppong R, Jowett S**, Lewis M, et al. Cost-effectiveness of a model consultation to support self-management in patients with osteoarthritis. *Rheumatology* 2018. DOI: 10.1093/rheumatology/key037