From the Director

Welcome to our third annual report of the Health Economics & Health Technology Assessment Research Group. This year we have seen another gentle expansion of the group. In addition to new research positions created from successful project funding, we have created two new ‘Trainee Health Economist’ positions, funded with proceeds from our successful Continuing Professional Development programmes. These positions are designed for early career researchers with complementary skills who are eager to develop their Health Technology Assessment credentials. Competition for our inaugural trainee positions was stiff and so we are delighted to welcome the successful candidates, Miranda Trevor and Robert Heggie to the HEHTA team. Our trainees will participate in all of the three CPD courses that we run in our first year, as well as gaining experience of working on a variety of active projects. We hope that these positions will become a regular feature in the HEHTA team and will contribute to capacity building in the field of HTA.

Among the many highlights of the last year, saw the launch of the Bill and Melinda Gates Foundation (BMGF) ‘Reference case’ at an organised event in the House Of Lords. This reference case represents a set of principles, methodological specifications and reporting standards to support health economic evaluations funded by the Bill and Melinda Gates Foundation (see page 12). HEHTA contributed to the development of this reference case, and crucially this represents HEHTA’s expansion beyond HTA in developed countries into the more resource constrained environment of lower and middle income country (LMIC) HTA. At the end of the year, we secured further funding from BMGF for follow-up work to be conducted in 2015 – so look out for further news of LMIC work in next year’s annual report.

‘Among the many highlights of the last year, saw the launch of the Bill and Melinda Gates Foundation (BMGF) ’Reference case’ at an organised event in the House Of Lords.’
Meet the HEHTA Team

In 2014 we expanded the team with the arrival of...

Zahidul Quayyum came to us from HERU, University of Aberdeen. His research interests include global health - maternal and child health in particular; economic evaluation and health care technology assessment of maternal and child health interventions, inequality in maternal and child health, and allocation of health care resources.

Panos Papankilasoe joined HEHTA as a Research Associate. Prior to coming to the University of York, Panos has held research positions at several HEI including Cardiff and York.

His research assesses the value-for-money of competing technologies in Clinical Trials. He is also interested in the macro-economic policy to aim at containing the pharmaceutical outlays.

Ciaran Kohli-Lynch who previously studied at the Illinois Institute of Technology in Chicago, receiving a dual-major BSc in Applied Mathematics and Humanities. In September 2014 he completed an MSc in Health Economics at the University of York. Ciaran’s PhD project is joint-supervised with Columbia University, New York. It will involve the comparative analysis of two policy models for the primary prevention of cardiovascular disease in disadvantaged populations. His research interests include decision analytic modelling and health inequalities.

Miranda Trevor joined the team in November. Prior to this she was undertaking her Masters of Public Health at Imperial College London and a Bachelor in Science from Mount Allison University in Canada where she studied Biology, Psychology, and Commerce. She is interested in economic evaluations of public health interventions.

Robert Heggie joined HEHTA in October 2014 and is currently undertaking a PhD research project on the cost-effectiveness of new antiplatelet drugs using real world data within the Scottish population. Prior to joining HEHTA, Giorgio worked as Research Associate at the University of East Anglia where he was involved in developing cost-effectiveness and budget impact models for different disease areas. He has an MSc in Health Economics and Decision Modelling from the School of Health and Related Research (SHARP) at the University of Sheffield.

In 2015 we expanded the team with the arrival of...

Haixiang Xiao was with HEHTA from November 2013 until November 2014 as a visiting researcher from Hunan University, China. During her time in Glasgow she worked with Jim Lewsey and Claudia Geue on assessing the one-child policy in China and in particular the association between the number of children/sex ratios and elderly health and wellbeing.

Javier Mar Medina from Gipuzkoa Hospital in San Sebastian, Spain visited HEHTA for two months. Javier’s work is based around economic evaluation of population health interventions. During his time in Glasgow, Javier worked on an economic evaluation of integrated care utilising discrete event simulation.

Moira Ritchie was with HEHTA for a year from May 2013, undertaking the pre-trial qualitative research element of the Cancer and Venous Access (CARA) study, exploring clinical staff and patient attitudes to venous access devices for chemotherapy delivery. This study is funded by NIHR HTA and is being run in conjunction with the CRUK Clinical Trials Unit,Beatson West of Scotland Cancer Centre.

Nawaraj Bhattarai joined HEHTA in 2013, having previously worked at King’s College London. During his time with us he worked on developing a cost-effectiveness toolkit for the screening of hepatitis B, C and HIV infections in different populations in Europe.

Rebecca Shaw had been at the University of Glasgow since 2007. Her research focused on the application of qualitative methods of data collection and analysis (including conversation analysis) to the evaluation of complex public health interventions and to the exploration of healthcare interactions. She also led the Incorporating Perspectives and Experiences programme within HEHTA.

Ellisabeth Fenwick was a founding member of HEHTA, having previously held posts at the University of York and undertaken a postdoctoral fellowship at McMaster University. She was a Professor of Health Economics at HEHTA and led the Decision Analytic Modelling and Simulation for Evaluation in health (DAMSEL) research programme. Liz was also programme director of the MSc in Health Technology Assessment course, a role which has now been taken on by Jim Lewsey.

...and we said goodbye to
PhD Students
Awarded in 2014

Zia Ul Haq – ‘Trends in Body Mass Index and its health implications’ Supervisors: Elisabeth Farwick, Jill Pell (external), Danny Mackay (external)

Noppcha Singweratham – ‘Cost-effectiveness analysis of a disease management programme for Type 2 Diabetes Mellitus in Thailand’ Supervisor: Andrew Briggs

Norah Palmateer – ‘Epidemiological methods to assess and monitor the effectiveness of Hepatitis C prevention initiatives in Scotland’ Supervisors: Olivia Wu, David Goldberg (external), Sharon Hutchinson (external)

Current students

Yasmin Al-Gindan – ‘Derivation and validation of simple equations to predict total muscle mass and fat mass from simple anthropometric and demographic data’ Supervisors: Lindsay Givan, Mike Lean (external), Catherine Hankey (external)


Yulia Anopa – ‘Economic evaluation of Childsmile’ Supervisors: Emma McIntosh, Lorna McPherson (external)

Camilla Baba – ‘Valuing the health and wellbeing aspects of community empowerment using economic evaluation techniques’ Supervisors: Emma McIntosh, Carol Tamahiri (external)

Willings Botha – ‘Economics of forestry based health interventions’ Supervisors: Andrew Briggs, Richard Mitchell (external)

Jim Crabb – ‘Mental health issues and primary health care worker training in Malawi’ Supervisors: Rebecca Shaw, Jacqueline Atkinson (external)

Efe Egharevba – ‘Opportunity or exploitation: clinical research in developing countries’ Supervisors: Rebecca Shaw, Jacqueline Atkinson (external)

Tadesse Gebrye – ‘Cost-effectiveness analysis and modelling the lifetime costs and benefits of health behaviour interventions on diabetes (Type 2)’ Supervisors: Emma McIntosh, Liz Fanwick

Sarah Holliday – ‘Interaction between people and services in the Fifth Wave of public health’ Supervisor: Rebecca Shaw, Phil Hanlon (external)


Ana Cristina Perez – ‘Symptoms, signs, quality of life and hospital admission in heart failure’ Supervisors: Jim Lawsey, John McMurray (external)

Kanchana Srisawat – ‘Identifying on-genetic risk factors for Bipolar disorder’ Supervisors: Jim Lawsey, Danny Smith (external)

Claire Williams – ‘Demonstrating the potential of multi-state survival models for enhancing epidemiological and health economic modelling’ Supervisors: Jim Lawsey, Andrew Briggs, Danny Mackay (external)
Highlights of 2014

January
- Andy and Olivia delivered a half-day workshop on ‘A beginner’s guide to probabilistic modelling and value of information analyses’ at inaugural the Society for Medical Decision Making (SMDM) Asia conference in Singapore.
- We welcomed Dr Amanda Adler, Consultant Physician and Chair of NICE Technology Appraisal Committee to Glasgow. Amanda gave a fascinating talk on ‘Evidence that challenges decision makers: experiences and examples from the Chair of a NICE technology appraisal committee’.

March
- Andy Briggs presented on ‘The impact of patient heterogeneity on cost-effectiveness analyses in type 2 diabetes’ at the European Diabetes Epidemiology Group (EDEG) annual meeting in Sarindia.
- Our CPD short courses ‘Introduction to Statistics’ and ‘Systematic Review and Meta-Analysis’ attracted participants from all over Europe.
- Presentation by Andrew Briggs on ‘Pricing and reimbursement process for medical devices’ in Riyadh.

April
- Olivia was invited to give a talk entitled ‘Pharmacoconomics: from policy to science’ at the Forum Oeconomicum Rostock to the IGA and ‘Systematic Review and Meta-Analysis’ seminar by Andrew Briggs Monash University, Melbourne.

May
- Olivia was invited to give a talk entitled ‘Pharmacoconomics: from policy to science’ at the Forum Oeconomicum Rostock to the IGA.
- Iga Rudawska delivered a seminar on “integrated healthcare – combining efficiency and quality – Best practices for UK and experiences and examples from the Chair of a NICE technology appraisal committee” in Poland.

June
- Two poster presentations by Emma Mcintosh on Parkinson’s at 20th MDS International Congress in Stockholm 8-12 June.
- HEHTA’s first HEHTA’s EFIC workshop in Glasgow.
- Olivia was invited to give a talk entitled ‘Modelling the cost-effectiveness of health technology based on epidemiological data’ at the 9th Duodecim International Symposium in Finland.

September
- We welcomed our second intake of students to the MSc HTA.
- Olivia Wu & colleagues delivered two workshops ‘How robust are pooled estimates from meta-analyses?’ and ‘Investigating Patient voice in HTA at ISPOR Beijing’.
- Olivia was invited by the Centre for Drug Evaluation to deliver a one-day workshop on ‘Dealing with uncertainty in HTA: theory and practice’ in Taiwan.
- Olivia was invited to give a talk on ‘The role of cost-effectiveness analysis in health technology assessments at the Chinese University Hong Kong, Department of Ophthalmology and Visual Sciences.

October
- Professor Luke Vale, Health Foundation Chair in Health Economics at Newcastle University, delivered an informative seminar on ‘An Economic Evaluation of Obesity Prevention for UK Adults’ as part of HEHTA’s GESS seminar series.

November
- Kathleen Boyd presented at European Public Health Conference in Glasgow ‘Are financial incentives cost-effective for smoking cessation amongst pregnant women?’
- Andy delivered ISPOR workshop at Amsterdam ‘Health State Utility Values: Measuring, Modelling, and Mapping’.
- Olivia delivered ISPOR workshop at Amsterdam ‘Meta-Analysis and Systematic Literature Review’ This was attended by over 100 participants.

December
- Launch of our new research project ‘Global HTA’.

Research

Projects completed in 2014

Projects awarded in 2014

<table>
<thead>
<tr>
<th>Project title</th>
<th>Funder</th>
<th>Duration</th>
<th>Total project value (£)</th>
<th>HEHTA Share of Total Project Value (£)</th>
<th>HEHTA PI</th>
<th>Research Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>GBCHI: studenthip - Economics of Public Health - Camilla</td>
<td>NCRI</td>
<td>2014-2014</td>
<td>48427</td>
<td>48427</td>
<td>EMcI</td>
<td>EPH</td>
</tr>
<tr>
<td>New Orleans Project (BEST)</td>
<td></td>
<td>2013-2013</td>
<td>325000</td>
<td>25600</td>
<td>KB</td>
<td>EEAET</td>
</tr>
<tr>
<td>Fraxil Total Risk Reference</td>
<td></td>
<td>2013-2014</td>
<td>223194</td>
<td>20829</td>
<td>AB</td>
<td>EEAET/DAMSEL</td>
</tr>
<tr>
<td>Forestry Commission Studentship</td>
<td></td>
<td>2014-2014</td>
<td>59000</td>
<td>29000</td>
<td>AB</td>
<td>EPH</td>
</tr>
<tr>
<td>Researcher for Keep Well Outcomes - Health Scotland</td>
<td></td>
<td>2012-2014</td>
<td>50568</td>
<td>86735</td>
<td>JL</td>
<td>SALH-DA</td>
</tr>
<tr>
<td>Partnership Endowment funds - UK mapping and modelling for a definitive</td>
<td></td>
<td>2012-2014</td>
<td>60853</td>
<td>533</td>
<td>KB</td>
<td>DAMSEL</td>
</tr>
<tr>
<td>randomised controlled trial on the efficacy and mechanism of action of</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>gabapentin for the management of chronic pelvic pain in women (GAPPP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effectiveness of a physical activity loyalty card for sustainable behaviour</td>
<td>NIHR</td>
<td>2014-2016</td>
<td>49627</td>
<td>49627</td>
<td>AB</td>
<td>EEAET</td>
</tr>
<tr>
<td>change interventions to reduce alcohol consumption in obese man</td>
<td></td>
<td>2014-2016</td>
<td>49627</td>
<td>49627</td>
<td>AB</td>
<td>EEAET</td>
</tr>
<tr>
<td>Fellowship at the end of life: implications for resource allocation and</td>
<td>NIHR</td>
<td>2014-2015</td>
<td>15055</td>
<td>8939</td>
<td>AB</td>
<td>ES</td>
</tr>
<tr>
<td>expenditure projections in Scotland</td>
<td></td>
<td>2014-2015</td>
<td>15055</td>
<td>8939</td>
<td>AB</td>
<td>ES</td>
</tr>
<tr>
<td>Interventions after HIV testing in men who have sex with women</td>
<td>NIHR</td>
<td>2014-2015</td>
<td>15055</td>
<td>8939</td>
<td>AB</td>
<td>ES</td>
</tr>
<tr>
<td>A randomised Phase 2 trial of standard versus dose escalated radiotherapy</td>
<td>BCancer Charity</td>
<td>2014-2015</td>
<td>15055</td>
<td>8939</td>
<td>AB</td>
<td>ES</td>
</tr>
<tr>
<td>Selling Scottish Stroke services</td>
<td>NIHR</td>
<td>2014-2014</td>
<td>68010</td>
<td>68010</td>
<td>AB</td>
<td>EEAET</td>
</tr>
<tr>
<td>Web based physiotherapy for people with multiple sclerosis</td>
<td></td>
<td>2014-2014</td>
<td>68010</td>
<td>68010</td>
<td>AB</td>
<td>EEAET</td>
</tr>
<tr>
<td>Evaluation of this link between workplace policies and health care</td>
<td>NIHR</td>
<td>2014-2015</td>
<td>30000</td>
<td>30000</td>
<td>AB</td>
<td>EEAET</td>
</tr>
<tr>
<td>Project title</td>
<td>Funder</td>
<td>Duration</td>
<td>Total project value (£)</td>
<td>HEHTA Share of Total Project Value (£)</td>
<td>HEHTA PI</td>
<td>Research Theme</td>
</tr>
<tr>
<td>Evaluating the potential benefit of adjuvant chemotherapy for small bowel</td>
<td>NIHR</td>
<td>2015-2016</td>
<td>337384</td>
<td>26401</td>
<td>AB</td>
<td>EEAET</td>
</tr>
<tr>
<td>adenocarcinoma</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Football Fans in Training</td>
<td>NIHR</td>
<td>2015-2016</td>
<td>337384</td>
<td>26401</td>
<td>AB</td>
<td>EEAET</td>
</tr>
</tbody>
</table>
**Research projects current in 2014**

<table>
<thead>
<tr>
<th>Project title</th>
<th>Funder</th>
<th>Duration</th>
<th>Total project value (£)</th>
<th>HEHTA Share of Total Project Value (%)</th>
<th>HEHTA PI</th>
<th>Research Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short course oncology therapy (SCOT)</td>
<td>MRC</td>
<td>2006-2015</td>
<td>2,767,214</td>
<td>83,000</td>
<td>AB</td>
<td>ESENT</td>
</tr>
<tr>
<td>Randomised controlled trial of surveillance and no surveillance for patients with Barrett's oesophagus - BOSS (Barrett's Oesophagus Surveillance Study)</td>
<td>NHSR HTA</td>
<td>2009-2012</td>
<td>1,710,981</td>
<td>103,382</td>
<td>AB</td>
<td>ESENT</td>
</tr>
<tr>
<td>Ankle injury management (AIM)</td>
<td>NHSR HTA</td>
<td>2009-2017</td>
<td>2,117,847</td>
<td>70,000</td>
<td>AB</td>
<td>ESENT</td>
</tr>
<tr>
<td>The economics of Parkinson's disease</td>
<td>Parkinsons Disease Society</td>
<td>2011-2015</td>
<td>189,286</td>
<td>189,286</td>
<td>EMcI</td>
<td>ESENT</td>
</tr>
<tr>
<td>Randomised trial of treating Fibroids with Embolisation or MyoMectomy to measure the Effect on quality of life (FEMME)</td>
<td>NHSR HTA</td>
<td>2011-2018</td>
<td>1,497,842</td>
<td>77,368</td>
<td>OW</td>
<td>ESENT</td>
</tr>
<tr>
<td>A pilot randomised controlled trial of the efficacy of action of gabapentin for the management of chronic pelvic pain in women (GAPP)</td>
<td>CSIO</td>
<td>2011-2014</td>
<td>212,529</td>
<td>40,977</td>
<td>OW</td>
<td>ESENT</td>
</tr>
<tr>
<td>Estimating cost-effectiveness of screening strategies for HIV, HBV and HIV in different populations in Europe</td>
<td>EDCDC</td>
<td>2011-2015</td>
<td>215,000</td>
<td>215,000</td>
<td>OW</td>
<td>ES</td>
</tr>
<tr>
<td>Biornchoscopies of biologics discharge study (BRD)</td>
<td>NHSR HTA</td>
<td>2011-2015</td>
<td>80,226</td>
<td>80,226</td>
<td>EMcI</td>
<td>ESENT</td>
</tr>
<tr>
<td>Delivering shared decision-making strategies for facilitating patient involvement in healthcare clinics</td>
<td>NHSR HISR</td>
<td>2011-2014</td>
<td>210,067</td>
<td>87,443</td>
<td>RS</td>
<td>FPE</td>
</tr>
<tr>
<td>Surgical obesity treatment study (SCOTS)</td>
<td>NHSR HTA</td>
<td>2012-2026</td>
<td>2,124,030</td>
<td>128,247</td>
<td>AB</td>
<td>ESENT</td>
</tr>
<tr>
<td>ASMRT</td>
<td>CSIO</td>
<td>2012-2015</td>
<td>224,935</td>
<td>38,415</td>
<td>EF</td>
<td>ESENT</td>
</tr>
<tr>
<td>A cluster randomised controlled trial evaluation and cost-effectiveness analysis of the Posts of Early Support: schools-based programme in improving emotional and social wellbeing outcomes among 4-8 year olds in Northern Ireland</td>
<td>NHSR</td>
<td>2012-2015</td>
<td>98,488</td>
<td>98,488</td>
<td>EF</td>
<td>EPH</td>
</tr>
<tr>
<td>A randomised controlled trial comparing a behavioural activation treatment for depression in adults with learning disabilities with an attention control (BEAT IT)</td>
<td>HTA</td>
<td>2012-2016</td>
<td>783,006</td>
<td>88,384</td>
<td>AB</td>
<td>ESENT</td>
</tr>
<tr>
<td>DALLAS</td>
<td>TSB</td>
<td>2012-2015</td>
<td>438,330</td>
<td>93,028</td>
<td>AB</td>
<td>EPH</td>
</tr>
<tr>
<td>Woods and wood around towns (WATT)</td>
<td>NHSR</td>
<td>2012-2016</td>
<td>162,086</td>
<td>48,625</td>
<td>AB</td>
<td>EPH</td>
</tr>
<tr>
<td>Social and emotional education development (SEED)</td>
<td>NHSR</td>
<td>2012-2017</td>
<td>850,527</td>
<td>125,170</td>
<td>EMcI</td>
<td>ESENT</td>
</tr>
<tr>
<td>New Orleans Project (BEST)</td>
<td>CSIO</td>
<td>2012-2014</td>
<td>325,000</td>
<td>26,380</td>
<td>KB</td>
<td>EPH</td>
</tr>
<tr>
<td>Costs and complications of diabetes</td>
<td>MRC</td>
<td>2012-2015</td>
<td>325,048</td>
<td>313,359</td>
<td>LG</td>
<td>SALTdA</td>
</tr>
<tr>
<td>Oral versus Intravenous antibiotics (OMVIA)</td>
<td>NHSR</td>
<td>2012-2017</td>
<td>976,342</td>
<td>86,837</td>
<td>AB</td>
<td>ESENT</td>
</tr>
<tr>
<td>Heat stress and diabetes</td>
<td>MRC</td>
<td>2012-2017</td>
<td>1,073,113</td>
<td>78,565</td>
<td>OW</td>
<td>DAMESE</td>
</tr>
<tr>
<td>Fractional Flow Reserve</td>
<td>BHP</td>
<td>2014-2015</td>
<td>223,194</td>
<td>20,829</td>
<td>AB</td>
<td>ESENT</td>
</tr>
<tr>
<td>Evaluating Keep Well outcomes</td>
<td>NHS Health</td>
<td>2012-2014</td>
<td>92,689</td>
<td>86,735</td>
<td>JL</td>
<td>SALTdA</td>
</tr>
<tr>
<td>Early CDT lung test study (ECLIS)</td>
<td>Oncorimmune Ltd</td>
<td>2012-2016</td>
<td>331,194</td>
<td>83,273</td>
<td>AB</td>
<td>ESENT</td>
</tr>
</tbody>
</table>

**Project title**                                                                 | **Funder**                          | **Duration**       | **Total project value (£)** | **HEHTA Share of Total Project Value (%)** | **HEHTA PI** | **Research Theme** |
| A randomised, double blinded placebo controlled trial of the effectiveness of low dose oral theophylline as an adjunct to inhaled corticosteroids in preventing exacerbations of chronic obstructive pulmonary disease (TWE2C) | NHSR HTA                          | 2012-2015 | 451,885 | 46,119 | OW       | ESENT         |
| A very early rehabilitation trial after stroke (AVERT); a phase 3, multicentre, randomised controlled trial Three-arm randomised control trial for mothers identified as vulnerable in pregnancy and their babies who are at high risk of maltreatment (THREAT) | NHSR                              | 2013-2018 | 1,096,243 | 132,759 | EMcI     | ESENT         |
| Surgical obesity treatment study (SCOTS)                                    | CSIO                            | 2013-2015      | 154,289                 | 154,289                                | OW       | ESENT         |
| Cancer And Venous Access (CAVAV); a randomised controlled trial with associated qualitative research of long term venous access devices for the delivery of chemotherapy | NHSR HTA                       | 2013-2016 | 1,031,483 | 174,647 | RS       | ESENT         |
| Effectiveness of a physical activity loyalty card for sustainable behaviour change | CSO                            | 2014-2016      | 4960                    | 4960                                   | AB       | EPH           |
| Interventions to reduce alcohol consumption in obese men                    | NHSR                            | 2014-2016      | 490                     | 490                                    | AB       | ESENT         |
| Fellowship at the end of life: implications for resource allocation and expenditure projections in Scotland | NHSR                            | 2014-2016      | 167,340                 | 167,340                                | CN       | SALTdA        |
| NIHR HTA                                                                     | NIH-funded Trust                | 2014-2015      | 105,065                 | 105,065                                | OW       | ES            |
| A randomised Phase 2 Trial of standard versus dose escalated radiotherapy in the treatment of pain in malignant pleural mesothelioma | Cancer Charity                  | 2014-2017      | 130,312                 | 130,312                                | KB       | ESENT         |
| S⋆ling Scottish Stroke services                                             | CHSS                           | 2014-2016      | 670699                  | 263,325                                | CN       | DAMSE, ESENT |
| Web based physiotherapy for people with multiple sclerosis                  | Multiple Sclerosis Society       | 2014-2016      | 300000                  | 300000                                 | EMcI     | EPH           |
| Evaluation of the links worker programme in deep end and general practices in Glasgow | NHS Health                     | 2014-2017      | 200000                  | 200000                                 | EMcI     | EPH           |
| Cost Impact Analysis for the Rutavus and Herpes Zoster Immunisation Programmes | NHS National Services for Scotland Information Services | 2014-2015 | 96465 | 96465 | AB       | ESENT         |
Methods for Economic Evaluation Project (MEEP)

This work was established by the Bill and Melinda Gates Foundation in 2013 to improve the quality and transparency of economic evaluations in LMICs, and to guide researchers in undertaking and reporting well-conducted and robust analyses. MEEP was a novel collaboration led by NICE International and included partners from institutions around the world including the Health Intervention and Technology Appraisal Program (Thailand), the University of York, the London School of Hygiene and Tropical Medicine (LSHTM), and the University of Glasgow. A key output of MEEP was the production of the Gates Reference Case - a set of principles, methodological specifications and reporting standards to support health economic evaluations funded by the Bill and Melinda Gates Foundation. The published materials can be accessed at www.nice.org.uk/about/what-we-do/nice-international/nice-international-projects/methods-for-economic-evaluation-project-and-the-gates-reference-case

Football Fans in Training (FFIT): a randomised controlled trial of a gender-sensitised weight loss and healthy living programme for men

The prevalence of male obesity is increasing alongside low uptake of existing weight management programmes by men. Football Fans in Training (FFIT) is a group-based, weight management and healthy living programme delivered by community coaches, and involving 13 professional football clubs in Scotland. FFIT was gender sensitised in context, content and style of delivery. A total of 12 weekly sessions delivered at club stadia combined effective behaviour change techniques with dietary information and physical activity sessions. Men carried out a pedometer-based walking programme. A light-touch maintenance programme included six e-mails and a reunion session at 9 months. At baseline, both groups received a weight management booklet, feedback on their BMI and advice to consult their general practitioner if blood pressure was high. Participation in FFIT led to significant reductions in weight at 12 months. It was cost-effective at standard levels employed in the UK, attracted men at high risk of future ill health and was enjoyable. Further research should investigate whether or not participants retained weight loss in the long term, how the programme could be optimised in relation to effectiveness and intensity of delivery and how group-based programmes may operate to enhance weight loss in comparison with individualised approaches. The published report can be accessed at www.journalslibrary.nihr.ac.uk/phr/volume-3/issue-2#abstract

A trial to evaluate the potential benefit of adjuvant chemotherapy for small bowel adenocarcinoma (BALLAD)

This trial is funded by Cancer Research UK and aims to assess the potential benefit of adjuvant chemotherapy for small bowel adenocarcinoma. The economic evaluation will address two questions: (1) the cost-effectiveness of adjuvant chemotherapy compared to observation only, and (2) the cost-effectiveness of oxaliplatin in addition to capecitabine. The analysis will be presented separately for the within trial and lifetime periods, extrapolating the trial outcomes using a parametric survival model for the lifetime analysis. The trial is led by researchers at Glasgow’s Beatson Oncology Centre.

The MSc in HTA at Glasgow is designed for the 21st Century HTA practitioner. The programme involves an innovative curriculum designed around core competencies and skills providing a strong vocational training in HTA. The programme has a strong vocational aspect and adheres to the requirements of the wider HTA workforce; students are therefore well equipped to return to their workplace after completion of the programme, or to find employment within the wider HTA arena. This programme is of particular interest to people wishing to develop their career by acquiring skills in evidence-based healthcare and health technology assessment. Our first two MSc HTA students graduated in December 2014, and a further seven students, (two full-time and five part-time) are on course to graduate in 2015. We decided in the autumn of 2014 to change the mode of delivery of the MSc HTA programme to be online distance learning (ODL). This will increase the opportunity for individuals from all over the world, who are either currently employed or find the costs of face-to-face study prohibitive, to apply and participate. The MSc HTA ODL programme will start in September 2015. Full details can be found at www.glasgow.ac.uk/hta
Teaching and Student Supervision

In addition to teaching on the MSc in HTA, members of HEHTA contribute to a variety of courses, both postgraduate and continuing professional development.

Masters in Public Health Lectures
Health Economics
Kathleen Boyd
Claudia Geue
Decision Modeling
Kathleen Boyd
Economic Evaluation
Grace Antony
Further Epidemiology and Stats
Claudia Geue
Introduction to Statistical Methods
Lindsay Govan

Bachelor of Dental Surgery
Tutorial: Health Inequalities and Smoking
Yulia Anopa

BSc (Mod Sci) Clinical Medicine
Student presentations
Jim Lawley

Masters in Public Health (University of Dundee)
Basic concepts in health economics, health care market, and economic evaluation (guest lecture) 21 Nov 2014
Zahidul Quayyum

MSc in Human Nutrition Lectures
Decision Analysis
Julian Nam
Obesity and Weight Management
Julian Nam
Presenting Uncertainty
Julian Nam
Frameworks for Decision Making
Julian Nam

BSc in Human Nutrition Lectures
Decision Analysis
Julian Nam
Obesity and Weight Management
Julian Nam
Presenting Uncertainty
Julian Nam
Frameworks for Decision Making
Julian Nam

Project Supervision

<table>
<thead>
<tr>
<th>Student</th>
<th>Project</th>
<th>Degree</th>
<th>Supervisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chalida Khemvaranan</td>
<td>Cost-effectiveness of robotic surgery and laparoscopic in cervical cancer</td>
<td>MSc HTA</td>
<td>JL</td>
</tr>
<tr>
<td>Pamela Yoppelich</td>
<td>Cost-effectiveness of single-agent LHRH agonists in the treatment of metastatic prostate cancer from a Thai perspective</td>
<td>MSc HTA</td>
<td>EMU</td>
</tr>
<tr>
<td>Daniel Loyo Juaregui</td>
<td>Methods for estimating the cost of diabetes: a systematic review</td>
<td>MSc HTA</td>
<td>KB</td>
</tr>
<tr>
<td>Nicola McMeeken</td>
<td>A cost-utility analysis of Esx-xivo lung perfusion compared to standard lung transplantation in an adult UK population - a decision analytic model</td>
<td>MSc HTA</td>
<td>LG</td>
</tr>
<tr>
<td>Joanne Butcher</td>
<td>An economic evaluation of a health intervention or health technology employing a decision analytic model</td>
<td>MSc HTA</td>
<td>AB</td>
</tr>
<tr>
<td>Ben Morison</td>
<td>A Systematic Review and Critical Appraisal of Economic Evaluation of Community Level Health Interventions for Improving Maternal and Child Health in Low and Middle Income Countries</td>
<td>MSc HTA</td>
<td>ZD</td>
</tr>
<tr>
<td>Joanna Tarnagda</td>
<td>Evaluation of diagnostic methods for Trichomonas Vaginalis in Scotland</td>
<td>MSc HTA</td>
<td>OW</td>
</tr>
<tr>
<td>Jillian Thomson</td>
<td>An evaluation of the cost effectiveness of the rotavirus immunisation programme within NHS Firth Valley</td>
<td>MSc HTA</td>
<td>KB</td>
</tr>
<tr>
<td>Yufang Wang</td>
<td>Measuring the costs and benefits of an overnight response service to help people maximise their independence at home</td>
<td>MSc HTA</td>
<td>EG</td>
</tr>
<tr>
<td>Antitaya Charoensukkasem</td>
<td>Investigating the association between alcohol sales and alcohol-related mortality in Scotland</td>
<td>MPH</td>
<td>CG</td>
</tr>
<tr>
<td>Steven Henderson</td>
<td>A systematic review of economic evaluations of bio- and genomic markers in the prediction and management of cardiovascular disease</td>
<td>MPH</td>
<td>JL</td>
</tr>
<tr>
<td>Mengwei Liu</td>
<td>Age and cause of death for patients with major mental illness in Scotland: data from the Scottish Health Survey cohort</td>
<td>MPH</td>
<td>JL</td>
</tr>
<tr>
<td>Daniel Mwenga</td>
<td>Changes in Glycated Hemoglobin (HbA1c) over time in the Scottish population of Type 1 and Type 2 diabetes from 2005-2011</td>
<td>MPH</td>
<td>LG</td>
</tr>
<tr>
<td>Septima Putti</td>
<td>Systematic review: meta-analysis and cost-effectiveness of invasive versus non-invasive strategy for Non-ST Elevation Acute Coronary Syndrome (NSTEMI-ACS) in patients with prior Coronary Artery Bypass Graft (CABG)</td>
<td>MPH</td>
<td>KB</td>
</tr>
<tr>
<td>Mai Jia</td>
<td>The cost-effectiveness of financial incentive programs to reduce or prevent obesity in the workplace: a systematic review</td>
<td>MPH</td>
<td>KB</td>
</tr>
<tr>
<td>David Butcher</td>
<td>Influence of perceived safety and street aesthetics on socioeconomic inequalities in cycle commuting</td>
<td>MPH</td>
<td>NB</td>
</tr>
</tbody>
</table>

Degrees: MPH=Master of Public Health, MSc-HTA=Masters in Health Technology Assessment, BA=Bachelor of Arts, BSc=Bachelor of Science, MSci=Masters in Science, MBchB=Bachelor of Medicine, Bachelor of Surgery, BPharm=Bachelor of Pharmacy
Continuing Professional Development

Systematic Review and Meta Analysis of Direct, Indirect and Mixed Treatment Evidence

Systematic review and meta-analysis are key inputs to healthcare decision making. They provide important insight into the comparative effectiveness of health technologies based on a systematic appraisal of evidence. These methods have become an integral part of health technology appraisals in many jurisdictions.

Our sixth annual course was held on 30 April - 2 May 2013, and attracted participants from HTA agencies, governmental bodies, academia and industry, within and outwith the UK. Here is some of the feedback from our participants:

‘very informative!’
‘all very friendly and helpful.’
‘I will recommend this course to my colleagues’
‘…..definitely come to Glasgow for other courses’

Decision Analytic Modelling Methods for Economic Evaluation

The course is aimed at health economists and those health professionals with experience of health economics who wish to develop skills and knowledge in decision analysis for purposes of cost effectiveness analysis. It is designed for participants who are familiar with the basic principles of economic evaluation who wish to build, interpret and appraise decision models.

First run in 2007 this course has proved extremely popular, with numbers increasing year on year. In 2013 we extended the course to include a two-day foundation level course which ran 28 – 29 September, followed by the advanced level course which took place from 30 September to 2 October 2014.

‘The course is great! Thank you!’
‘I liked the mixture of theory and practice’
‘I would certainly recommend it’
‘an outstanding few days of learning’
‘Brilliant course!’

Economic Evaluation alongside Clinical Trials

This course is a collaboration between HEHTA and researchers at the University of Pennsylvania. The course is designed for individuals undertaking health economic evaluations in academia, consultancies and industry, as well as those involved in the design and analysis of clinical trials (statisticians and health service researchers). The Economic Evaluation in Clinical Trials course first ran in 2009, and took place this year on 5 – 7 November.

‘content and theory were excellent’
‘Great course, and worthwhile for my work’
‘lectures very informative’
‘exercises are very helpful’

Introduction to Stata

Originally offered as an optional short session at the start of our Systematic Review and Meta Analysis course, it was decided in 2011 to run the Introduction to Stata as a one-day course. This has proved very popular, with the majority of participants also attending the Introduction to Stata (29 April 2014). The course is also run in conjunction with our Economic Evaluation alongside Clinical Trials course (4 November 2014).

‘very informative!’
‘all very friendly and helpful.’
‘I will recommend this course to my colleagues’
‘…..definitely come to Glasgow for other courses’

This year, we welcomed 135 participants to our CPD workshops from within and outwith the UK

From countries including:
- Austria
- Belgium
- China
- Croatia
- Czech Republic
- Denmark
- Estonia
- France
- Germany
- Hong Kong
- Ireland
- Italy
- Netherlands
- Norway
- Pakistan
- Poland
- Portugal
- Russia
- South Africa
- Sweden
- Switzerland
- Tanzania
**Publications**

**Articles**


**External Workshops**

‘A beginner’s guide to probabilistic modeling and value of information analysis’

SNMD Asia-Pacific Conference, Singapore, 6-8 January 2014

Andrew Briggs, Olivia Wu

Working meeting of modellers, epidemiologists and program evaluation specialists with expertise in vaccine-preventable diseases. Goal: present and review various models used to estimate the impact of vaccination and GAVI vaccine support.

Washington DC, 25-26 February 2014

Eleanor Grieve

Survival Analysis course

The Farr Institute, Scotland. 25-26 March 2014

Jim Lewsey

‘Health Economics for Public Health Practitioners’

Bangor University, 15-17 April 2014

Emma McIntosh

‘Decision analysis for HTA submissions’

ICDN pllc, Sydney, Australia. 15-17 May 2014

Andrew Briggs

‘An illustration of the usefulness of the multi-state model survival analysis approach for health economic evaluation modelling’ (invited seminar)

University of York, 27 May 2014

Jim Lewsey

‘Decision Analytic Modelling Methods for Economic Evaluation’ (short course)

ISPOR 19th Annual International Meeting, Montreal, 1 June 2014

Andrew Briggs

The Gates Reference Case launch

London, UK, 6 June 2014

Andrew Briggs

Eleanor Grieve

‘Dealing with uncertainty in HTA’

In collaboration with the Centre for Drug Evaluation, Taiwan. 11 September 2014

Olivia Wu

‘Modelling Survival Data for Decision Analysis’

SNMD 36th Annual Conference, Miami. 10 October 2014

Andrew Briggs

Kathleen Boyd

Jim Lewsey

ISPOR Forums - II Health State Utility Values: Measuring, Modeling, and Mapping.

ISPOR 17th Annual European Congress, Amsterdam, Netherlands. 11 November 2014

Andrew Briggs

‘Meta-Analysis and Systematic Literature Review’ (short course)

ISPOR 17th Annual European Congress, Amsterdam, Netherlands. 11 November 2014

Olivia Wu

‘Statistical methods for pharmacoeconomics and outcomes research’ (short course)

ISPOR 17th Annual European Congress, Amsterdam, Netherlands. 11 November 2014

Andrew Briggs

‘Modelling Survival Data for Decision Analysis’

SNMD Asia-Pacific Conference, Singapore, 6-8 January 2014

Andrew Briggs, Olivia Wu

M Govan L. Modelling the costs and consequences of Type 2 diabetes in Ethiopia: Contextual challenges. Glasgow Caledonian University, Glasgow, Scotland. 23-25 June 2014.

Grieve E. Cost-effectiveness of RDTs in the context of the extremes of malaria endemicity: results of 3 ACT Consortium trials in an area of high (Uganda) and low endemicity (Afghanistan). Malaria Centre Retreat, Brighton, March 2014.


Leelahavarong P. Methodological challenges for development and validation of alcohol-use disorder prediction model for monitoring and evaluation of alcohol consumption control programmes. Glasgow Caledonian University, Glasgow, Scotland. 24 June 2014.

McIntosh E. Disinvestment in public health – a health economic perspective. Continuing Professional Development Session, Greater Glasgow and Clyde Public Health Directorate, Glasgow, Scotland. 22 May 2014.

McIntosh E. Treatment reasons and predictors of hospitalisation length of stay and costs in people with Parkinson’s: results from a large RCT. Health Economics Study Group, Glasgow Caledonian University, Glasgow, Scotland. 23-25 June 2014.

McIntosh E. Children’s model planes, trains and health outcomes? A model to evaluate social and emotional outcomes on the longer term effects of Roots of Empathy. Health Economics Study Group, Glasgow Caledonian University, Glasgow, Scotland. 23-25 June 2014.

McIntosh E. Modelling the costs and consequences of Type 2 diabetes in Ethiopia: Contextual challenges. Health Economics Study Group, Glasgow Caledonian University, Glasgow, Scotland. 23-25 June 2014.

McIntosh E. Establishing the case for prevention in public health: QALYs, Cost benefit analysis, Social Return on Investment, multiple criteria decision analysis and the kitchen sink. Health Economics Study Group, Glasgow Caledonian University, Glasgow, Scotland. 23-25 June 2014.


McIntosh E. HENS - Health Economics Network in Scotland. Glasgow, Scotland. 2 December 2014.

Nam J. Health Economics - Scottish Enterprise; Scottish Enterprise Medical Device Workshop, Edinburgh, Scotland. 14 April 2014.

Nam J. Exploration of the external validity of different survival extrapolation methods. SMDD Europe 2014, Antwerp, Belgium. 8 June 2014.

Quayyum Z. Health Economics, comparative cost-effectiveness for efficacy and outcome. CULPRET SHOCK 2nd General Assembly Meeting, Barcelona, Spain. 3 September 2014.

Ritchie M. Implanted Port Training Day ‘Patient and Staff Attitudes to Totally Implantable Ports’. University Dept. of Interventional Radiology, NHS Greater Glasgow and Clyde, Glasgow, Scotland. 4 March 2014.


Wu O. Modelling the cost-effectiveness of health technologies based on epidemiological data – experiences from diabetes. 9th Duodecim International Symposium: enhancing public health through pharmacoepidemiology and pharmacoeconomics, Porvoo, Finland. 13 June 2014.

Wu O. The role of cost-effectiveness analysis in HTA. Hong Kong Eye Hospital, Hong Kong. 4 September 2014.

Wu O. How robust are pooled estimates from meta-analysis? ISPOR 6th Asia-Pacific Conference, Beijing, China. 8 September 2014.

Wu O. Incorporating patient voice in HTA. ISPOR 6th Asia-Pacific Conference, Beijing, China. 8 September 2014.

Xin Y. Treatment reasons and predictors of hospitalisation length of stay and costs in people with Parkinson’s: results from a large RCT. Health Economics Study Group, Glasgow Caledonian University, Glasgow, Scotland. 23-25 June 2014.

Membership of Expert Bodies

Kathleen Royal
Advisory Board Member,迭代西科特苏格兰癌症关怀，临床试验审评咨询委员会
Andrew Briggs
Lindsay Gove
Chaired Statistician, Royal Statistical Society
James Lewsey
Chaired Statistician, The Science Council
Emma McIntosh
Member ofExpert Bodies
Member of Editorial Board for BMC Medical Research Methodology
Advisory Board Member, CJK National Burden of Disease, Injuries and risk Factors (ScOHID)
Advisory Board Member, Scottish Immunisation Programme (SIP) - Epidemiology & Surveillance Reference Group
Advisory Board Member, Multiple Sclerosis Trust; Generating Evidence in MS Services (GEEMSS)
Advisory Board Member, Evaluation of the impact of tobacco control mass media campaigns on quitting behaviour, smoking prevalence and smoking-related health outcomes
Board Member, Glasgow Centre for Population Health (2014-current)
Data monitoring Committee 2013-2015: NHM Reveal Trial
National Health Economists Interest Group: Economics of Population Health
Rebecca Shaw
Member of the Interdisciplinary Association of professional biostatisticians: biostatistics, interaction & risk group
Affiliated member of the Feminist Conversation Analysis Unit
Olivia Wu
Member of the National Institute of Health and Care Excellence (NICE) Technology Appraisal Committee
Member of the Scottish Chief Scientist Office Health Service and Population Health Research Committee
Member of the Reference Panel for the Health and Medical Research Fund for the Hong Kong SAR Government