

HERU

The **Health Economics Research Unit** (HERU) was established at the University of Aberdeen in 1977. The Unit is part of the Institute of Applied Health Sciences (IAHS) in the School of Medicine and Dentistry within the College of Life Sciences and Medicine.

Core funding for the Unit comes from the **Chief Scientist Office** (CSO), part of the **Scottish Government Health and Social Care Directorates** and the **University of Aberdeen**. HERU is one of two CSO-funded research units based within the IAHS. Our sister unit is the Health Services Research Unit (HSRU).

The CSO remit for the Health Economics Research Unit requires HERU to “develop new methods within health economics and to encourage the use of health economics”. More specifically the remit is to:

- Research into economic approaches to health and health care.
- Develop economic techniques to be readily applied by economists and/or health care personnel.
- Demonstrate and test the approaches and techniques.
- Accumulate and make available to the health service a body of expertise in health economics.

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Promoting Excellence in Health Economics

WELCOME 3

2014 HIGHLIGHTS 5

HERU'S RESEARCH

THE UNIT'S RESEARCH 7

ASSESSMENT OF TECHNOLOGIES 8

HEALTH BEHAVIOURS AND INEQUALITIES 11

WORKFORCE AND ORGANISATION OF CARE 13

METHODS OF BENEFIT VALUATION 15

KNOWLEDGE TRANSFER AND ENHANCING CAPACITY

KNOWLEDGE TRANSFER 19

ENHANCING CAPACITY 21

PROJECTS, PUBLICATIONS AND PRESENTATIONS

PROJECTS IN PROGRESS 27

PROJECTS COMPLETED IN 2014 36

HERU PUBLICATIONS – 2014 39

HERU PRESENTATIONS – 2014 43

HERU STAFF AND PhD STUDENTS

HERU STAFF AND PhD STUDENTS 49



Welcome...

WELCOME



Welcome to the 2014 annual report for the Health Economics Research Unit (HERU). I hope you find it interesting. At HERU we strive to address policy relevant questions and conduct methodologically innovative work to ensure we are addressing these questions robustly. Policy questions addressed in 2014 include: the impact of minimum unit pricing for alcohol on moderate purchasers and low income households; the intended training location decisions of medical students; how best to incentivise pregnant women to stop smoking and to breastfeed and the cost-effectiveness of self-monitoring of coagulation status in people with atrial fibrillation or heart valve disease. The latter project was used to inform the development of National Institute for Health and Care Excellence (NICE) Diagnostics Guidance, recommending the use of two coagulometers for self-monitoring coagulation status in adults and children on long-term vitamin K antagonist therapy.

We continued to secure externally funded projects to further our research. We had our National Institute for Health Research (NIHR) contract to conduct Technology Assessment Reviews (TARs) renewed to 2021. This means we will continue to provide health economics expertise to support assessments for NICE and other policy customers. We are co-applicants on several NIHR randomised controlled trials, where we will develop and conduct economic evaluation alongside clinical assessments. Additionally, we secured a NIHR Health Services and Delivery Research Programme grant to understand and improve decision making around admissions to intensive care units. We also received funding from Arthritis Research UK to look at musculoskeletal pain disorders. More details on these, and our other grants, are provided in this Report.

Our research using laboratory experiments to better understand decision making processes was continued and developed in 2014. To support this we invested in eye-tracking technology to conduct work around understanding how individuals respond to valuation tasks. We look forward to conducting novel work in 2015, and beyond, to continue to inform the valuation methods used in our applied work.

Capacity building continues to be important in HERU. I am delighted that both Dominic Nkhoma and Gerald Manthalu successfully defended their PhDs. Dominic and Gerald have both returned to their home country of Malawi and we wish them every success in translating their research into practice. We also welcomed two new PhD students, Laura Dysart and Alastair Irvine, who will take forward our research using time preference to understand individual behaviour.

Our conference to celebrate 40 years of health economics at the University of Aberdeen was a highlight for HERU. This event also celebrated Professor Gavin Mooney's contribution to health economics in Aberdeen. It provided an opportunity for colleagues to come together, remember and celebrate health economics at the University of Aberdeen, and Gavin's contribution to its development. We also showcased some of our exciting new work: healthy ageing; time preference and health inequalities; laboratory experiments to test valuation methods and future challenges in assessment of technologies.

I hope you enjoy reading this report. For further information on our research please see our website (www.abdn.ac.uk/heru) or contact the named researcher(s).

A handwritten signature in black ink, which appears to read 'M. Ryan'.

Mandy Ryan
HERU Director



2014 Highlights...

2014 HIGHLIGHTS

January

In January five papers were presented and discussed by **HERU staff and PhD Students** at the **Health Economists' Study Group** meeting held at the **University of Sheffield**.

February

In February we welcomed **Ourega-Zoé Ejebu** to **HERU**. Her research relates to **Alcohol Purchasing Behaviour And Minimum Unit Pricing** within the **Health Behaviours and Inequalities** theme.

March/April

In March and April we saw two of our long-standing members of **HERU** receive dedicated service awards.

Professor Robert Elliott celebrated **40 years** and **Professor Mandy Ryan** **25 years**.



June

In June we extended our congratulations to **Aileen Neilson, Paul McNamee** and **Hanne Bruhn** of **HERU**, and **Christine Bond** (from the **Academic Primary Care, Aberdeen University**), who were awarded the **'Best Poster'** prize at the **3rd ICECAP Users' Group Workshop**, at **Birmingham University**. The **ICECAP-O** (ICEpop CAPability measure for Older people) is a measure of capability in older people.

May

In May **Marjon van der Pol, Paul McNamee** and **Mandy Ryan** conducted a **Policy Workshop** at the **Scottish Government** entitled **'What can economics contribute to supported self-management'**.

July

The Health Economics in the Age of Longevity: a Joint iHEA & ECHE Congress, **Trinity College, Dublin, Ireland** took place in July. **HERU** were well represented. We put together three organised sessions and presented another eight papers ([http:// www.abdn.ac.uk/heru/publications/presentations/heru-conferences/ihea--eche-2014/](http://www.abdn.ac.uk/heru/publications/presentations/heru-conferences/ihea--eche-2014/))

October

In October **HERU** hosted a conference to celebrate **40 years of health economics** at the **University of Aberdeen**. This event also celebrated **Professor Gavin Mooney's** contribution to health economics in Aberdeen. Gavin, along with his partner **Del (Delys) Weston**, tragically lost their lives in December 2012.



November

Following a commissioning process, the **University of Aberdeen** had its **NIHR contract** to conduct **Technology Assessment Reviews (TARs)** renewed to **April 2021**. Our TARs work is carried out in collaboration with the **Health Services Research Unit (HSRU)** and **McMaster Development Consultants**.

The conference stimulated lively debate and discussion on key aspects of health economics. Speakers on the day, who have all contributed to health economics at **HERU**, reflected on the development of health economics over 40 years, with consideration to achievements and future challenges.



HERU's Research

THE UNIT'S RESEARCH

Research at HERU is structured into four themes:

- *Assessment of Technologies*

Research in the 'Assessment of Technologies' theme aims to address questions of immediate policy or practical relevance for NHS decision-makers, and to pursue methodological research in order to strengthen the application of economic evaluation methods.

- *Health Behaviour and Inequalities*

Research in the 'Health Behaviour and Inequalities' theme contributes to the evidence base relating to the effectiveness and cost-effectiveness of public health interventions and to the understanding of inequalities in health and health behaviour.

- *Workforce and Organisation of Care*

Research in the 'Workforce and Organisation of Care' theme examines how financial and non-financial incentives and constraints influence the behaviour and performance of individuals and the organisation of care within the health care sector.

- *Methods of Benefit Valuation*

Research in the Methods of Benefit Valuation theme develops and refines economic methods of valuing health and health care, combining methodological research with applications to challenging settings. The surveys, field experiments, laboratory experiments and qualitative research methods are used to better understand how to elicit the values that individuals, patients and society place on health and health care.

The main achievements and activities of the four research themes are described in the following pages. These summaries are supported by a series of appendices giving details of recent completed projects, projects in progress and publications and presentations.



Theme Leader: Dr Graham Scotland

The Assessment of Technologies theme, led by [Dr Graham Scotland](#), focuses on the application and development of economic evaluation methods for the assessment of health technologies.

Projects within the theme can be categorised across four sub-themes:

- *Evidence synthesis projects*, which are based primarily on systematic reviews of existing evidence and involve decision analytic modelling.
- *Economic evaluations alongside randomised controlled trials*, many of which are managed by the Centre for Healthcare Randomised Trials (CHaRT) hosted by our sister unit, the Health Services Research Unit (HSRU).
- *Projects based on observational cohort data.*
- *Methodological projects.*

Evidence synthesis projects

In the past year the theme has completed an evidence synthesis project assessing *Point of care coagulometers for self-monitoring the coagulation status of people on long-term vitamin K antagonist therapy who have atrial fibrillation or heart valve disease*. This diagnostic assessment review was commissioned by the National Institute for Health and Care Excellence (NICE) as part of our ongoing contract with the National Institute for Health Research (NIHR) to conduct Technology Assessment Reviews (TARs) for the NHS. In addition, two further evidence synthesis projects commenced in 2014 as part of this contract: A NICE commissioned multiple technology assessment of *Collagenase clostridium histolyticum for treating Dupuytren's contracture*, and an NIHR Health Technology Assessment (HTA) Programme TAR assessing the *Clinical and cost-effectiveness of open mesh repairs in adults presenting with a clinically diagnosed unilateral, primary inguinal hernia who are operated on in an elective setting*. Both these projects are nearing completion, with publication anticipated in 2015.

Following a commissioning process that completed in June 2014, the University of Aberdeen had its NIHR contract to conduct TARs renewed to April 2021. The bid was a joint collaboration between HSRU, HERU and McMaster Development Consultants Ltd. As a result, the Assessment of Technologies theme will continue to provide health economics expertise on TARs commissioned to support NICE and other policy customers' health and social care assessment processes.

Economic evaluations alongside randomised controlled trials

The final report for a large multi-centre NIHR funded trial – *Use of drug therapy in the management of symptomatic ureteric stones in hospitalised adults: a multi-centre, placebo-controlled randomised trial of calcium channel blockers (nifedipine) and alpha blockers (tamsulosin) (SUSPEND)* – was submitted in November 2014. In addition, the final reports of two pilot trials were submitted to their funders: 1) a CSO funded study assessing the feasibility for a large scale trial to assess the clinical and cost-effectiveness of a *Health-related goals intervention to improve asthma control and asthma related quality of life*, and 2) an MRC funded pilot addressing the *Development of practice-*

based, pharmacist-led management of chronic pain in primary care for evaluation by a randomised controlled trial. Our trials portfolio also saw the addition of two new NIHR funded studies in 2014. The *Hysterectomy or Endometrial Ablation Trial for Heavy menstrual bleeding (HEALTH)* project is a multi-centre randomised controlled trial comparing laparoscopic supra-cervical hysterectomy with second generation endometrial ablation for the treatment of heavy menstrual bleeding. It started recruiting patients in 2014 and is scheduled to report in 2017. The *GOT-IT trial*, which assesses the clinical and cost-effectiveness of *Glyceryl trinitrate for retained placenta*, also commenced in 2014 and is due for completion in 2017.

Projects based on observational cohort data

Our work based on observation cohorts saw two projects completed in 2014: the *GATE study*, comparing the diagnostic performance and cost-effectiveness of three automated imaging technologies in patients referred to secondary care with possible glaucoma; and the *EPIC study*, which sought to enhance the evidence base on the beliefs, attitudes and economic consequences of pain in older populations to allow improved service provision. A further multi-centre cohort study – *Early detection of 'wet' age-related macular degeneration (EDNA)* – received confirmation of funding from NIHR in 2014. The aim of this study is to determine the best test or tests and the optimum frequency of testing to reliably detect the onset of nAMD with high specificity and sensitivity.

COMPLETED PROJECT

Point-of-care coagulometers (the CoaguChek XS system and the INRatio2 PT/INR monitor) for self-monitoring coagulation status in people on long-term vitamin K antagonist therapy who have atrial fibrillation or heart valve disease

There are increasing numbers of people with atrial fibrillation, heart valve disease, or other cardiac conditions who are at high risk of thrombosis, requiring long-term oral anticoagulation therapy (OAT). The goal of OAT with warfarin (a type of vitamin K antagonist), is to establish a balance between bleeding and clotting. Under-anticoagulation increases the risk of thromboembolism while over-anticoagulation increases the risk of haemorrhage; hence treatment with warfarin requires frequent monitoring.

The blood coagulability of people taking warfarin is monitored by the use of the international normalized ratio (INR) which is a standardised unit for measuring the time it takes for blood to clot. As standard practice, warfarin monitoring is managed by health care professionals in anticoagulant clinics based in hospitals using laboratory testing or is managed in primary care (with or without the use of laboratory services). The alternative option for warfarin monitoring is the use of a personal testing machine at home (known as a point-of-care test) which allows people to perform self-testing (with results managed by healthcare professionals) or self-management (when people perform the test and alter the dose of anticoagulation therapy themselves according to a personalised protocol).

Self-testing and self-management are together referred to as self-monitoring. This diagnostic assessment review assessed the clinical and cost-effectiveness of point of care coagulometers for self-monitoring in patients on long-term vitamin K antagonist therapy. The findings were used to inform the NICE diagnostics guidance [DG14] on the use of point of care coagulometers for self-monitoring in patients on long-term vitamin K antagonist therapy (<http://www.nice.org.uk/guidance/dg14>).

Methodological projects

Methodological work on incorporating broader measures of value in economic evaluation is continuing as part of three on-going PhDs. Dwayne Boyers is exploring the use of broader measures of value in the context of trial based economic evaluations in dental care. Rodolfo Hernández is developing methods for using willingness-to-pay estimates, derived from discrete choice experiments, to value outcomes and processes in the context of decision analytic models. Antje Tockhorn is focussing on the role of patient preferences in the health technology assessment process.

A new methodological line of inquiry in the AoT theme is focusing on potential ways of addressing the observed imbalance between the evaluation of new technologies (for adoption decision making) and existing technologies in widespread routine use. The focus here is on identifying ways in which health economists can facilitate the ready identification of inefficiencies in the current mix of technologies within a clinical pathway, and so in turn, promote improvements in allocative efficiency through better decision making. Preliminary work in this area was presented at the Health Economists' Study Group (Glasgow).

In addition, researchers working in the AoT theme have been active in disseminating the findings of their research at national and international conferences in 2014, including iHEA (Dublin), the European Society for Medical Decision Making (Antwerp) and the 3rd ICECAP Users Group Workshop (Birmingham).

NEW PROJECT FOR 2015

Early detection of wet age-related macular degeneration (EDNA)

Age-related macular degeneration (AMD) is a painless eye condition that leads to loss of vision. Neovascular AMD (nAMD) develops when abnormal blood vessels form underneath the macula (the part of the eye responsible for central vision) and damage its cells. Since 2008, drugs have been available to stop leakage into the macula in nAMD. The drugs are given as injections into the eye and their effects last for two months, therefore patients are seen usually every 8 weeks. At each visit there is an assessment to check if more treatment is required. It is usual practice to monitor the unaffected eye of these persons because many will develop the same condition.

While the treatments are good at stopping decline of eyesight, restoration of normal sight is rare owing to pre-existing retinal damage. Therefore, detection of nAMD at a stage when damage to the retina is not permanent with prompt initiation of treatment could result in much better preservation of sight. Thus it is important to identify tests that will detect nAMD in its earliest stage.

The aim of this cohort study is to determine the best test or tests and the optimum frequency of testing to reliably detect the onset of nAMD with high specificity and sensitivity. A range of functional and morphological tests that are easily performed and routinely carried out in the NHS secondary care setting will be assessed. The functional tests are visual acuity, self-reported quality of sight and the Amsler grid test. The morphological tests are clinical examination to detect any signs of nAMD in the fundus (the part of the eye visible through the pupil using an ophthalmoscope), and optical coherence tomography (OCT).

Funding for this five and a half year project was secured in 2014. It will start recruiting in 2015.

HEALTH BEHAVIOURS AND INEQUALITIES



Theme Leader: Professor Anne Ludbrook

The Health Behaviours and Inequalities theme, led by Professor Anne Ludbrook aims to contribute to the development of the evidence base for public health interventions and to the understanding of inequalities in health and health behaviour. It has a particular focus on obesity, alcohol misuse and smoking and the contribution of inequalities in these behaviours to inequalities in health.

There were a number of policy engagement activities this year. A Scottish Government workshop was organized in May, when Paul McNamee, Marjon van der Pol and Mandy Ryan led a session on the *Economics of Self-Management*. In October Anne Ludbrook presented on *Prompting healthy food choices: what does economics tell us?* at a workshop on *Promoting behaviour change in food and drink consumption and production: Identifying future priorities: What does the evidence tell us?* organised by colleagues in the Rowett Institute for Nutrition and Health for the Scottish Government. A further presentation was made by Anne Ludbrook in December on *Economic analysis of public health measures (smoking ban and minimum pricing)* at the Health Economics Network for Scotland (HENS) Lost in Translation conference, which focused on the use of health economics evidence in public health policy and practice.

This year saw results from the BIBS study *Benefits of Incentives for Breastfeeding and Smoking cessation in pregnancy (BIBS): A mixed methods study to inform trial design* being presented in the *Lancet* and *BMJ Open*. This project assessed which incentives (financial or non-financial), if any, were most likely to help women to stop smoking in pregnancy (and not restart), and to breastfeed their babies until 6 months, as recommended by the World Health Organization. Results from a large cross-sectional survey of attitudes, which formed part of this study, revealed that a significant number of people considered financial incentives to be acceptable, although the overall majority did not. Men, along with women of childbearing age, were more likely to consider incentives acceptable. Those with fewer educational qualifications were more likely to find them unacceptable.

New research underway within the theme includes work by Yu Aoki on *Analyses of the causal interactions between health and education*, part of which is funded by the Carnegie Trust for the Universities of Scotland, in collaboration with the Office for National Statistics. The project explores the effect of education and English-language skills on health and fertility outcomes of immigrants in the UK. Ultimately, the project aims to develop potential policy measures that can be used to mitigate educational and health disparities of individuals. Also, Ramses Abul Naga recently initiated work on the *measurement of multidimensional inequality in relation to anthropometric definitions of health*.

Dominic Nkhoma's PhD thesis 'An economic perspective of the social determinants of health and health inequalities in Malawi' was successfully completed. Liam McMorrow investigated determinants of fruit and vegetable consumption as part of his PhD, which has a particular focus on non-price determinants of food choice and the effects

New PhD projects: time preferences

Time preference (how present or future oriented an individual is) is a key parameter in economic models determining investments in a range of life outcomes, including health. Two new PhD students started in 2014, further developing our research into time preferences. Laura Dysart will examine the relationship between time (and risk) preference and self-management of chronic conditions. Alastair Irvine will explore the role of time preference in the doctor patient relationship and the impact on treatment adherence. This research informs intervention design for improving (self) management of conditions, such as increasing the salience of future benefits and use of commitment contracts.

of perceived barriers to healthy eating. Two new PhD students were welcomed to the theme, [Laura Dysart](#) (self-management supervised by [Marjon van der Pol](#) and [Paul McNamee](#)) and [Alastair Irvine](#) (time and risk preferences supervised by [Marjon van der Pol](#) and Euan Phimister (Economics) – see text on the previous page for more details).

Our research on obesity and its underlying determinants, particularly diet, has featured at a number of conferences, with presentations given at the Health Economists' Study Group meeting in Sheffield, the international Health Economics Association conference in Dublin, and the Annual Scottish Faculty of Public Health conference in Aviemore. This year also saw the commencement of a project on *The nature and extent of food poverty/insecurity in Scotland*, funded by NHS Health Scotland, in collaboration with the Rowett Institute of Health.

Alcohol research was moved forward with results from a new analysis of the impact of minimum unit pricing for alcohol on moderate purchasers and low income households presented at the Scottish Faculty of Public Health conference in Aviemore. Public engagement with our alcohol research was also promoted by [Zoé Ejebu](#) taking part in a PechaKucha Aberdeen event and featuring on local radio.

DEDIPAC

*A number of activities related to the European collaboration project, **DEterminants of Diet and Physical ACTivity (DEDIPAC)** were undertaken to support the development, evaluation and implementation of public policies to improve diet, physical activity and sedentary behaviours.*

This project is part of a Joint Programming Initiative 'Healthy Diet for Healthy Life'. HERU has been contributing to the development of an evaluation toolbox that will be used and tested by DEDIPAC partners in carrying out evaluations of both policy interventions and multi-component interventions.

A rapid review of evaluation methods in diet, physical activity and sedentary behaviour studies was carried out and used to inform the evaluation guidance that was developed. An analysis of economic evaluation models from published studies was also undertaken and incorporated in the economic evaluation guidance.

WORKFORCE AND ORGANISATION OF CARE



Theme Leader: Dr Diane Skåtun

The Workforce and Organisation of Care theme, led by **Dr Diane Skåtun** aims to further our understanding of individual and organisational behaviour within the health care sector. The theme examines the role of financial and non-financial incentives and constraints on both individuals and the organisation structure in which they operate within the health care sector, and contributes to the improvement of the measurement and monitoring of performance within the sector. The theme's objective is to improve the evidence-base for policy making through analysis of these factors.

In the past year research has continued on the European Commission funded Seventh Framework programme entitled *Health care reform: the iMPact on practice, oUtcomes and costs of New roles for health pROfeSsionals (MUNROS)*. This 4 year project examines the nature, scope and contribution of new professional roles, evaluating their impact on clinical practice and outcomes, and identifying their scope to improve the integration of care. It includes an economic evaluation to identify the cost effectiveness of the new professional roles, and will identify optimal models for delivery of health care and the consequences of these for the management of human resources and workforce planning. 2014 saw the start of the field work for this project. Interviews were undertaken with the health care workforce engaged in the care of selected medical conditions to understand the mechanisms in each country that supports integrated care.

Research is continuing within the theme to understand the drivers of behaviour of individuals within the health care workforce. A new project has begun that focuses on the intended location decisions of medical students. This builds on work, completed in 2014, on a project commissioned by NHS Education for Scotland and continues our collaboration with the Division of Medical and Dental Education. *Understanding push-pull factors in medical careers decision making* identified the most important 'push-pull' careers decision making factors for the current generation of UK medical trainees.

This research provides valuable workforce planning information that will help target local recruitment and retention strategies. Along with collaborators from these projects we have also been successful in securing funding from the Scottish Medical Education Research Consortium for a PhD studentship entitled *A mixed-methods study of career decision making in Foundation Programme doctors*.

MUNROS Project

The University of Aberdeen co-ordinated, EU funded project Health Care Reform: the iMPact on practice, oUtcomes and costs of New roles for health pROfeSsionals (MUNROS) is progressing with on-going collaboration with its nine EU partners: Erasmus University; Technische Universität Berlin, Università Cattolica del Sacro Cuore; University of Warsaw; Charles University Prague; Economic Policy Research Foundation of Turkey; Uni Research Norway and University of Manchester.

The programme of dissemination and stakeholder involvement continues with Professor Antoinette de Bont presenting initial findings from the study at the EU Chronic Care Summit, the first international conference of the Netherlands Association of Physician Assistants (NAPA) and also at the European Commission Health Workforce Event 'Working Group on Health Workforce'. Two papers were also presented at the Joint iHEA & ECHE Congress in Dublin.

An expert advisory group meeting was held in Paris attended by project leaders and representatives from numerous organisations including the European Commission and the Organisation for Economic Co-operation and Development (OECD).



Work has been continuing on two projects that are investigating the monitoring of performance within the health care system. This includes the CSO funded project *Avoidable Scottish Hospitalisations (ASH)* that is testing the robustness of potentially preventable hospitalisations (PPH) as indicators of the quality of primary care in Scotland and a National Health and Medical Research Council (NHMRC) Australia funded project, *Are 'potentially preventable hospitalisations' a valid measure of the quality and affordability of primary and community care in Australia?*

Also in 2014, [Gerald Manthalu](#) successfully defended his PhD thesis examining *The impact of a change in the method of funding for Christian Health Association Hospitals in Malawi on the demand for hospital services.*



The PhD project was funded through the Health Research Capacity Strengthening Initiative (HRCSI) of the Government of Malawi. Gerald has now returned to Malawi and we wish him every success in translating his research into practice.

Understanding push-pull factors in medical careers decision making

Medical education and training systems allow considerable individual choice by doctors, first, when they select a medical specialty, and second, regarding where they wish to practise within the health system. This project considered the most important 'push-pull' careers decision making factors for the current generation of UK medical trainees given their specialty choice. What drives medical trainees away from a place? What draws them to a new location? To what extent are specific factors important at different transitions?

*The project employed a discrete choice experiment (DCE) to analyse the **relative** importance of six factors identified as important to medical careers decision making:*

- *familiarity with the hospital/unit*
- *geographical location*
- *opportunities for spouse/partner*
- *potential earnings*
- *clinical/academic reputation*
- *working conditions.*

Sub-group analysis was also conducted and found that different constituent groups of the medical trainee body placed different valuations on the factors that drove medical career decision making. Many of the factors driving career decision making are personal and hence not easily amenable to modifications. However, we identified that trainees value quality of training and learning environments and good working conditions which suggests that addressing issues to do with quality of working and training experience may increase the attractiveness of particular locations to tomorrow's doctors.

METHODS OF BENEFIT VALUATION



Theme Leader: Dr Verity Watson

The Methods of Benefit Valuation theme, led by Verity Watson, aims to develop and refine economic methods of valuing health and health care. Our research explores individuals', patients' and society's values of the benefits of health and health care, and does this by using several research methods, including surveys, field experiments, laboratory experiments, and qualitative research, to better understand how individuals complete stated preference tasks.

In 2014, Mandy Ryan and Nicolas Krucien obtained funding for two new research projects. As part of the Health Foundation Inspiring Improvement programme, research started on a project titled *A discrete choice experiment (DCE) to value the personalisation of support for the self-management of chronic pain*. This research is a collaboration with colleagues from Academic Primary Care and the Health Services Research Unit at the University of Aberdeen. Funding was awarded by the NIHR Health Services and Delivery Research programme to investigate and improve the decision-making process about admissions to intensive care units (ICUs). In collaboration with colleagues from the University of Warwick, the *Gatekeeping in intensive care: Understanding and improving the decision-making process surrounding admissions to the intensive care unit* research project will use a discrete choice experiment to identify ICU doctors' and outreach nurses' preferences for factors determining patients' admissions to ICU. This project will commence in 2015.

Research continued on projects that explore and test the use of online modes to elicit patient or public preferences for health and health care. We highlight two projects here – the *Spending wisely: Survey mode effects in responses to discrete choice experiments responses* project and the *Patients' preferences for the treatment of lower urinary tract symptoms: a discrete choice experiment* project. The 'Spending wisely' project was funded by the MRC Methodology Research Panel and compared DCE responses across several survey modes: online to managed access panels of commercial market research companies, face to face and postal surveys. We found small differences in the sample characteristics of respondents and the DCE results across the different modes. The *Patients' preferences for the treatment of lower urinary tract symptoms* explored the use of online bulletin boards (OBBs) as an alternative to traditional focus groups. We found that OBBs are a useful alternative mode for qualitative data collection when the discussion topic is sensitive (e.g. urinary incontinence) and when people experience conditions that make them reluctant to leave home for long periods of time.

PhD: External Validity of Discrete Choice Experiments

Discrete choice experiments (DCEs) ask survey respondents to make hypothetical choices. Few studies have tested the external validity of DCE responses by comparing them to real world decisions. This PhD aims to assess the external validity of responses to a DCE, using a field experiment in a pharmacy setting. Individuals will be asked to complete a hypothetical DCE about a health check at the pharmacy. In the days following the DCE the same people will be asked if they will attend the pharmacy for a real health check.

The PhD consists of three parts:

- 1) A systematic review of existing empirical studies assessing external validity.*
- 2) A field experiment designed to assess external validity of responses to a DCE about pharmacy services, i.e. whether respondents behave in the real world in the same way as they state in the hypothetical DCE survey.*
- 3) A qualitative investigation of responses that differ between the hypothetical DCE and real world decision.*

PhD Student: Gin Nie Chua

Supervisors: Mandy Ryan and Christine Bond

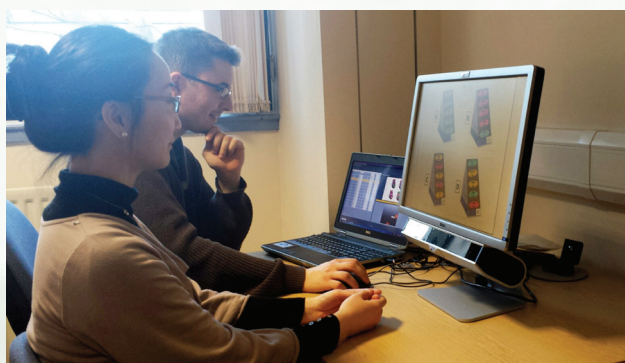
The MBV theme has a vibrant research culture and PhD students play an important part in this through their exciting and state of the art research. In 2014, there were five PhD students in the theme and they continued to progress with their research.

- **Sebastian Heidenreich**, funded by the University of Aberdeen Institute of Applied Health Sciences Flagship PhD studentship, passed his two-year assessment. Sebastian's PhD combines existing DCE data with new data collected in the *Patients' preferences for the treatment of lower urinary tract symptoms* project to understand whether or not respondents attend to all attributes in a DCE task
- **Antje Tockhorn**, supported by an ESRC Scottish Graduate School in Social Sciences – Doctoral Training Centre PhD studentship (part-time) passed her nine-month assessment. Antje's PhD focuses on how to incorporate the patient perspective into Health Technology Assessment. Antje's PhD spans the Methods of Benefit Valuation and Assessment of Technologies themes.
- **Dwayne Boyers**, a HERU Research Fellow, passed his nine-month assessment. Dwayne's PhD is carried out alongside two dental care trials (**IQuaD** and **INTERVAL**) in the Assessment of Technology theme. Dwayne's PhD explores the monetary valuation of dental health outcomes and investigates the external validity of DCE response in this context.
- **Gin Nie Chua**, funded by the Commonwealth Scholarship Commission United Kingdom, passed her 9 month assessment. Gin Nie's PhD research focuses on the external validity of DCE results in a primary care setting (see box on the previous page).
- **Rodolfo Hernández**, a HERU Research Fellow, is in the write up stage of his PhD entitled 'Using discrete choice experiment outcomes within economic evaluation decision analysis models: a case study'. Rodolfo's PhD spans the Methods of Benefit Valuation and Assessment of Technologies themes.

In November, the MBV team ran our annual three-day DCE workshop in Aberdeen. The workshop provides an opportunity for those interested in DCEs to learn about and discuss practical and theoretical issues. The workshop includes group work sessions with feedback. In October, **Verity Watson** and **Nicolas Krucien** taught a three day 'Willingness to pay in healthcare' workshop to PhD students and early career researchers at the Berlin Centre of Health Economic Research at the Technische Universität in Germany. These workshops contribute to our aim of building capacity in stated preference methods.

INVESTMENT IN EYE-TRACKING

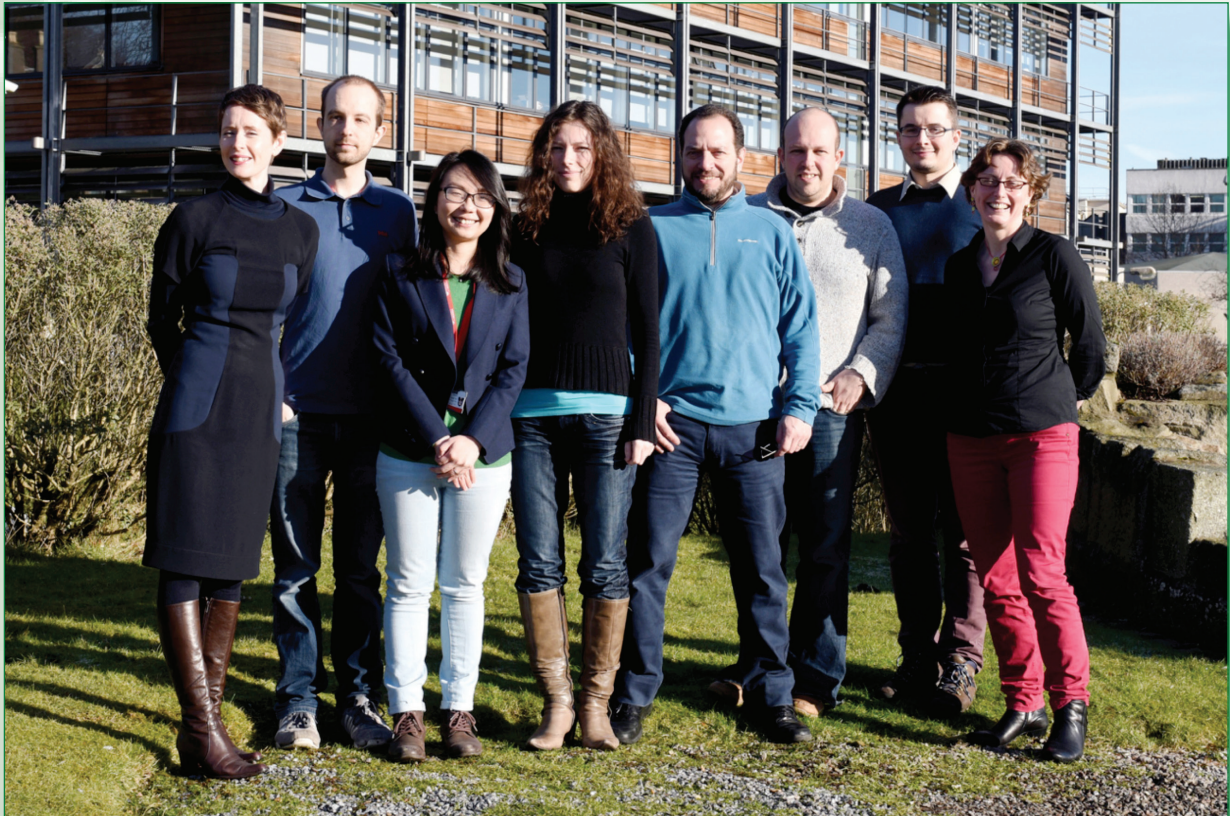
In 2014, HERU invested in an eye-tracking machine. Eye-tracking can be used as an indicator of visual attention and although it has been applied widely in the fields of marketing and psychology, it is a relatively new methodology in economics. The objective is to use eye-tracking methods to provide insight on information processing strategies and consider implications for modelling DCE response data. Research by Mandy Ryan, Nicolas Krucien and Frouke Hermens has explored decision heuristics in discrete choice experiments using eye-tracking. Patrícia Norwood, Nicolas Krucien, Mandy Ryan and Anne Ludbrook have conducted a pilot study on the impact of colour coding calories in the nutritional traffic light system with an eye-tracking experiment.



Nicolas Krucien and Yu Aoki using eye-tracker

METHODS OF BENEFIT VALUATION

In 2014, our two-weekly internal [seminar series on stated preference](http://www.abdn.ac.uk/heru/heruevents/statedpref/) methods continued. This seminar series brings together a dedicated group of researchers with interests in stated preference methods from across the University of Aberdeen. Information on the seminar series is available on our website. (<http://www.abdn.ac.uk/heru/heruevents/statedpref/>).



Members of the MBV theme 2015 (from left to right: Verity Watson, Sebastian Heidenreich, Gin Nie Chua, Antje Tockhorn,



*Knowledge Transfer
and Enhancing
Capacity...*

KNOWLEDGE TRANSFER

- HERU Staff continued to have **membership of Government Advisory Committees**, examples include the Scottish Health Technologies Group; National Institute for Health and Care Excellence (NICE) Programme Advisory Group; Technical Advisory Group on Resource Allocation (TAGRA); and Scottish Medicines Consortium (SMC).
- **Established a Policy Advisory Group (PAG)** whose remit is to support the activities of HERU by reviewing our progress from a Scottish health policy perspective. The PAG also advise on ways to communicate our research findings to the policy community to ensure maximum impact.
(<http://www.abdn.ac.uk/heru/about/policy-advisory-group/>)

Engagement with Stakeholders activities in 2014 included presenting to

- The Scottish Institute for Research Economists (SIRE) at the *'Scottish Government Policy Forum on Health Inequalities: Challenges and Responses'* (a mixed audience of policy government economists and academics):
 - ***'Health behaviours and health inequalities in Scotland'***
(<http://www.abdn.ac.uk/heru/research/hbi/projects/health-inequalities/>)
- The Scottish Government, with a workshop on behaviour change:
 - ***'Prompting healthy food choices: what does economics tell us?'***
(<http://www.abdn.ac.uk/heru/research/hbi/projects/choice-behaviour/>)
- Policy presentations to the Health Economics Network for Scotland (HENS) event, *'Lost in Translation? Health Economics in Public Health Policy and Practice'*:
 - ***'Economic evaluation of Childsmile'***
http://www.scotphn.net/pdf/MvdP_HENS_discussion.pdf
 - ***'Economic analysis of public health measures, smoking ban and minimum pricing'***
http://www.scotphn.net/pdf/MMarshall_HENS_021214.pdf
- **HERU's Inaugural Policy Workshop to the Scottish Government:** 2014 saw initiation of a Workshop Series to the Scottish Government, focusing on how health economics can address enduring policy questions. The first workshop, *'What economics contributes to supported self-management'*, focused on using economics to understand self-management behaviour, preferences for self-management and cost-effectiveness of self-management interventions. The workshop was presented by Professors **Paul McNamee**, **Mandy Ryan** and **Marjon van der Pol**.

HERU's Briefing Paper series continued in 2014

- Eberth, B., Ludbrook, A., Hernández, R. and Gerdtham, U.G. *'Identifying underlying causes of health inequality to inform policy'*, September 2014.
(http://www.abdn.ac.uk/heru/documents/BP/HERU_BP_September_2014.pdf)
- Norwood, P., Scotland, G., Denison, F., Bhattacharya, S., Duffy, A., Mahmood, T., Morris, C., Raja, E., Norman, J. and Lee, A. *'Maternal obesity is independently associated with increased antenatal admissions and health service costs: a population based study'*, February 2014.
(http://www.abdn.ac.uk/heru/documents/BP/HERU_BP_February_2014.pdf)
- Olajide, D. and Ludbrook, A. *'Effects of income, education and occupation status on diet and risk of obesity'*, December 2014.
(http://www.abdn.ac.uk/heru/documents/BP/HERU_BP_December_2014.pdf)

Public Engagement activities are a growing feature of our dissemination strategy, in 2014 events included

- Guest on *'Talking Science'* radio programme, Station House Media Unit (SHMU).

Station House Media Unit is at the forefront of community media development in Scotland. On one of their platforms, SHMU FM, Zoé Ejebu was interviewed on their Talking Science show. The aim was to promote HERU's research and communicate it to the public. During her interview Zoé was asked 'what's the most exciting part of your work, any advice for people that might like to become a HERU researcher and what would the biggest development/research question be in HERU in the next 5 years?'

<http://www.shmu.org.uk/fm/shows/talking-science>

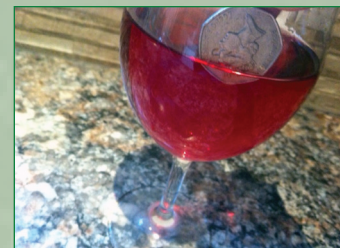


Zoé Ejebu

- PechaKucha presentation: *'alcohol minimum unit pricing in Scotland'*

Pechakucha means 'chit chat' in Japanese. At a University hosted 20x20 night presenters were asked to introduce their work to the public with 20 images each in 20 seconds. The overall aim was to communicate academic research to the public in a relaxed atmosphere. Zoé Ejebu's 20x20 presentation was on *alcohol minimum unit pricing in Scotland*.

(<http://www.abdn.ac.uk/heru/publications/presentations/other-oral-presentations/>)



ENHANCING CAPACITY

HERU prioritises building capacity in health economics activities and in 2014 contributed significantly towards this goal. We provided **specialist training in health economics from undergraduate level to PhD level** and we provided training in health economics for non-specialists.

Specialist training in health economics: from undergraduate to PhD level

Undergraduate

We teach health economics to MA Economics students at the University of Aberdeen and provided three **summer internships** to encourage economics undergraduates to consider a career in health economics.

Internships give a taste of health economics research and Interns work alongside staff in HERU to learn about the sort of work undertaken.

Internships run for up to six weeks and Interns undertake tasks such as assisting in the preparation and analysis of data, searching for and writing up the results of previous research and assisting in writing up the results of research conducted in HERU.

The student interns for 2014 were: Jonathan Edwards who graduated with a MA from the University of Edinburgh, Yingyu (Judith) Guo who was studying for BSc in Banking and Finance at the University of Leicester and Amy Humphreys who graduated with a BSc in Economics, also from the University of Leicester.



Jonathan Edwards



Yingyu (Judith) Guo



Amy Humphreys

Postgraduate

We welcomed the third cohort of five students to our **MSc in the Economics of Health** at the University of Aberdeen. This is the only postgraduate degree in health economics in Scotland, jointly provided by HERU and the Economics Department and co-ordinated by **Marjon van der Pol**. In addition, we taught an option course in health economics, and undertook supervision of dissertations, on the **Scottish Graduate Programme in Economics**. Health economics was the second most popular option course on the programme. We also contributed to the teaching of the MSc in Health Economics at the University of York.

Four students (supervised by HERU staff) were awarded their PhD

- **Dominic Nkhoma** – *An economic perspective of the social determinants of health and health inequalities in Malawi* funded by the Wellcome Trust and the Department for International Development (DFID) Health Research Capacity Strengthening Initiative (HRCSI) for Malawi and the University of Aberdeen.

- Gerald Manthalu – *The impact of a change in the method of funding for Christian Health Association Hospitals in Malawi on the demand for hospital services* funded by the Wellcome Trust and the Department for International Development (DFID) Health Research Capacity Strengthening Initiative (HRC SI) for Malawi and the University of Aberdeen.
- Jasper Kenter – *Integrating monetary and non-monetary approaches to assessing shared, plural and cultural values of ecosystems* (University of Aberdeen, HERU supervisor: M Ryan).
- Amarech Guda – *Health insurance demand analysis amongst formal sector employees in Ethiopia: a Discrete Choice Experiment* (University of Addis Ababa (Ethiopia) and Trinity College Dublin, HERU supervisor: M Ryan).

PhD supervision

Six students are studying for their PhD within HERU:

- Antje Tockhorn – *Exploring the role for patients' values in health technology assessment: a mixed methods approach*, funded by the ESRC Scottish Graduate School of Social Science Doctoral Training Centre Health Pathway. 2014 saw Antje finalise the econometric analysis of HTA decisions of the Scottish Medicines Consortium (SMC) to assess the impact of patient group involvement on reimbursement decisions. Based on this analysis, submissions from patient group were found to be a significant contributor. At the end of 2014, Antje started working on her second chapter in which she aims to conduct a thematic analysis of patient group submissions to the National Institute for Health and Care Excellence (NICE) and use other data sources suitable for researching patients' perspective (e.g. interviews, focus groups, patients' stories).
- Sebastian Heidenreich – *Empirical analysis of decision heuristics in stated preference methods*, funded by the Institute of Applied Health Science (IAHS) PhD Studentship. In 2014, results of a study investigating why respondents ignore attributes in a discrete choice experiment (DCE) were written up as a working paper and presented at iHEA in Dublin. Additional primary data asking respondents which attributes they did not consider in a DCE and why, was collected. The results suggests that respondents ignore attributes for a variety of reasons and not accounting for them when analysing the data can result in misleading welfare estimates and sub-optimal policy advice.
- Liam McMorrow – *Economic aspects of food choice and its association with health inequalities in Scotland and the UK*, funded by the Rowett Institute of Nutrition and Health, University of Aberdeen. 2014 included a pilot discrete choice experiment being carried out in a local supermarket investigating the effects of a tax on snack food choices. Preliminary results suggest consumers are not concerned with tax; price and taste attributes appear to be the most important factors in snack food choice.
- Gin Nie Chua – *Assessment of the external validity of discrete choice experiment: an application in pharmacy* funded by the Commonwealth Scholarship Commission in the UK. During 2014, a novel field experiment protocol aiming at assessing the external validity of a DCE was developed using the context of a community pharmacy health check service. Following ethics clearance, the study data collection will now begin in early 2015.

ENHANCING CAPACITY

We warmly welcomed two new PhD students to HERU:

- Alastair Irvine – *The role of time preference in the medical decision making context*, funded by the Institute of Applied Health Science (IAHS) PhD Studentship.
- Laura Dysart – *Applying economic methods to optimise self-management*, funded by the HERU PhD studentship, University of Aberdeen.



Alastair Irvine



Laura Dysart

Supervision of PhD students out-with HERU continues with:

- Jovan Volnivic – *Time preferences and socio-economic status* (Behavioural Science Centre, University of Stirling, HERU supervisor: M van der Pol).

Training in health economics for non-specialists

- HERU's three-day expert workshop in *Discrete Choice Experiments* ran again in November 2014. This popular workshop is aimed at those interested in the application of DCEs in health economics. It focuses on the practical and theoretical issues raised when applying the technique. The workshop is of interest to those with no or limited experience in the application of DCEs. In 2014 we delivered the workshop to 25 delegates; five from the EU, four from overseas and 16 from the UK. Delegates included members of academia, the public sector and PhD students.

Due to popular demand this course is now run annually in Aberdeen. For further information please visit: <http://www.abdn.ac.uk/heru/courses/workshops/annual-dce-workshop/>



Delegates and presenters from the November 2014 DCE Workshop

- HERU's **Postgraduate Certificate in Health Economics** by Distance Learning has been running for over 30 years. This course is aimed at individuals who want to familiarise themselves with the methods used by health economists to aid the allocation of scarce health care resources. No experience of economics is necessary. In 2014 we welcomed 31 students to the course including 17 from the UK, and 14 from overseas. Students come from both public and private sectors.

For further information please visit: <http://www.abdn.ac.uk/heru/courses/pgcert/>



Some of the 2013/14 course delegates

- HERU taught health economics on a range of programmes, including Medicine in Economics, MSc in Public Health Research, and MSc in Global Health at the University of Aberdeen.





*Projects, Publications
and Presentations...*

PROJECTS IN PROGRESS

All project descriptions appear on our web pages
See: www.abdn.ac.uk/research for more details

*Denotes projects started in 2014

ASSESSMENT OF TECHNOLOGIES

Evidence synthesis projects

* *Clinical and cost-effectiveness of open mesh repairs in adults presenting with a clinically diagnosed unilateral, primary inguinal hernia who are operated on in an elective setting: systematic review and economic evaluation.*

Investigators: M Brazzelli, P Sharma (HSRU, University of Aberdeen); D Boyers (HERU); NW Scott (University of Aberdeen); **R Hernández** (HERU); M Cruickshank, C Fraser, L Kemp, C Ramsay (HSRU, University of Aberdeen) and I Ahmed (NHS Grampian).

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme.

Collagenase clostridium histolyticum for treating Dupuytren's contracture.

Investigators: M Brazzelli, M Cruickshank, A Elders, C Fraser, C Ramsay, C Robertson (HSRU, University of Aberdeen); **R Hernández**, **P McNamee**, **E Tassie** (HERU) and D Lawrie (Woodend Hospital, Aberdeen) for the Aberdeen Assessment of Technologies Group.

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme and the University of Aberdeen.

Economic evaluations alongside randomised controlled trials – Centre for Health Care Randomised Trials (CHaRT)

* *A multi-centre randomised controlled trial comparing laparoscopic supracervical hysterectomy with second generation endometrial ablation for the treatment of heavy menstrual bleeding (HEALTH).*

Investigators: S Bhattacharya (Obstetrics & Gynaecology, University of Aberdeen); K Cooper (NHS Grampian); TJ Clark (Birmingham's Women's Hospital); J Hawe (Countess of Chester NHS Foundation Trust); K Phillips (Hull and East Yorkshire Hospitals NHS Trust); R Hawthorne (NHS Greater Glasgow & Clyde); J Norrie (CHaRT, HSRU); J Cook, K McCormack (HSRU) and **G Scotland** (HERU/HSRU).

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme.

* *A pragmatic adaptive sequential placebo controlled randomised trial to determine the effectiveness of Glycerine triturate for retained placenta (Got-it trial).*

Investigators: F Denison, J Norman, J Lawton (University of Edinburgh); J Norrie, G McPherson (CHaRT, HSRU); **G Scotland** (HERU/HSRU) and S Brook-Smith (Edinburgh Royal Infirmary).

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme.

Adjustable anchored Single Incision Mini Slings versus standard tension free mid urethral slings in the surgical management of female stress urinary incontinence: a pragmatic multi-centre non inferiority randomised controlled trial (the SIMS Trial).

Investigators: M Abdel Fattah (University of Aberdeen); R Assassa (Mid Yorkshire Hospitals NHS Trust); **M Kilonzo** (HERU); G MacLennan, K McCormack, J Norrie (HSRU, University of Aberdeen); J Wardle (Continence Foundation) and J N'Dow (University of Aberdeen).

Source of Funding: National Institute for Health Research, Health Technology Assessment (HTA) Programme.

Clinical and cost effectiveness of surgical options for the management of anterior or posterior vaginal wall prolapse: pragmatic evaluation by multi-centre randomised controlled trial PROlapse Surgery: Pragmatic Evaluation and randomised Controlled Trial (PROSPECT).

Investigators: C Glazener, A Grant, J Norrie, G MacLennan, A McDonald, G McPherson (HSRU, University of Aberdeen); **D Boyers** (HERU/HSRU); **M Kilonzo** (HERU); ARB Smith (St. Mary's Hospital Manchester); RM Freeman (Plymouth Hospital NHS Trust); C Bain, K Cooper (NHS Grampian); S Hagan (Glasgow Caledonian University) and IBG Montgomery (Aberdeen).

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme and the Chief Scientist Office (CSO) CORE.

Effectiveness in Angle closure Glaucoma of Lens Extraction (EAGLE).

Investigators: A Azuara-Blanco (Queens University, Belfast); C Ramsay, J Norrie (HSRU, University of Aberdeen); T Aung (Singapore National Eye Centre); J Burr (University of St. Andrews); P Foster (UCL); D Friedman (The Johns Hopkins Hospital); J Lai (United Christian Hospital); Da-Wen Lu (Tri-Services General Hospital); C Lui (Taipei Veterans General Hospital); W Nolan (Sandwell and West Birmingham Hospital); J See (National University Hospital); D Wong (University of Hong Kong) and **G Scotland** (HERU/HSRU).

Source of Funding: Medical Research Council (Trials Grant) and the Chief Scientist Office (CSO) CORE.

eiTher Haemorrhoidectomy or Stapled haemorrhoidopexy for haemorrhoidal disease: a pragmatic multi-centre randomised controlled trial comparing stapled haemorrhoidopexy to conventional excisional haemorrhoidectomy (eTHoS).

Investigators: AJ Watson (NHS Highland); M Loudon (Aberdeen Royal Infirmary); **M Kilonzo** (HERU); D Jayne (Leeds Teaching Hospitals NHS Trust); A Maw (Glan Clwyd Hospital); F Curran (Stepping Hill Hospital); S Brown (Northern General Hospital); J Cook (HSRU, University of Aberdeen); J Burr (University of St. Andrews) and B Buckley (National University of Ireland).

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme.

Improving the Quality of Dentistry: a randomised controlled trial comparing oral hygiene advice and periodontal instrumentation for the prevention and management of periodontal disease in dentate adults attending dental primary care (IQuaD).

Investigators: J Clarkson, D Bonetti, N Pitts (University of Dundee); C Ramsay (HSRU, University of Aberdeen); J Burr (University of St. Andrews); H Worthington, C Jones, M Tickle (University of Manchester Dental Hospital); P Heasman, J Steele (University of Newcastle); L Young, I Madden, W McCombes (NHS Education for Scotland); P Hodge (University of Glasgow Dental School); M Ross (University of Edinburgh); D Ricketts, A Hall (Dundee Dental Care Hospital & School); P Averley (Queensway Dental Practice) and **M van der Pol** (HERU).

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme and the University of Aberdeen.

Investigation of NICE Technologies for Enabling Risk-Variable-Adjusted-Length dental recalls trial (INTERVAL).

Investigators: N Pitts, J Clarkson, D Bonetti, R Freeman, D Ricketts (University of Dundee); C Ramsay (HSRU, University of Aberdeen); H Worthington (University of Manchester); **M van der Pol** (HERU); T Anderson, W McCombes, L Young (NHS Education for Scotland); F Burke, D White (University of Birmingham); G Douglas (University of Leeds); R Gorter (University of Amsterdam); R Herbert (University of Cardiff); P Hodge (University of Glasgow); G Humphris (University of St. Andrews); T Mettes (Radboud University, NIJMEJEN Medical Centre, The Netherlands); I Needleman (UCL Eastman Dental Institute) and M Ross (University of Edinburgh).

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme and the University of Aberdeen.

PROJECTS IN PROGRESS

Male synthetic sling versus Artificial urinary Sphincter Trial for men with urodynamic stress incontinence after prostate surgery: Evaluation by Randomised trial (MASTER).

Investigators: P Abrams (North Bristol NHS Trust); M Drake (University of Bristol); C Glazener (HSRU, University of Aberdeen); R Pickard (University of Newcastle upon Tyne); J Norrie, C Ramsay, C Boachie, K McCormack (HSRU, University of Aberdeen); **M Kilonzo** (HERU); G McPherson, A McDonald (HSRU, University of Aberdeen) and N Cotterill (University of Bristol).

Source of Funding: National Institute for Health Research, Health Technology Assessment (HTA) Programme.

Multi-centre randomised trial of the effectiveness and cost-effectiveness of basic versus intensive, biofeedback-assisted pelvic floor muscle training for female stress or mixed urinary incontinence (OPAL-Optimal PFMT for Adherence Long-term).

Investigators: S Hagen, D McClurg, J Booth (Glasgow Caledonian University); C Glazener, J Francis, J Norrie, A Elders, A McDonald, G McPherson, N Kolehmainen (HSRU, University of Aberdeen); A Wael (NHS Ayrshire and Arran); M Abdel-Fattah (University of Aberdeen); C Bugge (University of Stirling); B Buckley (Independent); S Dean (University of Exeter); **M Kilonzo** (HERU); H Smith (University of Otago, NZ); KL Guerrero (Clinical Expert) and LE Wilson (User).

Source of Funding: National Institute for Health Research, Health Technology Programme (HTA).

Therapeutic Interventions for Stones of the Ureter: a multi-centre randomised controlled trial of extracorporeal shockwave lithotripsy, as first treatment option, compared with direct progression to ureteroscopic retrieval, for ureteric stones (TISU).

Investigators: S McClinton, L Kurban (NHS Grampian); J N'Dow, S MacLennan, T Lam (Academic Urology Unit, University of Aberdeen); G MacLennan, J Norrie, R Thomas, K Starr (HSRU, University of Aberdeen); **M Kilonzo** (HERU); F Keely (Southmead Hospital); K Anson (St. Georges NHS Trust); C Clark (Service User); R Pickard (Newcastle University) and N Burgess (Norfolk and Norwich University Hospital).

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme.

Vault or Uterine prolapse surgery Evaluation: two parallel randomised controlled trials of surgical options for upper compartment (uterine or vault) pelvic organ prolapsed (VUE).

Investigators: C Glazener, S Breeman, G McPherson, A McDonald, J Norrie, A Elders (HSRU, University of Aberdeen); IBG Montgomery (University of Aberdeen); S Hagen (Glasgow Caledonian University); ARB Smith (St. Mary's Hospital Manchester); RM Freeman (Plymouth Hospital NHS Trust); C Bain, K Cooper (NHS Grampian) and **M Kilonzo** (HERU).

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme.

Economic Evaluations alongside randomised controlled trials – Non CHaRT

Does oral sodium bicarbonate therapy improve function and quality of life in older patients with chronic kidney disease and low-grade acidosis? A randomised controlled trial.

Investigators: M Witham (University of Dundee); A Avenell (HSRU, University of Aberdeen) and **P McNamee** (HERU).

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme and the University of Aberdeen.

Effectiveness and cost-effectiveness of elective neck dissection in early oral cancer treatment.

Investigators: I Hutchison (Queen Mary, University of London); A Hackshaw (Cancer Research UK (CRUK) & University College London (UCL) Cancer Trials Centre); I Martin (Sunderland Royal Hospital); K Piper (Queen Mary, University of London); G Thomas (University College London Hospital); K Webster, J Olliff (University Hospital Birmingham); A Korszun (Queen Mary, University of London) and **M van der Pol** (HERU).

Source of Funding: Cancer Research UK (CRUK) and the University of Aberdeen.

Maintained physical activity and physiotherapy in the management of distal arm pain.

Investigators: G Jones, G Macfarlane (University of Aberdeen); K Palmer (University of Southampton); D Coggon (University of Southampton); K Burton (University of Huddersfield); K Walker-Bone (Brighton and Sussex NHS Trust); S Lamb (University of Warwick); **P McNamee** (HERU) and A McConnachie (University of Glasgow).

Source of Funding: Arthritis Research UK (ARUK) and the University of Aberdeen.

*Projects based on observational cohorts/data**British Society for Rheumatology – Ankylosing Spondylitis Register (BSRASR).*

Investigators: G Macfarlane, G Jones (Institute of Applied Health Sciences, University of Aberdeen); **P McNamee** (HERU); K Hyrich, K Watson, M Lunt, D Symmons (Arthritis Research UK Epidemiology Unit, University of Manchester); R Sturrock (Centre for Rheumatic Diseases, University of Glasgow) and L Kay (Freeman Hospital, Newcastle).

Source of Funding: British Society for Rheumatology and the University of Aberdeen.

Is utilisation of a community pharmacy for provision of directing antivirals: a feasible delivery model for hepatitis C treatment in substance misusers.

Investigators: A Radley (NHS Tayside); J Dillon (University of Dundee) and **M van der Poel** (HERU).

Source of Funding: The University of Aberdeen.

Modelling the cost-effectiveness of adopting risk stratified screening intervals within the national diabetic retinopathy screening programme in Scotland.

Investigators: **G Scotland** (HERU/HSRU); H Looker, H Colhoun (University of Dundee); G Leese (NHS Tayside); P McKeigue (University of Edinburgh) and J Olson, S Philip (NHS Grampian).

Source of Funding: Chief Scientist Office (CSO) Health Services and Population Health Research Committee.

Scottish cervical cancer prevention programme: assessing and modelling the impact of HPV 16/18 immunisation on the performance of current cervical screening and the effectiveness of alternative cervical screening strategies to optimise cancer prevention in the HPV immunisation era.

Investigators: M Cruickshank (University of Aberdeen); C Campbell (University of Edinburgh); Y Choi (Health Protection Agency); H Cubie (Lothian University NHS Trust); K Cuschieri (Edinburgh Royal Infirmary); M Donaghy (Health Protection Scotland); J Imrie (Monklands General Hospital); C Robertson (Health Protection Scotland & University of Strathclyde); F Sullivan (University of Dundee); **P McNamee** (HERU) and D Weller (University of Edinburgh).

Source of Funding: Chief Scientist Office (CSO) Health Services and Population Health Research Committee and the University of Aberdeen.

Technologies to Support Older People at home: maximising personal and Social interaction (TOPS).

Investigators: L Philip, P Schofield, P Edwards, J Farrington (University of Aberdeen); G Rodger (University of Highlands & Islands); F Williams (Institute of Rural Health, Wales); V Hanson (University of Dundee); **P McNamee** (HERU) and P Oliver, P Wright (University of Newcastle).

Source of Funding: Research Council UK (RCUK) Digital Economy Research and the University of Aberdeen.

PROJECTS IN PROGRESS

Methodological projects

PhD: Measuring value within an economic evaluation framework: a case study of dental care.

Investigators: **D Boyers** (PhD Student (HERU/HSRU)) and **M van der Pol, V Watson** (HERU).

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme, the University of Aberdeen and the Chief Scientist Office (CSO) CORE.

PhD: Using discrete choice experiment outcomes within economic evaluation decision analytic models: a case study.

Investigators: **R Hernández** (PhD Student (HERU)); **M Ryan** (HERU); **J Burr** (University of St. Andrews) and **L Vale** (University of Newcastle Upon Tyne).

Source of Funding: Research Council UK (RCUK) Fellowship and the University of Aberdeen.

PhD: Exploring the role for patients' values in health technology assessment: a mixed methods approach. (This PhD spans across both the Assessment of Technologies and the Methods of Benefit Valuation theme).

Investigators: **A Tockhorn** (PhD Student, HERU); **M Ryan** (HERU) and **G Scotland** (HERU/HSRU).

Source of Funding: ESRC Scottish Graduate School in Social Sciences (SGSSS) – Doctoral Training Centre (Health Pathway) PhD Studentship and the Chief Scientist Office (CSO) CORE.

HEALTH BEHAVIOURS AND INEQUALITIES

Analysis of the causal interactions between health and education.

Investigators: **Y Aoki** (HERU) and **L Santiago** (Office for National Statistics).

Source of Funding: The University of Aberdeen.

Analysis of choice behaviour and potential mechanisms of change.

Investigators: **P Morgan** (Rowett Institute of Health and Nutrition) and **A Ludbrook, P Norwood** (HERU).

Source of Funding: Scottish Government (Rural and Environment Science and Analytical Services Division RESAS) via Rowett Institute of Nutrition and Health and Chief Scientist Office (CSO) CORE.

PhD: Applying Economic Methods to Optimise Self-Management.

Investigators: **L Dysart** (PhD Student) and **P McNamee, M van der Pol** (HERU).

Source of Funding: University of Aberdeen.

DEterminants of Diet and Physical ACTivity (DEDIPAC).

Investigators: **A Ludbrook** (HERU); **J Allan** (Health Psychology) and **F Douglas, G McNeill** (RINH).

Source of Funding: Medical Research Council and Chief Scientist Office (CSO) CORE.

PhD: Economic aspects of food choice and its association with health inequalities in Scotland and the UK.

Investigators: L McMorrow (PhD Student); A Ludbrook, D Olajide (HERU) and J MacDiarmid (Rowett Institute of Nutrition and Health, University of Aberdeen).

Source of Funding: Scottish Government (Rural and Environment Science and Analytical Services Division RESAS) via Rowett Institute of Nutrition and Health, University of Aberdeen and Chief Scientist Office (CSO) CORE.

Health, income and the measurement of social welfare in developing countries.

Investigators: R Abul Naga (HERU) and T Yalcin (University of Lausanne).

Source of Funding: University of Aberdeen.

** The nature and extent of food poverty/insecurity in Scotland.*

Investigators: F Douglas, S Whybrow (Rowett Institute of Nutrition and Health, University of Aberdeen); A Garcia (University of Glasgow); L McKenzie, A Ludbrook, Z Ejebu (HERU) and E Dowler (University of Warwick).

Source of Funding: NHS Health Scotland and Chief Scientist Office (CSO) CORE.

PhD: The role of time preference in the medical decision making context.

Investigators: A Irvine (PhD Student); M van der Pol (HERU) and E Phimister (University of Aberdeen Business School).

Source of Funding: Institute of Applied Health Sciences PhD Studentship.

WORKFORCE AND ORGANISATION OF CARE

Are 'potentially preventable hospitalisations' a valid measure of the quality and affordability of primary and community care in Australia?

Investigators: L Jorm (University of Western Sydney); A Leyland, F Blyth (MRC Social and Public Health Sciences Unit, Glasgow); R Elliott, D Olajide, M van der Pol (HERU); K Douglas (Royal North Shore Hospital); S Redman (The Mater Hospital, Sydney); Associate Investigators: N Board (ACSQHC); D Butler (APHCRI); D Lincoln, K Sutherland, D Watson (BHI); S Lujic (School of Medicine, UWS) and K Needham, H Watt (ACI).

Source of Funding: National Health and Medical Research Council, (NHMRC) Australia, the University of Aberdeen and Chief Scientist Office (CSO) CORE.

Avoidable Scottish Hospitalisations (ASH).

Investigators: M van der Pol, R Elliott, D Olajide (HERU); M Dusheiko (University of York); B Guthrie (University of Dundee); L Jorm (University of Western Sydney) and A Leyland (MRC/CSO Social and Public Health Sciences Unit).

Source of Funding: Chief Scientist Office (CSO).

Health Care Reform: the iMPact on practice, oUtcomes and costs of New roles for health pROfeSsionals (MUNROS).

Investigators: R Elliott (HERU); C Bond (Centre of Academic Primary Care, University of Aberdeen); A de Bont (Erasmus University); R Busse (Technische Universität Berlin); M Ruggeri (Università Cattolica del Sacro Cuore); M Mijas (University of Warsaw); H Svobodová (Charles University Prague); U Özlale (Economic Policy Research Foundation of Turkey); JE Askildsen (Uni Research Norway) and M Sutton (University of Manchester).

Source of Funding: European Commission FP7.

PROJECTS IN PROGRESS

The role of pay competitiveness and nurse agency staffing.

Investigators: **D Skåtun** (HERU) and **JB Coombes** (Aix-Marseille Université).

Source of Funding: Chief Scientist Office (CSO) CORE.

Understanding push-pull factors in the medical careers decision making of medical students.

Investigators: **J Cleland** (University of Aberdeen); **C Rees** (University of Dundee); **D Skåtun**, **V Watson**, **N Krucien** (HERU); **K Mattick** (University of Exeter) and **P Johnston** (NHS Education for Scotland (NES)).

Source of Funding: NHS Education for Scotland and Chief Scientist Office (CSO).

METHODS OF BENEFIT VALUATION

**A discrete choice experiment to value the personalisation of support for self-management of chronic pain.*

Investigators: **C Burton**, **T Porteous**, **A Elliott** (Academic Primary Care); **M Ryan**, **N Krucien** (HERU) and **V Entwistle** (HSRU).

Source of Funding: The Health Foundation.

A qualitative investigation into the external in validity of contingent valuation responses.

Investigators: **M Ryan** (HERU); **C Bond** (Academic Primary Care, University of Aberdeen) and **D Glynn** (National Collaborating Centre for Mental Health/National Institute for Health and Care Excellence).

Source of Funding: Chief Scientist Office (CSO) CORE.

An evaluation of patient preferences for the treatment of localised prostate cancer.

Investigators: **HU Ahmed**, **M Emberton** (UCL) and **V Watson**, **D Ikenwilo** (HERU).

Source of Funding: University College London (UCL) and Chief Scientist Office (CSO) CORE.

PhD: Assessment of the External Validity of Discrete Choice Experiment: An Application in Pharmacy.

Investigators: **GN Chua** (PhD Student, HERU); **M Ryan** (HERU); **C Bond** (Academic Primary Care) and **T Porteous** (HERU and Academic Primary Care).

Source of Funding: Commonwealth Scholarship Commission UK.

Decision making strategies in discrete choice responses.

Investigators: **V Watson** (HERU) and **S Luchini** (GREQAM, Marseille).

Source of Funding: Chief Scientist Office (CSO) CORE.

Does an oath improve demand revelation in discrete choice experiments?

Investigators: **V Watson** (HERU); **S Luchini** (GREQAM); **N Jacquemet** (Sorbonne) and **J Shogren** (University of Wyoming).

Source of Funding: Chief Scientist Office (CSO) CORE.

PhD: Empirical analysis of decision heuristics in stated preference methods.

Investigators: **S Heidenreich** (PhD Student, HERU); **M Ryan, V Watson** (HERU) and **E Phimister** (University of Aberdeen Business School).

Source of Funding: Institute of Applied Health Science (IAHS), Flagship PhD Studentship and the Chief Scientist Office (CSO) CORE.

External validity of contingent valuation: a field experiment comparing hypothetical and real payments.

Investigators: **M Ryan** (HERU); **J Cairns** (LSHTM); **S Jareinpituk** (Department of Dental Public Health, Mahidol University) and **M Mentzakis** (University of Southampton).

Source of Funding: Chief Scientist Office (CSO) CORE.

How do context and complexity affect discrete choice experiment responses?

Investigators: **V Watson** (HERU).

Source of Funding: Chief Scientist Office (CSO) CORE.

PhD: Investigating the presence of and methods to mitigate against hypothetical bias in Discrete Choice Experiments. (This PhD spans across both the Assessment of Technologies and the Methods of Benefit Valuation theme).

Investigators: **D Boyers** (PhD Student (HERU/HSRU)) and **M van der Pol, V Watson** (HERU).

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme, the University of Aberdeen and the Chief Scientist Office (CSO) CORE.

Multi-attribute valuation: A comparison of the discrete choice experiment and best-worst scaling approaches.

Investigators: **N Krucien, V Watson** and **M Ryan** (HERU).

Source of Funding: University of Aberdeen and Chief Scientist Office (CSO) CORE.

PhD: Exploring the role for patients' values in health technology assessment: a mixed methods approach. (This PhD spans across both the Assessment of Technologies and the Methods of Benefit Valuation theme).

Investigators: **A Tockhorn** (PhD Student); **M Ryan** (HERU) and **G Scotland** (HERU/HSRU).

Source of Funding: ESRC Scottish Graduate School in Social Sciences (SGSSS) – Doctoral Training Centre (Health Pathway) PhD Studentship and the Chief Scientist Office (CSO) CORE.

Preferences for primary care delivery in Portugal.

Investigators: **P Viega** (University of Minho) and **V Watson, P Norwood** (HERU).

Source of Funding: Portuguese Department of Health and the Chief Scientist Office (CSO) CORE.

Task complexity and response certainty in discrete choice experiments.

Investigators: **V Watson** (HERU); **D Regier** (University of British Columbia, Canada) and **W Ungar, H Burnett** (The Hospital for Sick Kids, Toronto, Canada).

Source of Funding: Chief Scientist Office (CSO) CORE.

PROJECTS IN PROGRESS

The importance of the behavioural component in the analysis of individuals' preferences.

Investigators: **N Krucien**, **V Watson** (HERU) and **N Pelletier-Fleury** (INSERM, France).

Source of Funding: Chief Scientist Office (CSO) CORE and University of Aberdeen.

Using eye tracking methods to understand decision-making heuristics in discrete choice experiments.

Investigators: **M Ryan**, **N Krucien** (HERU) and **F Hermans** (School of Psychology, University of Aberdeen).

Source of Funding: Chief Scientist Office (CSO) CORE; University of Aberdeen.

Value transfer analysis in health care.

Investigators: **V Watson** (HERU) and **K Gerard** (University of Southampton).

Source of Funding: Chief Scientist Office (CSO) CORE.

ASSESSMENT OF TECHNOLOGIES

Evidence synthesis projects

** Point of care coagulometers (the CoaguChek XS system and the INRatio2 PT/INR monitor) for self-monitoring coagulation status in people on long term vitamin K antagonist therapy who have atrial fibrillation or heart valve disease.*

Investigators: P Sharma, M Cruickshank, C Fraser, CR Ramsay, M Brazzelli (HSRU, University of Aberdeen); C Burton (Centre of Academic Primary Care, University of Aberdeen); **G Scotland** (HERU/HSRU) and **E Tassie** (HERU) for the Aberdeen Health Technology Assessment Group.

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme and the University of Aberdeen.

Economic evaluations alongside randomised controlled trials – Centre for Health Care Randomised Controlled Trials (CHaRT)

Spontaneous Urinary Stone Passage ENabled by Drugs: use of drug therapy in the management of symptomatic stones in hospitalised adults: a multi-centre, placebo-controlled randomised trial of calcium channel blockers (nifedipine) and alpha blockers (tamsulosin) (SUSPEND).

Investigators: S McClinton, J N'Dow, G MacLennan, K Schumm, R Thomas (University of Aberdeen); J Burr (St. Andrews University) and **M Kilonzo** (HERU).

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme.

Economic Evaluations alongside randomised controlled trials – Non CHaRT

Can eliciting and addressing health-related goals improve asthma control and asthma related quality of life? Feasibility phase II randomised controlled trial of a brief intervention.

Investigators: G Hoskins, B Williams (University of Stirling); PT Donnan (University of Dundee); A Sheik, H Pinnock (University of Edinburgh); E Duncan (University of Stirling) and **M van der Pol** (HERU).

Source of Funding: Chief Scientist Office (CSO) Health Services and Population Health Research Committee and the University of Aberdeen.

Comparison of Laser, Surgery and foam Sclerotherapy (CLASS). A randomised controlled trial, with conventional surgery as a treatment for varicose veins (Five-year follow-up).

Investigators: J Brittenden, C Ramsay, M Campbell, J Norrie, S Cotton (University of Aberdeen); **G Scotland** (HERU/HSRU); J Burr (University of St. Andrews); I Chetter (Hull NHS Trust); P Bachoo (University of Aberdeen); J Earnshaw (Vascular Surgery, Gloucestershire Royal Hospital, Gloucester); B Campbell (Royal Devon and Exeter Hospital and University of Exeter Medical School); S Baker (Vascular Surgical Unit, Royal Bournemouth Hospital, Bournemouth); T Lees (Vascular Surgery, Freeman Hospital, Newcastle upon Tyne) and J Scott (Vascular Surgery, St. James University Hospital, Leeds).

Source of Funding: NIHR HTA Programme.

PROJECTS COMPLETED IN 2014

Development of practice-based, pharmacist-led management of chronic pain in primary care for evaluation by a randomised controlled trial.

Investigators: P Hannaford (Research & Knowledge Exchange, University of Aberdeen); AM Elliott, AJ Lee, MC Watson, C Bond, H Bruhn (Centre of Academic Primary Care, University of Aberdeen); BH Smith (University of Dundee); **P McNamee** (HERU) and R Holland (University of East Anglia).

Source of Funding: Medical Research Council (Strategic Grant) and the University of Aberdeen.

Projects based on observational cohorts

Engaging with Older People to develop and deliver Interventions for the self-management of Chronic pain (EOPIC).

Investigators: A Clarke (University of Northumbria); P Schofield (University of Greenwich); B Smith (University of Dundee); **P McNamee** (HERU); D Martin (Teesside University) and D Jones (University of Northumbria).

Source of Funding: Medical Research Council (Strategic Grant) and the University of Aberdeen.

Glaucoma Automated Tests Evaluation (GATE): comparative study of new imaging technologies for the diagnosis of glaucoma.

Investigators: A Azuara-Blanco (Queens University, Belfast); C Ramsay, J Cook, K McCormack (HSRU, University of Aberdeen); J Burr (University of St. Andrews); **R Hernández** (HERU); D Garway-Heath (Moorfield Eye Hospital NHS Foundation Trust); R Bourne (Hinchingbrooke Hospital/Moorfield Eye Hospital/Addenbrooke's Hospital) and M Batterbury (Royal Liverpool University Hospital).

Source of Funding: National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme and RCUK.

HEALTH BEHAVIOURS AND INEQUALITIES

Economic aspects of alcohol policy.

Investigators: **A Ludbrook** (HERU) and D Petrie (University of Melbourne).

Source of Funding: Chief Scientist Office (CSO) CORE.

** Implementation of a psychosocial programme of support and training for people with dementia and their family care givers.*

Investigators: M Milders (Heriot-Watt University); A Lorimer (NHS Grampian); S Bell (NHS Grampian) and **P McNamee** (HERU).

Source of Funding: Aberdeenshire Council/Change Fund.

PhD: An economic perspective of the social determinants of health and health inequalities in Malawi.

Investigators: **D Nkhoma** (PhD Student, HERU); **R Abul Naga** (HERU) and B Eberth (University of Newcastle upon Tyne).

Source of Funding: Wellcome Trust, the UK Department for International Development (DFID) Health Research Capacity Strengthening Initiative (HRCSI) for Malawi and the University of Aberdeen.

WORKFORCE AND ORGANISATION OF CARE

An evaluation of the effect of informal care targeting the elderly on elderly mortality.

Investigators: **Y Aoki** (HERU).

Source of Funding: University of Aberdeen.

PhD: the impact of a change in the method of funding for Christian Health Association Hospitals in Malawi on the demand for hospital services.

Investigators: **G Manthalu** (PhD Student, HERU) and **S Farrar** (HERU).

Source of Funding: Wellcome Trust, the UK Department for International Development (DFID) Health Research Capacity Strengthening Initiative (HRCSI) for Malawi and the University of Aberdeen.

Telemetric support self-monitoring of long-term conditions.

Investigators: **B McKinstry**, **W MacNee**, **A Sheikh**, **C Pagliari**, **H Pinnock**, **S Wild**, **C Sudlow** (University of Edinburgh); **P Padfield**, **J McKnight** (Lothian Health); **J Hanley** (Napier University); **S Auld** (Scottish Centre for Telehealth); **D Kelly** (NHS Lothian) and **M van der Pol** (HERU).

Source of Funding: Chief Scientist Office (CSO), NHS Applied Research Grant and the University of Aberdeen.

METHODS OF BENEFIT VALUATION

Demand revelation in a multi-attribute discrete choice task.

Investigators: **V Watson** (HERU) and **S Luchini** (GREQAM, Marseille).

Source of Funding: Chief Scientist Office (CSO) CORE.

Patients preferences for treatment of lower urinary tract symptoms: a discrete choice experiment.

Investigators: **V Watson**, **M Ryan** and **D Ikenwilo** (HERU).

Source of Funding: Astellas Pharma Europe Ltd.

Spending wisely: investigating survey mode effects in discrete choice experiment responses.

Investigators: **V Watson**, **M Ryan** (HERU) and **T Porteous** (HERU/Academic Primary Care, University of Aberdeen).

Source of Funding: Medical Research Council (Methodology Research Panel).

Refereed Journals

- Anderson, A.S., Craigie, A.M., Caswell, S., Treweek, S., Stead, M., Macleod, M., Daly, F., Belch, J., Rodger, J., Kirk, A., **Ludbrook, A.**, Rauchhaus, P., **Norwood, P.**, Thompson, J., Wardle, J. and Steele, R.J.C. (2014) 'The impact of a bodyweight and physical activity intervention (BeWEL) initiated through a national colorectal cancer screening programme: randomised controlled trial', *BMJ*, 348, g1823
- Bansback, N., Li, L., Lynd, L. and **Bryan, S.** (2014) 'Development and preliminary user testing of the DCIDA (Dynamic computer interactive decision application) for 'nudging' patients towards high quality decisions', *BMC Medical Informatics and Decision Making*, 14(1), 62.
- Bansback, N., Li, L.C., Lynd, L. and **Bryan, S.** (2014) 'Exploiting order effects to improve the quality of decisions', *Patient Education and Counseling*, 96(2), 197-203.
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- Crabb, D., Russell, R., Malik, R., Anand, N., Baker, H., Boodhna, T., Bronze, C., Fung, S., Garway-Heath, D., Glen, F., **Hernández, R.**, Kirwan, J., Lemer, C., McNaught, A. and Viswan (2014) 'Frequency of visual field testing when monitoring patients newly diagnosed with glaucoma: mixed methods and modelling', *Health Services and Delivery Research*, 2(27).
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- Hiligsmann, M., Dellaert, B., Dirksen, C., van der Weijden, T., Goemaere, S., Reginster, J.-Y., **Watson, V.** and Boonen, A. (2014) 'Patients' preferences for osteoporosis drug treatment: a discrete-choice experiment', *Arthritis Research & Therapy*, 16(1), R36.
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Other Publications

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Briefing Papers

Eberth, B., **Ludbrook, A.**, **Hernández, R.** and Gerdtham, U.-G. (Sept. 2014) *Identifying underlying causes of health inequality to inform policy.*

Norwood, P., **Scotland, G.**, Denison, F., Bhattacharya, S., Duffy, A., Mahmood, T., Morris, C., Raja, E., Norman, J. and Lee, A. (Feb. 2014) *Maternal obesity is independently associated with increased antenatal admissions and health service costs: a population based study.*

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Invited Presentations

Abul Naga, R.H. (2014) 'Joint hypotheses tests for multidimensional inequality indices with application on income and health in the context of Egypt', *Socio-economic inequality and health in the Middle East and North African countries: a multidisciplinary perspective*, Aix Marseille School of Economics – Sciences Economiques & Sociales de la Santé & Traitement de l'Information Médicale (AMSE-SESSTIM) 2nd Scientific Symposium on Health Economics, Marseille, France, 3 April 2014.

Bryan, S. (2014) 'It's time to break our addiction to technology adoption: reframing HTA as the cornerstone of resource stewardship – webinar', *Canadian Agency for Drugs and Technologies in Health (CADTH) 25th Anniversary Lecture Series*, Ottawa, Canada, 17 November 2014.

De Bont, A. and MUNROS Team (led by **Elliott, R.F.** and Bond, C.) (2014) 'Changing skill mix within teams delivering integrated health services', EU Chronic Care Summit, Brussels, 3 April 2014.

De Bont, A., Wallenburg, I. and MUNROS Team (led by **Elliott, R.F.** and Bond, C.) (2014) 'On health care reform: the iMPact on practice, oUtcomes and costs of New roles for health pROfeSSionals', Working Group on Health Workforce, Brussels, 24 November 2014.

Eberth, B. (2014) 'Health behaviours and health inequalities in Scotland', *Scottish Institute for Research in Economics (SIRE) Policy Forum on Health Inequalities*, Edinburgh, 19 June 2014.

Ryan, M. (2014) 'Future challenges in health economics', *Health Economics: Coming of Age*, London School of Hygiene & Tropical Medicine, 12 June 2014.

Watson, V. (2014) 'Eliciting preferences for (re)distribution: can or should we do it?', *dggö – Deutsche Gesellschaft für Gesundheitsökonomie, Workshop zu Verteilungsfragen in Gesundheitswesen/German Society for Health Economics, workshop on distributional issues in health care*, Hamburg Center for Health Economics, Hamburg, Germany, 22 November 2014.

Conference Presentations

Archibald, D., Bond, C. and **Elliott, R.F.** (2014) 'Identifying the drivers of new professional roles in European health systems', *Health Economics in the Age of Longevity: a Joint iHEA & ECHE Congress*, Trinity College, Dublin, 13-16 July 2014.

Banister, K., McMeekin, P., Gray, J., **Hernández, R.**, Boachie, C., Cook, C., Burr, J.M., McCormack, K., McPherson, G., Ramsay, C., Bourne, R., Garway-Heath, D., Batterbury, M. and Azuara-Blanco, A. (2014) 'Cost-effectiveness evaluation of novel care pathways in glaucoma diagnosis using imaging technologies', *11th Annual Meeting of Health Technology Assessment International Society (HTAi)*, Washington DC, USA, 15-18 June 2014.

Boyers, D., Hernández, R., Vale, L., Elders, A. and Cuthbertson, B.H. (2014) 'The value of future research to determine the cost-effectiveness of fluid loading prior to high risk major elective surgery: the use of expected value of sample information', *Society for Medical Decision Making, 15th Biennial European Meeting, Special Focus on Clinical Decision Making in the Era of Personalized Medicine*, Antwerp, Belgium, 8-10 June 2014.

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Dickey, H., **Ikenwilo, D., Norwood, P., Watson, V.** and Zangelidis, A. (2014) 'Did the Scots get it right? A natural experiment on the demand for eye care services', *Health Economics in the Age of Longevity: a Joint iHEA & ECHE Congress*, Trinity College, Dublin, 13-16 July 2014.

Eberth, B., **Pol, M. van der** and Kemenev, D. (2014) 'Quasi-hyperbolic discounting and physical activity', *Health Economics in the Age of Longevity: a Joint iHEA & ECHE Congress*, Trinity College, Dublin, 13-16 July 2014.

Eberth, B., **Pol, M. van der** and Kemenev, D. (2014) 'Time preference, quasi-hyperbolic discounting and physical activity', *Health Economists' Study Group (HESG) Meeting*, Glasgow Caledonian University, Glasgow, 23-25 June 2014.

Ejebu, O.-Z. (2014) 'Minimum Unit Pricing for alcohol and the 'moderate drinker of moderate means': an analysis of household scanner data', *Annual Scottish Faculty of Public Health Conference – Health in a changing Scotland: the ball's in our court*, Aviemore, 6 November 2014.

Elliott, R.F. (2014) 'Incentivising impact: the Research Excellence Framework in the UK, Panel Discussion: Who's afraid of financial incentives to reward impact?', *Bridging the Gap between Health Economists and Decision-Makers, Hospinnomics Launch Event*, Paris, 29-30 September 2014.

Elliott, R.F. (2014) 'MUNROS project – the iMPact on practice, oUtcomes and costs of New roles for health pROfeSSionals', *Joint Action Health Workforce Planning and Forecasting, Conference on improving planning methodologies and data across Europe*, Rome, 4 December 2014.

Goemaere, S., Dellaert, B., Dirksen, C., van der Weijden, T., Reginster, J.Y., **Watson, V.**, Boonen, A. and Hilgsmann, M. (2014) 'Patients' preferences for osteoporosis drug treatment in Belgium: a discrete choice experiment', *International Osteoporosis Foundation (IOF)/International Society for Clinical Densitometry (ISCD) Skeletal Health Meeting*, Orlando, Florida, 20-22 February 2014.

Heidenreich, S. (2014) 'Assessing the validity of responses to discrete choice experiments: a behavioural framework for attribute non-attendance', *Scottish Graduate Programme in Economics (SGPE) Residential Methodology Conference*, Crieff, 9-10 January 2014.

Heidenreich, S., Watson, V., Ryan, M. and Phimister, E. (2014) 'Can we separate decision heuristics from genuine preferences? – the effect of familiarity on attribute non-attendance (ANA) in a DCE.', *Health Economics in the Age of Longevity: a Joint iHEA & ECHE Congress*, Trinity College, Dublin, 13-16 July 2014.

Hernández, R., Vale, L., Ryan, M. and Burr, J.M. (2014) 'Incorporating results from a discrete choice experiment into a discrete event simulation model', *1st Meeting of the International Academy of Health Preference Research*, Amsterdam, 8 November 2014.

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Hoddinott, P., Morgan, H., MacLennan, G., Sewel, K., Thomson, G., Bauld, L., Yi, D., **Ludbrook, A.** and Campbell, M. (2014) 'Public acceptability of financial incentives for smoking cessation in pregnancy and breastfeeding', *Society for Research on Nicotine and Tobacco (SRNT) Europe Annual Meeting*, Santiago de Compostela, Spain, 18-20 September 2014.

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Ikenwilo, D. (2014) 'Determinants of preventive care service use in Britain', *Health Economics in the Age of Longevity: a Joint iHEA & ECHE Congress*, Trinity College, Dublin, 13-16 July 2014.

Jacquemet, N., Luchini, S., Shogren, J. and **Watson, V.** (2014) 'A discrete choice experiment under oath.', *Health Economics in the Age of Longevity: a Joint iHEA & ECHE Congress*, Trinity College, Dublin, 13-16 July 2014.

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Konstantinidou, M., Olajide, D. and **Pol, M. van der** (2014) 'The relationship between provider and patient reported quality of primary care.', *Health Economics in the Age of Longevity: a Joint iHEA & ECHE Congress*, Trinity College, Dublin, 13-16 July 2014.

Krucien, N., Ryan, M. and Hermens, F. (2014) 'Using eye-tracking methods to inform decision making processes in Discrete Choice Experiments', *Health Economists' Study Group (HESG) Meeting*, Glasgow Caledonian University, Glasgow, 23-25 June 2014.

Krucien, N., Ryan, M. and **Watson, V.** (2014) 'What can hypothetical choices tell us about unobservable behaviours? Regret minimisation, rational non-attendance and randomness in choice experiment responses', *Health Economics in the Age of Longevity: a Joint iHEA & ECHE Congress*, Trinity College, Dublin, 13-16 July 2014.

Krucien, N., Watson, V. and **Ryan, M.** (2014) 'Multi-attribute valuation: a comparison of the discrete choice experiment and best-worse scaling approaches', *Health Economists' Study Group*, Sheffield, 8-10 January 2014.

McMorrow, L., Ludbrook, A., Macdiarmid, J.I. and **Olajide, D.** (2014) 'Attitudes towards healthy eating, fruit and vegetable consumption, and health outcomes in Scotland', *Health Economists' Study Group*, Sheffield, 8-10 January 2014.

McMorrow, L., Ludbrook, A., Macdiarmid, J.I. and **Olajide, D.** (2014) 'The determinants of fruit and vegetable consumption: a focus on individual attitudes', *Health Surveys User Conference*, University College London, 15 July 2014.

McMorrow, L., Ludbrook, A., Macdiarmid, J.I. and **Olajide, D.** (2014) 'Nudging consumers towards a healthy food choice: a pilot discrete choice experiment', *Aberdeen Centre for Energy Regulation and Obesity (ACERO) Symposium*, Rowett Institute of Nutrition and Health, Aberdeen, 24 April 2014.

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McNamee, P. (2014) 'Balance of care of the elderly and healthy ageing', *HERU conference celebrating 40 Years of Health Economics at Aberdeen University: a tribute to Professor Gavin Mooney*, University of Aberdeen, 21 October 2014.

McNamee, P. and Mendolia, S. (2014) 'The effect of chronic pain on life satisfaction: evidence from Australia', *Health Economists' Study Group*, Sheffield, 8-10 January 2014.

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Olajide, D., McKenzie, L. and **Ludbrook, A.** (2014) 'The role of income status or household main-source of income in the determinants of dietary inequalities', *Health Economics in the Age of Longevity: a Joint iHEA & ECHE Congress*, Trinity College, Dublin, 13-16 July 2014.

Pol, M. van der (2014) 'Understanding inequalities: the role of time preference', *HERU conference celebrating 40 Years of Health Economics at Aberdeen University: a tribute to Professor Gavin Mooney*, University of Aberdeen, 21 October 2014.

Quayyum, Z. and **McNamee, P.** (2014) 'Inequality in utilization and incidence of benefits of free personal care in Scotland', *Health Economists' Study Group*, Sheffield, 8-10 January 2014.

Robertson, C., Avenall, A., Boachie, C., Stewart, F., Archibald, D., Douglas, F., Hoddinott, P., van Teijlingen, E. and **Boyers, D.** (2014) 'Should weight loss programmes be designed differently for men and women? The ROMEO (Review of Men and Obesity) project', *Association for the Study of Obesity, UK Congress on Obesity*, Birmingham, 16-17 September.

Ryan, M. (2014) 'Valuing the patient experience: going beyond QALYs (from vision to research to changing practice), Plenary presentation', *Scottish Primary Care Conference (NADEGS) Carnoustie*, 23-14 January 2014.

Ryan, M., Gerard, K. and Donaldson, C. (2014) 'Assessing the valuation space in Health Economics', *HERU conference celebrating 40 Years of Health Economics at Aberdeen University: a tribute to Professor Gavin Mooney*, University of Aberdeen, 21 October 2014.

Ryan, M., Krucien, N. and Hermens, F. (2014) 'Exploring decision heuristics in discrete choice experiments using eye-tracking methods', *Health Economics in the Age of Longevity: a Joint iHEA & ECHE Congress*, Trinity College, Dublin, 13-16 July 2014.

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Scotland, G. (2014) 'Future directions and challenges for assessment of technologies', *HERU conference celebrating 40 Years of Health Economics at Aberdeen University: a tribute to Professor Gavin Mooney*, University of Aberdeen, 21 October 2014.

Scotland, G. and **Bryan, S.** (2014) 'In with the old, out with the new: In search of ways to help health economists' break their addiction to technology adoption', *Health Economists' Study Group (HESG) Meeting*, Glasgow Caledonian University, 23-25 June 2014.

Scotland, G. and **Bryan, S.** (2014) 'In with the old, out with the new: In search of ways to help health economists' break their addiction to technology adoption', *Health Economics in the Age of Longevity: a Joint iHEA & ECHE Congress*, Trinity College, Dublin, 13-16 July 2014.

Watson, V. (2014) 'Survey responses: the UK mode comparison study', *Haindorf Seminar*, Hejnice, Czech Republic, 6-9 February 2014.

Watson, V. (2014) 'Using laboratory experiments to test valuation methods', *HERU conference celebrating 40 Years of Health Economics at Aberdeen University: a tribute to Professor Gavin Mooney*, University of Aberdeen, 21 October 2014.

Watson, V., De Bekker-Grob, E.W. and Becker, F. (2014) 'Discrete choice experiment response rates: a meta-analysis', *Health Economists' Study Group*, Sheffield, 8-10 January 2014.

Williams, A.J., Frank, J., Pell, J., Dibben, C., **Ludbrook, A.,** Jepson, R. and Bennie, M. (2014) 'Evaluating the impact on hospital admissions of the abolition of prescription fees in Scotland: a natural experiment', *Annual Scottish Faculty of Public Health Conference – Health in a changing Scotland: the ball's in our court*, Aviemore, 6-7 November 2014.

Seminars

De Bont, A., Wallenburg, I. and MUNROS Team (led by **Elliott, R.F.** and Bond, C.) (2014) 'On health care reform: the impact on practice, outcomes and costs of New roles for health professionals', *Zorgplatform*, Utrecht, 3 December 2014.

Ludbrook, A. (2014) 'Panel discussant. Seminar: When is it right to use incentives to change behaviour to promote health?', *Centre for the Study of Incentives in Health*, London, 22 May 2014.

McMorrow, L., Ludbrook, A., Macdiarmid, J.I. and **Olajide, D.** (2014) 'The determinants of fruit and vegetable consumption: a focus on individual attitudes', *NHS Grampian CPD Session*, Aberdeen, January 2014.

Pol, M. van der (2014) 'Geographical preference heterogeneity: a plausible hypothesis for higher levels of mortality in Glasgow?', *Institute of Health Economics and Management (IEMS) Seminars in Health and Labor Economics*, University of Lausanne, 29 October 2014.

Pol, M. van der (2014) 'Time preference, present bias and physical activity', *Health Economics Group Seminar*, University of Exeter, 9 December 2014.

Ryan, M., Krucien, N. and Hermens, F. (2014) 'Using eye-tracking to inform decision-making processes in discrete choice experiments', *External Seminar, Health Economics Unit*, University of Birmingham, 13 November 2014.

Scotland, G. (2014) 'In with the old, out with the new: In search of ways to help health economists' break their addiction to technology adoption', *Health Economics Research Centre (HERC) Seminar Series*, University of Oxford, 20 November 2014.

Workshops

Elliott, R.F. (2014) 'MUNROS: challenging terrain for economists', *Workshop to mark 60th birthday of Jan Erik Askildsen*, Department of Economics, University of Bergen, 14 November 2014.

Heidenreich, S. (2014) 'It's not what you ask, but how you ask it! Respondents' ability to reflect on their use of attribute non-attendance in a DCE', *Stirling Choice Workshop*, University of Stirling, 14 October 2014.

Hoddinott, P., Morgan, H., MacLennan, G., Sewel, K., Thomson, G., Bauld, L., Yi, D., **Ludbrook, A.** and Campbell, M.K. (2014) 'Public acceptability of financial incentives for smoking cessation in pregnancy and breastfeeding', *13th International Congress of Behavioral Medicine*, Groningen, Netherlands, 20-23 August 2014.

Ludbrook, A. (2014) 'Prompting healthy food choices: what does economics tell us?', *Promoting behaviour change in food and drink consumption and production. Identifying future priorities: what does the evidence tell us? A workshop for Scottish Government*, Edinburgh, October 2014.

Ludbrook, A., Campbell, J., Douglas, F., Michels, K., Müller, I., Furlong, B., De Craemer, M., Vuillemin, A. and Woods, C. (2014) 'Rapid review on policy monitoring and evaluation', *DEDIPAC Consortium Meeting*, Amsterdam, 15 May 2014.

Pol, M. van der (2014) 'Measuring time preferences: insights from the health context', *ESRC Behavioural Science Workshop: Preferences and Personality*, University of Stirling, 21 November 2014.

Ryan, M. (2014) 'Using stated choice surveys to value health care: current practice and future prospects', *International Workshop on Current Topics in Choice Modelling*, Choice Modelling Centre, University of Leeds, 26 June 2014.

Ryan, M., Krucien, N. and Hermens, F. (2014) 'Using eye-tracking methods to inform decision making processes in discrete choice experiments', *Stirling Choice Workshop*, University of Stirling, 14 October 2014.

Ryan, M., Watson, V., Krucien, N. and **Heidenreich, S.** (2014) 'DCE workshop. Using discrete choice experiments in Health Economics: theoretical and practical issues', *HERU Expert Discrete Choice Experiment Workshop*, Aberdeen, 19-21 November 2014.

Watson, V. (2014) 'Discrete choice experiment under oath', *Stirling Choice Workshop*, University of Stirling, 14 October 2014.

Watson, V. and **Krucien, N.** (2014) 'Willingness to pay in healthcare', Berlin Centre of Health Economics Research (BerlinHECOR) Workshop, Technische Universität Berlin 29 September 2014.

Policy Presentations

Ludbrook, A. (2014) 'Case study 2: Economic analysis of public health measures (smoking ban and minimum pricing)', *Lost in translation? Health Economics in Public Health Policy and Practice*, Health Economics Network for Scotland, Glasgow, 2 December 2014.

Pol, M. van der (2014) 'Discussant on case study 1: economic evaluation of Childsmile', *Lost in translation? Health Economics in Public Health Policy and Practice*, Health Economics Network for Scotland, Glasgow, 2 December 2014.

Pol, M. van der, Ryan, M. and **McNamee, P.** (2014) 'What can economics contribute to supported self-management?', *Workshop on self-management, Analytical Services Division, Scottish Government*, Edinburgh, 12 May 2014.

Poster Presentations

Azuara-Blanco, A., Banister, K., Boachie, C., Batterbury, M., Burr, J.M., Bourne, R., Garway-Heath, D., **Hernández, R.**, McPherson, G., Ramsay, C. and Cook, J. (2014) 'Patterns of glaucoma referrals from the community to hospital eye services in the UK. Description of participants of the GATE study', *European Glaucoma Society Annual Congress*, NICE, France, 7-11 June 2014.

Banister, K., Boachie, C., Cook, J., Batterbury, M., Burr, J.M., Bourne, R., Garway-Heath, D., **Hernández, R.**, McPherson, G., Ramsay, C. and Azuara-Blanco, A. (2014) 'The diagnostic accuracy of new imaging technologies for the diagnosis of glaucoma: results from the GATE study', *European Glaucoma Society Annual Congress*, Nice, France, 7-11 June 2014.

Beasley, M., Prescott, G., **Scotland, G.**, McBeth, J., Keeley, P., Lovell, K., Hannaford, P., **McNamee, P.**, Symmons, D.P.M., Woby, S. and Macfarlane, G. (2014) 'Long-term results from a randomised controlled trial of cognitive behaviour therapy and exercise for chronic widespread pain', *British Pain Society Annual Scientific Meeting*, Manchester, 29 April-1 May 2014.

Booroah, S., Megaw, R., Goatman, K., **Scotland, G.**, Prescott, G., Sharp, P. and Olson, J. (2014) 'Multi-centre, prospective, observational, cohort study to assess the cost-effectiveness of English, Scottish and a hybrid grading schemes for diabetic macular oedema screening: improving screening for macular oedema (ISMO) study', *Royal College of Ophthalmologists Annual Congress* Birmingham, 20-22 May 2014.

Boyers, D., Avenall, A., Stewart, F., Robertson, C., Archibald, D., Douglas, F., Hoddinott, P. and van Teijlingen, E. (2014) 'Evaluating the cost-effectiveness of interventions for the management and treatment of obesity in men – results from the ROMEO study', *Men's Health and Wellbeing: Critical Insights Conference*, Leeds, 7-8 July 2014.

Boyers, D., Avenall, A., Stewart, F., Robertson, C., Archibald, D., Douglas, F., Hoddinott, P. and van Teijlingen, E. (2014) 'A systematic review of the cost-effectiveness of non-surgical obesity interventions in men', *Association for the Study of Obesity, UK Congress on Obesity*, Birmingham, 16-17 September 2014.

Hoddinott, P., Morgan, H., Thomson, G., Crossland, N., **Farrar, S.**, Yi, D., Hislop, J., Hall Moran, V., MacLennan, G., Dombrowski, S.U., Rothnie, K., Stewart, F., Bauld, L., **Ludbrook, A.**, Dykes, F., Sniehotta, F.F., Tappin, D. and Campbell, M. (2014) 'The 'push me-pull you' of financial incentives and health inequalities: a mixed methods study investigating smoking cessation in pregnancy and breastfeeding', *Public Health Science: A National Conference Dedicated to New Research in UK Public Health*, Glasgow, 19-22 November 2014.

Ikenwilo, D., Watson, V., Chambers, C., **Heidenreich, S.**, Newman, C., Nazir, J. and **Ryan, M.** (2014) 'Men's preferences for the treatment of lower urinary tract symptoms associated with benign prostatic hyperplasia: a discrete choice experiment', *International Society for Pharmacoeconomics and Outcomes Research (ISPOR) 17th Annual European Congress*, Amsterdam, 8-12 November 2014.

Ikenwilo, D., Watson, V., Chambers, C., **Heidenreich, S.**, Newman, C., Nazir, J. and **Ryan, M.** (2014) 'A mixed-method approach to understanding men's attitudes toward the management of lower urinary tract symptoms associated with benign prostatic hyperplasia', *International Society for Pharmacoeconomics and Outcomes Research (ISPOR) 17th Annual European Congress*, Amsterdam, 8-12 November 2014.

Megaw, R., Booroah, S., Goatman, K., **Scotland, G.**, Prescott, G., Sharp, P. and Olson, J. (2014) 'The use of OCT in retinal screening: results from the Improving Screening for Macular Oedema (ISMO) Study', *Royal College of Ophthalmologists Annual Congress Birmingham*, 20-22 May 2014.

Neilson, A.R., Bruhn, H., Bond, C. and **McNamee, P.** (2014) 'Are socio-demographic variables associated with ICECAP-O values?' *3rd ICECAP Users' Group Workshop*, University of Birmingham, 27 February 2014.

Neilson, A.R., Bruhn, H., Bond, C. and **McNamee, P.** (2014) 'Are socio-demographic variables associated with ICECAP-O values?', *15th Biennial European Meeting of the Society for Medical Decision Making*, Antwerp, Belgium, 8-10 June 2014.

Norwood, P., Krucien, N., Ryan, M. and **Ludbrook, A.** (2014) 'Does calorie labelling need the green light? Findings from a discrete choice experiment', *Annual Scottish Faculty of Public Health Conference – Health in a changing Scotland: the ball's in our court*, Aviemore, 6 November 2014.

Robertson, C., Avenall, A., Stewart, F., Archibald, D., Douglas, F., Hoddinott, P., van Teijlingen, E. and **Boyers, D.** (2014) 'Should weight loss programmes be designed differently for men? A systematic review of long-term weight loss randomised controlled trials: the Romeo project', *Men's Health and Wellbeing: Critical Insights Conference*, Leeds, 7-8 July 2014.

Robertson, C., Avenall, A., Stewart, F., Archibald, D., Douglas, F., Hoddinott, P., van Teijlingen, E. and **Boyers, D.** (2014) 'A systematic review of long-term weight management randomised controlled trials for obese men: the Romeo project', *Association for the Study of Obesity, UK Congress on Obesity*, Birmingham, 16-17 September 2014.

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Rowen, D., **Ryan, M.**, Tsuchiya, A. and **Watson, V.** (2014) 'Online surveys of societal preferences – do we know what respondents are doing? A literature review', *Health Economists' Study Group (HESG) Meeting*, Glasgow Caledonian University, Glasgow, 23-25 June 2014.

Other Presentations

Ejebu, O.-Z. (2014) 'Guest on Talking Science radio programme, Station House Media Unit (shmu)', Aberdeen, 25 November 2014.

Ejebu, O.-Z. (2014) 'Minimum unit pricing (MUP) for alcohol: who are the predominant purchasers of cheap alcohol in Scotland?', *PechaKucha Aberdeen*, Belmont Filmhouse, Aberdeen, 2 December 2014.

*HERU Staff and
PhD Students*

HERU STAFF AND PhD STUDENTS

HERU Staff



Dr Ramses Abul Naga *Diplome, MSc, PhD Reader*

Ramses joined the University of Aberdeen as a Scottish Institute for Research in Economics (SIRE) Reader in October 2010. This is a joint appointment between the Business School and HERU. His research interests are centred in the areas of public economics, health economics, micro econometrics and the measurement of inequality and well-being. Ramses holds an MSc and a PhD in economics from the London School of Economics. He has held earlier appointments at the University of Lausanne and the University of Bath.



Dr Yu Aoki *BA, MA, MSc, PhD Associate Professor*

In 2012 Yu was appointed as Assistant Professor in Economics in the Business School at Aberdeen University and at HERU, and a research affiliate at the Institute for the Study of Labour (IZA). She did her MSc and PhD in Economics at the University of Warwick. She is an applied micro-econometrician working in the fields of labour and health economics. She is currently investigating the effects of (i) education on health, (ii) education on youth crimes, and (iii) early life health shocks on later health, education and labour market outcomes. She lectures on modules of the MSc Economics of Health.



Dwayne Boyers *BComm, MSc Research Fellow*

Dwayne joined HERU as a Research Assistant in October 2009 after completing an MSc in economic policy evaluation and planning (National University of Ireland, Galway). In October 2011, Dwayne took up a joint post between HERU and HSRU. Dwayne has experience of conducting Health Technology Assessments for NICE and other organizations. He has developed expertise in economic evaluations alongside RCTs and currently provides health economic support to the PROSPECT, VUE, SIMS, IQUAD and INTERVAL trials. Dwayne is undertaking a part-time PhD investigating issues in the valuation of dental health outcomes.



Dr Hanne Bruhn *MA, PhD Research Fellow*

Hanne joined the University of Aberdeen (Academic Primary Care) in February 2009 as a Research Fellow working on an MRC funded platform study looking at pharmacist prescribing for chronic pain. For two years Hanne was then based in CHaRT in the Health Services Research Unit as a Trial Manager on two surgical trials (eTHoS and UKUFF). In September 2014 Hanne took up a joint post between Academic Primary Care and HERU at the University of Aberdeen as a Research Fellow on the European Commission MUNROS project. She graduated from the University of Aberdeen with a MA in Psychology in 2001 and gained a PhD in Psychology from the University of Aberdeen in 2008.



Professor Stirling Bryan *BSc, MSc, PhD Professor of Health Economics*

Stirling is a part-time Professor of Health Economics at HERU. His PhD (Economics) was obtained from Brunel University (UK), following a Masters (Health Economics) from the University of York (UK). For over 25 years he has been a university-based practicing health economist with extensive engagement to the policy and decision making world. His career began in London (appointments at St Thomas' Hospital Medical School and then Brunel University), with subsequent positions in Birmingham (senior lecturer and then full professor at the University of Birmingham). His research track record reveals a long-standing goal of informing policy and practice, demonstrated, in part, through an extensive involvement with the UK National Institute for Health and Care Excellence (NICE). He emigrated to Canada in 2008 (Professor in University of British Columbia's School of Population & Public Health, and Director of the Centre for Clinical Epidemiology & Evaluation, Vancouver Coastal Health Research Institute) and continues a focus on policy-relevant research. His work at HERU is primarily within the Assessment of Technologies theme.



David Burns BA, PgDip, MSc Information Officer

David joined HERU in 2013 as Information Officer. He holds a Postgraduate Diploma in Library & Information Studies and an MSc in Social Research Methods. Before joining HERU he worked as Site Librarian at Scotland's Rural College in Aberdeen and prior to that he held different roles in the library sector in NHS Greater Glasgow and Clyde. He also worked as Information Officer at the National Centre for Prosthetics & Orthotics at the University of Strathclyde for two years.



Shona Christie Business Manager

Shona joined HERU in 2001 and is our Business Manager. She has worked in the University for the past 27 years and prior to her joining HERU, she worked as a Direct Cost Accountant in the College of Life Sciences and Medicine. In her current role, her areas of responsibility include the management of finance, human resources, IT, dissemination, all general administration and grant applications. Shona provides personal assistance to the Director of HERU, is a member of HERU's Executive Management Group and manages the team of support staff. Shona is also responsible for SIRE administration for the Work & Wellbeing Programme.



Dr Ourega-Zoé Ejebu MA, MSc, PhD Research Fellow

Zoé joined HERU in February 2014 after completing her PhD in Economics from the University of Aberdeen. Her PhD thesis investigated the effect of comparison income on individual debt in the UK. She is currently a Post-Doctoral Research Fellow. Zoé also holds an MSc in Financial Economics from the University of Glasgow. Zoé is currently working on HERU projects associated with the 'Health Behaviours and Inequalities' theme.



Professor Bob Elliott BA, MA, FRSE Professor of Economics

Bob joined HERU as Director in December 2001, a post he held until September 2012. He is a Fellow of the Royal Society of Edinburgh and from 2007 has been a Commissioner on the Low Pay Commission which sets the UK minimum wage. He has held visiting positions at several universities in the USA, Europe and Australia and has acted as consultant and adviser to the Police Federation, HM Treasury, the EC and OECD. He co-ordinates the EC Framework Programme 7 research project MUNROS – Health Care Reform: The iMPact on practice, oUtcomes and costs of New roles for health pROfeSsionals. He is conducting research into potentially preventable hospitalisations in conjunction with researchers in Aberdeen and the Sax Institute in Australia and into health workforce with researchers at the Melbourne Institute, Australia. He is course co-ordinator on 'The Economics of the Health Workforce' module on the MSc in Economics of Health run by HERU. Bob was a member of the sub-panel for Unit of Assessment 2, Public Health, Health Services and Primary Care in REF 2014.



Dr Shelley Farrar BA, MSc, Dip, PhD Research Fellow

Shelley joined HERU in 1991 and is currently a Research Fellow. Shelley graduated from the University of Strathclyde with a BA in Economics in 1989 and joined HERU after working at the Scottish Office as an Economic Assistant. She has since gained an MSc in Economics from Glasgow University and a PhD in Economics from the University of Aberdeen. Her research interests are primarily on the impact of incentives on the provision of health care, health care users and health behaviours. Her research focus is currently on behaviours during pregnancy, food choices and active transport.

HERU STAFF AND PhD STUDENTS



Rodolfo Hernández *Lic, MSc Research Fellow*

Rodolfo joined HERU in October 2002 after completing an MSc in health economics (University of York, UK). In addition, he has a first degree in economics (UNLP, Argentina). Between 2008 and 2013, Rodolfo was a Research Council UK Research Fellow holding a joint post between HERU and HSRU. He has been involved in a number of Health Technology Assessments for NICE and other bodies, as well as economic evaluations alongside RCTs. Rodolfo is registered for a part-time PhD looking at how to use DCE generated WTP measures within decision analytic models and is using the monitoring of individuals with ocular hypertension at risk of developing glaucoma as case study.



Alison Horne *BA Administrative Assistant*

Alison, who joined HERU in 2009, has worked in various secretarial roles within the University. In 2001 she commenced work for Estates Facilities and then went on to work for Careers & Appointments in 2002 and then Student Recruitment in 2004. She left the University in 2006 for three years where she moved to Edinburgh and worked for the NHS as an Interviewer/Analyst. Alison undertakes a wide variety of administrative tasks including grant applications, organising conferences and events. In 2014 Alison completed a BA in Business Management at Robert Gordon's University.



Dr Divine Ikenwilo *BSc, MsoSc, PhD Research Fellow*

Divine joined HERU in February 2002 as a Research Fellow. He holds a PhD in Health Economics (Aberdeen), a Master's degree in Health Economics (Cape Town), and a Bachelor's degree (Hons) in Economics (Nigeria). His main research interests are in applied health econometrics as well as the application of discrete choice experimental methods in answering questions related to the health workforce and to service delivery. Divine also has interests in the impact evaluation of government policy on the demand for health.



Lesley Innes *Secretary*

Lesley joined HERU in March 2011 as Unit Secretary and is responsible for the administration for the Postgraduate Certificate in Health Economics as well as secretarial and other administrative duties. Prior to joining HERU Lesley worked in various Local Government offices. Lesley worked at the Registrars of Births, Deaths & Marriages, as Clerical Assistant/Typist later becoming Assistant Registrar. In 2004 she joined the Education Department as a Senior School Support Assistant at Harlaw Academy and then in 2009 as School Administrator at Walker Road Primary.



Dr Mehdi Javanbakht *BSc, MSc, PhD Research Fellow*

Mehdi joined HERU in December 2013. He is a Research Fellow and is currently involved in conducting economic evaluations alongside RCTs. He was awarded his PhD at Iran University of Medical Sciences in 2013. His PhD thesis investigated the economic burden and quality of life of type 2 diabetic in Iran. Mehdi has research interests in economic evaluation, application of Bayesian methods in health economics, economic burden of disease and global health.



Mary Kilonzo *BA, MSc Research Fellow*

Mary joined HERU in 2002 as Research Fellow and contributes to the research portfolio of the Assessment of Technologies theme. She holds a BA in Economics and German Language from the University of Nairobi and an MSc in Health Economics from the University of York. Her main research interests include developing and applying economic evaluation methodology in trials and systematic reviews and the use of discrete choice experiments in health benefit measurement.



Mariza Konstantinidou *BSc, MSc* Research Assistant

Mariza joined HERU as a Research Assistant in September 2013 after completing her MSc in Economics at the University of Edinburgh (Scottish Graduate Programme in Economics). For her MSc thesis she examined the relationship between obesity and time preference in the United Kingdom using the British Household Panel Survey data. Mariza is working on a CSO funded project examining the suitability of potentially avoidable hospitalisations as indicators of the quality of primary care in Scotland.



Dr Nicolas Krucien *BSc, MSc, PhD* Research Fellow

Nicolas joined HERU as Research Fellow in November 2013. He did his MSc and PhD in Health Economics at the University of Paris 11 (France). He is an applied micro-econometrician working in the fields of choice modelling and health economics. Nicolas contributes to the 'Methods of Benefit Valuation' theme and has been involved in a number of research projects about stated preferences methods. He is currently involved in projects using an eye-tracker to investigate how participants to choice experiments process the information about medical services.



Professor Anne Ludbrook *BA, MSc* Professor of Health Economics and Health Behaviours and Inequalities Theme Leader

Anne is a graduate of the University of York. After working at Grampian Health Board, she joined HERU in 1983. Since then she has been involved in a range of research activities and in consultancy work. Her current research interests are focussed around the use of economics in health improvement, with a particular interest in alcohol, obesity and smoking. She led the review of the health and economic impacts of smoking in public places that supported the introduction of smokefree legislation in Scotland. Other recent studies have focussed on minimum unit pricing for alcohol; inequalities in the distribution of alcohol related harms; economic factors influencing food choice; and the use of incentives for quitting smoking.



Lynda McKenzie *BA, MSc* Research Fellow

Lynda first joined HERU in 1987 and holds a BA in Economics and an MSc in Transport Engineering and Operations, both from the University of Newcastle. She worked as a transport economics research officer at the University of Oxford before joining the Centre for Health Economics at the University of York as a research assistant. She worked at HERU between 1987-1989 and 1991-1992, before re-joining in 1996. Her current interests include the evaluation of interventions to improve wellbeing especially diet and physical activity post-partum, and alcohol purchases in relation to price.



Dr Debbie McLaggan *BSc, PhD* MUNROS Project Administrator

Debbie joined HERU in June 2013 as part-time Project Administrator for FP7 'MUNROS' project coordinated by Bob Elliott and Christine Bond. In her current position, she is responsible for managing, coordinating and delivering the administrative and financial functions required to deliver the MUNROS European Commission Project within the agreed timetable.

HERU STAFF AND PhD STUDENTS



Professor Paul McNamee *MA, MSc, PhD* Professor of Health Economics

Paul joined HERU in October 2002. His current research interests include the study of economic aspects of healthy ageing and social care and development of methods to design and evaluate self-management strategies in long-term conditions. Paul holds an MA Honours degree in Economics from the University of Aberdeen, an MSc in Health Economics from the University of York, and a PhD from the University of Newcastle. Prior to his present appointment, he was a Research Associate then Lecturer in Health Economics at the University of Newcastle.



Aileen Neilson *BSc, MSc* Research Fellow

Aileen joined HERU as a Research Fellow in October 2013. Aileen's role is to expand and enhance health economics research within the Institute of Applied Health Sciences (IAHS). She is working with existing members of staff within IAHS to develop new research collaborations in current areas of strength within the Institute. She has experience in conducting and managing health outcomes research and economic evaluation studies in the UK NHS setting and other European countries.



Dr Patricia Norwood *Licenciatura, MSc, PhD* Research Fellow

Patricia joined HERU as Research Fellow in 2011 and holds an honours degree in Economics from the University of Evora, an MSc in Economic Policy from the University of Minho, Portugal and she was awarded her PhD in Health Economics at the University of Aberdeen. Patricia contributes to the 'Health Behaviours and Inequalities' theme and her current research focuses on the economic analysis of lifestyle factors associated with diet and food choices.



Dr Damilola Olajide *MA, MSc, PhD* Research Fellow

Dami joined HERU as a Research Fellow in September 2006 and holds a BSc (Hons) degree in Economics from Ambrose Ali University, Ekpoma Nigeria. He was an African Graduate Fellow (1997-1999) at the American University in Cairo, where he obtained a Master's degree in Economics. He obtained a PhD degree in Economics from Monash University, Melbourne Australia. Dami specialises in econometric analysis of large, administratively linked data sets related to hospital admissions, health behaviour and quality of disease management in primary care. He undertakes micro econometric analysis of interventions to reduce health inequalities, particularly relating to the impact of individual lifestyle choices (e.g. smoking, diet, alcohol consumption, physical activity, sedentary behaviour) on health outcomes, and the contextual factors influencing these choices (e.g. education, income family, environment).



Professor Marjon van der Pol *MA, Dip, PhD* Depute Director & Director of Teaching

Marjon is the Depute Director of HERU. Marjon joined HERU as a Senior Research Fellow in May 2004. She holds a MA in Business Economics from the University of Nijmegen (Netherlands) and a PhD in Economics from the University of Aberdeen. She previously worked in HERU from 1995 to 2001 as a Research Fellow and at the University of Calgary (Canada) from 2002 to 2004 as Assistant Professor. Marjon's main research interest is in the relationship between time and risk preferences and health (behaviours). Current research focuses on the role of time preferences in the education health relationship, the role of time preference in the intergenerational transfer of health behaviours and whether differences in time and risk preferences can help explain the Glasgow effect. Marjon also conducts research into the cost-effectiveness of health interventions. Research focuses on interventions which have an important behavioural component including smoking cessation, dental care and self-management of chronic conditions. Marjon is also the director of teaching in HERU, course director of the MSc Economics of Health and the course coordinator of the health economics option on the Scottish Graduate Programme in Economics.



Professor Mandy Ryan *BA, MSc, PhD, FRSE* Director

Mandy is the Director of HERU. She joined HERU in 1987 after graduating from the University of Leicester with a BA (Hons) in Economics and the University of York with an MSc in Health Economics. In 1995 she graduated from the University of Aberdeen with a PhD in Economics concerned with the application of contingent valuation and discrete choice experiments in health economics. In 1997 Mandy was awarded a 5-year MRC Senior Fellowship to develop and apply discrete choice experiments in health care, in 2002 she was awarded a Personal Chair in Health Economics by the University of Aberdeen and in 2006 she was elected as a Fellow of the Royal Society of Edinburgh. She is currently a member of the MRC's Methodology Research Panel and Strategic Skills Panel. Mandy has worked with academics, government and the pharmaceutical industry and has published widely in the field of health economics generally, and monetary valuation more specifically. She has extensive teaching experience, and currently contributes to HERU's annual Discrete Choice Experiment Workshop and our MSc Economics of Health.



Dr Graham Scotland *BSc, MSc, PhD* Senior Research Fellow & Assessment of Technologies Theme Leader

Graham joined HERU in March 2004. He is a Senior Research Fellow and 'Assessment of Technologies' theme leader and holds a joint appointment with the Health Services Research Unit. His research interests include the use of patient level data to inform decision models and in the valuation of outcomes within economic evaluation. Graham holds a BSc Honours degree in Pharmacology from the University of Edinburgh, an MSc in Health Services and Public Health Research and a PhD in Health Economics on methods for valuing outcomes in economic evaluation in the field of reproductive health care from the University of Aberdeen. His MSc dissertation was a systematic review of studies assessing the costs and consequences of interventions to reduce mother-to-child HIV transmission. On completion of his MSc in 2001, Graham worked at the Dugald Baird Centre for Research in Women's Health, University of Aberdeen, where he undertook research into economic aspects of maternal health care provision in developing countries.



Dr Diane Skåtun *MA, MSc, PhD* Senior Research Fellow & Workforce and Organisation of Care Theme Leader

Diane is theme leader for 'Workforce and Organisation of Care'. Her current work focuses on health care personnel and how financial and non-financial incentives influence the behaviour of the health care workforce. Diane graduated with an MA (Hons) in Political Economy from the University of Glasgow and then joined the Scottish Doctoral Programme in Economics and gained an MSc in Economics. She continued on the Scottish Doctoral Programme and graduated from the University of Aberdeen with a PhD entitled "Econometric Bias and the Estimation of Male-Female Wage Differentials".



Chris Spoor *MSc, Dip. Ed., BSc* Senior Teaching Fellow

Chris is a Tutor on HERU's Postgraduate Certificate in Health Economics – by Distance Learning. He graduated with a BSc in Economics from the University of Edinburgh, and also holds a Diploma in Education from the University of Aberdeen and an MSc in Health Technology Assessment from the University of Sheffield. He has held full or part time roles at HERU since the 1980s, when he first taught on and managed the certificate course, and is currently Part time Senior Teaching Fellow.

Chris has taught courses in economics or health economics at the universities of Maryland, Aberdeen, Dundee and Leeds, and is currently Principal Lecturer in Economics at Leeds Beckett University. Research interests include evaluation of complex interventions, health labour markets and the role of incentives in health professionals' decision making.

HERU STAFF AND PhD STUDENTS



Emma Tassie BA, MSc Research Assistant

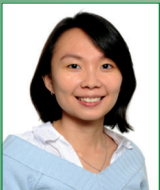
Emma joined HERU as a Research Assistant in January 2012 after completing an MSc in Health Economics (University College Cork, Ireland). Emma is currently involved in conducting economic evaluations alongside randomised controlled trials (HTA) and developing health economic models to accompany systematic reviews, conducted as part of the technology appraisal review (TAR). For her MSc thesis she conducted a preliminary cost-effectiveness analysis on the randomised controlled trial *Saving and Empowering Young Lives in Europe (SEYLE)*.



Dr Verity Watson MA, MSc, PhD Senior Research Fellow & Methods of Benefit Valuation Theme Leader

Verity joined HERU in January 2002 and has a PhD in Economics from University of Aberdeen. Verity is the 'Methods of Benefit' theme leader and her research interests include the valuation of non-market goods and experimental economics. In particular, how individuals complete hypothetical choice tasks. Verity is investigating this using field and laboratory experiments. Verity has applied stated preference methods to value the health and non-health benefits of new drug treatments, proposed screening tests, and the provision of health care services. In doing so, Verity has worked with academics from a number of different disciplines, the government and the pharmaceutical industry.

PhD Students



Gin Nie Chua MPharm, MPharm (Clinical)

Gin Nie joined HERU in October 2013 and began her PhD, entitled '*Assessment of the external validity of discrete choice experiments: an application in pharmacy*' under the joint supervision of Professor Mandy Ryan, Professor Christine Bond and Dr Terry Porteous. She was awarded a PhD scholarship by the Commonwealth Scholarship Commission, United Kingdom.



Laura Dysart BSc, MSc

Laura is studying for a PhD in Health Economics under the joint supervision of Professor Paul McNamee and Professor Marjon van der Pol. The focus of her doctoral research is the *role of time and risk preference on self-management for long-term conditions*. She was awarded a PhD studentship by HERU. Laura holds a Masters in Health Economics from the University of York and a Masters in Health Research Methodology from McMaster University.



Sebastian Heidenreich BSc, MSc

Sebastian started his PhD with the topic '*Empirical analysis of decision heuristics in stated preference methods*' at the beginning of October 2012 after graduating with an MSc in Economics from the University of Edinburgh (Scottish Graduate Programme in Economics). His research is funded by the Institute of Applied Health Science (IAHS) PhD Studentship, and is jointly supervised by Professor Mandy Ryan (HERU), Dr Verity Watson (HERU) and Professor Euan Phimister (University of Aberdeen, Business School). Sebastian is interested in applied econometrics, stated preference methods, non-market valuation and health economics in general. From 2013 Sebastian has also taught time series analysis at Nuertingen-Geislingen University.



Alastair Irvine MA, MSc

Alastair began his PhD at HERU in October 2014 on the topic '*time and risk preferences*', funded by the Institute of Applied Health Sciences PhD Studentship. He is being supervised by Prof. Marjon van der Pol and Prof. Euan Phimister. The research will explore patient and practitioner time preferences and how these interact. He completed his MSc in Economics at the University of Edinburgh as part of the Scottish Graduate Programme in Economics in August 2014, with a dissertation comparing linear and non-linear forecasting sponsored by the Scottish Government. Prior to this, he gained his MA(Hons) in Economics at the University of St Andrews, graduating with a First in June 2012.



Liam McMorrow BA, H.dip, MSc

Liam began his PhD, titled '*Economic aspects of food choice and its association with health inequalities in Scotland and the UK*', which will last 42 months, in October 2012. He has been awarded a PhD studentship by the Rowett Institute of Nutrition and Health (RINH), which is supervised by Professor Anne Ludbrook, Dr Jennie MacDiarmid, and Dr Dami Olajide.



Antje Tockhorn BSc, MSc

Antje began her part-time PhD with the topic '*Patient preferences in Health Technology Assessment*' at the beginning of October 2012. Her research is supported by the Economic and Social Research Council, Scottish Graduate School in Social Science Doctoral Training Grant and is supervised by Professor Mandy Ryan and Dr Graham Scotland.

HERU Honorary Staff

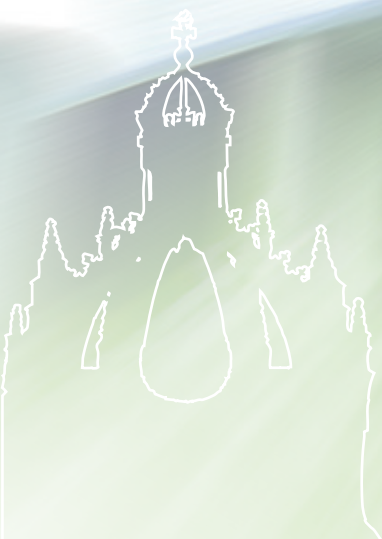
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ANNUAL REPORT 2014

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