

# CHEME

Centre for Health  
Economics and  
Medicines Evaluation



PRIFYSGOL  
**BANGOR**  
UNIVERSITY

## WINTER 2015

### INSIDE THIS ISSUE...

### Research Excellence

Welcome to the CHEME newsletter and we start the year with the results of the Research Excellence Framework 2014. CHEME contributed to the University's UoA 3 submission, which was the highest ranked unit of assessment in Bangor University, with 95% of outputs being world leading and internationally excellent. Based on research outputs, we were rated 3rd out of 94 institutions across the UK.

In this issue, we focus on key achievements and research activities at CHEME during the second half of 2014. Highlights include the Welsh Health Economists Group (WHEG) conference and its theme of a tribute to Prof. David Cohen (University of South Wales) director of the Health Economics and Policy Research Unit who retired in October and a spotlight on the ABC project.

More information on research, teaching and NHS support activities is available from our website: [cheme.bangor.ac.uk](http://cheme.bangor.ac.uk) or contact our administrator Ann Lawton: [cheme@bangor.ac.uk](mailto:cheme@bangor.ac.uk). Follow us on Twitter @CHEMEBangor and @ProfRTEdwards.

**Dyfrig Hughes & Rhiannon Tudor Edwards**

CHEME CO-DIRECTORS

Spotlight on research  
Spotlight on conferences  
Upcoming events  
New Funding  
Staff news  
Recent publications



Prof. David Cohen, Director of the Health Economics and Policy Research Unit at the November WHEG conference held in his honour

## SPOTLIGHT ON RESEARCH...

### Ascertaining Barriers for Compliance (ABC project)

Working with European partners, CHEME recently completed this European FP7-funded project which aimed to produce evidence-based policy recommendations for improving medication adherence.

Medication non-adherence is a global issue of major public health concern and is especially relevant to European Union countries, where access to healthcare services is good and their utilisation is high. Research results clearly point at non-adherence as a major barrier to realise the benefits of evidence-based treatments. The lower the adherence, the poorer the outcomes, and the less cost-effective treatments become. Furthermore, non-adherence is accompanied with increased health services utilisation, and increased healthcare expenditures.

CHEME's latest findings of the ABC Project have been accepted for publication in Value in Health. In

these latest studies we aimed to identify determinants of medication non-adherence in hypertensive patients from Austria, Belgium, England, Germany, Greece, Hungary, Netherlands, Poland and Wales. 2595 patients completed a questionnaire. The percentage of patients classed as non-adherent ranged from 24% in the Netherlands to 70% in Hungary. We found that patients' adherence is influenced primarily by their self-efficacy, illness beliefs and perceived barriers, and suggest that these should be targets for interventions for improving adherence.

### Social return on investment (SROI) analysis of an art group for people with dementia

Social Return on Investment (SROI) analysis is similar to cost-benefit analysis in that inputs and outputs are converted into a monetary value; additionally, SROI attempts to capture the social value generated and move towards

broader economic evaluation in interventions that aim to have a wider effect on wellbeing than on health alone. Used in the education and non-profit sectors, SROI is still relatively unused for the evaluation of health and social care interventions, partly because the valuation of outputs can be subjective.

As part of the Dementia and Imagination Project, people with dementia will attend weekly art sessions for 3 months. Gill Windle is the PI for the study which can be found on the link: <http://dementiaandimagination.org.uk/>. An uncontrolled, cohort study design is being used. There will be three settings: the community, residential care homes, and inpatient assessment units. Participants will be interviewed at baseline, 3 months, and 6 months. SROI analysis involves six steps: (i) establishing scope and identifying stakeholders, (ii) mapping outcomes, (iii) evidencing and valuing outcomes, (iv) establishing impact, (v) calculating the SROI, and (vi) reporting it as a ratio of £X of social value generated for every £1 invested.

The primary indicator for participant wellbeing is a patient reported outcome measure designed to assess health-related quality of life for people with dementia (DEMQOL). Staff attitudes will be measured with the Approaches to Dementia Questionnaire. Semi-structured interviews will be conducted with participants, families, and staff involved with the project to capture broader outcomes. In line with NICE Centre for Public Health Excellence guidance, CHEME is increasingly using cost-benefit analysis, SROI and cost-consequence analysis to capture the wider benefits across different sectors from resources used in Public Health and Social Care interventions.



Members of the Dementia and imagination Research Team.



## SPOTLIGHT ON CONFERENCES...

### WHEG 26th-27th Nov. 2014

The Welsh Health Economists Group (WHEG) met for their 28th meeting at Miskin Manor, Llantrisant and celebrated the career and achievements of Prof. David Cohen, the first Prof. of Health Economics in Wales, and Director of HEPRU, University of South Wales.

CHEME's Rhiannon Edwards gave a presentation on David's illustrious career including how he has acted as specialist adviser to the World Health Organisation and to the House of Commons Select Committee on Welsh Affairs. Mention was also made of David's membership of many research funding organisations including the Medical Research Council's Health Service and Public Health Research Board and both the NIHR Health Technology Assessment and Service Delivery and Organisation national programmes.

David Cohen gave his swan song presentation entitled: *On Bedbugs, Handymen and Cancer Drugs Funds: Reflections on 35 years as Health Economist*. In it he described how his main message is that since NHS resources will always be scarce, it is essential to gain evidence of cost effectiveness



Ned Hartfiel presenting on an investment analysis of yoga for preventing back pain at the Winter WHEG Conference.

as well as clinical effectiveness if we want to get the best value for money from the NHS budget. In his talk, David argued against the common misconception that health economics is unethical because it is about saving money. He argued that this view is wholly unjustified as it is based on an incorrect premise: economics is about spending money – not saving it. Spending the NHS budget inefficiently means denying patients the health benefits they could have had if we had been more efficient. There is nothing unethical about that.

A number of talks were given by members of CHEME. Jo Charles and Elin Owen presented their work on their SeeAbility SROI analysis of vision testing in schools. Colin Ridyard gave an introduction to the CATCH Trial and an insight into the datasets used in the cost-effectiveness analysis. Ned Hartfiel presented the results of his thesis in a talk entitled: *cost-effectiveness and return on investment analysis of yoga for preventing back pain among NHS employees: results of a randomised controlled trial*.

### N Wales Medicines Research Symposium 4th Sept. 2014

Prof. Dyfrig Hughes hosted the second NWMRS at the Kinmel Hotel, Abergele. The well-attended event was sponsored by Bangor University, Gogledd Cymru North Local Practice Forum of the Royal Pharmaceutical Society and Betsi Cadwaladr University Health Board. Prof. Phil Routledge OBE, Professor of Clinical Pharmacology at Cardiff University was the keynote speaker. His presentation 'From science to systems in optimising the use of medicines' described the evolution of the clinical use of warfarin and the development of individual patient assessment in use today. From CHEME, Dr Catrin Plumpton presented an economic analysis of the potential cost-savings through



Prof. Ceri Phillips, David Cohen and Rhiannon Edwards at the Winter WHEG Conference

use of generic substitution in epilepsy, and Prof. Dyfrig Hughes described the 'FolATED' study, a placebo-controlled randomised controlled trial of folate augmentation of antidepressant therapy. Full details on the event can be found at: <http://cheme.bangor.ac.uk/NWMedSymp2014.php.en>

### ESPACOMP 20<sup>th</sup> – 22<sup>nd</sup> November 2014

Prof. Dyfrig Hughes of CHEME gave a talk on the economic evaluation of adherence enhancing interventions for antiepileptic drugs at the 18th Annual ESPACOMP Meeting held in Lausanne, Switzerland. This work was undertaken as part of the NIHR Cochrane Programme Grant Scheme, working alongside the Cochrane Epilepsy group to develop economic models based on Cochrane reviews and protocols.

### Additional conferences attended

Carys Jones attended the Interdisciplinary Summer School held at TU, Dresden, September 21-26. The focus of the conference was on the link between technology and healthcare, and Carys presented a poster on the use of technology in the ENGAGE-HD project.

Nathan Bray, Jo Charles and Carys Jones presented posters at the Public Health Science conference, Glasgow, November 19th.



## Upcoming Events

Health Economics for Public Health Practice & Research 2 Day Short Course at Bangor University 23rd—25th March 2015. The course costs £750 and includes meals & accommodation from 4pm Monday 23rd March to 2.45pm Wednesday 25th March at the Management Centre, Bangor. Registration closes 28<sup>th</sup> February 2015. There are still a few places available. To register and pay, please contact: Mrs Ann Lawton at [cheme@bangor.ac.uk](mailto:cheme@bangor.ac.uk)

### Seminar series

We are delighted to announce a number of lunchtime seminars starting in Spring 2015 at Arudwy.

- 1) Tuesday 3rd March - Prof. Mark Bellis, Director of Policy, Research and Development, Public Health Wales.
- 2) Tuesday 14th April – Dr Louise Longworth, Reader in Health Economics, Brunel University.
- 3) Tuesday 5th May – Dr Emma Frew, Senior Lecturer in Health Economics, Birmingham University.
- 4) Tuesday 2nd June – Dr Martin Duerden FRCGP, Clinical Adviser to RCGP on Prescribing.

### New Funding

We are delighted that NISCHR, on behalf of the Welsh Government, has recommissioned the Welsh Health Economics Support Service (WHESS) at an all-Wales level to provide Health Economics support to the three clinical trials units and continue developing a collaborative critical mass of Health Economics expertise across Wales. Prof. Rhianon Tudor Edwards has taken over from Prof. David Cohen as Director of WHESS. WHESS has been awarded £1.2 million over three years.

### Staff News

A warm welcome to Siobhan Bourke, Beth Thompson and Eira Winrow who have joined CHEME as PhD students.

A warm welcome also to Prof. Mark Bellis who has joined CHEME from Public Health Wales, an organisation we have had a long standing relationship with for nearly 20 years - Mark was a contributing author to a recent Lancet paper on addressing liver disease in the UK; Giovanna Culeddu, who is initially working on the health economics of the use of

ferrous iron salts in primary care in the UK; and Dr Elin Haf Davies, who recently joined CHEME as Research Fellow. She is working on an Arthritis-UK funded trial to assess the effectiveness of mycophenolate in treating polyarteritis nodosa in children.

Congratulations to Dr Martin Duerden who was recently awarded Fellow of the Royal College of General Practitioners, and to Dr Zoe Philips who has been appointed an honorary Research Fellow in pharmacoeconomics in recognition of her significant contribution to the work of CHEME.

### Recent Publications

Williams R, Aspinall R, Bellis M, Camps-Walsh G, Cramp M, Dhawan A, Ferguson J, Forton D, Foster G, Gilmore I, Hickman M, Hudson M, Kelly D, Langford A, Lombard M, Longworth L, Martin N, Moriarty K, Newsome P, O'Grady J, Pryke R, Rutter H, Ryder S, Sheron N, Smith T. Addressing liver disease in the UK: a blueprint for attaining excellence in health care and reducing premature mortality from lifestyle issues of excess consumption of alcohol, obesity, and viral hepatitis. *The Lancet* 2014; 384 (9958): p1953–1997. doi: 10.1016/S0140-6736(14)61838-9

Busse M, Quinn L, Dawes H, Jones C, Kelson M, Poile V, Trubey R, Townson J, Edwards RT, Rosser A and Hood K. Supporting Physical Activity Engagement in People with Huntington's disease (ENGAGE-HD) - Protocol for a Phase II Trial, *Trials*, 15:487 doi:10.1186/1745-6215-15-487

Hind D, Mountain G, Gossage-Worrall R, Walters SJ, Duncan R, Newbould L, Rex S, Jones C, Bowling A, Cattam M, Cairns A, Cooper C, Goyder E, Edwards RT. Putting Life in Years (PLINY): a randomised controlled trial and mixed-methods process evaluation of a telephone friendship intervention to improve mental well-being in independently living older people. *Public Health Res.* 2014;2(7): p1-222. doi: 10.3310/phr02070

Edwards R, Charles J, Thomas S, Bishop J, Cohen D, Groves S, Humphreys C, Howson H and Bradley P. A national Programme Budgeting and Marginal Analysis (PBMA) of health improvement spending across wales: disinvestment and reinvestment across

the life course. *BMC public health* 2014; 14(1): p. 837. doi: 10.1186/1471-2458-14-837

Orgeta V, Edwards R, Hounscome B, Orrell M and Woods B. The use of the EQ-5D as a measure of health-related quality of life in people with dementia and their carers. *Quality of Life Research*; August 2014: p. 1-10. doi: 10.1007/s11136-014-0770-0

Davies, R, Lloyd-Williams, H, "An Investigation of the Potential for Wales -level Analysis of the British Household Panel Survey and Understanding Society: An Illustrative Analysis of Poverty Dynamics in Wales", Welsh Government Social Research 2014.

Holmes EA, Hughes DA, Morrison VL. Predicting Adherence to Medications Using Health Psychology Theories: A Systematic Review of 20 Years of Empirical Research. *Value Health*. 2014 Dec;17(8):863-876.

Plumpton CO, Yip VLM, Alfirevic A, Marson AG, Pirmohamed M, Hughes DA. Cost effectiveness of screening for HLA-A\*31:01 prior to initiation of carbamazepine in epilepsy. *Epilepsia* 2015

Morrison VL, Holmes EAF, Parveen S, Plumpton CO, Clyne W, De Geest S, Dobbels F, Vrijens B, Kardas P, Hughes DA. Predictors of self-reported adherence to antihypertensive medicines: A multi-national, cross-sectional survey. *Value in Health* 2015; DOI: 10.1016/j.jval.2014.12.013

Roberts E, Dawoud DD, Hughes DA, Cefai C. Evaluation of a Consultant Audit and Feedback Programme to Improve the Quality of Antimicrobial Prescribing in Acute Medical Admissions. *Int J Pharm Pract.* 2015

Parham P, Hughes D. Climatic influences on the cost-effectiveness of vector-based interventions against malaria in elimination scenarios. *Philosophical Transactions B.* 2015

### DIRUM

DIRUM is an open-access database of resource-use questionnaires and methodological papers for use by health economists involved in trial-based economic evaluations. Funded by the Medical Research Council Network of Hubs for Trial Methodology Research, the database can be found on the link: <http://www.dirum.org/>

### How to find us

CHEME is based on the Normal Site situated between Bangor and the Isle of Anglesey along the A5

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