

WELCOME TO OUR SUMMER 2021 NEWSLETTER

Welcome to the Summer 2021 newsletter of the Centre for Health Economics and Medicines Evaluation (CHEME).

These are still challenging times as we emerge from a pandemic. At CHEME, we have continued our research activities, developed new projects in response to COVID-19, and are looking to research opportunities post-pandemic.

We are very pleased that our School of Health Sciences was recently awarded the Athena SWAN Bronze Award, in recognition for its solid foundation for eliminating gender bias and developing an inclusive culture that values all staff.

To keep up-to-date with our news and activities, follow us on Twitter @CHEMEBangor

Professors Rhiannon Tudor Edwards & Dyfrig Hughes
CHEME co-directors



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NEW RESEARCH

Helping to Alleviate the Longer-term consequences of COVID-19 (HEAL-COVID)

CHEME is collaborating on the National Institute for Health Research –funded, £3.6m HEAL-COVID platform trial, led by Dr Charlotte Summers, from the University of Cambridge. The HEAL-COVID trial aims to provide reliable evidence on the efficacy and cost-effectiveness of post-hospitalisation treatments to improve clinical outcomes from COVID-19. The first two medicines tested are apixaban and atorvastatin.

CHEME staff, as part of Health and Care Economics Cymru, join the Wales COVID-19 Evidence Centre

Welsh Government have funded the Wales COVID-19 Evidence Centre and have drawn partners from Health Technology Wales, SAIL database, Specialist Unit for Review Evidence, and the Joanna Briggs Foundation. CHEME staff at Bangor University, as part of Health and Care Economics Cymru, are contributing rapid reviews, particularly with a health economics focus, to support policy questions set by Welsh Government on COVID-19 and the aftermath of the pandemic.

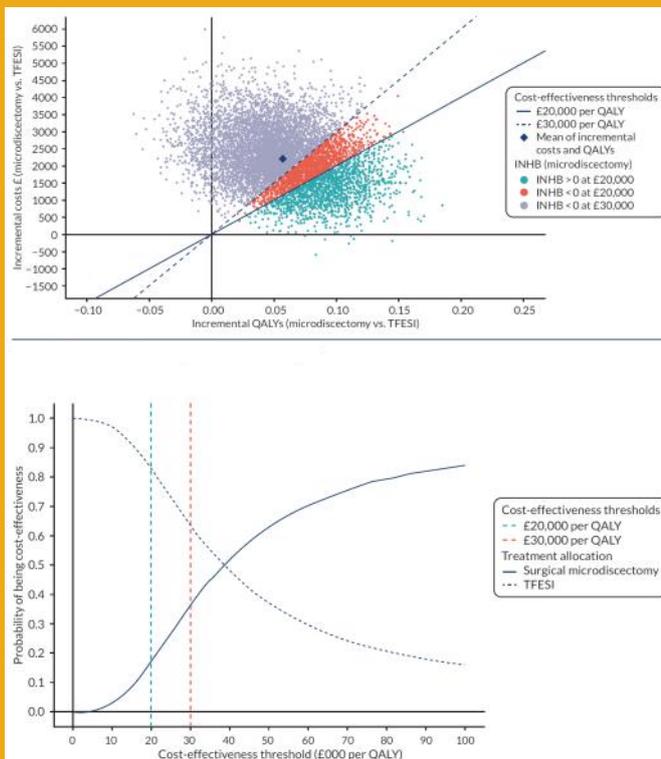
Cost-effectiveness of treatments in neurological diseases

The Standard and New Antiepileptic Drugs (SANAD II) trials, led by Professor Tony Marson of the University of Liverpool, compared a range of antiepileptic drugs for how well they control seizures, their general tolerability and their cost-effectiveness, to assess whether newer drugs should be recommended as first-line treatments. This involved 1,510 participants, who were followed-up for up to six years.

The findings, published in *The Lancet*, conclude that valproate is still the best first choice for generalised epilepsy, while lamotrigine remains the best first-line drug for focal epilepsy. Dr Catrin Plumpton and Professor Dyfrig Hughes assessed the cost-effectiveness of each treatment, and calculated that for generalised epilepsy, valproate was more effective and less expensive overall compared to levetiracetam. For patients with focal epilepsy, lamotrigine was cost-effective compared with levetiracetam and zonisamide.

The NERVES clinical trial, led by Dr Martin Wilby at the Walton Neurological Centre, compared the clinical and cost-effectiveness of surgery (microdiscectomy) with a steroid injection (TFESI) – administered into the lower back, between the spine and spinal cord – in patients with sciatica caused by a ‘slipped disc’. 163 patients were recruited between 2015 and 2017. The results, published in *Lancet Rheumatology*, indicated that while there was no significant differences in clinical outcomes, surgery was unlikely to be a cost-effective alternative to steroid injection (figure, below). Eifiona Wood, Dr Dan Hill-McManus and Professor Dyfrig Hughes estimated that the cost-effectiveness ratio exceeded the threshold applied by NICE when judging the value of healthcare interventions.

The results of these trials are expected to influence the future care of patients with epilepsy and how sciatica is managed in hospital settings. The SANAD II and NERVES trials were funded by the NIHR HTA Programme.



MYPAN trial

Professor Dyfrig Hughes and Miss Giovanna Culeddu worked as part of the MYPAN study to investigate the cost-effectiveness of mycophenolate mofetil (MMF) versus cyclophosphamide (CYC) for induction of remission of childhood polyarteritis nodosa (PAN). PAN is an extremely rare disease, therefore the trial adopted a Bayesian non-inferiority design which required the recruitment and follow up of 40 participants. Results showed that MMF was dominated being more costly and less effective than CYC, however there is evidence that MMF might provide benefits that were not sufficiently captured in the quality-adjusted life year measurements.

ONGOING RESEARCH

Economics of supporting carers of people living with dementia

CHEME is leading the economic evaluations of two projects related to dementia and caring that have recently started. Dr Gill Toms, Dr Diane Seddon, Professor Rhiannon Tudor Edwards and Dr Carys Jones have secured funding from Health and Care Research Wales to explore an alternative to day centre support for people living with dementia and their families ('Short breaks for people living with dementia and their carers: exploring wellbeing outcomes and informing future practice development through a Social Return on Investment approach'). The two year study will involve a rapid review, development of a logic model, and a Social Return on Investment analysis. A three-year NIHR funded study ('iSupport: A randomised controlled trial and feasibility study of the effects of an e-health intervention 'iSupport' for reducing distress of dementia carers, especially in the ongoing pandemic of COVID-19') led by Professor Gill Windle began in January 2021. The study will examine the effectiveness and cost-effectiveness of an online training and support programme for carers of people living with dementia, as well as exploring the potential of adapting the programme for use by carers under the age of 18.

NEW FUNDED RESEARCH

Dyfrig Hughes was awarded funding via the Welsh Health Specialised Services Committee (WHSSC) to develop a commissioning framework for genetics services for Wales. This is in collaboration with Dr Sian Morgan of the All Wales Genetics Laboratory and Stuart Davies, WHSSC Director of Finance, and with Dr Pippa Anderson, from CHEME leading on the research.

This follows existing research into pharmacogenetic services, including *DPYD* testing for patients eligible for fluoropyrimidine chemotherapy (with Dr Catrin Plumpton), and in the field of implementation science, led by Megan Fealey, who is undertaking an MSc at Bangor University while also being Lead Genetic Technologist at the All Wales Medical Genomics Service.

NEW FUNDED RESEARCH

Professor Rhiannon Tudor Edwards is lead health economist on the Ways to Well-being study, funded by NIHR, led by the University of Liverpool. Individuals who face financial difficulties are at risk of poor health. This contributes to the stark inequalities in health between social groups in the UK. Risks of poverty have increased during the pandemic, potentially exacerbating inequalities. The health and social care system is seeking to integrate anti-poverty measures into services to reduce health inequalities, however there is insufficient evidence to indicate the most effective approaches. The Ways to Well-being study will evaluate a programme to provide advice and support to reduce financial insecurity to people using a wide range of health services across the North West.

Dr Mary Lynch (Lead Investigator), Dr Ned Hartfiel, Eira Winrow, and Professor Rhiannon Tudor Edwards, in partnership with Cardiff University, recently secured funding from the Accelerate Programme for a new project—Social return on investment of EmotionMind Dynamic: an online life-coaching tool for mental wellbeing and personal empowerment.

PRESENTATIONS

Dr Emily Holmes was invited to present her work on older peoples' preferences for dental care at the 3rd International Gerodontology Symposium, broadcast from Bern Switzerland. Alongside Professor Paul Brocklehurst, Emily presented the results of a recent European analysis and contributed to the panel discussion on patient perspectives.

Emily was invited to present a virtual seminar at Cardiff School of Pharmacy and Pharmaceutical Sciences. The seminar focused on the Economics of Rapid Diagnostics to Reduce Antibiotic Prescribing in NHS Wales (TRaDe).

Emily had a poster presentation at the UK Health Economists Study Group meeting discussing her research with Dyfrig Hughes on "Valuing Preferences for Antibiotic Use."

UPCOMING CHEME LEARNING SETS

5 July: Dr Brendan Collins (Welsh Government) - Is mass testing for covid-19 cost effective? Example from Merthyr Tydfil.

ABOUT PEOPLE

Huw Lloyd-Williams will be re-joining CHEME as a Research Officer investigating the cost effectiveness of an electronic patient monitoring system.



HUW



PIPPA

Dr Pippa Anderson has joined CHEME as a Senior Research Fellow in Health Economics, working on a project to develop a commissioning framework for genetics services for Wales.

Wil Hardy has joined CHEME as a Research Officer in Health Technology Assessment. His project concerns methods used to extrapolate treatment benefit and survival with Advanced Therapy Medicinal Products (ATMPs).



WILL

Dr Dan Hill-McManus will soon be leaving us to work for PRMA Consulting Ltd. CHEME appreciate Dan's contributions to methodological development in economic evaluation, and wish him well in his new post.

Congratulations to Alan Moore on passing his PhD viva. Alan's thesis is entitled 'Health Economics of Motor Neurone Disease: Evidence for health technology assessment'. Professor Dyfrig Hughes and Professor Carolyn Young (Walton Centre) were his supervisors. Thank you to the Motor Neurone Disease Association for funding.

Congratulations to Nicole Hughes, who was awarded her PhD recently. Nicole's thesis is entitled 'Social Return on Investment: Exploring the value of adult hospice services in North Wales'. Nicole was supervised by Professor Jane Noyes (School of Health Sciences) and Dr Carys Jones (CHEME).

Congratulations Dr Nathan Bray who has been appointed to Senior Lecturer in Preventative Health (ALPHAcademy Lead). Focused on prevention, Nathan will lead a portfolio of education and development opportunities for aspiring leaders across sectors and services. Bangor is now part of a network of Welsh Government funded Intensive Learning Academies.

Congratulations to Alex Torbuck from the University of York who achieved a distinction in his MSc dissertation whilst on virtual placement at CHEME, supervised by Professor Rhiannon Tudor Edwards. Alex's dissertation involved a review of health economic literature on youth mental health during the pandemic. Alex has recently secured a fully-funded 5-year PhD studentship in the School of Medicine and Dentistry, University of Rochester, New York.

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