

HEB Newsletter

Health Economics Bristol (HEB)



HEB members have been taking part in a 'life in lockdown' charity photograph competition, to raise money for Children in Need and Comic Relief's work helping vulnerable people affected by COVID-19. The winning entry, voted on by all HEB staff, was by **Joel Glynn**. Joel's photograph, featured here, was titled 'making new friends in lockdown'. We are delighted that HEB managed to raise a total of £420 from this competition.



Hello and welcome to the Summer 2020 edition of the HEB newsletter; a summer like no other. HEB staff have been learning new skills including online teaching; zoom meeting etiquette; improvising home offices; and fortitude in the face of lousy internet connections. Our lockdown competition (see above) has revealed previously hidden artistic flair. Joel's touching portrait beat off stiff competition featuring lockdown pets, bakes, crafts and home 'schooling'.

The huge impact of COVID-19 has emphasized the delicate balance that health economists explore between health, the economy and protecting the most vulnerable members of society. In this issue we highlight work by the health economics team in NIHR ARC West to help policy makers respond appropriately to the emerging pandemic. At the other end of the virus lifecourse we also feature work in Hepatitis C where advances in testing and treatment offer the potential to eliminate the virus as a public health threat. We welcome new staff members and look forward to a time when we can greet them in person. We also take time to catch up with fellowship work exploring access to specialist weight management and bariatric surgery (Karen Coulman) and methods to improve causal inference in health economics (Padraig Dixon).

I hope that you enjoy reading this update from our research group.

Will Hollingworth, Director of HEB

HEB News

ARC COVID-19 rapid research support

HEB members are contributing to an NIHR ARC West-led initiative to support the strategic response to COVID-19 and inform decision-making. Researchers from across the region's universities and [NIHR infrastructure](#) have volunteered to do [rapid evidence reviews](#) and analysis of routine data to help address COVID-19-related questions.

Carlos Sillero-Rejón and **Tim Jones** completed two reviews with Hugo Pedder, exploring the [impact of doctor and nurse absenteeism in primary and community care](#) and [investigating patient responses to text messaging in primary care](#). **Howard Thom** and Jess Watson identified [appropriate timing to implement hot and cold sites in primary care](#) (i.e. Sites for patients with or without suspected virus).

Whilst not full systematic reviews, the reviews balance scientific rigour with speed to supply decision-makers with available evidence to inform rapid action. Current questions are being addressed by **Carlos**, **Tim** and **Hugh McLeod**, and while the questions originate locally, the published work is being welcomed nationally: see <https://arc-w.nihr.ac.uk/research-and-implementation/covid-19-response/>.



Carlos Sillero-Rejón



Tim Jones



Howard Thom



Hugh McLeod

HepCATT study

We have evaluated interventions to increase testing and treatment for Hepatitis C virus (HCV). HCV infection can be cured in >95% of patients with direct acting antiviral drugs, but case finding among people who inject drugs (PWID) is challenging. In a [randomised trial](#), we evaluated an intervention including GP staff education and an electronic algorithm to flag patients with risk markers for testing. The intervention increased the proportion (16% vs 10% in control practices) tested. The cost per QALY gained was £6212 with a >90% probability of being below NICE thresholds.

A second study, Hepatitis C Awareness Through to Treatment (HepCATT), showed that placing a nurse facilitator within drug treatment centres in three English settings could improve the odds of being tested [2.5-fold and the odds of referral 10-fold compared to the pre-intervention years and 3 control sites](#). [The cost-effectiveness of scaling up this intervention to the whole of England was £7986 per QALY gained \(all simulations below NICE thresholds\) and associated with a 56% decrease in incidence of HCV in PWID by 2030](#). Increasing case-finding and treatment referral in community settings could be a highly cost-effective strategy for decreasing hepatitis C virus incidence among PWID.



William Hollingworth



Zoe Ward

HEB News

Understanding barriers to referral for specialist weight management services and bariatric surgery and identifying ways to improve access



Obesity is a global health crisis associated with several health problems. Although public health interventions are critically important to prevent future obesity, effective clinical treatments are needed to achieve weight loss and health improvements in people who already live with severe and complex obesity.

Obesity (bariatric) surgery combined with dietary and behavioural change, is the most clinical and cost-effective treatment in this group, however, NHS-funded bariatric surgery treats less than 1% of those who could benefit from it, and the reasons for this are not well understood.

This research aims to understand the barriers to accessing specialist weight management services and bariatric surgery in people with severe and complex obesity, and how access to these services could be improved. Methods include a policy review, a study using CPRD-data to identify predictors of referral for specialist weight management services and bariatric surgery, and a qualitative study to identify barriers to access from different stakeholder perspectives.

Karen Coulman

Using genetic variation to understand the causal impact of traits and disease on healthcare costs and quality of life



Much available research cannot meaningfully identify the long-term consequences of health conditions for healthcare cost and quality of life. This is because observational studies are prone to bias due particularly to reverse causality and omitted variable. In my MRC-funded fellowship, I have been using quasi-random variation in genetic liability to disease and other phenotypes to avoid this kind of bias.

Using information of genetic variation as instrumental variables, we have demonstrated that conventional methods may substantially underestimate the cost of obesity on the health system (recently published in the Journal of Health Economics: <https://www.sciencedirect.com/science/article/pii/S0167629619304084>). Ongoing work demonstrates a similar relationship with rates of hospital admission. Other work-in-progress demonstrates that this kind of evidence can be used to inform robust causal inference for long-term policy decisions and interventions in relation to both costs and quality of life, particularly in cases where randomized controlled trials may not be feasible.

Padraig Dixon

Key publications

Carlton, EW... **Glynn, J, Kandiyali, R, ...** & Benger, JR 2020, 'Limit of detection of troponin discharge strategy versus usual care: randomised controlled trial', *Heart*. <https://doi.org/10.1136/heartjnl-2020-316692>

Coulman, KD, MacKichan, F, Blazeby, JM, Donovan, JL & Owen-Smith, A 2020, 'Patients' experiences of life after bariatric surgery and follow-up care: A qualitative study', *BMJ Open*, vol. 10, no. 2. <https://doi.org/10.1136/bmjopen-2019-035013>

Dixon, P, Hollingworth, W, ... & Purdy, S 2020, 'Observational Cost-Effectiveness Analysis Using Routine Data: Admission and Discharge Care Bundles for Patients with Chronic Obstructive Pulmonary Disease', *PharmacoEconomics - Open*. <https://doi.org/10.1007/s41669-020-00207-w>

Dixon, P, Hollingworth, W, Harrison, S, Davies, NM & Davey Smith, G 2020, 'Mendelian Randomization analysis of the causal effect of adiposity on hospital costs', *Journal of Health Economics*, vol. 70, 102300. <https://doi.org/10.1016/j.jhealeco.2020.102300>

Duarte, R, ... **Thom, H, ...** & Takwoingi, Y 2019, 'Lead-I ECG for detecting atrial fibrillation in patients attending primary care with an irregular pulse using single-time point testing: A systematic review and economic evaluation', *PLoS ONE*, vol. 14, no. 12, e0226671. <https://doi.org/10.1371/journal.pone.0226671>

Glynn, JD, Hollingworth, W, Bhimjiyani, A, Ben-Shlomo, Y & Gregson, CL 2020, 'How does deprivation influence secondary care costs after hip fracture?', *Osteoporosis International*, vol. 2020. <https://doi.org/10.1007/s00198-020-05404-1>

Hashim, H, ... **Noble, SM, ...** & Lane, JA 2020, 'Thulium laser transurethral VAPoResection of the Prostate (ThuVAP) versus TransUrethral Resection of the Prostate (TURP) in men with lower urinary tract symptoms or urinary retention secondary to benign prostatic obstruction: A randomised controlled trial', *The Lancet*.

Helter, TM, **Coast, J, Łaszewska, A, Stamm, T & Simon, J** 2019, 'Capability instruments in economic evaluations of health-related interventions: a comparative review of the literature', *Quality of Life Research*, vol. 2019. <https://doi.org/10.1007/s11136-019-02393-5>

Hollin, IL, Craig, BM, **Coast, J, ...** & Peay, H 2020, 'Reporting Formative Qualitative Research to Support the Development of Quantitative Preference Study Protocols and Corresponding Survey Instruments: Guidelines for Authors and Reviewers', *Patient*, vol. 13, no. 1, pp. 121-136. <https://doi.org/10.1007/s40271-019-00401-x>

Husbands, S, Mitchell, PM & Coast, J 2020, 'A systematic review of the use and quality of qualitative methods in concept elicitation for measures with children and young people: Review of qualitative concept elicitation with children and young people', *Patient*, vol. 2020. <https://doi.org/10.1007/s40271-020-00414-x>

Lim, AG, **Walker, JG, ...** & Vickerman, P 2020, 'Modelling the cost of eliminating hepatitis C virus transmission in Pakistan', *Lancet Global Health*.

Mitchell, PM, Caskey, FJ, Scott, J, Sanghera, S & Coast, J 2020, 'Response process validity of three patient reported outcome measures for people requiring kidney care: a think-aloud study using the EQ-5D-5L, ICECAP-A and ICECAP-O', *BMJ Open*, vol. 10, no. 5. <https://doi.org/10.1136/bmjopen-2019-034569>

Phillippo, DM, Dias, S, ... Z & **Welton, NJ** 2020, 'Multilevel Network Meta-Regression for population-adjusted treatment comparisons', *Journal of the Royal Statistical Society: Series A*.

Potter, S, Davies, C, Davies, G, Rice, C & **Hollingworth, W** 2020, 'The use of micro-costing in economic analyses of surgical interventions: A systematic review', *Health Economics Review*, vol. 10, 3 (2020). <https://doi.org/10.1186/s13561-020-0260-0>

Thom, H, Norman, G, Welton, N, Crosbie, E, Blazeby, J & Dumville, J 2020, 'Intracavity lavage and wound irrigation for prevention of surgical site infection: systematic review and network meta-analysis', *Surgical Infections*.

Thorn, JC, Man, M-S, ... & Salisbury, C 2020, 'Cost-effectiveness of a patient-centred approach to managing multimorbidity in primary care: a pragmatic cluster randomised controlled trial', *BMJ Open*, vol. 10, no. 1, e030110. <https://doi.org/10.1136/bmjopen-2019-030110>

Welcome to HEB



Tanja Gordon joined HEB in January. Her PhD, supervised by **Joanna Coast, Will Hollingworth** and Susan Cleary and John Ataguba at the University of Cape Town, aims to define and analyse the concept of affordability in two contrasting settings: South Africa which is in its preliminary stage of implementing a National Health Insurance (NHI) plan and the UK which has an existing National Health Service (NHS).



Estela Capelas Barbosa joined HEB in February as a health economist in the Musculoskeletal Research Unit at the University of Bristol. Estela is also involved in an international collaboration between UK, Brazil, Nepal and Sri Lanka, carrying out the economic component of the evaluation of local healthcare responses to domestic violence and abuse.



Mary Ward joined HEB in April. She is working with **Howard Thom** and **Nicky Welton** on estimating the expected value of sample information for adaptive trial designs.



Cristina Roadevin joined HEB in May. She is working with **Howard Thom** on a coeliac disease project trying to build a cost-effectiveness economic model of different testing strategies for coeliac disease. She is also working with **Nicky Welton** on the surgical site infections project to identify effective care bundle in order to prevent surgical site infections.

An Introduction to Qualitative Methods for Health Economics Short Course

The Introduction to Qualitative Methods for Health Economics short course successfully ran at the beginning of March and reached capacity, with 22 participants. Feedback from delegates on the course content was very positive, with the embedded practical work reported as being particularly useful. The course will run bi-annually and thus be open to new participants in [2022](#).

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