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ABOUT THE UNIT

AUHE was established in 2007 to create a health economics research and education centre with a portfolio of applied and methodological research.

The research includes:

- *economic evaluations alongside clinical trials*
- *value of information studies*
- *valuation of health, health care and wellbeing*
- *priority setting in health care*
- *health care policy*
- *early stage efficiency in research and development*
- *applied health econometrics*

Welcome... from David Meads



"All work and no play makes David a dull boy. All work and no play makes David a dull boy."

Just putting the finishing touches to my lockdown blockbuster article. I need a holiday. Before you head off on yours, have a look at what AUHE have been up to during the last six months. Please reach out to us if you want to discuss any of it or see an opportunity for collaboration.

Despite the times, the uncertainty and challenges, members of AUHE have been connecting and busy continuing research and adapting and delivering teaching.

We've played a part in understanding the pandemic and its impact and will continue to do so. A project funded by the UKRI/ESRC will see Silviya Nikolova and Dan Howdon assess volunteer response to COVID-19 and its impact on health and wellbeing.

AUHE can announce involvement in several new research projects including the LACES II surgical trial and an evaluation of the FebriDx antibiotic test project. AUHE was also selected to become one of the lead centres for the new EQ-5D-5L UK valuation study.

We welcome Nasir Rajah and Daliya Kaskirbayeva to the team and congratulate Zhuxin Mao and Alison Smith on their PhD remote viva exam successes.

By the time the Winter newsletter is circulated, we're told there's a prospect of 'significant normality'. Time to decide what we wish to retrieve from the old and retain from the new normal. Until then, stay safe.

David Meads

AUHE TEACHING

In March this year, we managed to deliver our annual Introduction to Health Economics module on the Health Research Postgraduate Diploma at the University of Leeds. It was face-to-face, which seems very strange with everyone now well versed in using MS Teams, Zoom and Skype. This year it was well attended despite the growing uncertainty at the time, receiving excellent student feedback once again. Since lockdown began and we started home-based working we have also developed and delivered limited teaching online which was certainly new for those involved.

We are now adapting and updating our teaching materials (to include COVID-19) for the new academic year to an online method of delivery for all our teaching activities. This includes both our undergraduate and postgraduate modules as well as introductory and advanced lectures on other courses. We are already seeing a significant increase in student numbers enrolling which is exciting for us all! I am confident that everyone involved will continue to provide excellent teaching and learning opportunities for students even if it feels and looks a little bit different.

Gurdeep Sagoo

WELCOME TO: NASIR RAJAH

Nasir joined the AUHE as a research fellow in health economics in February 2020 after completing his PhD at Leeds University Business School. Nasir's PhD looked into the economic effects of attention deficit hyperactivity disorder (ADHD) using birth cohort studies. His interests lie in better understanding how health and economics interact, particularly using large panel data. This is what Nasir is working on at the moment with Dr Adam Martin. On a Nuffield Foundation funded project they are using multiple large panel datasets to understand the

effects of arthritis on earnings. Within a month of starting the project the pandemic hit and we were in lockdown. Nevertheless, Nasir had enough time to get to know everyone on the team, which he says was really great. Nasir noted that everyone has been really welcoming and really appreciates the regular virtual catchups.

Check out the Twitter handle [@HealthAndWorkUK](#) and [@NasirRajah](#) for updates on the project.



WELCOME TO: DALIYA KASKIRBAYEVA



Daliya joined the AUHE in March 2020 as a Research Fellow in Health Economics. Her PhD focuses on exploring the impact of provider payment reforms on hospital outcomes.

Daliya previously worked as a health economist and carried out several health costing studies, surveys, and health financing projects. She has worked for both government and non-government organisations including the Ministry of Health of

Kazakhstan, World Bank, Oxford Policy Management, and the World Health Organisation.

Daliya is currently working on projects related to ageing and frailty.

PHD SUCCESS: ALISON SMITH

Congratulations to **Alison** who recently successfully defended her PhD thesis. The title of Alison's PhD was "Developing a framework for assessing the impact of test measurement uncertainty on clinical and health-economic outcomes". The aim was to explore methods for capturing the impact of measurement uncertainty on clinical and health-economic outcomes may be captured.

Alison's PhD included two initial reviews to identify previous approaches used within HTAs and the broader literature. Building on the identified methods, Alison then conducted a case study analysis focusing on faecal calprotectin – a diagnostic test

used to help distinguish between patients with Inflammatory Bowel Disease (IBD) and Irritable Bowel Syndrome (IBS). In particular, she used iterative simulation techniques to evaluate the impact of measurement uncertainty on the diagnostic accuracy, clinical utility and cost-effectiveness of faecal calprotectin pathways.

So far Alison has published two manuscripts from her PhD, with a third currently under review. She is now working on several test evaluation projects within the AUHE (including FebrID and PinPoint) and hopes to develop her methods further within a future post-doc fellowship.



PHD SUCCESS: ZHUXIN MAO



Congratulations to **Zhuxin** who also recently successfully defended her PhD thesis. Her PhD research was about exploring cultural differences in defining and measuring health. The PhD thesis focused on the adaptation of EQ-5D for use in China, given vast cultural differences between China and Western countries.

The findings of the PhD demonstrate that health is a culturally grounded concept and, due to cultural differences, it cannot be taken for granted that a well recog-

nised Western HRQoL measure is always appropriate for use in other cultural contexts.

Upon graduation, Zhuxin will continue to conduct health economics and outcome research. She has held a post-doc offer from a Chinese academic institute.

NEW PROJECTS

LACES II

David Meads is lead health economist on the LACES II study funded by NIHR HTA (£1,767,394, April 2020-April 2025). LACES II is a multicentre, randomised controlled trial of Laparoscopic versus Open Colorectal Surgery in the Acute Setting. Laparotomies are procedures undertaken for a variety of diseases including colorectal cancer, diverticular disease and inflammatory bowel disease. Laparoscopic (keyhole) surgery is commonly used in an elective setting instead of open surgery as it can reduce hospital stay, reduce pain and improve recovery and QoL. While there is emerging evidence of the benefits of laparoscopic surgery in an emergency setting, it is limited, and open surgery still dominates. LACES II aims to address this gap. The trial will recruit 512 patients from UK hospitals to receive either keyhole or open surgery, followed up for 12 months. The economic evaluation will involve micro-costing the procedures (including staff, equipment and theatre time), trial analysis and long-term modelling of the cost and benefits of each surgical strategy. The modelling may cover several pathologies and will make use of the National Emergency Laparotomy Audit (NELA) to inform parameters such as surgeon learning effects. More information is available here and in the feasibility study^[1]: <https://fundingawards.nihr.ac.uk/award/NIHR128815>



[1] Harji DP, Marshall H, Gordon K, Twiddy M, Pullan A, Meads D, Croft J, Burke D, Griffiths B, Verjee A, Sagar P. Laparoscopic versus open colorectal surgery in the acute setting (LaCeS trial): a multicentre randomized feasibility trial. *British Journal of Surgery*. 2020 Jun 23.

EQ-5D-5L Valuation study

The AUHE (David Meads, Paul Kind, Ed Webb and John O'Dwyer) in collaboration with Edinburgh Health Economics (Peter Hall) were announced as one of six groups who will participate in the new UK valuation of the EQ-5D-5L. Work is in the planning stages and the hope is that the valuation survey will start early next year. The pandemic may impact on values and potential disruption to field work that require careful consideration. See more information here: <https://euroqol.org/study-team-appointed-for-the-new-uk-eq-5d-5l-valuation-study/>

FebriDX

Armando Vargas-Palacios is a co-applicant and lead economist on a newly funded study evaluating FebriDx® for determining whether A&E patients with symptoms of Acute Respiratory Infection require antibiotic treatment. The test has potential for reducing waiting time for results thus reducing unnecessary antibiotic prescriptions. The project will use capacity modelling to estimate potential efficiency gains in A&E accounting for staffing levels and wait time. The project is funded by the J.P. Moulton Charitable Foundation.

Two new projects have recently received funding. In the [first project](#), **Adam Martin** (PI) and **Nasir Rajah** are investigating the relationship between having arthritis and labour market outcomes using data from Understanding Society and the English Longitudinal Study of Ageing (ELSA). This includes a comparison of the earnings trajectories of ~20,000 people with arthritis and a matched control group of people without arthritis. Funded by the Nuffield Foundation, the study is a collaboration with the Leeds Institute of Rheumatic and Musculoskeletal Medicine and the Health Economics Group at the University of Exeter.

In the [second project](#), **Adam Martin** is investigating the impact of a cancer diagnosis amongst teenagers and young adults on subsequent labour market and other social integration outcomes. The

study involves prospectively collected data on a cancer population and comparison with a matched control group of people without cancer in the Understanding Society dataset. Funded by ESRC (PI Daniel Stark), the study is a multi-disciplinary collaboration across the University of Leeds and UCL.



AUHE COVID-19 WORK

How to understand, scale and maximise the effectiveness of volunteer responses to COVID-19

Daniel Howdon and Silviya Nikolova are working with the Universities of Sheffield and Hull, care organisations, charities and industry to assess volunteer response to changing needs in the community and impact on health and well-being during COVID-19. Understanding determinants of volunteer response is important to addressing problems in the health and care sectors which have been dramatically affected by the current crisis. The project is funded by UKRI/ESRC.

Face masks: simple slogans are not enough

Masks became compulsory in shops in England on 24th July. In contrast to other public health interventions implemented since March, mask wearing is not simple or even necessarily cheap – nor is the evidence high quality, or unambiguous in the direction of positive net benefits. Since it has been deemed however that masks should be introduced, it's vital both to have public health campaigns providing direction on safe wearing of masks, and to ensure that compliance is financially possible, especially for those who may have already suffered large falls in income as a result of the ongoing pandemic. <https://www.theguardian.com/commentisfree/2020/jul/18/face-masks-public-health-campaign>

OTHER NEWS

Alison Smith gave a seminar at the University of Exeter on March 5. She presented her work with the title "Assessing the impact of test measurement uncertainty on clinical and health-economic outcomes".

Judy Wright gave a presentation at the University Health & Medical Librarians Group (UHMLG) Online Spring Forum on April 3. The presentation was titled "Tips and Tricks of the Trade – Sharing and remembering (nearly) everything about systematic review searching".

Roberta Longo gave an online lecture for the University of Pisa on May 22. This lecture was part of an MSc course in Healthcare Management and focused on the English NHS and the role of NICE.

Edward Webb took part in the online dissemination event for the HENRY project on June 23. At this event, he gave a presentation titled "How much are commissioners willing to pay for programmes like HENRY?"

Samuel Frempong had the abstract for his work titled "Early economic evaluation of an intervention to improve uptake of the NHS England Diabetes Prevention Programme (NDPP)" published online. This work was due to be presented at the EuHEA conference in Oslo from July 7-10. However, due to the COVID-19 pandemic, the conference was cancelled.

MSc SUPERVISION

Adam Martin is supervising two MSc Health Data Analytics students. Benedict Agagli is investigating the seasonal and regional inequalities in people's self-reported health, using Health Survey for England data. Amwaj Abugamza's study has the following research question: "Do People with Obesity Face More Discrimination at Work and Have Less Job Satisfaction than People with Healthy Weight?". She is using Understanding Society data.

Armando Vargas-Palacios and **Gurdeep Sagoo** are supervising Eduardo Gomez, an MSc Health Economics and Decision Modelling student. He is evaluating the

potential impact of a point-of-care test for community-acquired influenza to determine its impact on capacity and waiting times of a hospital emergency department.

Gurdeep is also supervising Sian Carnell, a part-time MSc Health Informatics student. She is undertaking a systematic scoping review to investigate the application of technological volatile organic compound breath testing in clinical practice.

Silviya Nikolova is supervising two MSc Mathematics students with projects on practical statistical methods for frailty analysis.

RECENT SELECTED PUBLICATIONS

AHMED, S., BROWN, R., PETTINGER, R., VARGAS-PALACIOS, A., BURKE, D. & KIRBY, A. 2020. The CABI Trial: an Unblinded Parallel Group Randomised Controlled Feasibility Trial of Long-Course Antibiotic Therapy (28 Days) Compared with Short Course (≤ 10 Days) in the Prevention of Relapse in Adults Treated for Complicated Intra-Abdominal Infection. *J Gastrointest Surg*.

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LE RHUN, E., DIRVEN, L., NICLOU, S., SHORT, S., PIIL, K., BOELE, F., RUDA, R., THEODOROU, M., BRANDSMA, D., WELLER, M. & VAN DEN BENT, M. 2020. Gender issues from the perspective of healthcare professionals in neuro-oncology: an EANO & EORTC Brain Tumor Group survey. *Neuro-Oncology Practice*, 7, 249-259.

LEVICK, B. A., GILBERT, A. J., SPENCER, K. L., DOWNING, A., TAYLOR, J. C., FINAN, P. J., SEBAG-MONTEFIORE, D. J. & MORRIS, E. J. A. 2020. Time to Surgery Following Short-Course Radiotherapy in Rectal Cancer and its Impact on Postoperative Outcomes. A Population-Based Study Across the English National Health Service, 2009-2014. *Clin Oncol (R Coll Radiol)*, 32, e46-e52.

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