

WOLFSON INSTITUTE OF POPULATION HEALTH NEWSLETTER ISSUE 72: 21 February 2025

In this issue of our Wolfson Institute of Population Health Newsletter, we celebrate the achievements and work of staff and students in February.

FROM OUR DEPUTY DIRECTOR

Dear Colleagues

I hope you enjoy this week's newsletter. As it is half term, I have been sharing it with my family. I have explained that if you want good lung function, eat your carrots, to find out if someone is in pain if they can't tell you, try facial analysis, and to reduce smoking, it is better help everyone who doesn't say no (opt out), rather than asking people to volunteer. I hope the investigators agree with my topline summaries, but full details below!

This week's profile is with Lucy Mitchinson. Her forthcoming trip to the Orlando Cheerleading World Championships sounds very exciting, and I enjoyed reading of her love of qualitative interviewing.

It is good to see DeNPRU-QM (Dementia and Neurodegeneration NIHR Policy Research Unit) Rachel Horne and Ruth Dobson's articles feature too - describing their twin publications in Nature Neurology Reviews on the PPI and academic perspectives of how DeNPRU-QM strives to co-create meaningful PPI.

Finally, a plea from Steph Taylor around Worktribe submissions: please deposit a draft application in the Worktribe 'Documents' tab, and submit for internal approvals at least 5 working days before the external deadline. Please also add at a later date a copy of the submitted application for local records.

With best wishes

Claudia



MEET WIPH

MEET - Lucy Mitchinson (Research Fellow in Behavioural Science, CCSPED)

How would you describe your roles and responsibilities?

I'm a Post-Doc Research Fellow in Behavioural Science and have been with QMUL since September 2023. I am currently involved in two projects: an interview study with lung cancer patients and their families to understand the barriers and facilitators they face in engaging with care, and a qualitative sub-study within the DETECT-2 trial, to evaluate a direct-to-patient genetic testing pathway for ovarian cancer and explore the psychological impact of this test. For these projects I am involved in planning the studies, designing topic guides, recruiting and interviewing patients, conducting the analysis, and disseminating my findings in presentations and publications.

What has been your greatest professional achievement?

It would have to be graduating with my PhD in May last year - completed over 4yrs during the pandemic, I couldn't believe I was finally walking along the stage (in the very fun hat!). Second greatest would be presenting at a Cancer Research UK conference in Birmingham in 2024. This was the biggest conference I had addressed, and so was a great personal achievement.

What aspects of your role do you enjoy the most?

As a qualitative researcher, one of the most enjoyable parts of my job is interviewing people. After so much planning and paperwork, it is really rewarding to sit down with someone to listen and learn about their experience. Meeting a mix of characters, I often find that people will look for the good even in difficult health situations. Speaking to people who are living our research is really grounding and helps me to remember why this work is important.

What would be your second choice as a profession?

I think I would like to be a chef, but a 'Test Kitchen' chef - someone who gets to experiment in the kitchen, try lots of different foods and, importantly, take their time.

What do you enjoy doing outside work?

I am part of a competitive cheerleading team called London Dynasty Cheer 'Revolution'. We are a team of 26, currently training to compete in the Cheerleading World Championships in Orlando, Florida in April. We perform a 2-minute routine involving stunts, pyramids, jumps and a dance. It is a lot of work, but I absolutely love it!

Something most people don't know about you?

I am a big fan of true crime and crime series, and am currently obsessed with Law and Order SVU, and the podcast 'my favourite murder'.



GENERAL INSTITUTE NEWS

Evaluating psychometric properties of PainChek in patients with dementia

5 February (Liz Sampson, Nathan Davies, Victoria Vickerstaff. Centres for Psychiatry and Mental Health/Evaluation and Methods)



To evaluate the psychometric properties of the PainChek assessment tool, researchers conducted a cross-sectional psychometric study among 63 people with dementia (mean age 84) from 2 general hospitals in greater London. PainChek, a point-of-care electronic pain assessment tool, combines artificial intelligence, facial analysis and smartphone technology. Across 216 assessments, PainChek was tested against Pain Assessment in Advanced Dementia (PAINAD) scores, with results showing that PainChek is a valid and reliable pain assessment tool for people with dementia in general hospitals.

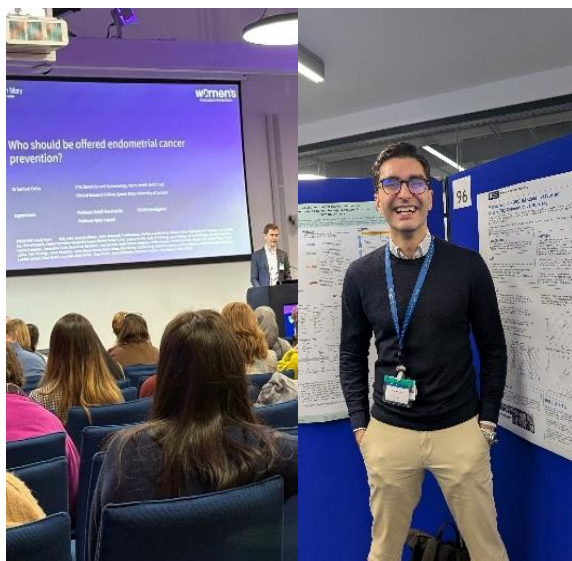
'Opt-out' smoking cessation referral in a lung cancer screening setting

6 February (Sammy Quaife. Centre for Cancer Screening, Prevention and Early Diagnosis)

An analysis of uptake and outcomes from an 'opt-out' smoking cessation referral strategy among SUMMIT study participants shows that the strategy is effective and should be considered as a minimum standard of care for lung cancer screening programmes. Of 6203 smokers attending in-person lung health checks who were offered smoking cessation referrals, 33.7% agreed to a referral, 18.1% opted to self-refer, and 48.2% declined. Of the 2090 who consented, 42.7% (893) were from boroughs with no local smoking cessation services, or where they had to self-refer. Results show that people who were male, younger, and from ethnic minority backgrounds were more likely to consent; those from the most deprived socioeconomic quintile were less likely. From 742 referrals, appointments were accepted by 351, and a quit date set by 230, in whom the 4wk quit rate was 57.4% v 17.8% in all those referred. Authors say referral pathways and provision of smoking cessation services require further optimisation to ensure full benefit of this strategy.



Royal College of Obstetricians and Gynaecologists Annual Academic Meeting 6-7 February (Sam Oxley, Ashwin Kalra. Centre for Cancer Screening, Prevention and Early Diagnosis)



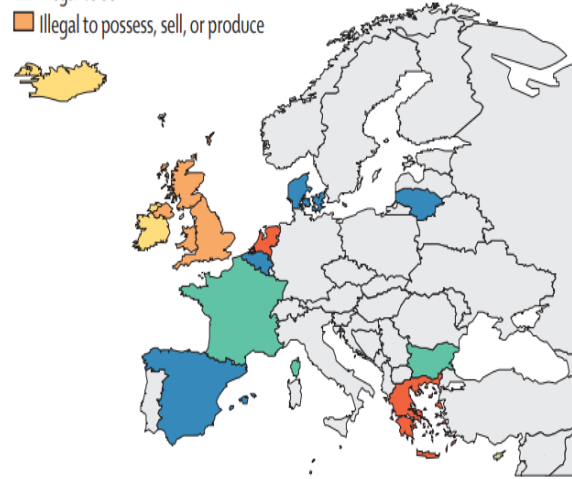
Sam Oxley and Ashwin Kalra represented WIPH at the annual RCOG academic meeting in London. Sam (who recently passed his PhD viva - congratulations Sam!) delivered a presentation on who should be offered endometrial cancer prevention, determining quality of life after risk-reducing hysterectomy, and the lifetime endometrial cancer risk threshold at which preventive strategies are cost effective. Ashwin presented two posters, on Uptake and patient-related outcomes of mainstreaming genetic testing, and Validation of the P-POSSUM scale in ovarian cancer cytoreductive surgery.

Tackling the growing burden of nitrous oxide-induced public health harms

7 February (Safiya Zaloum, Devan Mair, Alvar Paris, Laura Smith, Marta Patyjewicz, Alastair Noyce. Centre for Preventive Neurology)

A health policy analysis in *Lancet Public Health* discusses the increasing popularity of nitrous oxide as a recreational drug, the neurological, psychological, and other health and social harms, public health approaches to the issue, and the repercussions of these policies. Authors note that new laws either target the end user (by criminalising possession) or suppliers, raising concerns that such policies may exacerbate harm by affecting health-care-seeking behaviours. They conclude that targeted strategies to educate those most at risk are essential, while also making nitrous oxide harder to obtain, and that holding vendors to account will be essential to reduce the accessibility and use of nitrous oxide and the harms it causes.

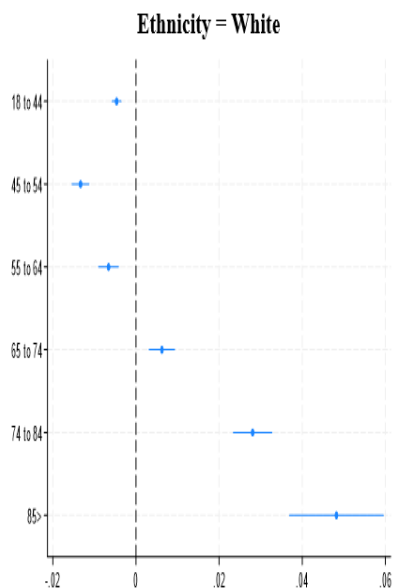
- No current legislation on the recreational use of nitrous oxide
- Illegal to possess or sell
- Illegal to sell to minors
- Illegal to possess
- Illegal to buy or sell
- Illegal to sell
- Illegal to possess, sell, or produce



Association of health with patient/general practice characteristics in England

7 February (Yan Feng. Centre for Evaluation and Methods)

Association of health with ethnicity in age specific sample

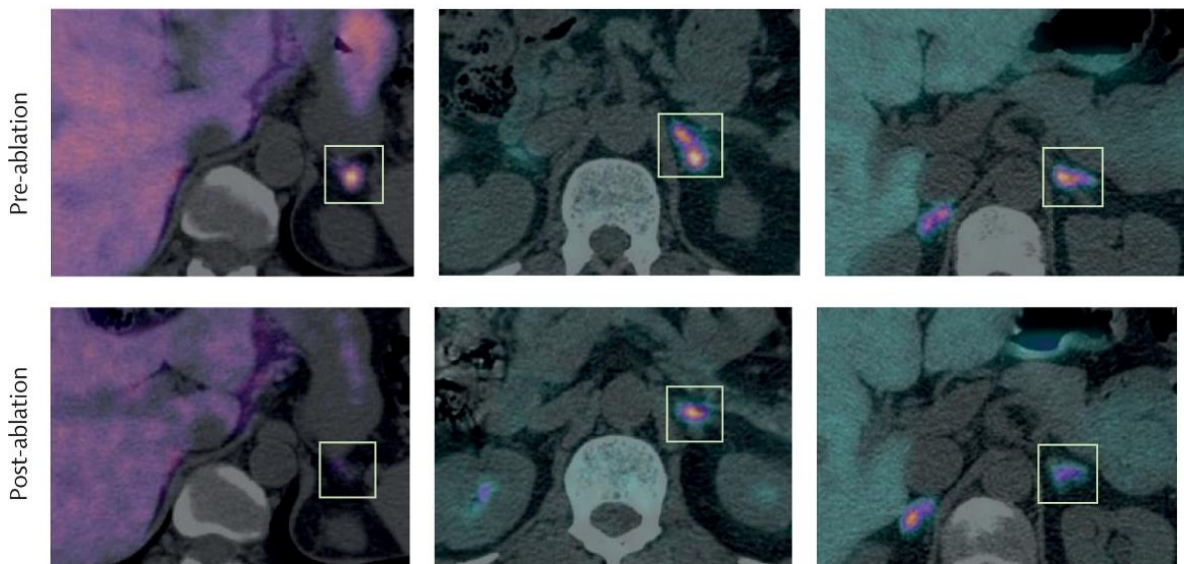


Exploring income-related health inequality in England and associations of health with patient and practice characteristics by patient chronic condition, age, and region in England, authors of a *BMJ Open* study used data from over 1 million adults from 6426 general practices. Results suggest that patients who are younger, male, more satisfied with their practice, have fewer chronic conditions, and live in less income- or education-deprived areas report better health. Practice clinical quality was positively associated with health in the full sample, but only in 4/23 sub-samples. Income-related health inequality was worst for mental health patients and NW/NE England residents, and greatest for those aged 55-64.

Endoscopic radiofrequency ablation of aldosterone-producing adenomas

7 February (Jon Bestwick. Centre for Preventive Neurology)

Removal of aldosterone-producing adrenal adenomas (APAs), the potentially curable cause of 5% of hypertension cases, requires invasive procedures unattractive to patients. In the FABULAS feasibility study of Molecular imaging-located endoscopic ultrasound-guided trans-gastric radiofrequency ablation (EUS-RFA) as a non-surgical, adrenal-sparing treatment for left-sided APAs, 28 participants from 3 UK centres underwent 35 ablations. No major hazards occurred. Localised reduction of radiotracer uptake by the PET-CT+ APAs at 3 months achieved complete or partial biochemical cure in 21 participants, and complete or partial cure of hypertension in 12. In 4 participants, disappearance of the APA on molecular imaging was associated with blood pressure <135/85 mmHg off antihypertensive treatment. Authors say EUS-RFA appears a safe alternative to total adrenalectomy for the treatment of left-sided APAs and has potential to completely cure primary aldosteronism and hypertension when most of the APA is ablated.



DeNPRU-QM: Moving towards meaningful patient and public engagement

10 February (Ruth Dobson, Charlotte Kenten, Jo Brown, Claudia Cooper, Rachel Horne. Centres for Preventive Neurology/Psychiatry and Mental Health)

In a published commentary, authors from the QMUL NIHR Policy Research Unit in Dementia and Neurodegeneration (DeNPRU-QM) note that patient and public involvement and engagement (PPIE), increasingly mandated in funding applications, often remain tokenistic and transitory. They discuss the DeNPRU-QM approach to PPIE, and conclude by encouraging researchers to consider similar approaches to disrupt traditional power structures and enable people with lived experience to contribute actively to all stages of research: 'By making these

NIHR | Policy Research Unit
Dementia and neurodegeneration
Queen Mary University of London

changes, we can build trust and foster collaboration with communities to enable research that makes meaningful differences to people's lives.' In an accompanying paper, 'Nothing about us, without us', DeNPRU PPI representatives reflect further on the process.



Effect of Vitamin A on adult lung function

12 February (Seif Shaheen. Centre for Preventive Neurology)

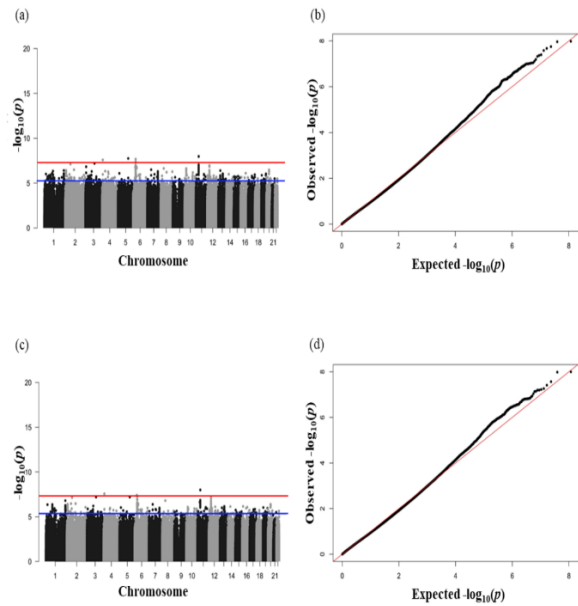
Triangulation of evidence		
Observational association analysis	Mendelian Randomization (MR)	Genetic association analysis
<p>Aim Estimate the association of dietary intake of vitamin A (retinol, carotene and total vitamin A) with lung function (FVC and FEV₁/FVC)</p> <p>Methods Generalized Structural Equation Model (GSEM) to correct for measurement error</p> <p>Secondary analyses:</p> <ul style="list-style-type: none"> • Sensitivity analysis excluding participants with "atypical diet" • Subgroup analysis by smoking status <p>Data UKB participants with good quality spirometry and dietary intake data: N = 150,861, 152,983 and 142,094 for retinol, carotene and total vitamin A analyses, respectively</p>	<p>Aim Estimate the causal effect of vitamin A serum levels on lung function (FVC and FEV₁/FVC) using MR, an approach that is not affected by classical confounding and reverse causation</p> <p>Methods 2-sample MR using fixed-effect inverse variance weighted (IVW-FE) method</p> <p>Selection of genetic instruments based on previous studies</p> <p>Data</p> <ul style="list-style-type: none"> • G-X effect estimates from previous publications • G-Y effect estimates from UKB (N = 345,633) 	<p>Aims</p> <ol style="list-style-type: none"> 1) Investigate whether variation in genes involved in RA signalling and metabolism pathways can affect lung function (FVC and FEV₁/FVC) 2) Investigate possible gene-diet interactions on lung function <p>Methods</p> <ol style="list-style-type: none"> 1) 2 stages to identify and replicate SNPs associated with lung function using BOLT-LMM model 2) GSEM model with SNP-vitamin A interaction <p>Data UKB participants with good quality spirometry:</p> <ul style="list-style-type: none"> • Stage 1 = 194,191 • Stage 2 = 151,442 <p>Included 10,688 SNPs in 39 genes involved in RA metabolism and the RA signalling pathway</p>

Observational studies suggest a positive association of serum levels and dietary intake of vitamin A with adult lung function (ALF), but causality has not been established. Using observational analysis, Mendelian randomisation and genetic association analysis, and data from 150,000 individuals in the UK Biobank, researchers investigate the effect of vitamin A on ALF. Observational analysis results suggest a positive association between carotene intake and forced vital capacity (FVC) and Mendelian randomisation showed a beneficial effect of serum beta-carotene on FVC. Nine vitamin A related genes were associated with ALF. Of these, 6 have not been previously identified in genome-wide studies, and 3 (*NCOA2*, *RDH10*, *RXR*) not in any type of genetic study of lung function. Five genes showed possible gene-vitamin A intake interactions. The triangulation study provides convincing evidence for a causal effect of vitamin A (particularly carotene) on ALF, suggesting a beneficial effect of a carotene-rich diet on lung health.

Genetic risk factors for periodontitis

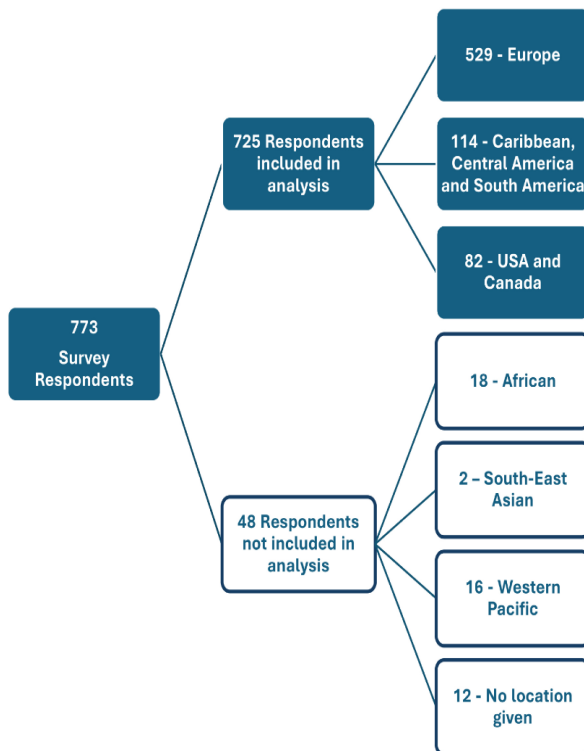
14 February (Cheyi Gao, Harriet Larvin, Jianhua Wu. Centre for Primary Care)

Investigating the genetic variants associated with periodontitis, a genome-wide association study using data from 376,611 European-descent participants in the UK Biobank identifies 4 loci not previously been linked with the condition: two (rs775476621 and rs751014048) on chromosome 11, rs149922301 on chromosome 4 (near gene RP11-61G19.1), and rs368467810 on chromosome 6 (near gene HIST1H3L). The findings offer new targets for future research to investigate the genetic impact on periodontitis and aid future understanding of periodontitis pathology and progression.



Healthcare worker experiences and perceptions of the 2022 mpox outbreak

14 February (Rosalie Hayes. Centre for Public Health and Policy)



An international cross-sectional survey study examines the experiences and perceptions of 725 healthcare workers (HCWs) clinically involved in the 2022 mpox response in 41 countries. Survey domains included: clinical workload; preparedness; training and support at work; psychological well-being and vaccination. Findings show that 30% of respondents had never heard of mpox before the outbreak, with >25% reporting that they had misdiagnosed someone initially, culminating in a high prevalence of moral distress (30%). In the Caribbean, Central America and South America <9% of HCWs had been offered a vaccine (v almost 1/3 in the other regions). The findings highlight a critical need for addressing gaps in HCW knowledge about re-emerging diseases with pandemic potential.

Novel framework for equity-focused evidence synthesis

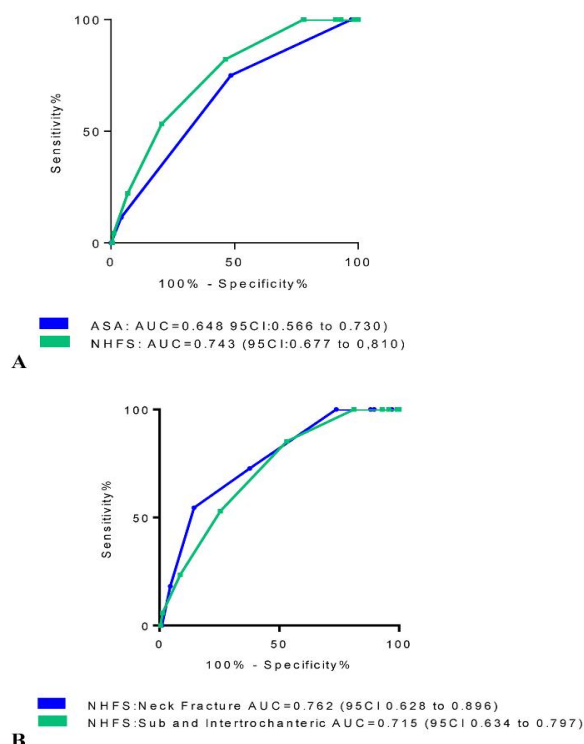
15 February (Lucy McCann, Lucy Johnson, Anna Gkiouleka, John Ford. Centre for Primary Care)

Addressing known limitations with the existing PROGRESS-Plus framework in understanding the differential effects of health and care interventions across disadvantaged groups, researchers have developed a new framework: EQUALSS GUIDE Multiple. The new framework includes ethnicity and race, qualifications and education, underserved area, age, language and religion, sex, sexual orientation, gender identification, underrepresented groups (inclusion groups), income and wealth, disability (physical, mental and learning), employment and occupation, and multiple disadvantage. Examining the effectiveness of policy and practice interventions by disadvantaged groups is paramount to prioritise actions that narrow the health gap and prevent actions that widen inequalities.

EQUALSS GUIDE Multiple
Ethnicity & Race
Qualifications & education
Underserved area
Age
Language & Religion
Sex
Sexual orientation
Gender identification
Underrepresented groups (inclusion groups)
Income & Wealth
Disability (physical, mental & learning)
Employment & occupation
Multiple disadvantage

Nottingham hip fracture score in predicting mortality

15 February (Adam Gordon. Centre for Primary Care)

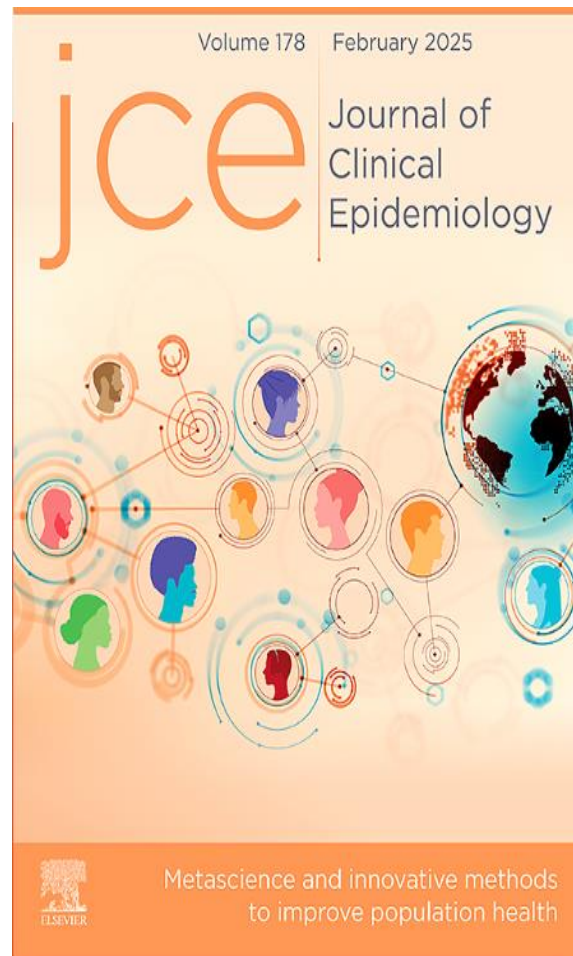


In a cohort of 503 older patients admitted with hip fracture to a public hospital in Brazil, researchers evaluate the performance of the Nottingham hip fracture score (NHFS) in predicting 30day mortality. The cohort included patients aged 79.4 ± 9.3 , 73% female, 58% presenting extracapsular and 42% intracapsular fractures, with a 30-day mortality of 9%. Complications were higher among patients with NHFS >4, and NHFS was higher in patients who died (5.6 ± 1.1) v survivors (4.3 ± 1.5). Performance of NHFS was better than the widely used perioperative risk American Society of Anesthesiologists score, and authors conclude that NHFS can be implemented in real-world clinical practice to estimate 30day mortality risk for hip fracture in older patients in Brazil.

Quality of reporting of statistical analysis plans for cluster randomized trials

16 February (Clare Robinson. Centre for Evaluation and Methods)

The 2017 Guidelines for the Content of Statistical Analysis Plans (SAPs) in Clinical Trials did not include specific tailoring for Cluster Randomized Trials (CRTs), and therefore no assessment of reporting quality of SAPs against this guideline exists. A new review examines how well a sample of SAPs for CRTs adhere to the reporting of key items. In 85 unique SAPs identified, researchers found that 72% reported what covariates would be included in any adjustment, but only 31% reported what method would be used to estimate the absolute measure of effect: 93% included a plan to allow for clustering, but only 25% reported how a small number of clusters would be accommodated. Few reported how the intra-cluster correlation would be estimated, or clearly reported statistical targets of inference. Authors say the review identifies specific areas of poor quality of reporting that might need additional consideration when developing guidance for reporting SAPs for CRTs.



Cultural variation in trust and acceptability of AI diagnostics for dementia

16 February (Avi Chandra, Rifah Anjum, Ijeoma Uchegbu, Laura Smith, Charles Marshall. Centre for Preventive Neurology)

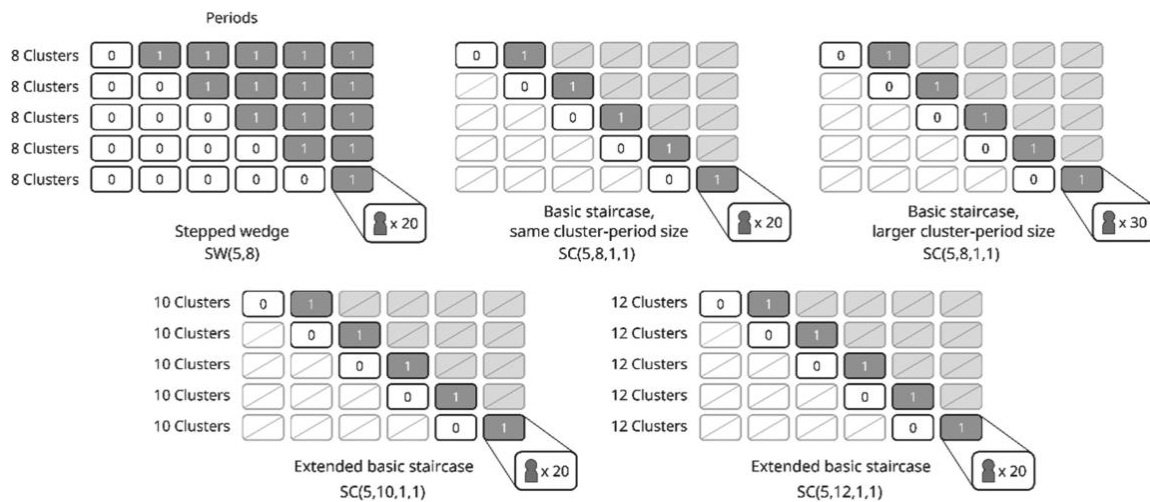


A commentary in the *Journal of Alzheimer's Disease* describes perceptions of using artificial intelligence (AI) diagnostics for dementia, obtained through a focus group as part of the Automated Brain Image Analysis for Timely and Equitable Dementia Diagnosis (ABATED) study. Qualitative feedback from a diverse public engagement group showed that cultural variations in trust and acceptability of AI diagnostics may be an unrecognised source of real-world inequity. Researchers conclude that efforts focused on the adoption of AI diagnostics in memory clinic pathways should aim to recognise and account for this issue.

Staircase v stepped wedge cluster randomised trial designs

16 February (Richard Hooper. Centre for Evaluation and Methods)

Exploring the relative efficiency of staircase v stepped wedge cluster randomised trial designs, researchers examine variants of the 'basic staircase' design, which has one control followed by one intervention period in each sequence. While stepped wedge design requires participating clusters to collect data in all periods of the trial, staircase design has one control followed by one intervention period in each sequence. The comparison of modelled outcomes shows that, for a wide range of realistic trial settings, a basic staircase design will deliver greater statistical power than a stepped wedge design with the same number of participants, and in some cases, with even fewer total participants.



NIDUS-Family intervention would save NHS/social care £9000/yr per person

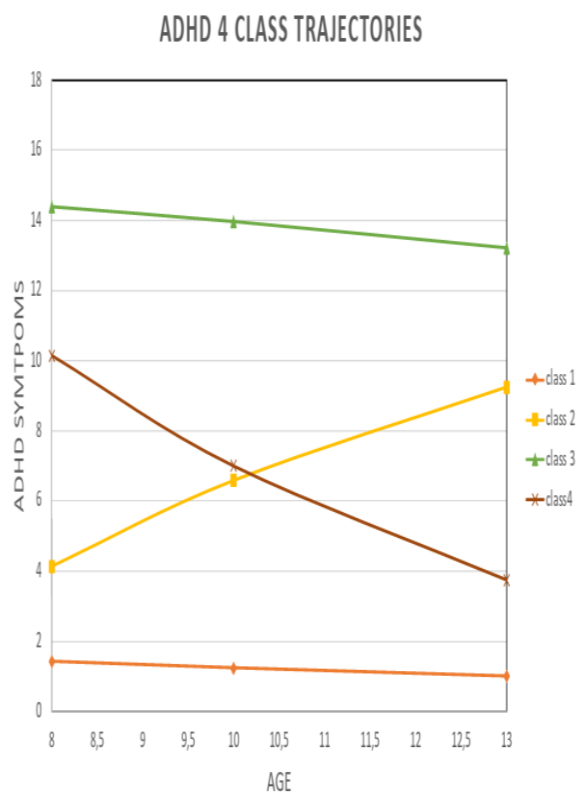
17 February (Claudia Cooper, Jessica Budgett. Centre for Psychiatry and Mental Health)

Results from an RCT show that the NIDUS-Family personalised care and support intervention for people with dementia would cost the NHS and social care on average £8934 less per person per year than costs for people with dementia who do not receive the additional help. The savings are due to the person receiving the intervention spending less time in hospital and using less state-funded social care than controls, for whom costs far exceeded the modest £346 annual cost of this preventive intervention. Researchers say that NIDUS-Family, now shown to be both clinically effective from the perspective of the quality of life of people with dementia, and also cost-effective, should be part of routine dementia care. This paper was featured on the front page of The Times.



ADHD symptom trajectories and risk for bipolar disorder

19 February (Georgina Hosang. Centre for Psychiatry and Mental Health)

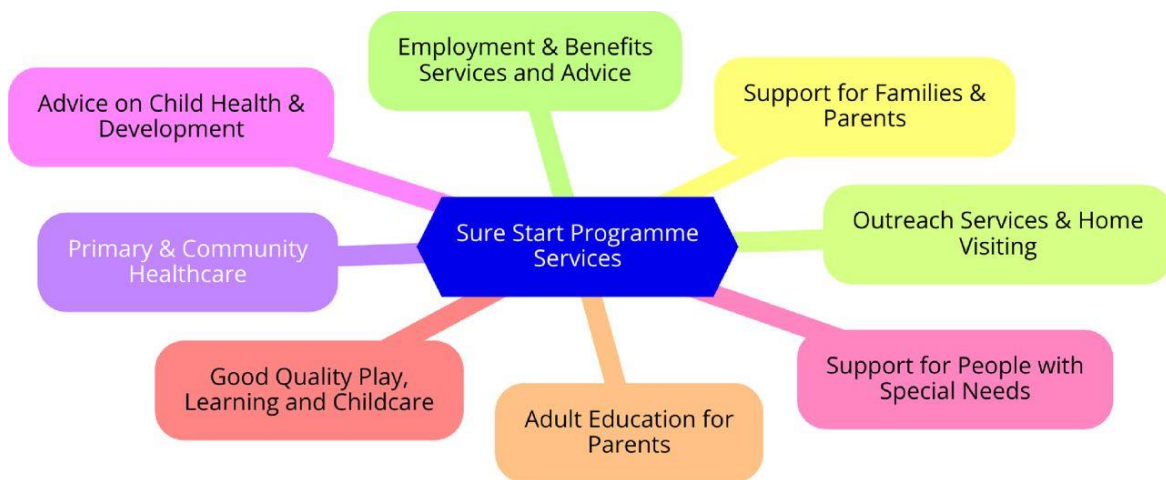


Investigating whether trajectories of childhood Attention-Deficit Hyperactivity Disorder (ADHD) symptoms confer differential risk for Bipolar spectrum Disorder (BD), researchers assess clinically significant ADHD symptoms in data from children at ages 8, 10, and 13, and clinically significant hypomanic symptoms (CSHS) at age 21-23. Results showed that young people with persistently high and increasing ADHD symptoms had increased odds of CSHS. In separate analyses, persistently high levels of hyperactivity and inattentiveness, and increasing levels of inattentive symptoms were also independently associated with CSHS. These 2 trajectories in childhood and adolescence may represent distinct phenotypic risk profiles for subsequently developing BD, and be clinically significant targets for prevention and treatment of BD.

Sure Start: Health impacts on disadvantaged children in the UK

20 February (Jatinda Hayre, Helen Pearce, Amy Lunn, John Ford. Centre for Primary Care)

Three themes are identified in a systematic review of 12 studies evaluating the impact of the Sure Start programme on child health among disadvantaged children. Results for physical health showed an increase in the prevalence of breastfeeding and improved dental hygiene, and significant reductions in hospitalisations in older children, accidental injury, and obesity prevalence. Findings on social functioning observed adverse effects of the intervention in children from some backgrounds, but significant improvement in education attainment, particularly in children from low socio-economic and ethnic minority backgrounds. For neurodevelopmental disorders, Sure Start significantly improved conduct disorder and ADHD symptoms and improved screening rates for developmental disorders. The wide heterogeneity of results limited direct comparison and preclude a meta-analysis.



FORTHCOMING EVENTS

Inaugural Lecture: Professor Jo Waller

5:30pm 4 March, Derek Willoughby LT, Charterhouse Square Campus

All are welcome to attend this inaugural lecture by Jo Waller, entitled 'From PA to Prof: a serendipitous path through the world of behavioural science and cancer screening'. Jo has a longstanding interest in how people think about and make sense of illness and risk, and how we can better understand behaviours that have an impact on health outcomes. The talk will be followed by a reception at 6:20pm. Register @ [Eventbrite](#).



Inaugural Lecture: Professor Matina Iliodromiti

5:30pm 12 March, Perrin Lecture Theatre, Whitechapel Campus

Matina Iliodromiti will share insights into her career journey across different countries and disciplines in her inaugural lecture: 'Delivering more than babies: a path filled with numbers, serendipity and stubbornness'. Discussing her transition from small-scale clinical research with <200 participants to large-scale epidemiological studies with over a million participants, she will reflect on the challenges in being a clinical academic in a craft specialty, and outline her vision for transforming the health of women and families in East London. All are warmly invited to attend the lecture, which will be followed by a reception at 6:20pm. Register @ [Eventbrite](#).



Many thanks to all who so enthusiastically contribute. Please send any news items for the next newsletter to j.a.mackie@qmul.ac.uk