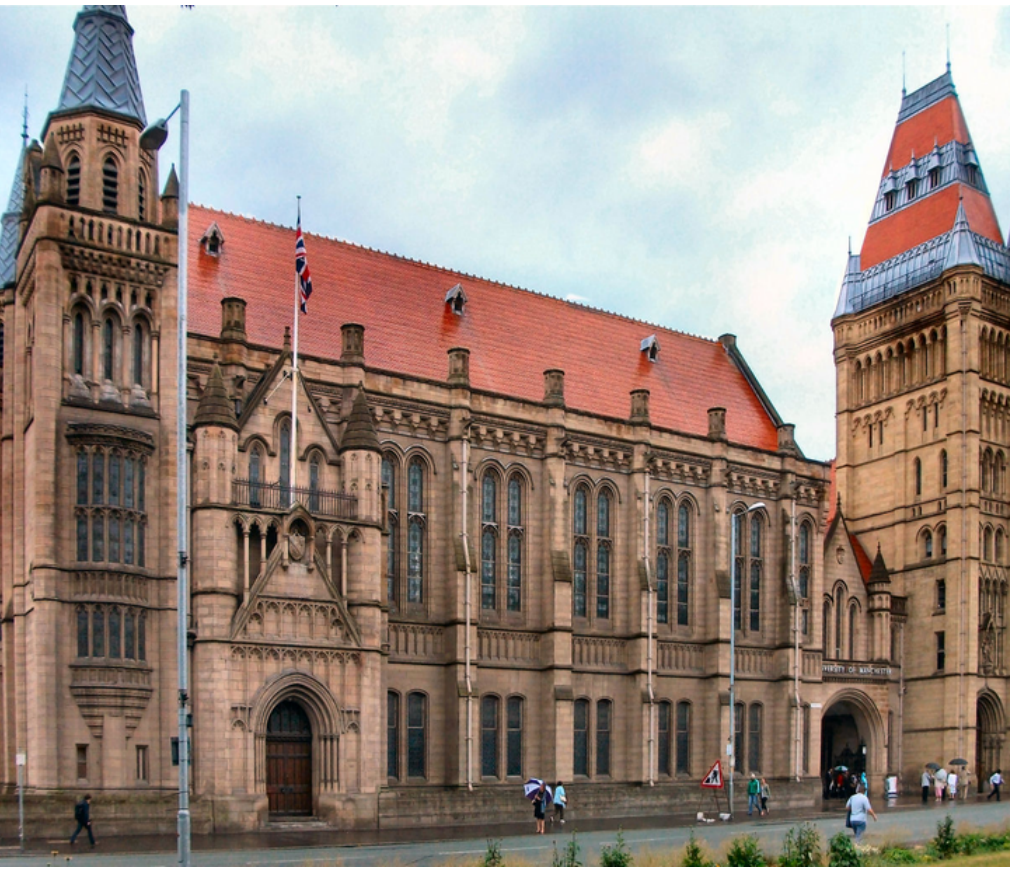
The University of Manchester

AUTUMN 2021 ISSUE



MCHE Manchester Centre for Health Economics

NEWSLETTER

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- Metacognitive therapy in cardiac rehabilitation
- iMATCH: Towards the efficient and safe delivery of advanced therapies
- Student spotlight: Peslie Ng'Ambi

WELCOME! FROM THE CENTRE LEAD

Welcome to the Autumn edition of our MCHE Newsletter!

The University of Manchester opened its doors more widely to research and teaching staff in September. Some staff in MCHE have returned to the office but the majority of us have opted to remain working from home. This has meant we rely more than ever on Zoom (or Teams or whatever the preferred virtual conferencing software is for a specific meeting!) to enable contact between all colleagues in MCHE.

In this Newsletter we describe some new programmes of work and programmes and projects that are nearing completion and starting to publish exciting results. You will also read about the experience of PhD student Peslie Ng'Ambi as he nears completion of his thesis. As one PhD student nears completion we welcome a new starter Liwei Mou who is beginning her PhD programme with Dr Will Whittaker in October. We also congratulate two prize-winners. Shabnam Thapa won the judge's vote for first prize (with cash!) for her outstanding oral presentation delivered at the Postgraduate Research Showcase of the Division of Population Health, Health Services Research and Primary Care, School of Health Sciences. Gemma Shields won the best oral abstract prize at the British Association of Cardiovascular Prevention and Rehabilitation hybrid annual conference 2021.

Very best wishes from all of us in MCHE and we hope that you are managing to maintain a good 'work-life- balance at what is always a very busy time of the year.

Katherine

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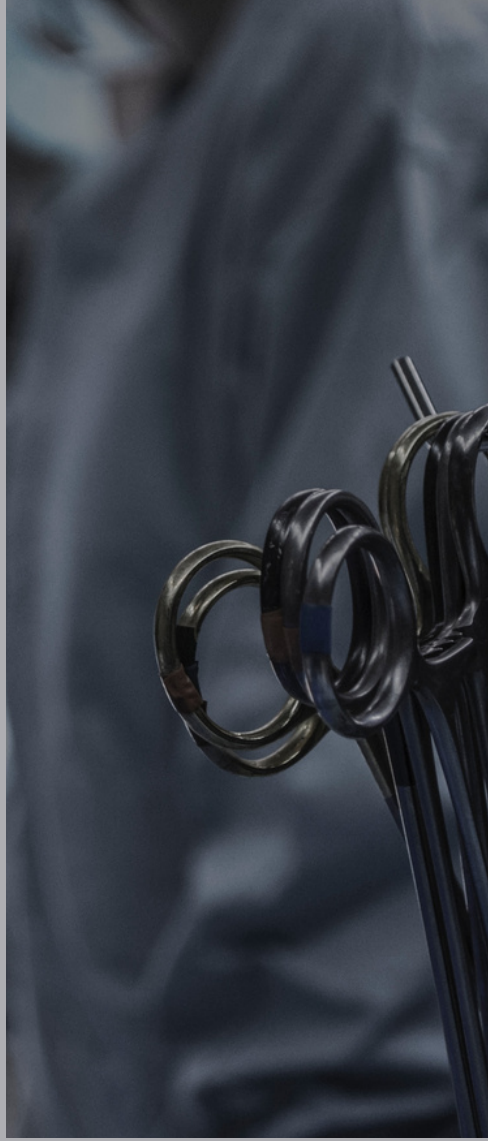
BUILDING AN EVIDENCE BASE TO RECOMMEND SURGERY FOR CHRONIC PELVIC PAIN

Rob Hainsworth (Research Associate in Health Economics), Dr Martin Eden (Research Fellow in Health Economics) and Prof Katherine Payne (Professor of Health Economics) are working on a project looking at if and how surgery can help women affected by chronic pelvic pain causes by pelvic varices.

This project involves a multidisciplinary research team led by Prof Charles McCollum (Professor of Surgery) funded by NIHR Research for Patient Benefit. Around 1 in 4 women, worldwide, are affected by chronic pelvic pain, placing a significant burden on healthcare resources. Early trials have indicated that surgical intervention can reduce the severity of symptoms in women whose pain could be related to abnormal pelvic veins affected by varices.

Working alongside colleagues from Manchester University NHS Foundation Trust, we have used evidence from a feasibility RCT and a larger case-control study to construct and populate an early economic model. The model combines a decision tree with a stated-transition Markov model to understand the economic impact of surgery to control chronic pelvic pain compared with regular analgesia over a ten-year time horizon. Expected value of perfect information analysis is being used to quantify the value of conducting a definitive trial. A key source of uncertainty in outputs from the model relate to a lack of robust data around quality-of-life measurement to produce QALY estimates.

Prof Payne emphasises the importance of using early model-based economic analysis to inform the development of an evidence base that, ultimately, is likely to realise important benefits for women in chronic pain: "Addressing the knowledge gaps we have identified in an ensuing definitive study has the potential to effect radical change in the management of chronic pelvic pain in the NHS and beyond".



MCT-PATHWAY™

METACOGNITIVE THERAPY IN CARDIAC REHABILITATION

Around 90,000 people attend cardiac rehabilitation (CR) following a cardiac event in the UK annually. It is common for people to experience symptoms of anxiety and/or depression following a cardiac event. Although psychological interventions can be offered as part of CR programmes, this is not usually the case, and existing treatments have limited effects. The MCT-PATHWAY programme of work, funded under the UK NIHR Programme Grants for Applied Research (RP-PG-1211-20011), ended this year. The work aimed to improve outcomes in psychological interventions for patients attending CR who present with symptoms of depression and/or anxiety.

The work is led by Adrian Wells, Professor of Clinical and Experimental Psychopathology at the University of Manchester, who is the developer of metacognitive therapy which is proving effective in mental health settings. The main trial showed that the addition of MCT to usual CR significantly improved anxiety and depression outcomes.

Prof Linda Davies (Professor of Health Economics) and Gemma Shields (Lecturer) from MCHE led the health economics components of work. This included a trial economic evaluation for Group-MCT and discrete choice experiments looking at preferences for psychological therapy in CR.

To date the health economics research demonstrates that participants of the discrete choice experiments had a preference for the inclusion of psychological therapy as part of a programme of CR and findings indicate that some aspects of the design and delivery of psychological therapy can be tailored to reflect preferences. Results of the cost-effectiveness analysis of Group-MCT are currently being written up for submission to a peer-reviewed journal.

For more info, please visit: *https://adept-ru.com/research-projects/pathway/*

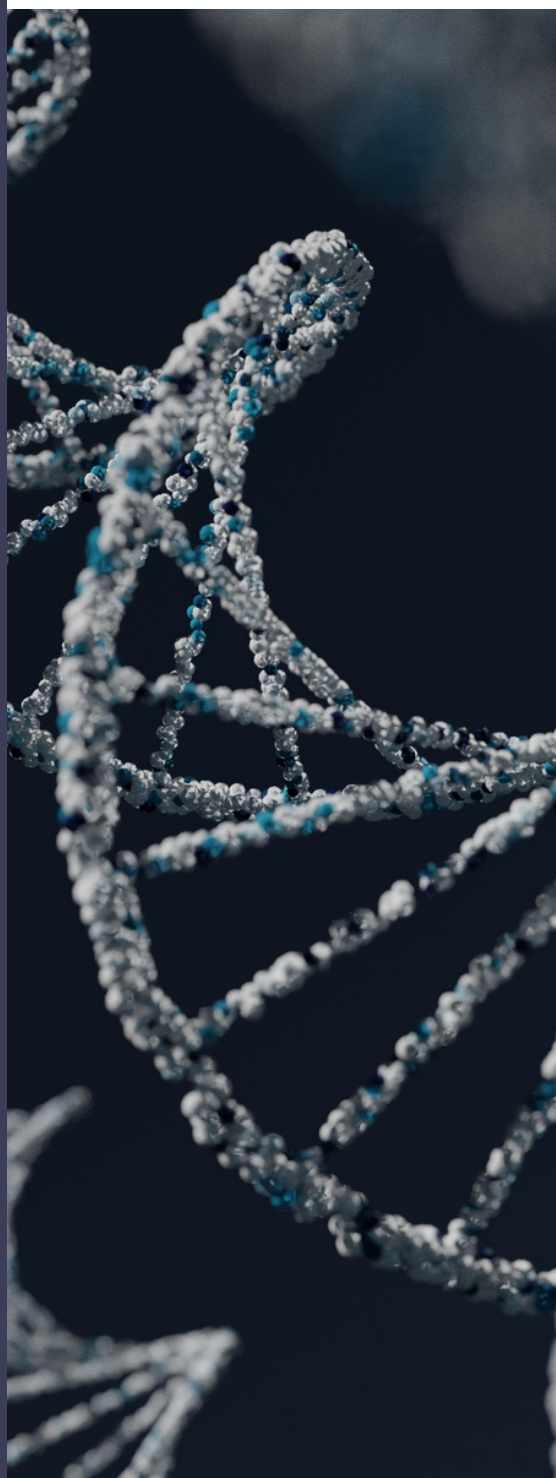
IMATCH: TOWARDS THE EFFICIENT AND SAFE DELIVERY OF ADVANCED THERAPIES

The Innovate Manchester Advanced Therapy Centre Hub (iMATCH) is a Manchester-based consortium focused on the coordinated scale-up of advanced therapy medicinal products (ATMPs) led by Prof Fiona Thistlethwaite; Fiona is a Medical Oncology Consultant at The Christie in Manchester and Honorary Professor at the University of Manchester. iMATCH is a consortium made up of members from The Christie, Manchester University NHS Foundation Trust, Northern Care Alliance Foundation Trust, The University of Manchester, and nine commercial partners (AgenTus, Aptus Clinical, AstraZeneca, Cytiva, Instil Bio (UK), Chaucer Life Sciences, Datatrial, Formedix and Christie Pathology Partnership (CPP)). The project was awarded almost £7M of funding from Innovate UK, has been running since March 2018 and is nearing completion in March 2022, having received £2.65M additional funding.

The objectives of the iMATCH consortium are to maximise patient access to ATMPs through integration of sample collection, development of electronic sample traceability and tracking systems utilising novel digital implementation, developing innovative date capture to addresses complexities, as well as driving scale-up in the clinical setting. iMATCH also has a focus on developing educational materials to prepare healthcare professionals, including NHS staff and community pharmacists, to give the understanding required for working with these ground-breaking treatments and sharing best practice across the industry and NHS.

Advanced therapy medicinal products are medicines for human use that are based on genes, tissues or cells. ATMPs can be classified into three main types: gene therapy medicines that insert 'recombinant' genes into the body to treat a variety of diseases, including genetic disorders, cancer or long-term diseases; somatic-cell therapy medicines that contain cells or tissues that have been manipulated to change their biological characteristics or cells or tissues not intended to be used for the same essential functions in the body; tissue-engineered medicines that contain cells or tissues that have been modified so they can be used to repair, regenerate or replace human tissue.

One of the initial ATMPs of focus for iMATCH was the adoptive transfer of autologous tumour-infiltrating lymphocytes (TIL) for use in the treatment of malignant melanoma. The economic component of iMATCH is led by Dr Sean Gavan (Research Fellow in Health Economics) working with Prof Katherine Payne (Professor of Health Economics). The economic programme for iMATCH has completed a systematic review to investigate if, and how, constraints that affect the expected cost and health consequences of adoptive cell and gene therapies have been included in published examples of cost-effectiveness analyses. An economic analysis to identify and quantify the indicative incremental costs, consequences and key drivers of the relative cost-effectiveness of using TIL for malignant melanoma, taking into account the key capacity constraints affecting implementation into NHS practice, is also nearing completion. The last phase of the economic component involves quantifying the value of specific implementation strategies to deliver TILs at-scale in the NHS for future cohorts of patients with advanced melanoma.



UPCOMING MCHE SEMINAR

Dr Haitham Tuffaha
Principal Research Fellow
University of Queensland
29 November 2021

RECENT MCHE PRESENTATIONS

Thapa S, Payne K, Thokala P, Malcomson L, Renehan A. Value of benefit from a new cancer treatment: clinical complete response and avoidance of major surgery in rectal cancer (ValCoRe). Postgraduate Research Showcase, Division of Population Health, Health Services Research and Primary Care at the University of Manchester. 3 September 2021.

Shields GE, Davies LM, Doherty P, Reeves D, Capobianco L, Heagerty A, Buck D & Wells A. Exploring the Costs and Cost Effectiveness of Metacognitive Therapy for Cardiac Rehabilitation Patients with Symptoms of Anxiety and/or Depression. BACPR Annual Hybrid Conference 2021. 7-8 October 2021.

Dalal G, Wright SJ, Payne K. Non-Linearity in the Cost Attribute in Discrete Choice Experiments: Implications for Using Estimated Willingness-To-Pay Values for Decision-Making. 43rd Annual North American Meeting for Society of Medical Decision Making. 18-20 October 2021.

Dalal G, Wright SJ, Vass C, Georgsson S, Payne K. Understanding Women's Preferences for Information When Making the Decision to Have Non-Invasive Prenatal Testing In Sweden: A Discrete Choice Experiment. 43rd Annual North American Meeting for Society of Medical Decision Making. 18-20 October 2021.

Hainsworth R, Thompson A, Payne K, Guthrie B, Rogers G. Enabling person-centred guidance by accounting for direct treatment disutility and competing risks: A case-study in primary prevention of cardiovascular disease. Guidelines International Network Conference 2021. 25-27 October 2021.

Gemma Shields won the best oral abstract prize at the British Association of Cardiovascular Prevention and Rehabilitation Annual Conference, 2021.

Shabnam Thapa won the judge's prize for best presentation from 1st year PhD student in the Division of Population Health, Health Services Research and Primary Care PGR showcase.

IN OTHER NEWS...

Congratulations to Shabnam Thapa for successfully completing her first year PhD viva • Welcome to Liwei Mou (co-supervised by Dr William Whittaker) who joined us as a PhD student in October.

STUDENT SPOTLIGHT: PESLIE NG'AMBI

"It [the PhD] is a marathon, not a sprint", were the words of my primary supervisor, Prof Katherine Payne, and echoed by the co-supervisors Prof Christopher Griffiths, Prof Darren Aschroft, and Dr Thomas Mason at the start of my PhD programme in autumn 2018. The finish line of this marathon is now in sight. So many lessons have been learnt and skills developed throughout this journey. With the support of funding from the Global Psoriasis Atlas, my PhD aimed at quantifying the economic impact of psoriasis in the UK has been realised.

To meet the aim and objectives of this PhD a range of methods were applied. In the first instance, methodological heterogeneity and conceptual shortcomings were identified in several economic impact of disease studies. This motivated the development of a framework to conceptualise the economic impact of disease as comprising two elements, cost of illness (CoI) and burden of disease (BoD) , and the need to take account welfarist and extra-welfarist approaches to identify, measure and value costs and consequences. The framework formed the basis for the critical appraisal component of two subsequent systematic reviews of studies reporting the cost of illness and burden of disease for psoriasis.

The findings from the systematic reviews motivated the design of two empirical studies. One study aimed to estimate the cost of illness of psoriasis using linked Clinical Practice Research Datalink and Hospital Episodes Statistics (CPRD-HES) data to estimate primary and secondary resource use in the English National Health Service (NHS). A second study aimed to estimate the burden of disease of psoriasis using a survey that was designed and administered to people living with psoriasis in the UK. Validated questionnaires in health economics and dermatology were used in this survey to estimate the impact on health, wellbeing and disease severity. To capture health, wellbeing and disease severity, we selected the EuroQol-five Dimension (EQ-5D), Capability and functionality using the Investigating Choice Experiments for Adults- CAPabilty (ICECAP-A), self-assessed Simplified Psoriasis Index (saSPI) respectively. Using the UK study as the template, the study is intended to be replicated in other countries.

RECENT MCHE PUBLICATIONS

Wildman MJ, O'Cathain A, Maguire C, Arden, MA, Hutchings M, Bradley J et al. Self-management intervention to reduce pulmonary exacerbations by supporting treatment adherence in adults with cystic fibrosis: a randomised controlled trial. Thorax 2021. DOI: 10.1136/thoraxjnl-2021-217594

Wright SJ, Newman W, Payne K. Quantifying the Impact of Capacity Constraints in Economic Evaluations: An Application in Precision Medicine. Medical Decision Making. 2021

Shields G, Camacho L, Farragher T, Clarkson P, Verma A, Davies LM. Acknowledging patient heterogeneity in economic evaluations in schizophrenia: a systematic review. Value in Health. 2021.

Grigoroglou C, Walshe K, Kontopantelis E, Ferguson J, Stringer G, Ashcroft D et al. The scale and scope of locum doctor use in General Practice in: Scale and scope of locum GPs. British Journal of General Practice. 2021 Aug 21.

Shields GE, Wright S, Wells A, Doherty P, Capobianco L, Davies LM. Delivery preferences for psychological intervention in cardiac rehabilitation: a pilot discrete choice experiment. Open Heart. 2021 Aug;8(2):e001747.

Dorgali MV, Longo A, Vass C, Shields G, Harrison R, Scarpa R, Boeri M. A General Public Study on Preferences and Welfare Impacts of Antimicrobial Resistance in the United Kingdom. Pharmacoeconomics. 2021 Aug 30:1–12.