University of Glasgow

VIA VERITAS VITA

HEALTH ECONOMICS AND HEALTH TECHNOLOGY ASSESSMENT
ANNUAL REPORT 2023

CONTENTS

From the Director

Welcome to the Health Economics and Health Technology Assessment (HEHTA) Research Group's Annual Report for 2023. This year has been a remarkable period of growth and change for our team, marked none more so than by our move to the Clarice Pears Building, the University of Glasgow's new hub for the School of Health and Wellbeing. The relocation to our new home in February was a significant milestone for both HEHTA and the University of Glasgow. In a move that now unites our team with colleagues across a variety of research disciplines, our new, state-of-the-art facility offers a dynamic space for fostering partnerships, advancing research ideas, and supporting the growth of our ever-expanding team.

Among the highlights of this year was the establishment of the NIHR Evidence Synthesis Group within our Complex Reviews Synthesis Unit (CRSU). The Evidence Synthesis Group @CRSU is a partnership with the Biostatistics Research Group at the University of Leicester, the School of Business and Society at the University of York, and Cochrane. The Group will be responsible for producing evidence synthesis that are intended to directly inform national clinical guidelines and health-policy decisions.

In addition to our research activities, public engagement has remained a core focus for HEHTA throughout the year. We have been busy hosting a range of events – from hosting a public open panel discussion on health technology assessment (HTA) decision-making on drugs for cystic fibrosis, to providing interactive exhibits for Glasgow's Science Festival, our team has encouraged public discussions around health policy and resource allocation. Events such as these are vital in bridging the gap between our research and the wider community, ensuring that our work is accessible and impactful.

During 2023, we also had the pleasure of celebrating several significant individual achievements. We celebrated Drs Robert Heggie and Suthasinee Kumluang both graduating with PhDs. We were delighted with the promotion of Dr Eleanor Grieve, who is recognised for her substantial expertise in developing and undertaking HTA in low-and-middle income countries, to Senior Lecturer in Health Economics; Dr Kathleen Boyd, who is recognised for her impressive portfolio of research in evaluating complex interventions, to Professor of Health Economics; and Professor Jim Lewsey, who is recognised for his impact research on public health policies such as minimum unit pricing on alcohol, to Zone 2 Professor of Medical Statistics.

The team's achievements, as always, reflect the exceptional work and synergy of our research unit. Our new home at the Clarice Pears Building has provided us with a solid foundation for the future, and we are excited about the opportunities ahead. I hope you find our 2023 report both informative and inspiring, as it captures the hard work and achievements of the HEHTA team over the past year.

Research Themes

Analysis of Linked Health Data (ALDA)

Analysis of Linked Health Data (ALDA) encompasses all research at HEHTA that is associated with statistical, epidemiological, and economic analysis of linked health data sets. HEHTA has a wealth of expertise and experience in this field, including data manipulation and identifying cohorts within linked data sets; regression modelling of panel data sets; outcome measurement and costing; and developing decision analytic models using linked data sets.

Decision Analytic Modelling and Simulation for Evaluation in Health (DAMSEL)

Decision Analytic Modelling and Simulation for Evaluation in Health (DAMSEL) refers to research involving evaluation with modelling or simulation methods. Modelling can be used as the whole framework for an evaluation or as part of a clinical trial-based evaluation to extrapolate intermediate trial endpoints to final health economic outcomes. DAMSEL cuts across and interacts with many of the other themes of HEHTA.

Economics of Population Health (EPH)

Economics of Population Health (EPH) encompasses methodological and applied research on the economic evaluation of population health interventions and includes interventions tackling the wider determinants of health delivered out-with conventional health services. This theme looks closely at the evaluation of "up-stream" factors affecting health and wellbeing, such as early life experiences; the social and economic conditions in which people live; and environmental exposures. The theme also considers the complexity often involved in design and evaluation.

Economic Evaluation alongside Clinical Trials (EEACT)

Economic Evaluation alongside Clinical Trials (EEACT) covers all research conducting an economic appraisal as part of a clinical and/or complex interventions trial. Although modelling methods may still be required to provide a comprehensive appraisal, the characterising feature of this theme is the inclusion of an economic component to the trial and the availability of experimental data on both costs and effects of treatment.

Incorporating Perspectives and Experiences (IPE)

Incorporating Perspectives and Experiences (IPE) research focuses on the development and application of qualitative methodologies to conceptual modelling; trial recruitment and design; developing measures; evidence synthesis; identifying attributes and levels for stated preference discrete choice experiments; and process evaluation. IPE aims to promote the use of qualitative approaches in HTA by championing the valuable insights it can offer into stakeholder perspectives, needs, and experiences, as well as contextual aspects of evaluations and HTA.

Global HTA (GHTA)

Global HTA considers HTA in different contexts, exploring variation between high-income countries as well as looking in-depth as to how and why decision-making in healthcare may differ amongst low- and middle-income countries. Given the global reach of HTA, different methodological approaches and decision-making processes are considered. This theme draws upon HEHTA's research from a global perspective, working with partners including international health and development institutions; global HTA agencies; and major global health research funders - as well as utilising faculty expertise in delivering training in HTA beyond the UK.

Evidence Synthesis (ES)

Evidence Synthesis encompasses all research work associated with combining multiple sources of evidence for clinical and economic evaluations. Alongside the Complex Reviews Synthesis Unit (CRSU), this research theme explores challenges in combining complex data types and structure through both methodological and applied work. Our research ranges from rapid reviews without quantitative synthesis for policy briefings to extensive research programmes of complex living systematic reviews that require the adoption of novel and sophisticated methodological approaches in identifying and synthesising different types of data.

Economics of Precision Medicine (EPM)

Economics of Precision Medicine (EPM) categorises research that is methodologically underpinned by subgroup analyses and which focuses on the understanding of the "strata" of responses, the genetics of the diseases, and effective and cost-effective forms of treatment for different patient groups. In addition, EPM also investigates the implications of precision medicine for study design and technology pricing.

Theme Spotlight: Evidence Synthesis

Evidence synthesis has proven to be a useful tool to inform healthcare decision-making. As medical and health sciences continue to advance, the decisions relating to the prevention and management of ill-health and wellbeing are increasingly complex. Stakeholders require evidence outputs that are relevant to their context; this could range from rapid reviews without quantitative synthesis to complex living systematic reviews that require the adoption of novel and sophisticated methodological approaches in identifying and synthesising different types of data.

The Complex Reviews Synthesis Unit (CRSU: www.crsu.org.uk), embedded within HEHTA, was a collaboration between HEHTA and the Biostatistics Unit at the University of Leicester. The Unit was initially funded by the National Institute for Health and Care Research (NIHR) to provide methodological advice on complex evidence synthesis (£2.2 million for the period of 2015-2023). During this period, the CRSU supported 61 Cochrane reviews and 27 NIHR-funded evidence synthesis across an extensive range of healthcare and public health topics. The Unit also delivered over 30 training events to a broad group of stakeholders. A particular strength of the CRSU is the transferral of novel statistical methods into practice through the development of a suite of six free user-friendly synthesis apps.

More recently, the CRSU has extended its collaborations to colleagues from the School of Business and Society at University of York and Cochrane and has been awarded funding for an Evidence Synthesis Group (£3.6 million for the period of 2023-2028). The aim of the Evidence Synthesis group is to address knowledge gaps or to answer a specific need of clinical and health policy decision-makers and commissioners across the four nations in the UK.

EVALUATING THE IMPACT OF ALCOHOL MINIMUM UNIT PRICING ON DEATHS AND HOSPITALISATIONS IN SCOTLAND

Jim Lewsey and Francesco Manca

Our programme of research on alcohol, alcohol policy, and epidemiology, led by Jim Lewsey and supported by Francesco Manca, has spanned over a decade. Jim and Francesco have been working alongside colleagues from within and out with the University of Glasgow to undertake multiple evaluations of the May 2018 introduction of the minimum unit pricing (MUP) for alcohol in Scotland.

These evaluations were included in the body of evidence collected by Public Health Scotland to assist The Scottish Government in deciding whether to continue, withdraw, or modify the policy.

The MUP research conducted by Jim and Francesco focuses on a variety of social outcomes, such as changes in prescriptions for alcohol dependence, road traffic accidents, and alcohol-related ambulance callouts following the implementation of the policy. These studies also employed robust methodologies for analysing public health interventions in non-randomized settings and perform complementary analyses to corroborate findings. As an example, their 2024 study examining road traffic accidents emphasized the importance of selecting "the most appropriate comparator" and conducting sensitivity analyses to assess the effect of a policy. The results

"The original 50 pence as a floor price may be too low over the years as it can be eroded by external factors such as inflation - so maybe indexing with inflation may create a more consistent effect of the policy over time"

Source: X; taken from @SSA_Addiction

were compared with similar studies using the same datasets in different time frames, highlighting how the time horizon can influence the outcomes. In this research, in contrast to previous publications, Jim and Francesco stress the potential risks associated with interpreting short-term results as conclusive for policies intended to have long-term repercussions through behavioural change. Francesco was invited to discuss the findings of this report on the official podcast of the journal *Addiction* in 2023.

Over this 10-year period, the vast majority of studies have failed to find any significant changes in social outcomes associated with the introduction of the MUP policy. Whilst "null results" may appear at first glance ineffectual, they are still an essential aspect of the research process: paradoxically, statistically non-significant results are often a significant indicator in themselves. These studies contributed to informing policymakers in amending current policies and shaping future research questions.

Unlike most of the previous research on MUP, the titular research of this spotlight found a significant decrease in clinical outcomes such as deaths associated with alcohol-related chronic conditions. This research was a collaboration between HEHTA, Public Health Unit at the University of Glasgow, and Public Health Scotland. The important work covered here on MUP and alcohol-related deaths and hospital admissions in Scotland was published in *The Lancet*, and the research was subsequently shortlisted for Project of the Year in The Herald Higher Education Awards 2023.

Paper summary:

Evaluating the impact of alcohol minimum unit pricing on deaths and hospitalisations in Scotland: a controlled interrupted time series study.

Background – A minimum price of £0.50 per unit of alcohol sold in Scotland was introduced at the start of May 2018. Some research in this area has suggested that the introduction of MUP has brought about a decline in alcohol sales by 3%. This research set out to evaluate whether this reduction of alcohol sales in turn has reduced deaths and hospitalisations attributable to alcohol.

Methods – The study outcomes ascribed in their entirety to alcohol consumption were set out using routinely collected data around deaths and hospitalisations. Using controlled interrupted time series regression, the impact of MUP legislation in Scotland and effect modification by deprivation group was examined. The time series used to reflect the period prior to the study covered January 2012 through April 2018 and was compared against a time span covering policy implementation in May 2018 through December 2020. Data from England, as out-with policy implementation, was used to form the basis of data comparison.

Findings – The research found that MUP policy in Scotland can be associated with a decrease in deaths ascribed entirely to alcohol consumption by 13.4%. Further, hospitalisations ascribed entirely to alcohol consumption were also found to have decreased by 4.1% following the introduction of MUP. Improvements found in chronic outcomes notably include a reduction in alcoholic liver disease. The most significant changes were identified as coming from the four most deprived socioeconomic areas of Scotland.

Interpretation – The research findings can be interpreted to suggest that MUP policy, following its introduction to Scotland in 2018, is positively reducing socioeconomic inequalities in Scotland regarding alcohol health outcomes.

Publications

Manca F, Parab R, Mackay D, Fitzgerald N, Lewsey J. Evaluating the impact of minimum unit pricing for alcohol on road traffic accidents in Scotland after 20 months: An interrupted time series study. Addiction. 2024;119:509-17.

Wyper GM, Mackay DF, Fraser C, Lewsey J, Robinson M et al. Evaluating the impact of alcohol minimum unit pricing on deaths and hospitalisations in Scotland: a controlled interrupted time series study. The Lancet. 2023;401:1361-70.

Estimating the Return on Investment of Health Technology Assessment India (HTAIn)

Pankaj Bahuguna and Eleanor Grieve

In difficult fiscal times, HTA offers great potential to improve the impact of healthcare in supporting health systems to decide which health services to fund. Although very few studies have estimated the benefits of HTA in terms of its value to the health system, overall efficiency gains are expected given its use of evidence-based reimbursement decisions. Yet, the opportunity costs associated with its establishment, and the ongoing running costs required to sustain an HTA infrastructure, should also be considered. This poses the question: is HTA always worth the investment? As HTA institutions can divert resources away from frontline health services, it is important to understand the extent to which they are providing value for money with a demonstrated impact on health. Furthermore, an increasing investment in these processes in low- and middle-income countries has generated greater interest from policy makers about the value and return on investment (ROI) in HTA.

In addressing this question, HEHTA developed a methodological framework to estimate the impact of HTA in terms of its ROI. Rather than a financial ROI focused solely on maximising financial returns with a preference for cost-saving interventions only, a net health benefits (NHB) basis was used as the measure of value. This is a re-expression of the more familiar cost per Quality Adjusted Life Year or Incremental Cost Effectiveness Ratio (ICER). Although ICERs provide a categorical assessment of whether an intervention is cost-effective or not, it does not consider the number of patients who could benefit net of the health opportunity cost of the intervention. It follows that if a cost-effective intervention is fully implemented, the potential impact of overall gains in population health is maximised. The framework sets out to convey the concepts of potential and realised population NHB as well as what can be attributed to the HTA process for each technology assessed. By aggregating these HTAs, the value of HTA at the systems level can be quantified.

The Center for Global Development (CGD) commissioned HEHTA to use this quantitative framework to evaluate the impact of the HTA body in India, HTAIn. Based on a small sample of HTAs, the findings indicated that HTAIn represents value for money, with a positive ROI of 9:1 given current implementation levels. With full implementation of technologies, this could rise to 71:1. HTA evidence uptake by public health sector "user" departments must be supported to secure implementation and maximise HTA investment return. The results informed a policy briefing and were disseminated at a symposium in Delhi in March 2023 organized by the Department of Health Research and the Ministry of Health and Family Welfare, in collaboration with World Health Organisation and CGD. This is an example of novel methodological developments being translated into practical application with real policy impact.
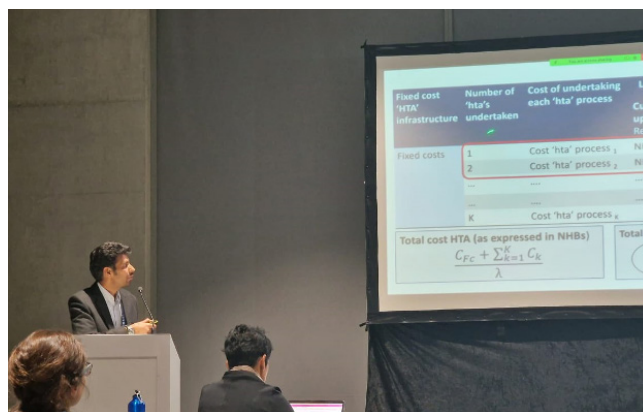
Paper Summary:
Estimating the Return on Investment of Health Technology Assessment India (HTAIn)

Background – Healthcare globally is under growing financial pressure, worsened by the recent macroeconomic effects of the Covid-19 pandemic and on-going military conflicts. HTA is therefore increasingly in demand due to its ability to ensure the efficient, effective, and transparent utilisation of limited resources through evidence-based priority setting. With this growing importance, it logically follows that there is a need to ensure that HTA investment subsequently provides value for money.

Methods – The NHBs from three HTAs from a time period of 2017-2020 were aggregated and compared against HTAIn's total expenditure from 2019-2020 in order to calculate HTAIn's overall ROI. Following the recommendation of HTAIn, NHBs were conveyed as net monetary benefits (NMB) using a 1 x GDP threshold. Health benefits were compared alongside monetary benefits to provide a comprehensive examination of ROI.

Findings – The three HTAs were found to have a positive overall ROI of 9:1. If 100 percent implementation (and attribution) for these HTAs is assumed, the overall return of HTAIn could be as high as 71:1.

Interpretations – This study highlights that while HTAIn requires financial investment, it is an efficient use of resources and offers value for money as a policy tool. For HTAIn, it is hoped that this research will contribute to generating political will and continued financial investment in these processes, reinforcing HTAIn's mandate and role in health system governance.

CENTER FOR GLOBAL DEVELOPMENT

Tri-Sectoral Collaboration in Health Research Translation: Perspectives of Academia, Industry, and Healthcare Sector Partners in Developing an AI-Based Precision Health Technology

Neil Hawkins and Dikshyanta Rana

Colorectal Cancer (CRC) is the fourth most common cancer in the UK and develops when benign polyps (small growths on the inner lining of the colon/rectum) turn cancerous over time. Because early polyp removal via polypectomy during colonoscopies can reduce CRC incidence, therefore improving mortality rates, patients are categorised into high and low-risk groups for polyp recurrence based on the BSG/ACPGBI/PHE guidelines. The NHS Bowel Cancer Screening Programme invites individuals aged 50 to 74 to undergo biennial faecal immunochemical test (FIT) screening, where positive FIT results lead to further investigation via colonoscopies and polypectomy. High-risk patients are recommended for further surveillance colonoscopy every three years, whilst low-risk patients return to the screening programme. However, current guidelines demonstrate limited accuracy in risk stratification, resulting in a significant number of patients undergoing unnecessary colonoscopies.
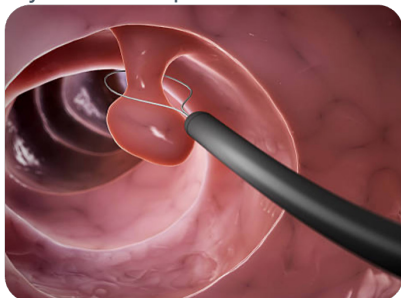
Polyps (pre-cancerous growths) in bowels are excised via polypectomies during colonoscopies.

The INtegrated teChnologies for Improved Polyp SurveillancE (INCISE) project is a large, retrospective study led by University of Glasgow in collaboration with NHS Greater Glasgow and Clyde, Canon Medical Research, BioClavis, and OracleBio which aims to develop a tool that can predict which patients with polyps are at risk of developing further polyps. The tool will comprise of a personalised risk score that combines index polyp tissue characteristics, including clinical patient characteristics, digital pathology, genomics, immunohistochemistry, and transcriptomics. Overall, the tool could improve targeted surveillance of high-risk patients, minimise unnecessary procedures for low-risk patients, and alleviate the burden on patients and the NHS.

In the first phase of the project, Neil and Dikshyanta developed a cost-effectiveness model framework comparing the existing post-polypectomy surveillance programme to a new protocol based on earlier versions of the INCISE risk score. Additionally, the translation of the INCISE risk score research to a commercial technology available for clinical use was investigated. Furthermore, the impact of censoring mechanisms on survival analysis of cancer screening and surveillance data was also evaluated.

The second phase of the project is currently underway, and the group plans to update the cost-effectiveness model using the most recent version of the INCISE risk score. The anticipated evidential requirements to support the effective diffusion and uptake of the INCISE risk score in clinical use will then be reviewed. The impact of the existing risk score guidance on colonoscopy behaviour of patients will also be assessed, and an investigation into the institutional drivers in acceptance of AI-based precision health technologies will be conducted. In recognition of INCISE's progressive research, the group was awarded the Innovative Collaboration Award at the Scotland's Life Sciences Awards 2023.

Paper summary:

Tri-Sectoral Collaboration in Health Research Translation: Perspectives of Academia, Industry, and Healthcare Sector Partners in Developing an AI-Based Precision Health Technology

Background – Effective tri-sectoral collaboration between academia, industry, and healthcare sector (AIHS) partners can accelerate the translation of AI-based precision health technologies into real-world practice. Success hinges on the ability of multidisciplinary experts to navigate unique situations related to complex data requirements; generation of actionable results; validation of effectiveness and cost-effectiveness; maintenance of high-throughput tools; regulatory compliance; reimbursement establishment; and public trust-building. The study aims to investigate the intricacies of tri-sectoral collaborations involving AIHS partners in the development of an AI-based precision health technology.

Methods – This qualitative, exploratory study utilised the INCISE project, which aimed to improve the surveillance protocol for pre-cancerous polyps in the bowel, as a case study. Semi-structured interviews with 18 key project personnel, including the funders, were conducted between April 2022 and February 2023. Questionnaires were developed based on a comprehensive review of co-production theory and commercialisation models, were piloted before the main interviews, and developed and refined for the funder interviews. A thematic analysis was conducted.

Results – Six key themes and 28 sub-themes that highlight the intricacies of AIHS collaborations were identified. The themes cover structural, operational, financial, intellectual, cultural, and inter-personal aspects of these collaborations which provides an insight into collaboration dynamics and factors influencing successful health research translation.

Interpretation – The study is the first of its kind and adds to the limited literature on the topic. Findings indicate that translating AI-based precision health technology is a complex and lengthy process prone to failure at any stage. Tri-sectoral collaboration, rooted in the principles of co-production, can bridge the health research translation gap. However, it is influenced by a multitude of interrelated, multi-dimensional factors which can inhibit success by introducing challenges that can impact the innovative value of the technology and its timely real-world introduction for patient benefit. Overcoming these challenges requires AIHS partners to identify and explicitly acknowledge the challenges, and frequently align goals to preserve a shared vision. The study should therefore play a valuable role in providing related insights and lessons to future researchers.

Li³ Sc²¹ Celebrating Scotland's Life Sciences Achievements

INCISE | Integrated TeChnologies for Improved Polyp SurveillancE

Project Tables

Completed in 2023

Project Title	HEHTA Lead(s)	Duration	Total Project Value (£)	Funder	Research Theme(s)
Reversal of T2DM to normal glucose tolerance using non-surgical weight management with low-energy liquid- diet and long-term maintenance, within routine NHS care: (DIRECT study extension)	Neil Hawkins	2017-2023	250,742.00	Diabetes UK	DAMSEL
Clinical and economic burden associated with not anticoagulating eligible patients with atrial fibrillation (AF)	Claudia Geue	2021-2023	90,744.00	BMS Pfizer	ALDA
NIHR Complex Reviews Support Unit (CRSU)	Olivia Wu	2015-2023	2,199,144.57	NIHR	ES
Supporting the National Action Plan for Antimicrobial Resistance (SNAP-AMR) in Tanzania	Emma McIntosh	2018-2023	140,789.00	Medical Research Council (MRC)	GHTA

Project Title	HEHTA Lead(s)	Duration	Total Project Value (£)	Funder	Research Theme(s)
Randomised control trial of surveillance and no surveillance for patients with Barrett's oesophagus (BOSS)	Olivia Wu	2009-2023	1,758,849.77	NIHR	EEACT
Cancer Medicines Outcomes programme (CMOP)	Olivia Wu	2019-2023	1,000,000.00	Scottish Government	ALDA
Football and gambling: a feasibility study and pilot for an intervention to reduce gambling involvement among football fans	Manuela Deidda	2020-2023	642,516.79	NIHR	EPH
Saeboglove therapy for severe Upper limb disability and Severe Hand Impairment after stroke (SUSHI)	Olivia Wu	2019-2023	277,075.00	CSO	EEACT
BEhavioural weight management: COMponents for Effectiveness (BECOME)	Olivia Wu	2020-2023	505,026.12	NIHR	ES
New care home admission after hospitalisation - understanding trajectories and predictors using linked health and social care data	Claudia Geue	2020-2023	72,342.00	Dunhill Medical Trust	ALDA
KTP 1: Health Economics to assist translation of molecular pathology tests	Neil Hawkins	2021-2023	180,131.00	Innovate UK	EPM
KTP 2: Health Economics to assist translation of molecular pathology tests	Neil Hawkins	2021-2023	88,721.00	BioClavis Ltd	EPM
Healthcare and Socio-economic Impacts of COVID-19 on Patients with Diabetes in Tanzania and Kenya	Manuela Deidda, Eleanor Grieve	2021-2023	800,000.00	NIHR	EPH GHTA
Impact of OAC discontinuation in patients with atrial fibrillation (AF)	Claudia Geue	2021-2023	83,562.00	BMS Pfizer	ALDA
Healthcare and Socio-economic Impacts of COVID-19 on Patients with Diabetes in Tanzania and Kenya (C19-GECO)	Manuela Deidda	2021-2023	79,215.63	NIHR	GHTA
Evaluation of HTA Impact in India	Eleanor Grieve	2022-2023	18,896.00	CGD Europe	GHTA

Project Title	HEHTA Lead(s)	Duration	Total Project Value (£)	Funder	Research Theme(s)
Combining efficacy estimates from clinical trials with the natural history obtained from large routine healthcare databases to determine net overall treatment benefits	David McAllister	2016-2023	1,007,348	Wellcome Trust	ES
Integrated Technologies for Improved Polyp Surveillance (INCISE) V1.0	Neil Hawkins	2020-2023	1,134,506.00	Innovate UK	EPM
A randomised, double-blind placebo-controlled trial of the effectiveness of the beta-blocker bisoprolol in preventing exacerbations of chronic obstructive pulmonary disease (BICS)	Olivia Wu	2018-2023	1,889,289.50	NIHR	EEACT

Ongoing in 2023

Project Title	HEHTA Lead(s)	Duration	Total Project Value (£)	Funder	Research Theme(s)
The Best Services Trial (BeST?): Effectiveness and cost-effectiveness of the New Orleans Intervention Model for Infant Mental Health	Emma McIntosh, Kathleen Boyd	2016-2024	3,878,068	NIHR	EPH EEACT
How can we increase the number of people cycling regularly?	Emma McIntosh	2018-2024	164,952	British Cycling Federation	EPH IPE
BALLAD - A global study to evaluate the potential benefit of adjuvant chemotherapy for small bowel adenocarcinoma	Kathleen Boyd	2013-2024	686,749.00	CRUK	EEACT
Living Lab: Driving Economic Growth in Glasgow through Real-World Implementation of Precision Medicine	Neil Hawkins	2020-2025	38,076,472	UKRI	EPM
Early Supported Discharge in patient admitted to hospital with Heart Failure; ESD-HF	Olivia Wu	2020-2024	519,122.00	SQ innovation AG	DAMSEL

Project Title	HEHTA Lead(s)	Duration	Total Project Value (£)	Funder	Research Theme(s)
Integrating digital pathology and genomic analysis to optimise and streamline colonic surveillance within the Scottish Bowel Screening Programme (SBoSP) to enable early detection of Colorectal neoplasia	Neil Hawkins	2020-2024	1,134,505.00	Innovate UK	EPM
Evaluating later or expanded premises hours for alcohol in the night-time economy (ELEPHANT)	James Lewsey	2020-2024	1,091,368.60	NIHR	ALDA EPH
A clinical trial of FFR-CT guided management vs standard invasive management in patients with known or suspected coronary heart disease	Olivia Wu	2020-2025	2,367,658.00	BHF	EEACT DAMSEL
A phase II RCT to measure the cost and consequences of Dyadic Developmental Psychotherapy compared with 'usual treatment' for children referred with maltreatment-associated psychiatric problems (DDP)	Kathleen Boyd, Eleanor Grieve	2020-2024	2,415,360.56	NIHR	EEACT DAMSEL
Tailored Intervention at home for patients with moderate-to-severe COPD and Co-morbidities by Pharmacists and Consultant Physicians (TICC PCP): pilot randomised controlled trial	Emma McIntosh	2021-2024	158,862.00	CSO	EEACT
Accelerated cardiovascular magnetic resonance in coronary artery disease (MRI in CAD)	Olivia Wu	2021-2024	247,509.00	NIHR	EEACT
Optimising a digital diagnostic pathway for Heart Failure in the community (OPERA)	Olivia Wu	2021-2024	768,000.00	Astra Zenica	DAMSEL
A Randomised Placebo-Controlled Trial of Antenatal Corticosteroids for Planned Birth in Twins: (STOPPIT-3)	Kathleen Boyd	2021-2025	1,894,258.23	NIHR	EEACT DAMSEL
Quantum-Inspired Imaging for Remote Monitoring of Health & Disease in Community Healthcare (QUEST)	Emma McIntosh	2021-2026	4,713,164.00	ESPRC	EPM EPH

Project Title	HEHTA Lead(s)	Duration	Total Project Value (£)	Funder	Research Theme(s)
REDIRECT: REmote Diet Intervention to REduce long Covid symptoms Trial	Emma McIntosh	2021-2024	1,099,282.00	NIHR	EPH
The clinical utility of cardiac magnetic resonance imaging in patients with angina but no obstructive coronary disease (CorCMR): a diagnostic study and nested randomised trial	Olivia Wu	2021-2024	296,404.00	BHF	EEACT
A randomised controlled trial of a facilitated home-based rehabilitation intervention in patients with heart failure with preserved ejection fraction and their caregivers: the REACH-HFpEF Study	Emma McIntosh	2021-2024	2,078,742.59	NIHR	EEACT
Effectiveness and cost effectiveness of an automated text message intervention for weight management in postpartum women with overweight or obesity: the Supporting MumS (SMS) Randomised Controlled Trial	Emma McIntosh	2021-2025	2,563,509.81	NIHR	EPH
Oxybutynin for the treatment of vasomotor symptoms associated with menopause (BLUSH)	Olivia Wu, Eleanor Grieve	2022-2027	1,972,654.02	NIHR	EEACT
Glasgow as a Living Lab Accelerating Novel Transformation (GALLANT)	Emma McIntosh	2022-2027	10,166,893w	NERC	EPH
Evaluation of Child and Parent Support to improve the mental health of children with a social worker (What works in social care)	Kathleen Boyd	2022-2024	310,058.00	WWCSC	DAMSEL
Evaluating Public Health Interventions Using Non-Randomised Study Designs: Thrombectomy Service and Police Carriage Of Naloxone	James Lewsey	2022-2025	287,949.00	CSO	ALDA

Project Title	HEHTA Lead(s)	Duration	Total Project Value (£)	Funder	Research Theme(s)
PHaCT Trial: Preventing Homelessness, improving health for people leaving prison: a pilot randomised controlled trial of a Critical Time intervention (PHaCT)	James Lewsey	2022-2024	744,144.60	NIHR	ALDA EPH
Optimal implementation of Wolbachia wAlbB programmes for Dengue control (MOSQUITO)	Olivia Wu, Eleanor Grieve	2022-2027	4,999,582.00	Wellcome Trust	EEACT DAMSEL GHTA
A feasibility study to test the peer-led `A Stop Smoking In Schools Trial' intervention in three culturally different middle income countries (ASSIST)	Nicola McMeekin	2022-2025	351,026.00	MRC	EPH
Health Economics Analysis to Scottish Medicines Consortium	Kathleen Boyd	2022-2024	80,000	Healthcare Improvement Scotland	ES DAMSEL
Personalised Exercise-Rehabilitation FOR people with Multiple long-term conditions (multimorbidity)-The PERFORM trial	Emma McIntosh	2022-2027	2,577,534.00	NIHR	EPH
Maximising the public health benefits of smokefree prisons (TIPS2)	Kathleen Boyd	2022-2024	577,194.40	NIHR	DAMSEL
Early Vasopressors in Sepsis (EVIS)	Olivia Wu, Evi Germeni	2021-2025	3,065,541.90	NIHR	ES IPE
Economic analysis for Evaluation of Linked workers programme	Kathleen Boyd, Eleanor Grieve	2021-2024	9,355.00	CSO	EEACT EPH
BURNS rehab programme: Burns Rehabilitation: A multidisciplinary program for burns management, treatment, and prevention in low-income countries (RIGHT)	Emma McIntosh	2022-2026	3,347,670.00	NIHR	GTHA
Coronary Microvascular Angina International: A multicentre, randomised controlled trial (iCORMICA)	Olivia Wu	2020-2025	1,383,187.00	Abbot-UK	EEACT
Real-world treatment effectiveness in people with type 2 diabetes: Maximising the applicability of clinical trials	David McAllister	2020-2024	463,904.00	MRC	ES

Project Title	HEHTA Lead(s)	Duration	Total Project Value (£)	Funder	Research Theme(s)
Healthy Dads Healthy Kids in Prisons: a feasibility study and pilot for an intervention to improve mental health and wellbeing and father-child relationships	Nicola McMeekin	2020-2024	438,794.29	NIHR	EPH

New in 2023

Project Title	HEHTA Lead(s)	Duration	Total Project Value (£)	Funder	Research Theme(s)
A pilot randomised controlled trial of sleep restriction therapy versus sleep hygiene education for newly diagnosed breast cancer patients with acute insomnia (Sleep restriction Therapy) (INVEST)	Kathleen Boyd	2023-2025	299,058.00	CSO	EEACT
A whole-school intervention tackling gender-based violence (Equally safe in schools)	Emma McIntosh	2023-2026	1,626,932.93	NIHR	EPH
Production of Evidence Syntheses for Evidence Synthesis Programme (ESG)	Olivia Wu, Evi Germeni	2023-2028	3,725,536.00	NIHR	ES, IPE
AF Screening to Prevent Ischaemic Stroke - The Role of Blood, ECG and Genetic Biomarkers (ASPIRE)	Robert Heggie	2023-2025	151,844.00	Stroke Association	DAMSEL
Effectiveness of Surveillance Technologies to Prevent Suicides in High-Risk locations	Manuela Deidda	2023-2026	1,120,196.70	NIHR	EPH
Radiograph Accelerated Detection and Identification of Cancer in the Lung (RADICAL)	Neil Hawkins, Evi Germeni	2023- 2025	436,376.00	NHSGGC	EPM, IPE
A pilot cluster randomised controlled trial of the Go2play active play intervention for children with intellectual disabilities (GO2PLAY)	Manuela Deidda	2023-2025	110,000.00	NIHR	EPH

| Project Title	HEHTA Lead(s)	Duration	Total Project Value (£)	Funder	Research Theme(s)
Creation of a Standardized Protocol Tool and eLearning Programme for Research Using Routinely Collected Health Data: A RECORD Initiative to Improve Methods	David McAllister	2023-2025	119,106.00	CIHR	ALDA
Identifying evidence-based approaches to assess wider economic outcomes of gambling harm prevention	Emma McIntosh	2023-2024	402,084	Gambling Commission	EPH
Integrated Technologies for Improved Polyp Surveillance (INCISE2) V2.0	Neil Hawkins	2023-2025	1,205,350.00	Innovate UK	EPM
A pilot randomised control trial of an intervention to reduce children's exposure to second hand smoke in the home in disadvantaged communities in Scotland (SECOND HAND SMOKE)	Nicola McMeekin	2023-2025	299,973.00	CSO	EPH
Is revascularisation with coronary artery bypass grafting (CABG) superior to percutaneous coronary intervention (PCI) in people with ischaemic left ventricular dysfunction (iLVSD) with respect to all-cause mortality or cardiovascular hospitalisation, and more cost effective? (BCIS4)	Olivia Wu, Robert Heggie	2023-2032	2,035,695.75	NIHR	EEACT

HEHTA moves to the Clarice Pears Building

In February, the HEHTA team moved into their new home: the Clarice Pears Building. The Clarice Pears Building, University of Glasgow's new location for the School of Health and Wellbeing, was officially opened later in the year on 12 September. The building is named after Clarice Pears, mother of the three founders of the Pears Foundation, who donated £5 million towards the building's construction.

Situated in the West End of Glasgow on the University's Gilmorehill campus, the building unites academics previously working across ten separate locations to one single centre for world-leading research focusing on improving health and reducing health inequalities. HEHTA share their home with colleagues from the Robertson Centre for Biostatistics, Public Health, Primary Care, Mental Health and Wellbeing, and the MRC/CSO Social and Public Health Sciences Unit, helping foster greater collaboration and synergy across the school's many converging areas of research. It also provides an ideal setting to support partnerships, allowing close links with external partners such as the NHS, government, and voluntary sectors. Such partnerships are essential for research to be translated into policy and practice.

Inside, the new state-of-the-art facilities and open and accessible workspaces increase the capacity and capability for post graduate research and teaching.
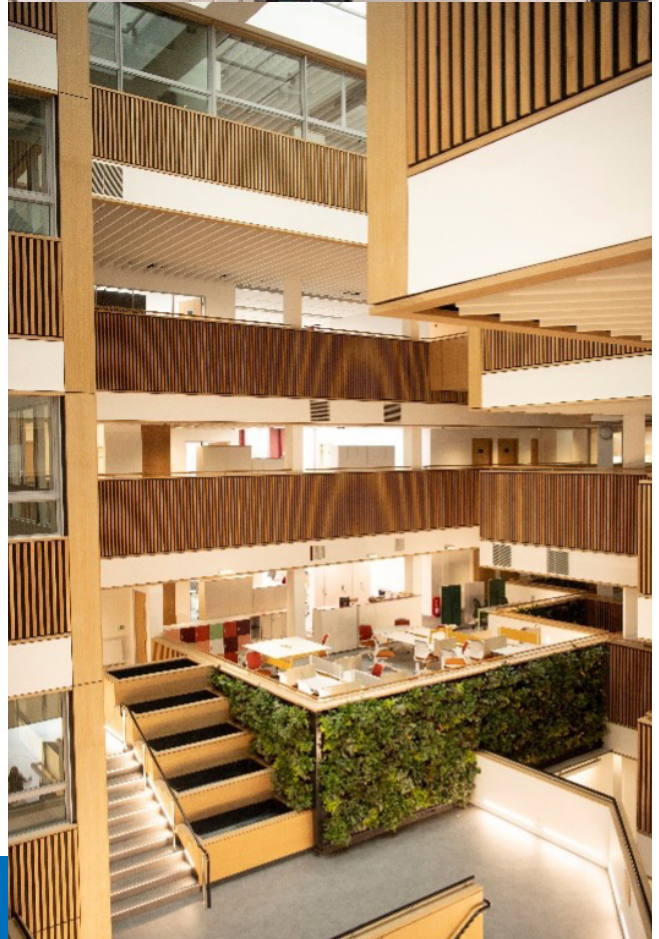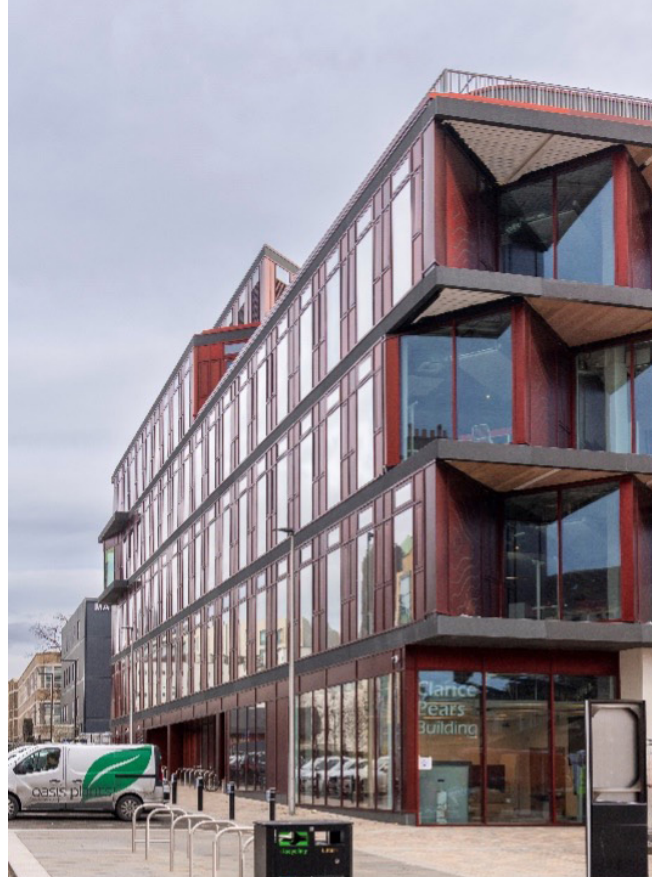
HEHTA Hosts NIHR Health Economics for Annual Global Health Meeting

In May, HEHTA invited NIHR global health economics colleagues to take part in the annual Global Health Economist Network meeting. Chaired by Emma McIntosh and Eleanor Grieve, the group discussed the way forward for the network and had presentations from various members. It is the group's intention to grow the Global Health Economists' Network and eventually publish a position paper drawing funders' attention to the issues faced when conducting global health research.

SHW Community Day for Glasgow Science Festival

As part of the Glasgow Science Festival, the School of Health and Wellbeing welcomed the public into the Clarice Pears Building for the school's Feel-Good Future Community Day on 10 June. HEHTA volunteers were on hand to support visitors in engaging with an interactive exhibit devised by the team – "Health Policy Maker for the Day", alongside a health budget expenditure simulator. The exhibits sparked interesting and thoughtful discussion, allowing the public to gain insight into some of the research being undertaken in the school. The Clarice Pears Building opened its doors to the public again

in September for Glasgow Doors Open Day, allowing visitors once more to learn about the work and research undertaken at HEHTA.

The Price of Life Screening

On 22 November, HEHTA hosted a community engagement event at the Advanced Research Centre (ARC) at the University of Glasgow to explore decision-making in HTA. The aim of the event was to demystify HTA processes and consider some of the challenges of decision-making. Joined by approximately 100 attendees, the evening started with a screening of 'The Price of Life', a documentary by the award-winning film-maker Adam Wishart. 'The Price of Life' focuses on decision-making by the National Institute for Health and Care Excellence (NICE) on Revlimid (a brand name of lenalidomide), a drug for multiple myeloma, and captures the perspectives of a range of stakeholders including patients and their families as well as clinicians. The screening was followed by a panel discussion on HTA decision-making on drugs for cystic fibrosis. Ryan Mulholland introduced the discussion by providing some context on recent appraisals by NICE and the Scottish Medicines Consortium on the treatments of Kalydeco, Orkambi, Symkevi, and Kaftrio for cystic fibrosis. The panel, chaired by Emma McIntosh, consisted of: Thomas Ferguson (a person living with cystic fibrosis) and Marion Ferguson (campaigner) – campaigner for access to these drug treatments in

Scotland; Jeane Freeman (Former Scottish Cabinet Secretary for Health and Sport), Gordon MacGregor (consultant in respiratory medicine specialising in cystic fibrosis) and our Director, Olivia Wu (previous member of NICE Technology Appraisal Committee).


In discussing decision-making on these cystic fibrosis drugs, the panellists offered insightful and compelling contributions on a range of areas, including: the impact of cystic fibrosis on patients and carers; the benefits of these cystic fibrosis transmembrane conductance modulators; the roles of HTA bodies and governments in price negotiations; the measurement of health outcomes; and the sharing of perspectives in economic evaluations; and spillover effects. To conclude the event, there was a range of thought-provoking questions presented to the panel from the engaged audience.

Evi Germeni Nominated for People Make Research Award

In July, Evi Germeni was nominated for a University of Glasgow People Make Research Award, voted for by postgraduate and postdoctoral researchers to recognise and thank the people who contribute to the university's research environment. Evi's nomination followed her promotion to Senior Lecturer in 2022.


GhESS 10th Anniversary Event
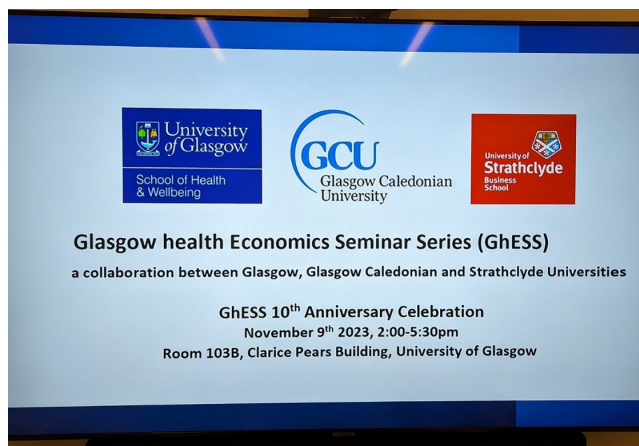
HEHTA hosted the 10th anniversary of the Glasgow Health Economics Seminar Series (GhESS) in November. Guests were welcomed from the University of Strathclyde and Glasgow Caledonian University (GCU), as well as the University of Edinburgh, Scottish Medicines Consortium, and economists from the Health and Social Care department in the Scottish Government. The event began with a brief reflection on the seminar series over the past decade from Emma McIntosh. Melissa Pegg, a senior research consultant at the York Health Economics Consortium and former HEHTA MSc HTA student, then discussed methods of assessing environmental sustainability in HTA. There were also

presentations from three PhD students across the three partner universities: Mhairi Webster (GCU), Eunice Adwubi (University of Strathclyde), and Tzu Jung Lai (HEHTA). Finally, Professor John Cairns from the London School of Hygiene and Tropical Medicine delivered a keynote seminar on the use of quantitative decision modifiers in NICE technology appraisals. The afternoon showcased the extensive work being conducted in Glasgow and further afield and allowed for reflection on a decade of successful collaboration.

Student Collaboration Beyond Study Research
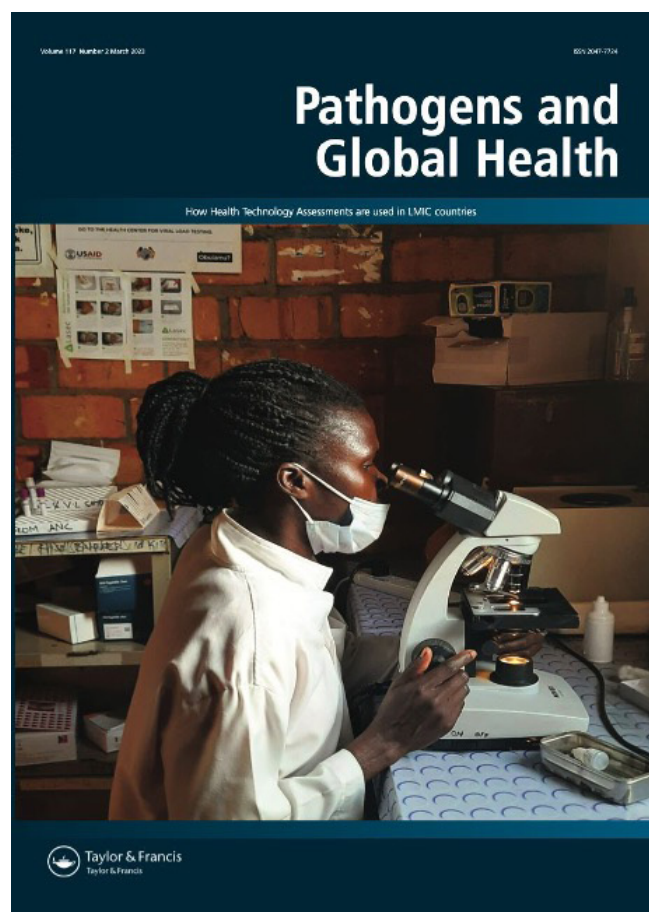
In a testament to the collaborative nature of HEHTA, the research article, 'How least developed to lower-middle income countries use health technology assessment: a scoping review' was published in *Pathogens and Global Health* in March and was chosen as the cover feature. Notably, this research was a collaboration between not only HEHTA research assistants, but two HEHTA MSc HTA students (Mariana Al-Adwan and Warren Mukelabai Simangolwa), two HEHTA PhD students (Hanin Farhana Binti Kamaruzaman and Septiara Putri), and one University of Glasgow MSc Global Health student who completed their project with HEHTA (Anna Falkowski).

Publication: Falkowski A, Ciminata G, Manca F, Bouttell J, Jaiswal N, Farhana Binti Kamaruzaman H, Hollingworth S, Al-Adwan M, Heggie R, Putri S, Rana D. How least developed to lower-middle income countries use health technology assessment: a scoping review. Pathogens and Global Health 2023;117:104-19.

Team Promotions

In July, several HEHTA team members were recognised for their achievements in the field of HTA research and education in well-deserved promotions. To accompany the news, Director Olivia Wu profiled HEHTA's latest recipients.

Eleanor Grieve promoted to Senior Lecturer in Health Economics

Eleanor is HEHTA's Theme Lead for Global HTA and co-Lead of our MSc HTA Programme. Her work has a strong focus on the context of low- and middle-income settings, for which she is already developing a strong professional reputation in this area. Alongside an impressive list of grants and publications, Eleanor's work has generated genuine impact - most notable in demonstrating the value of implementing an HTA process (such as NICE and SMC in the UK) at country levels.

Kathleen Boyd promoted to Professor of Health Economics

Kathleen was one of our earliest recruits, who joined us as Research Assistant and completed her PhD alongside her academic job. Over the years, Kathleen has developed an excellent programme of research in economic evaluation alongside clinical trials and is a recognised expert in the field. More recently, Kathleen has taken on the role of Director of Research for the School of Health & Wellbeing, advocating for the development of strong support infrastructure for our early career researchers.

Jim Lewsey promoted to Zone 2 Professor of Medical Statistics

Jim is an outstanding medical statistician. He is always generous with his time and knowledge, supporting colleagues within (and out with) HEHTA to deliver high-quality research. In recent years, Jim has delivered an important programme of research on minimum unit pricing on alcohol, the impact of this work has been widely recognised.

Teaching and Supervision

MSc Health Technology Assessment: 2023 in Review

Eleanor Grieve, Senior Lecturer and Co-Lead of MSc HTA Programme.

The team was delighted to start off 2023 with the success of the second Jill Sanders Memorial Scholarship awarded to one of our MSc HTA students. This scholarship provides funding for individuals residing in African countries to further their knowledge of HTA. The programme objective is to have a positive impact on HTA capacity in African countries through developing professional HTA capacity. Capacity development is integral to HEHTA's teaching and research, and we are immensely proud of all our alumni across the globe.

This year also saw the launch of two new courses: 'Decision Analytic Modelling & Early Health Technology Assessment', which is run in collaboration with Radboud University, and 'Choice Experiments for Health Economics, HTA & One Health'. Five students graduated with a PG Cert, PG Diploma, or MSc HTA, with more than half of all students achieving their MSc with Merit or Distinction. HEHTA also runs a successful Continuing Professional Development (CPD) programme alongside the MSc, with more than 50 participants across all modules. HEHTA also runs a non-accredited course 'Using Health Technology Assessment in support of Universal Health Coverage'. This has attracted learners from over 30 countries since its launch in 2022.

Notable highlights for 2023 included participation in a teaching panel session, titled "Innovations in Health Economics Teaching: Case Studies from Around the World" at the international Health Economics Association (iHEA) congress in Cape Town in July. Jenny Crow, Digital Education Team Manager at the University of Glasgow, presented on 'Online Distance Learning: Perspectives on the Promotion of Belonging' using HEHTA's teaching as a case study. As an online course, it is important that students feel like they belong to an educational community. This sense of belonging is important for both student satisfaction and to improve learning.

In November, Melissa Pegg, senior research consultant at the York Health Economics Consortium and MSc HTA alumni, presented her work on methods of assessing environmental sustainability in HTA at the Glasgow Heath Economics Seminar Series. HEHTA was delighted to host this event marking 10 years since the launching of this important seminar series.

At the end of 2023, a teaching day was held in which the whole team were invited to participate in order to review content and format. Going forward into 2024, we plan to change the name of our MSc to Health Economics and HTA to reflect our strong emphasis on health economics as well as HTA, and to create a new core course focusing on cutting-edge research design methods in HTA. We also plan to undertake focus groups with undergraduates to understand the unique preferences and perspectives of those studying a master's straight from their undergraduate degree and how HEHTA can best meet this.

MSc Graduate Focus: Melissa Pegg

"The superlative support provided by the tutors, administration staff, and everyone within HEHTA was invaluable… Since graduating from the course, I have changed my career and am fulfilling my passion and aspirations."

Melissa Pegg graduated with distinction from HEHTA's MSc in Health Technology Assessment in 2023. Now, Melissa applies her learnings in her role as a Senior Research Consultant in Environmental HTA at York Health Economics Consortium. Melissa spoke about her time at HEHTA and how it has helped her in achieving her career aspirations through a new career in HTA.

"Being entirely remotely taught was a huge benefit to me because the course provided excellent flexibility amongst working and having a young family. The superlative support provided by the tutors, administration staff, and everyone within HEHTA was invaluable and helped me to feel I was really part of the University of Glasgow. The diversity of the curriculum, including a wide range of external speakers and tutors throughout the course, brought a richness to the various styles of teaching and

learning opportunities. I thoroughly enjoyed learning the modules of the Global Context of HTA; Health Economics; Statistical Analysis; Maximising the Value of Clinical Trials Data; and Real-World Data in Health Care Decision Making. Since graduating from the course, I have changed my career and am fulfilling my passion and aspirations to develop environmental sustainability in HTA. I lead a new team at York Health Economics Consortium (YHEC), University of York, who are a vanguard in this space. I work across a number of touch points including education and research across sectors, supporting industry, the NHS, public sectors and HTA organisations to sustainable development in healthcare and policy development."

PHD Overview 2023

Current Students

Name	Title	HEHTA Supervisor(s)
Fabiola Lemus	The association between type 2 diabetes mellitus and cancer incidence	Neil Hawkins Kathleen Boyd
Hanin Farhana Binti Kamaruzaman	Disinvestment in healthcare: Stakeholder engagement and methodological analysis in optimising resource allocation in the Malaysian context	Olivia Wu Eleanor Grieve
Joan Quigley	Evaluating the Impact of Regionalising Healthcare Systems	Neil Hawkins
Watcharakorn (Korn) Riabroi	Factors influencing decision-making in Youth-Friendly Health Services (YFHS) provision and improving access to the services in Thailand	Evi Germeni
Septiara Putri	Development of the cardiometabolic disease policy model: Advancing the role of real-world evidence from UK primary care data	Giorgio Ciminata Claudia Geue Jim Lewsey
Shelagh Szabo	Incorporating qualitative evidence in health technology assessment	Neil Hawkins Evi Germeni
Tzu Jung Lai	How can HTA support the optimal use of high-cost devices? A case study of robotic-assisted surgery in Scotland	Kathleen Boyd Janet Bouttell Robert Heggie
Yuantao Huang	Qualitative research in Health Technology Assessment: Advancing methods and applications	Evi Germeni
Yuejiao Duan	Economic evaluation of preventive treatments for drug-related harms in people who injecting drugs	Kathleen Boyd
Saleh Ali M Almazam	Understanding sub-groups in clinical trials	David McAllister Jim Lewsey
Khalid Alsallumi	Use of serious adverse event reporting as a metric of representativeness in clinical trials for pharmacological intervention of novel antidiabetics	David McAllister Jim Lewsey
Ryan McChrystal	Predictors of trial attrition using individual participant-level data and aggregate-level data from multiple trials	David McAllister
Luxzup Wattanasukchai	Developing of complex interventions guidance in Thailand: a case study with cholangiocarcinoma	Olivia Wu Kathleen Boyd
Novatus Tesha	Cost-effectiveness of cervical cancer HPV DNA self-testing screening in Low Resource Setting	Claudia Geue Eleanor Grieve Nishant Jaiswal
Zihao Zhai	Process tabular data with large language model	David McAllister

| Name	Title	HEHTA Supervisor(s)
Qiuyang Wang	Reimbursement decisions of rare disease treatments	Olivia Wu Kathleen Boyd
Sansanee Seetangkham	A Co-Developed Multimorbidity Self-Management Intervention in Thailand	Emma McIntosh

2023 Graduates

Name	Title	HEHTA Supervisor(s)	HEHTA Supervisor(s)
Robert Heggie	Complex Interventions in a Clinical Setting	Summer 23	Olivia Wu Kathleen Boyd
Suthasinee Kumluang	Cost-effectiveness of the new national stroke rehabilitation policy in Thailand	Winter 23	Olivia Wu Claudia Geue
Ryan Field	Potential of joint modelling of longitudinal observations and time-to-event data to improve prognosis in chronic heart failure studies	Scheduled for Summer 24	Jim Lewsey
Lili Wei	Understanding and improving the applicability of randomised controlled trials: subgroup reporting and the statistical calibration of trials to real-world populations	Scheduled for Summer 24	David McAllister Jim Lewsey
Lisong Zhang	Physician's Prescribing Preference as an Instrumental Variable in Comparative Effectiveness Research	Scheduled for Summer 24	Jim Lewsey David McAllister

PhD Graduate Focus

Dr. Robert Heggie

Graduated: June 2023
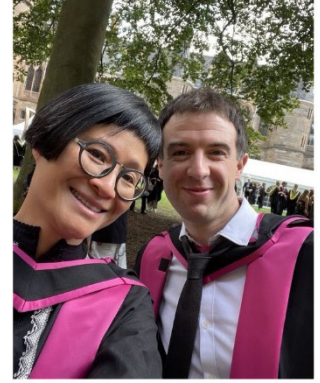
Tell us a little bit about your PhD.

My PhD focused on the issue of considering implementation alongside the economic evaluation of health technologies. Often when new health technologies are assessed, the question of how these technologies will actually be implemented and used in practice is not fully considered. This can impact on the potential cost-effectiveness of these technologies in routine practice in the NHS. My PhD sought to identify which methods are currently available for incorporating implementation within the economic evaluation of health technologies and demonstrated- using a few case studies from clinical trials I've been involved in- how some simple steps to incorporate implementation can provide decision makers with more evidence on the likely cost-effectiveness of these technologies in routine practice.

Why did you choose HEHTA for your PhD study?

I had been working at HEHTA for almost five years as a researcher before I began my PhD, so was already in an environment in which I was very comfortable and felt like part of a strong team. My work had focused mainly on the economic evaluation of clinical trials, and in this setting, implementation is really important. The opportunity to build a PhD around my work was presented to me and it just fit very naturally with what I was doing and the direction I wanted my career to go in.

What skills have you learned that will help in your future career?

Probably the most important skills I learned during my PhD was self-motivation. Since a PhD is your own unique piece of work, you need to decide for yourself what you want to do and how you want to do it. While you of course have the guidance of your supervisors, you are ultimately responsible for making it happen - no one is going to do it for you!

Can you see how the skills you've learned can be applied to your current setting?

Absolutely. There was already a great deal of overlap between the work I was already doing and my PhD research. But the next step is to build on my PhD by applying for further funding to continue research in this area. Obtaining funding and seeing a new multi-year project through to completion will be a lot like doing another PhD, so I'll need plenty of self-motivation to make it happen - but I am sure I am up for that task.

Dr. Suthasinee "Toon" Kumluang

Graduated: December 2023

Tell us a little bit about your PhD.

My PhD is about stroke rehabilitation in Thailand. I conducted an economic evaluation of new stroke rehabilitation policy and evaluated the value of implementation of the new stroke rehabilitation policy.

Why did you choose HEHTA for your PhD study?

My friend who had previously studied at HEHTA spoke of the highly experienced staff and wide range of expertise available. Notably, this included the areas of EE (economic evaluation) and advance data analysis, both of which I have a particular interest in. I then had the opportunity to learn this directly from several HEHTA staff who came to attend and speak at an HTA conference in Thailand. When I eventually started my study with HEHTA, I felt absolutely certain that I had made the right decision, having received a warm welcome and kind support from everyone from the start.

What skills have you learned that will help in your future career? How can these skills be applied to your current role?
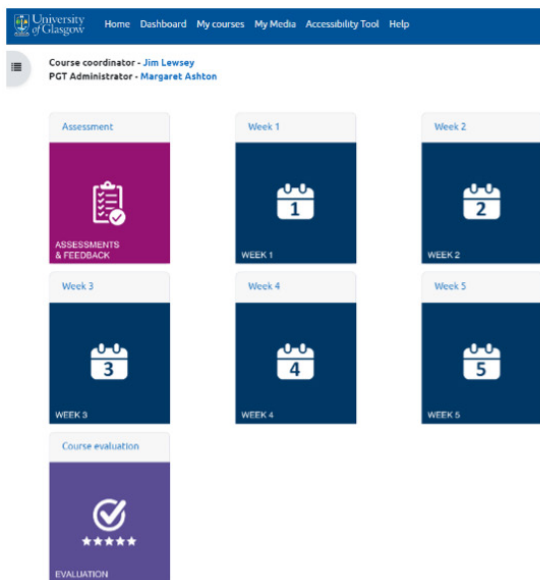
I have learned many skills from my time at HEHTA which I now apply to help me in my career. For example, data analysis: this helps me to conduct research that involves a national database.

I have also learned a way to embrace "failure" related to my tasks and thesis whilst managing time for my PhD study. As a researcher, I need time management skills to finish my research study in time, and hence, the findings can be used to inform policy decision makings on time and when they need. I learned also

about critical thinking and problem-solving from my supervisors Olivia Wu and Claudia Geue; they shared their knowledge and gave feedback and encouraged me during my PhD. I also learned leadership skills and developed a growth mindset from Olivia and Claudia; they have many characteristics of great leaders that I have learnt, such as a positive attitude, careful listening, and providing feedback and showing decisiveness. In my career, I have the responsibility to conduct research studies as a project investigator and co-researcher, and these skills are very important to make a good leader.

Continual Professional Development Short Courses

Each year, HEHTA's continual professional development (CPD) short courses, delivered by world-leading experts in their field, attract research practitioners worldwide to learn about state-of-the-art methods in HTA. HEHTA's short courses are ideal for healthcare professionals who are looking to bring their HTA knowledge up-to-date or are seeking to broaden their skill set to take the next step in their career.

All HEHTA's short courses are fully online, giving participants control over their learning.

HEHTA's online learning forums encourage collaboration and knowledge sharing between students, helping participants get more out of the course than just learning materials. Whilst students are encouraged to follow the course content week by week in order to get the most out of the interactive forums and thus the overall learning experience, the flexible online study framework allows participants to do this at a time convenient for themselves, helping balance any existing commitments.

All short courses are modules from HEHTA's MSc in HTA, allowing participants to select and study in-depth the areas of HTA most relevant to their needs.
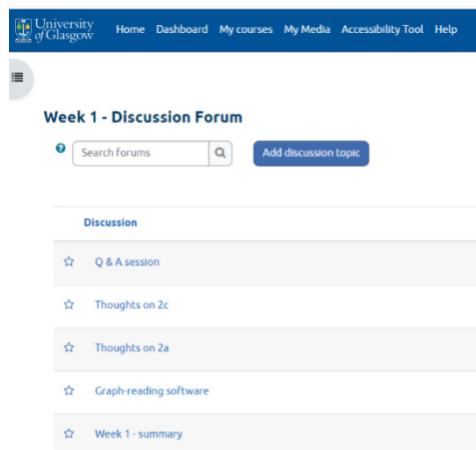
Decision Analytic Modelling & Early Health Technology Assessment

Understand how early HTA differs from HTA undertaken later in a technology lifecycle, and how to develop a decision model using decision trees and Markov models.

HTA: Policy & Principles

Gain a critical awareness of the broader policy context into which HTA is located, as well as a critical understanding of the theoretical underpinnings, principles, and techniques.

Maximising the Value of Clinical Trial Data: Advanced Analysis for Economic Evaluation & Modelling

Understand the fundamental concepts and practice of the key advanced analytic techniques that are required when determining appropriate approaches and estimating parameter values for cost-effectiveness models. This course is highly relevant to those seeking to improve the relevance of trial-based cost-effectiveness.

Real-World Data in Healthcare Decision-Making

Gain the necessary analytical skills to analyse linked health care data and to be aware of issues around clinical and information governance relating to their use.

Survival Analysis for HTA

Gain the necessary statistical skills to analyse and interpret survival data commonly used in health economic analyses within HTA.

Statistical Methods for HTA & Evidence-Based Medicine

Learn how to analyse and interpret data that commonly arise from HTA and evidence-based medicine more generally, and how to critically appraise published work from a statistical perspective.

Choice Experiments for Health Economics, HTA & One Health

Learn about the fundamentals of discrete choice experiment (DCE) methods and how they can be implemented as a quantitative ex ante approach to investigate people's stated preferences among alternative health-care interventions, services, or policies. Gain the skills to design, administer, and analyse a DCE from beginning to end.

HTA in a Global Context

Understand and critique HTA in different contexts: explore geographical variation between high-income countries, as well as examining how and why decision-making in healthcare may differ in LMICs.

Health Economics for HTA

Gain a critical understanding of health economics and its value and limitations by applying economic theory and appraisal to health and health care issues.

To book a place and find out more, please visit www.gla.ac.uk/schools/healthwellbeing/research/hehta/study/short-courses/

Alternatively, contact the team at shw-hehta@ glasgow.ac.uk, who are happy to help.

ExpertTrack Course

HEHTA's online ExpertTrack course, "Using Health Technology Assessment in support of Universal Health Coverage", is designed for those working in healthcare, such as researchers or decision-makers, who want to learn more about HTA at an introductory level. Hosted by FutureLearn and delivered by HEHTA at the University of Glasgow, the course explores the theory of health economics to better understand how scarcity and resources affect decision-making. The aim of this course is to get participants to start thinking like health economists and making sure decisions are based on evidence and the best outcomes.

Since the course's launch in 2022, more than 100 learners from 40 countries worldwide have enrolled in the course.

By taking this course, participants are well placed for further study on HEHTA's MSc Health Technology Assessment. Visit https://www.futurelearn.com/experttracks/using-health-technology-assessment-and-universal-health-coverage to find out more and sign up.

Course 1 — Scarcity and Resources in Healthcare
Learn to think like a health economist to understand the mechanisms of the market and the challenges to the healthcare system.
3 weeks · 6 hours per week

Course 2 — Health Technology Assessment: Definition and Method
Delve into the methods of health technology assessment (HTA) to learn how this tool can help make better healthcare decisions.
3 weeks · 6 hours per week
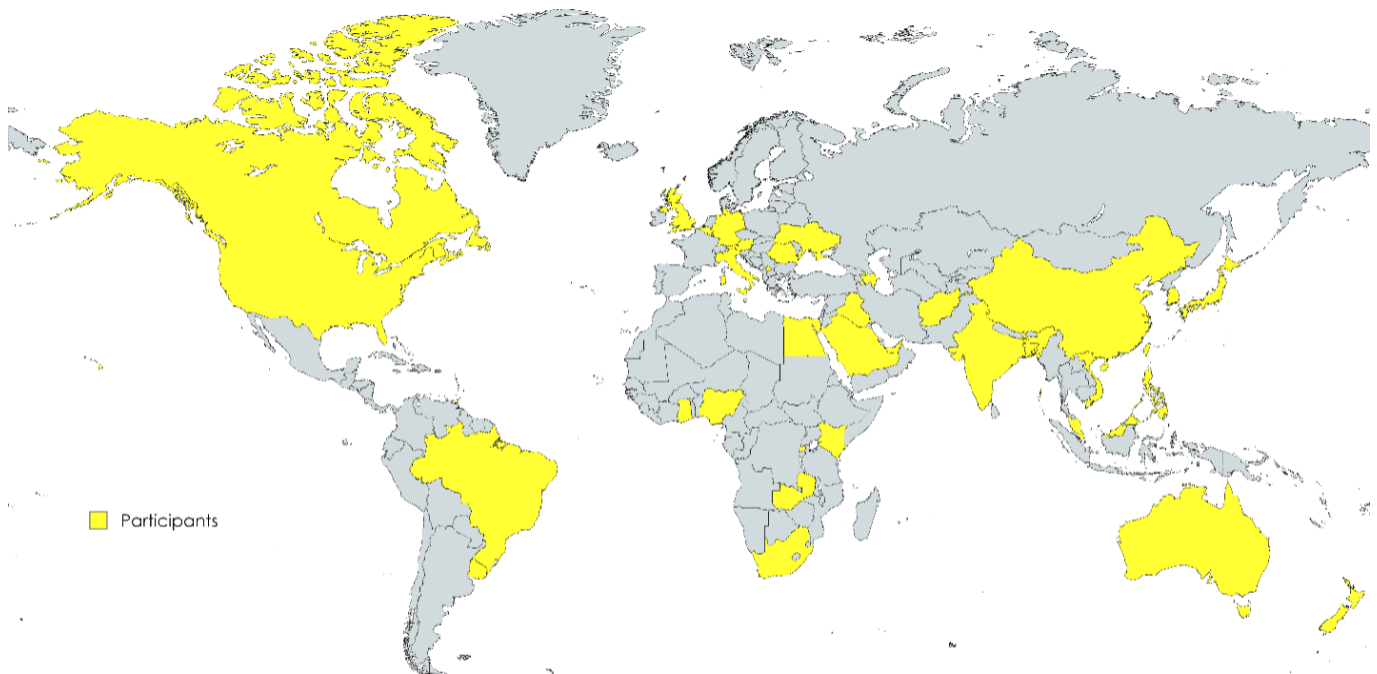
Course 3 — Health Technology Assessment in Practice
Explore the applications of health technology assessment across different contexts to learn how to use HTA in practice.
3 weeks · 6 hours per week

Participants

Created with mapchart.net

My HEHTA Journey

Evi Germeni is Senior Lecturer at HEHTA. Having been with the team for over 6 years, Evi shares her journey so far, and what's next.

Can you tell us about yourself, your background, and your current role at HEHTA?

I am a Qualitative Health Researcher with a background in psychology and health communication. I joined HEHTA in November 2017 as a Lecturer in Qualitative Methods, and in 2022 I got promoted to Senior Lecturer. Over the last six years, I have also been leading HEHTA's Incorporating Perspectives and Experiences (IPE) Research Theme, which focuses on promoting the development and application of robust qualitative research methods for the incorporation of patients' (and other stakeholders') needs, preferences, and perspectives in HTA.

What brought you to HEHTA?

I guess the thing that attracted me the most was the opportunity to make a meaningful contribution to a field largely dominated by quantitative studies of clinical and cost-effectiveness. I feel that the potential role of qualitative research methods in HTA is still poorly understood and unfulfilled as traditionally HTA decision making has heavily relied on objective and context-free quantitative evidence such as investigating whether a technology works and is safe and disregarding the importance of more context-specific evidence such as exploring the acceptability of the technology to its end-users.

What is your proudest accomplishment during your time?

One of my proudest accomplishments was being nominated for the University of Glasgow People Make Research Award last year, voted for by PhD students and postdocs to recognise and thank the people who contribute to the university's thriving research environment. Promoting an environment where staff and student talent is nurtured is a top priority for me, and it was very rewarding to see that others appreciate my efforts towards this direction.

Your favourite research or study you've been involved in?

I particularly enjoyed working on the NIHR-funded project "Understanding the effectiveness and underlying mechanisms of lifestyle modification interventions in adults with learning disabilities" which was recently completed. I am passionate about involving seldom-heard groups in research, and this project gave me the opportunity to work with people with intellectual disabilities on a realist synthesis examining what works for whom and why in terms of lifestyle modification interventions. Examples of patient and public involvement in evidence synthesis are, in general, scarce and this was the first evidence synthesis to have been conducted with people with intellectual disabilities- a group that has historically

been excluded from research. Our PPI group provided important input to all stages of our realist synthesis and organised a fantastic dissemination event at the end of the project to share our results with the broader community and researchers working in this field.

Your favourite conference or presentation you been a part of?

I am a member of the Health Technology Assessment International's Interest Group for Patient and Citizen Involvement, so the HTAi conference is definitely up there on my list. Bringing together academics, drug and device industry representatives, decision makers, health professionals and, most importantly, patients, it provides a great forum for knowledge exchange and global collaboration.

What's next? What are you working on/towards currently?

I am currently involved in the preparation of a large-scale bid focusing on identifying efficient, acceptable, and cost-effective ways of decarbonising health and social care pathways. That's a very exciting collaboration between academia, government, and third sector, and I am really hoping that it gets selected for funding.

Favourite thing about HEHTA?

The people-what else! I love being part of such an international and diverse team.

Presentations

Sayem Ahmed. The health care costs of multimorbidity: Findings from the UK Biobank. HESG Summer Meeting. June 2023

Sayem Ahmed. PERFORM study: association of multimorbidity clusters with direct healthcare costs and quality of life: Findings from the UK Biobank cohort. Scotland's Health Research and Innovation Conference. October 2023

Pankaj Bahuguna. Measuring the Impact of Health Technology Assessment Institutions: Recent Progress and Approaches. iHEA Congress. Cape Town, South Africa. July 2023.

Kathleen Boyd. Economic Evaluations in Social Care Trials: Complexities and Challenges. Centre for Health Economics, York. May 2023.

Kathleen Boyd. Research Integrity. UKRI Research Integrity Conference, May 2023.

Kathleen Boyd. Health economics of Sudden Infant Death research: Strengthening the evidence & informing policy. International Society Study & Prevention Infant Death. Florence, Italy. October 2023.

Kathleen Boyd & Nicola McMeekin. The costs and benefits of incentivising smoking cessation during pregnancy. International Society Study & Prevention Infant Death. Florence, Italy. October 2023.

Manuela Deidda. Estimating the economic impact of Musculoskeletal disorders in Tanzania: results from a community-based survey. NCD in Africa - ARUA Conference and Networking, March 2023.

Manuela Deidda. Estimating the Economic Impact of Musculoskeletal Disorders in Tanzania: Results from a Community-Based Survey. IHEA Congress. Cape Town, South Africa. July 2023.

Heather Fraser. Extended Cost-Effectiveness Analysis of Interventions to Improve Uptake Of Diabetes Services In South Africa. iHEA Congress. Cape Town, South Africa. July 2023.

Evi Germeni. Balancing Speed and Rigour in Patient Preference Studies: The Key to Better Integration into HTA Decision Making? HTAi Annual Meeting. Adelaide, Australia. June 2023.

Eleanor Grieve. Estimating the Quality-of-Life Impact of Musculoskeletal Disorders in Tanzania: Results from a Cross-Sectional Community-Based Survey. iHEA Congress. Cape Town, South Africa. July 2023.

Eleanor Grieve et al. Evaluation of Health Technology Assessment in India. Diversity in Health Economics, 15th International Health Economics Association World Congress, Cape Town, South Africa, July 2023.

Eleanor Grieve & Jenny Crow. Online Distance Learning: Perspectives on the Promotion of Belonging". iHEA Congress. Cape Town, South Africa. July 2023.

Neil Hawkins. Case Studies of Health Technology Assessment of Digital Health Technologies in the UK. National Defense Medical Centre. Taipei, Tawian. May 2023.

Nishant Jaiswal. Challenges of using real world and randomised controlled trial data in an IPD-NMA: a case study in behavioural weight management interventions. Guidelines International Network Conference. Glasgow. September 2023.

Hanin Farhana Binti Kamaruzaman. Achieving UHC Requires Disinvestment as Well as Investment: Experience of Malaysia, Iran and Uganda. Centre for Global Development (GCD) Virtual presentation, January 2023.

Hanin Farhana Binti Kamaruzaman. Value of Disinvestment: The Journey from Possibility to Reality. HTAi Annual Meeting. Adelaide, Australia. June 2023.

Hanin Farhana Binti Kamaruzaman. Innovative Approaches in Tackling HTA Challenges. HTAsiaLink Conference. Malaysia. September 2023.

Hanin Farhana Binti Kamaruzaman. Prescribing pattern of targeted therapy in advanced renal cell carcinoma: utilising real-world evidence in clinical practice for disinvestment initiatives in Malaysia. Guidelines International Network Conference. Glasgow. September 2023.

Hanin Farhana Binti Kamaruzaman. Stakeholders' perspectives on disinvestment of low-value healthcare intervention and practices in Malaysia: A key information interview. Guidelines International Network Conference. Glasgow. September 2023.

Tzujung Lai. Economic Evaluation of Robotic-Assisted Surgery: Methods, Challenges, and Opportunities. ISPOR. Copenhagen. November 2023.

Emma McIntosh. NIHR Global Health Research Group on the prevalence, quality of life, economic and societal impact of musculoskeletal disorders in the Hai District in Tanzania". British Society for Rheumatology Conference. Glasgow, April 2023.

Nicola McMeekin. Determining the value of introducing a digital pathway for early diagnosis and treatment in heart failure". Scotland's Health Research and Innovation Conference. October 2023.

Ryan Mulholland. "An Assessment of the Effect of Inequalities in the Prescribing of Oral Anti-coagulation on Outcomes in People with Atrial Fibrillation". Scotland's Health Research and Innovation Conference. October 2023.

Samuel Owusu Achiaw. The Role of Universal Health Coverage in Secondary Prevention: A Case Study of Ghana's National Health Insurance and Early-Onset Hypertension. iHEA Congress. Cape Town, South Africa. July 2023.

Sameul Owusu-Achiaw. Value Proposition of Biosensor-Integrated Self-Reporting Arteriovenous Grafts: A Development-Focused HTA to Guide Further Investment and R&D. Scotland's Health Research and Innovation Conference. October 2023.

Samuel Owusu Achiaw. Using Mixed-Methods Development-Focused HTA and Npv Calculations to Guide Further Investment and R&D: A Case Study on Establishing the Value Proposition for Biosensor-Integrated Self-Reporting Arteriovenous Grafts. ISPOR. Copenhagen. November 2023.

Septiara Putri. Cardiometabolic diseases prevention policy models: A systematic review. ISPOR. Copenhagen. November 2023.

Septiara Putri. The conceptualization of cardiometabolic disease policy model in the UK. ISPOR. Copenhagen. November 2023.

Dikshyanta Rana. Impact of censoring mechanisms in assessment of prognostic technologies. HESG Summer Meeting. June 2023.

Dikshyanta Rana. Impact of censoring mechanisms in assessment of prognostic technologies. International Society for Clinical Biostatistics. August 2023.

Dikshyanta Rana. A logic model-based guidance for designing complex lifestyle modification interventions for adults with intellectual disabilities. Guidelines International Network Conference. Glasgow. September 2023.

Nurnabi Sheikh. A System Dynamics Model of Community-Based Health Insurance System in Bangladesh. iHEA Congress. Cape Town, South Africa. July 2023.

Fabiola Lemus Villafuerte. Causal Association Between Type 2 Diabetes Mellitus and Risk of Cancer. HTAi 2023 Annual Meeting. Adelaide, Australia. June 2023.

Olivia Wu. Is Health Technology Assessment Ready for the Digital Health Revolution? National Defense Medical Centre. Taipei, Taiwan. May 2023.

Olivia Wu. Is Health Technology Assessment Ready for the Digital Health Revolution? Digital Health Technologies conference at Fu Jen Catholic University. Taipei, Taiwan. May 2023.

Olivia Wu. The role of real-world evidence in drug reimbursement decision. HOTTEA workshop. Taipei, Taiwan. May 2023

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The Team

Director

Olivia Wu
William R Lindsay Chair of Health Economics

Deputy Director

Emma McIntosh
Professor of Health Economics

Professors

Kathleen Boyd
Professor of Health Economics

Neil Hawkins
Professor of Health Technology Assessment

Jim Lewsey
Professor of Medical Statistics

David McAllister
Professor of Clinical Epidemiology and Medical Informatics

Senior Researcher Fellow/ Senior Lecturers

Andrew Davies

Evi Germeni

Claudia Geue

Eleanor Grieve

Researchers

Sayem Ahmed

Pankaj Bahuguna

Janet Bouttell

Elaine Butterly

Giorgio Ciminata

Jamie Crowther

Manuela Deidda

Ryan Field

Heather Fraser

Benjamin Gregory

Robert Heggie

Nishant Jaiswal

Francesco Manca

Nicola McMeekin

Ryan Mulholland

Samuel Owusu-Achiaw

Dikshyanta Rana

Erika Abril Seyahian

Md Nurnabi Sheikh

Katherine Simpson

Lili Wei

PhD Students

Saleh Ali M Almazam

Khalid Alsallumi

Yuejiao Duan

Yuantao Huang

Hanin Farhana Binti Kamaruzaman

Suthasinee Kumluang

Tzu Jung Lai

Ryan McChrystal

Septiara Putri

Joan Quigley

Watcharakorn Riabroi

Sansanee Seetangkham

Sheila Szabo

Novatus Apolinary Tesha

Fabiola Lemus Villafuerte

Qiuyang Wang

Luxzup Wattanasukchai

Zihao Zhai

Lisong Zhang

Administration

Yujin Du

Georgia McDowall

Alieda McKinney

Laura Wood

Miriam Yentumi

Affiliates

Andrew Briggs
Professor of Health Economics, London School of Hygiene and Tropical Medicine

Peter McMeekin
Associate Professor, Northumbria University

Honorary Staff

Julie Ratcliffe
Professor of Health Economics, Institute for Choice, University of South Australia

Mark Robinson
Public Health Intelligence Principal, NHS Health Scotland

Sara Twaddle
Former Director of Evidence, Healthcare Improvement Scotland

Visiting Researchers

Alessio Cortiana
School of Medicine and Surgery, University of Milano Bicocca

Hye-In Jung
College of Pharmacy, Sungkyunkwan University

Mudith Karunatilaka
University of Moratuwa, Sri Lanka

Tanawan Kongmalai
Division of Endocrinology and Metabolism, Faculty of Medicine, Siriraj Hospital

My Visit to HEHTA

Each year, several HE and HTA professionals visit HEHTA. This may be as part of their thesis, or to simply participate in knowledge sharing. Professor Tanawan Kongmalai, an attending physician at the Division of Endocrinology and Metabolism, Faculty of Medicine at Siriraj hospital in Thailand, was one such of these professionals. Professor Kongmalai spent over a month with HEHTA as part of her continual professional development.

What attracted you to visit HEHTA?

HEHTA possesses renowned expertise in health economics and health technology assessment. The centre's dedication to cutting-edge research, interdisciplinary collaboration, and reputation for influencing health policy aligns perfectly with my academic interests. Having the opportunity to learn from experts, engage in activities related to HEHTA's work, and share knowledge and experiences with professionals was a valuable experience.

What did you learn that you think will help in your career?

During my time at HEHTA, I gained valuable insights across various academic aspects, such as statistical methods, survival analysis, EVPI, and advanced analysis for economic evaluation and modelling. These experiences significantly enhanced my statistical analysis and modelling skills, providing me with practical knowledge applicable to my career.

Beyond academic skills, my exposure to HEHTA's community taught me essential lessons in building a conducive work environment, teamwork, and effective networking. Learning how to create a positive workplace culture and collaborate as a team has equipped me with transferable skills that I believe will greatly benefit my career.

Can you see how skills and knowledge gained at HEHTA can be transferred to your own setting?

As I continue my career in the academic field, I am confident that the skills and experiences acquired at HEHTA will be my crucial foundation. The academic expertise, positive work environment, and professional networks cultivated during my time there will undoubtedly contribute significantly to my professional growth.

Welcomes and Goodbyes

In 2023, HEHTA welcomed:

Khalid Alsallumi

Saleh Ali M Almazam

David McAllister

Ryan McChrystal

Heather Fraser

Novatus Apolinary Tesha

Luxzup Wattanasukchai

Lili Wei

In 2023, HEHTA said goodbye to:

Sayem Ahmed

Janet Boutell

Elaine Butterly

Jamie Crowther

Benjamin Gregory

Membership of Expert Bodies

Olivia Wu

- Chair NIHR HTA Clinical Evaluations and Trials Funding Committee
- Member of NIHR Senior Investigator Appointment Committee
- Member of the European Cooperation in Science & Technology Innovators Grant Committee
- Member of the NIHR Race Equity and Diversity in Careers Incubator Management Board
- Member of sub-panel 2 (Public Health, Health Service and Primary Care) for REF2021
- Member of Scientific Committee for the Guidelines International Network (GIN) International Conference, Glasgow (2023)
- Member of the Europe Program Committee for the International Society for Pharmacoeconomics and Outcomes Research (ISPOR), Copenhagen
- Associate Editor, Value in Health

Emma McIntosh

- Member of Glasgow Centre for Population Health Board
- Member of TSC for: Prepare for Kidney Care; Positive Choices Trial; Effectiveness of Surveillance Technologies to Prevent Suicides at High-risk Location Study
- Member of DMEC for CALM Trial

Katherine Simpson

- Member of Nature Markets Investment Standards Working Group (British Standards Institution & Defra)
- Member of Accounting Standards for Stacking & Bundling of Ecosystem Services (Anglian Water and The Environment Bank)
- Member of Biodiversity Standard 'Markets' Working Group (Plan Vivo)

Evi Germeni

- Member of HTAi Patient and Citizen Involvement Interest Group
- Member of Steering Committee & Co-Lead of the Qualitative Workstream for NIHR Methodology Incubator

James Lewsey

- Chartered Statistician, Royal Statistical Society
- Member of TSC for BEAR study, KiVa trial
- Member of DMEC for Drink less app
- Member of NHS Health Scotland Minimum Unit Pricing for alcohol consumption and health harm evaluation advisory group
- Member of NIHR Public Health Research Funding Committee

Neil Hawkins

- Vice Chair of the NICE Diagnostics Advisory Committee
- Member of the NICE Antimicrobials Evaluation Committee
- Member of the NICE Medical Technologies Advisory Committee
- Member of the NICE COVID-19 In-Vitro Data Expert Advisory Group
- Chartered Statistician, Royal Statistical Society

Claudia Geue

- Member of Evidence Review Committee for Scottish Health Technologies Group, Healthcare Improvement Scotland
- Member for CSO Panel for Early Postdoctoral Fellowship Scheme

Kathleen Boyd

- Member of Beatson West of Scotland Cancer Care Clinical Trials Unit Advisory Board
- Member of TSC for IVY project
- Review Editor for Frontiers in Medical technology - Regulatory Affairs journal

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Health Economics and Health Technology Assessment (HEHTA)

School of Health & Wellbeing
University of Glasgow
Level 3
Clarice Pears Building
90 Byres Road
Glasgow
G12 8TB

Telephone: 0141 330 5009
www.gla.ac.uk/hehta
Email: shw-hehta@glasgow.ac.uk
Twitter: @UofGHEHTA