



Durham
University

Wolfson Research Institute
for Health and Wellbeing

Inspiring the extraordinary

Annual Report 2024



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Message from the Executive Director Professor Charlotte Clarke



It has been an enormous privilege to have assumed the role of Executive Director of the Wolfson Institute for Health and Wellbeing towards the end of 2024. I hope that this report gives you a sense of the scope and scale of work undertaken and of the very many disciplines involved. Most important to all this endeavour are the very many people who subscribe to the purposes of the Institute and whose outstanding work is shaping our world and societies.

We have a newly formed leadership team to build on the excellent work of the previous Executive Director, Professor Amanda Ellison. In the coming pages you will find an introduction to each member of the leadership team and their ambitions for the Institute during the coming year. And we have a very exciting move ahead into our first premises for more than eight years! In December, we move into the newly refurbished Mountjoy Centre in Durham as a leading part of a new interdisciplinary research base so we are excited to not only have our own space once again but to come alongside neighbours to generate new forms of research and new contributions to shape society. Our new space includes a suite of event spaces too, so lots of opportunity to get together with all of our internal and external partners.

There will be one phrase on my lips as we explore this new space – ‘I don’t know’! It is probably one of the most liberating things that someone can say and is a precursor to ever finding something out. I was at a conference recently where I found the following words emblazoned: ‘not knowing is a necessary competence’. Another time, I was in a hotel and found these words written on a wall: ‘If Henry Ford had asked people what they wanted, they would have said faster horses’!

So I am looking forward excitedly to a coming year of discovery and invention and working with all of our partners to find currently unknown solutions to some of the most endemic challenges to maintaining good health, providing health and social care and unravelling some of the complexities of our human health relationship with each other, with the land we walk on and the air we breathe. We are proud to work in synergy with Durham University’s health strategy, which addresses planetary health (environments, ecology and health), health justice (communities, places and health) and individuals and health. Many of these solutions will be in places far removed from the problem as it presents itself, so we need to make sure we are looking in the right places for the solutions – as Tedros Ghebreyesus, Director General of the WHO, wrote ‘peace is the best medicine’, so we need disciplines such as law, politics and international relations just as much as we need to understand the bioscience of infection control and how to maintain the vitality of a healthcare workforce.

We extend the hand of friendship and collaboration to all of our partners – we have work to do together!

Charlotte

Meet the Co-Directors



Professor Brian Castellani Co- Director

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As Co-Director of the Wolfson Research Institute for Health and Wellbeing, my role is to advance our local and global impact in environmental health, mental health, healthcare workforce resilience, and the use of social complexity theory and methods. My aim is to position Wolfson as a leader in applying social complexity frameworks to improve health and care, while building partnerships that bridge policy, practice, and research.

At present, my work spans several major agendas. Locally, I collaborate with Durham Council, the County Durham and Darlington NHS Foundation Trust, and the NHS Strategy Unit, including projects with colleagues such as Jonathan Wistow on adolescent healthy eating and with Durham's Institute for Hazards, Risk and Resilience on NHS workforce resilience in the face of polycrisis. Globally, I am engaged through RENKEI and the British Council in developing environmental health collaborations with Kyushu University (with a focus on mentoring early career researchers) and I am also working with the Institute of Science Tokyo on the health impact of extreme heat. I am also a Visiting Professor at Nelson Mandela University, working on complexity and environmental health, and with colleagues across Europe, North America, and Scandinavia. I am also working with the United Nations on the value of complexity for addressing healthcare workforce issues around the world. I am also advancing a research agenda on mental health, working with Effie Law (Computer Sciences, Durham) on two major initiatives: a collaboration with Sony and colleagues in Japan on digital mental health interventions, and the Horizon Europe SERENY project on scalable youth mental health support.

Among my recent successes, I am proud of my contribution to the Royal College of Physicians report on air pollution and health, where I led on brain and mental health policy, and of my work with InSPIRE to shape the national and international research and policy agenda on air pollution, dementia, and mental health. These build on my wider efforts to bring complexity methods, such as COMPLEX-IT, into practical use with public sector partners.

Looking ahead, my goal is to consolidate Wolfson's role as a hub for interdisciplinary, complexity-driven approaches to health and wellbeing. This includes strengthening our contribution to the NIHR Mental Health Translational Research Collaboration, deepening our international partnerships, and advancing a just transition agenda in environmental health and sustainability.



Andrea Lambell Co- Director

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My Wolfson co-director role focuses on developing and supporting connections and the sense of community amongst early career researchers from all departments and faculties who want to explore health and wellbeing.

I'm a Post-doctoral Research Associate on the Wellcome-funded project Reimagining Governance project, conducting ethnography with two of our university's departments to investigate how research governance processes and decision-making structures affect our community's ability to flourish. This is my first job since completing my PhD, so I am also developing papers and a book proposal from that. My previous career in palliative care is what brought me to academia in the first place, so I'm making the most of the networking opportunities offered by the Wolfson to develop connections with people with experience of giving and receiving palliative and supportive care for people experiencing dementia with a view to co-producing a research proposal.

My successes include introducing Unbound Opportunities, an annual seedcorn grant fund open to members of the Wolfson ECR Network to organise small-scale focus groups, information-sharing events, and other such relationship-building activities to encourage a diverse range of connections within and beyond the university. And our annual ECR conferences are not to be missed!

My goal is to grow the Wolfson ECR Network and cement its reputation as a welcoming space for the widest range of people with an interest in health and wellbeing research – including undergraduates, postgraduates, technical and professional staff, as well as PhD students, post-docs, and those getting settled into permanent roles.

Meet the Co-Directors (continued)



Professor Barbara Bechter Co-Director

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As Co-director, I actively engages with the broader WRIHW community and provides strategic leadership in generating research income. Through research, I aim to contribute to Durham University's institutional priorities, including local engagement and impact, particularly through work on Polycrisis and Resilience, which focuses on the North East of England, as well as internationalisation, supported by comparative healthcare workforce research spanning the UK and beyond.

I am working on research with colleagues at the Business School focused on hospital workforce wellbeing, health, and safety. This study will examine the practical implementation and enforcement of relevant legislation, including the Health and Safety at Work Act, regulations addressing violence and harassment, and policies concerning psychosocial risks in the workplace. Additionally, I am establishing research collaborations with institutions such as the University of Leeds, the University of Sheffield, and the Royal College of Nursing. These partnerships aim to secure funding for a study investigating the impact of skill mix and NHS recruitment policies and practices on workforce productivity within the NHS.

In 2024/25, I led three research funding applications in collaboration with colleagues at Durham University Business School and beyond and contributed to an SRF application (later cancelled). I successfully secured Seedcorn Funding (£4,944.50) to support a project titled "Productivity Challenges in Healthcare: Investigating the Root Cause(s) of the Problem", which includes hiring a research assistant to conduct algorithmic text mining on NHS workforce plans and policies.

My primary objective is to secure research funding for the Resilience and Polycrisis project, with a focus on using generative artificial intelligence to collect and analyse large-scale data on regional polycrisis experiences in the North East of England. I am committed to delivering WRIHW-related activities, including health-focused workshops and seminars at the Business School, such as the upcoming session with Professor Robert Wood (Macquarie Business School), which aligns closely with the project's theoretical framework and could be extended to a wider audience. Further goals include contributing to NIHR network-building efforts with external partners, particularly those involved in Patient and Public Involvement and Engagement (PPIE), to prepare for joint funding applications. I am also leveraging existing networks and actively pursuing collaboration opportunities with Tees NHS Trust hospitals to advance research on workforce health and wellbeing.



Dr Jonathan Wistow Co-Director

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I'm a Co-Director of the WRIHW and serve as the Strategic Research Lead for Wider Determinants of Health and Well-being on the County Durham REACH (Research and Engagement Across Communities for Health) partnership, which is a collaboration between Durham County Council, Durham Community Action, and Durham University. Through this role, I'm helping to drive our shared vision to: 'tackle the unfair and avoidable differences in health experienced by communities in our area, what we call the wider determinants of health.' This mission sits at the heart of my work within WRIHW.

Successes linked to this work include leading and contributing to evaluations of stop smoking services, exploring complexity in relation to healthy weight, and supporting strategic direction across the collaboration and its various steering and working groups. Through active involvement in these I am working with colleagues to ensure that we retain a strong focus on health inequalities and integrate co-production with policy, practice and community groups. These contributions are all part of our wider effort to tackle the root causes of health inequalities across County Durham.

My goals for the next year include: deepening community-engaged research through the REACH Community Involvement Steering Group; strengthening cross-sector collaboration between academia, public health and VCSE organisations; advancing a complexity-informed understanding of place-based health inequalities; and to apply for and secure funding to enhance capacity, research and innovation in the project.

Meet the Co-Directors (continued)



Professor Mark Stoutenberg Co- Director

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Being part of the Wolfson Research Institute for Health & Wellbeing is an exciting opportunity to help grow (public health) research at Durham University amongst our students, staff and community partners. There is such great enthusiasm, and opportunity, to address significant health inequalities that have developed over the last half century. We have amazing and eager partners (such as the Durham County Council and the Country Durham and Darlington NHS Foundation Trust) with whom we hope to conduct impactful, life-changing research and really embed Durham University and our talented staff and students in our local community.

I am currently working on two different programmes of research. The first is a carryover project from my time in the U.S. We recently received a large, 5-year research grant to explore how to optimise the implementation of a physical activity referral scheme (PARS) in the Prisma Health system (Greenville, South Carolina). The PARS involves the standardised integration of physical activity into a clinic workflow including physical activity assessment, providing patients with an 'exercise' prescription and referring them to community-based physical activity resources. We have implemented the PARS in 35 primary care clinics (GP surgeries) and are now examining how to increase patient referrals and engagement in our physical activity programmes.

My second area of work is in Soweto, a township just outside of Johannesburg, South Africa. We currently have an economic development grant to train youth (ages 18-25) to become research assistants / community health workers and conduct home health screeners. The goal is to identify community members with elevated blood pressure and connect them to health services. We are currently comparing the effectiveness of referring these individuals to community health centres (standard care) versus local pharmacies and telemedicine services.

I am working on a grant proposal to support and grow our Exercise is Medicine Europe regional network to more than 20 countries. Locally, I am excited to get more involved in some of the incredible public health networks we have locally, such as Fuse and the Applied Research Collaboration (ARC), and impact the health and well-being of residents in North East England. Lastly, I am looking forward to having a great second year teaching a module at Durham called 'Futures in Sport, Exercise and Health' and impacting our future leaders in the field!



Dr Amir Atapour-Abarghouei Co- Director

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I'm delighted to be starting as a Co-Director at the Wolfson Research Institute for Health and Wellbeing, and genuinely excited to get to know, and get behind, our ECR community. My focus is simple: help talented colleagues do their best work by connecting people across faculties, clearing small hurdles before they become big ones, and nurturing collaborations that speak directly to Wolfson's mission of enabling people to thrive in the places they live. I want the Institute, in general,

and our Early Career space, in particular, to feel warm, practical and ambitious, with quick routes to partnerships and opportunities.

My research focuses on the fundamentals and applications of artificial intelligence, particularly where it meets healthcare, with a particular emphasis on diagnostic imaging and the fairness and trustworthiness of the tools we build. I am working with County Durham and Darlington NHS Foundation Trust to co-develop projects that start from real clinical questions and move carefully towards practice.

With wonderful collaborators and students, I've helped to deliver work that matters for health: studies on bias-free skin lesion analysis, imaging approaches to distinguish glaucoma and related eye conditions, early indicators of neurological disease visible in retinal scans and the use of AI to analyse CT scans of breast cancer patients to support more confident staging and care pathways. Some of this has grown into industry and NHS-facing activity, including a Knowledge Transfer Partnership focused on equitable dermatology AI, and a steady stream of talks and community events that build capacity and confidence.

In the year ahead, I want to grow a lively, visible ECR network with easy on-ramps to collaboration, mentoring and small-grant seed funding, while actively pursuing new external funding for interdisciplinary health projects with clear community impact. I want to deepen our NHS partnerships, beginning with CDDFT, so that the research we co-create answers priority questions and can be adopted where it will help patients and practitioners most. If you're an ECR with an idea, at any stage, I'd love to build it with you.

Our Administration Team

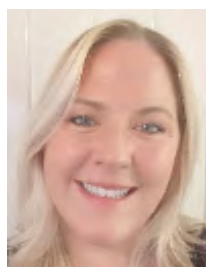


Mrs Suzanne Boyd Institute Manager

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Suzanne is responsible for the day to day running of the Wolfson Institute, dealing with matters pertaining to HR,

finance, committee support/management, project support and Fellowship support. She is also responsible for the Institute website and social media accounts. She support meeting and diary requests for the Institute Directorate and manages the ECR funding Scheme. In 2025. she will be managing the Fellowship Fund.



Jules Finn Administrative Support (Thursday)

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Jules assists in the day to day running of the Wolfson Institute, dealing with

matters pertaining to ECR committee support and the fortnightly newsletter. She assists in event management and planning. Jules also supports the Institute of Hazard, Risk and Resilience and the Biophysical Sciences Institute.

Our Fellowship and Early Career Researchers

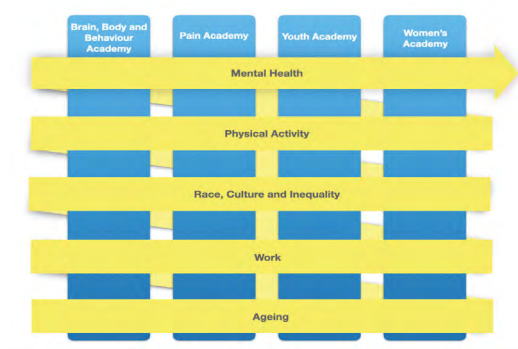
The Wolfson Institute's Fellows come from a diverse range of disciplinary and professional backgrounds across Durham University and organisations with which we collaborate. Fellowship is open to all academic and research staff of the University who subscribe to the Institute's aims and undertake and publish research using an Institute affiliation. The purpose of Fellowship is to create a research community that subscribes to the Institute's aims and has the opportunity to share in its activities, resources, support and collective reputation.

The Institute also offers Early Career Researchers the opportunity to become ECR Members of the Wolfson Research Institute for Health and Wellbeing.

We define an Early Career Researcher broadly. This includes undergraduates and students in taught postgraduate programmes who are curious about advancing to postgraduate research, PhD students, postdoctoral research assistants, teaching fellows interested in research, new or established postdocs and academic staff transitioning to independent researchers. We also welcome technicians and professional support staff who want to contribute their ideas and knowledge to the development of research on health and wellbeing. from any department within the University, who subscribe to the aims of the Institute and undertake to acknowledge the Institute when presenting or publishing their work.



Challenge Academies



Each Challenge Academy has been carefully built to address local and global unmet need in health-related issues.

Closely aligned with the Sustainable Development Goals, these Academies have the interdisciplinary approach unique to Durham University built in. In this way, each Academy can address major problems in health and wellbeing, but also be responsive to new challenges as they arise.

By addressing issues of race, mental health, physical activity etc. in each of our Academies, we can ensure a holistic approach, increasing our depth of understanding leading to impact for all.

Our Academies are comprised of projects that use an interdisciplinary approach, to investigate issues from multiple angles. Within the Challenge Academy Matrix, we can ensure a further level of enquiry meaning that health and wellbeing is understood from many facets of influence (e.g. the reciprocal influence of mental health in pain).

For more information on our academies and current projects can be found later in this report, as well as on our website.

We don't often think about how what we do and how we behave is contingent on what is going on in our brain and how that is affected by what is happening in our body.

In fact, it is a tri-ciprocal relationship all wrapped up in the environment in which we find ourselves. We cannot understand health and wellbeing without including all three in our enquiries and understanding their effect on each other. See examples below how damage to the brain affects our behaviour (stroke) how what we do with our bodies affects our brain and behaviour (concussion) and how the environment our bodies are in can affect our brain and behaviour (delirium).



Creative healing in the ICU garden

The psychological and emotional benefits of nature and time spent in gardens are well evidenced with resulting improvements in mood, social functioning, emotional well-being, and physical health. Artist/designer and researcher, Dr Laura Johnston, worked with critical care staff to develop plans for the garden at James Cook University Hospital, Middlesbrough. Through consultation with staff and the wider critical care community, including ICU Steps support group, a design for a beautiful therapeutic space to include artworks, natural materials and plants was developed. The garden design aimed to create a feeling of being 'held' – curved pathways and 'wrap-around' planting, the green physical space is designed to encompass us, creating quiet private places for staff, patients, and their loved ones. From a hospital bed, the textures and scents of the plants are in reach. The layout of the garden created of three outdoor 'rooms' – private spaces where patients, their visitors and staff can meet surrounded by nature and beautiful artworks. Night lighting subtly illuminates the plants, the

screens, and the golden, spiralling sculpture in the centre of the garden, creating a warm and welcoming atmosphere - a space that can be used 24 hours a day. The impact of the garden was evaluated in 2024.

What patients have said...

'Coming here and seeing and seeing the plants and artworks make us feel as if someone cares'.
 'Just feeling the breeze on your face is wonderful... we love it – it's beautiful.'
 'As soon as you walk into the garden you feel it – it's such a calm, beautiful place. The sculpture is wonderful!'

Impact and outcomes of the ICU garden project

1. Underpinning the idea of a garden specifically for critical care patients, was a clear informed understanding that the ICU experience is unique and distinct from other hospital wards.
2. In addition to a design-led approach, the collaborative effort between those responsible for the garden's design and those working in the hospital with experience of critical care was significant in ensuring the space was fit for purpose.



Brain, Body and Behaviour Academy (contunied)

3. Practitioners felt the garden had clearly been designed with clear thoughtfulness and consideration to the critical care experience, drawing on examples of distinct areas of the garden, areas of light and shade, along with the overall flow of the space.

4. The decision to take patients to the garden was firstly dependent on staff availability, and secondly whether the patient will be able to spend enough time in the garden to positively outweigh the organisation needed to get them there. An hour was generally considered the upper limit for a garden visit. This represents a new clinical decision in the Intensive care setting.

5. The act of removing oneself from a particular environment, into a new one as a means to reduce feelings of stress or anxiety seems obvious within the context of daily life, but is near impossible for patients in critical care. The garden overwhelmingly provided that opportunity for patients.

6. It is common for visitors to use the garden, rather than have friends and family of patients spend time on the ward.

7. The most significant impact of the garden on patients' wellbeing and emotional state, is that the garden represents a return to their lives and thus, an increased motivation and hope to get better, mitigating some of the negative impacts of sustained time on the ward.

8. Time spent in the garden, it was noted, was the only time in which patients could experience privacy in a way we might typically expect.

9. It was noted that visits to the garden represented the only time in the critical care patients' experience in which hospital staff were not 'doing' something for them, which was felt to be important in increasing their sense of independence.

10. The garden was considered a space which facilitates and builds rapport between staff and patient, by reframing the relationship.

11. Highly significant biological benefit, was the observed impact of being outside to experience the cyclical nature of night and day i.e., assisting the circadian rhythm so it can be normalised, going some way to counter the artificial environment of the ward.

12. Practitioners especially, consistently reflected on the garden as a therapeutic space, a space of healing both emotionally and physically. They expected this to have a long-term benefit for patients, via the garden mitigating some of the psychological effects of the ward and reframing the experience even in only a small way, from unfamiliar, overwhelming and chaotic.



Creative Health and Wellbeing student society (President, Ms Mila Taylor, Biosciences department)

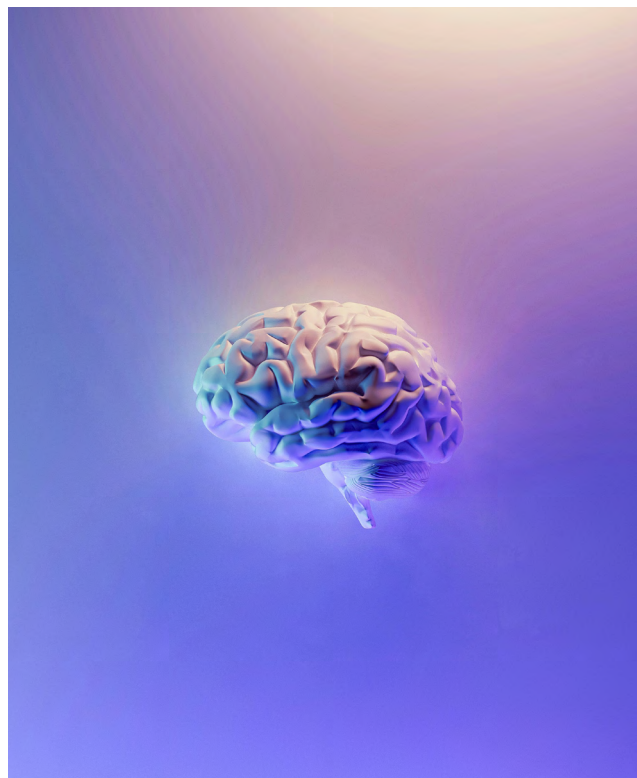
University life can be intense so taking time for your wellbeing is key to staying resilient, thriving and enjoying your time at Durham. Creative Health and Wellbeing student society is the first of its kind in the UK and is all about giving you space to recharge, meet new people whilst exploring creative ways to handle pressure and celebrate being in the moment. Whether it's finding calm through nature, volunteering or unlocking your artistic side, there will be many ways to take part. Supported by the Wolfson Research Institute for Health and Wellbeing, Hatfield Artists in Residence (Balbir Singh Dance Company), and Dr. Laura Johnston (Healing Spaces), we're working with local and national artists to bring exciting projects to life. Project initiatives include the Fuse award-winning Unmasking Pain; community initiatives in South Shields and eco-friendly activities like Taking Your

Shoes for a Walk and Cricket Green Environment work. The society is collaborating with some fantastic partners including Durham University Oriental Museum, Botanic Gardens, Dilston Physic Garden and Beamish Open Air Museum. The Creative Health and Wellbeing Society will give all Society members the chance to get involved in volunteering and the design and delivery of creative support for people with disabilities, cancer survivors and people with chronic health conditions, including Parkinson's, Fibromyalgia, Dementia and chronic pain. This is a chance for students to learn how creativity can support health and wellbeing and make a real difference in the community.

Activities and themes include: Creative Walks, Historic Object Handling, Sounds of Nature, Expressive Tools: Using Creative Language, Trauma-Informed Practice Training, Social Prescribing and Healing Spaces Design.

Non-invasive Diagnostic and Efficacy monitoring Toolbox for neurodegenerative diseases

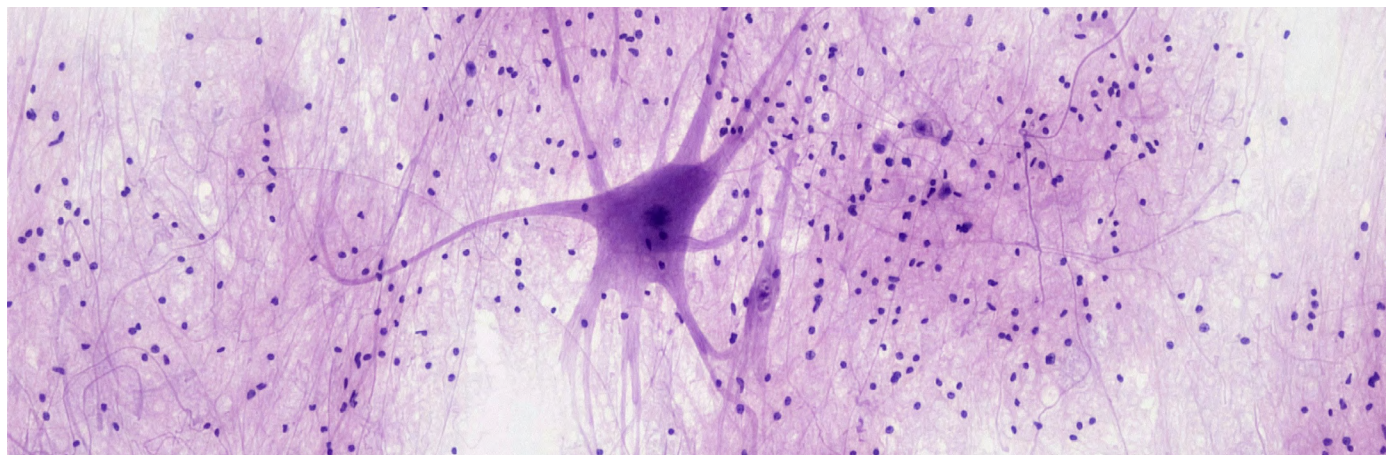
The IAA project, led by Professor Chazot, Combined Deep learning-based image and blink-rate analysis, and tear protein biomarker detection for effective Parkinsons disease and Progressive supranuclear palsy diagnostic screening won an award at the Durham university Celebration of Impact event category "Best interdisciplinary / cross-team working demonstrated" Prof Chazot's research into the identification, characterisation and validation of novel drug targets for the treatment of central nervous system diseases is combined with Dr Chaudhry's expertise in organic semiconductors and electronics in this project to establish robust early diagnostic principles for Parkinsons Disease and Progressive Supranuclear Palsy. Other key members of the team include Prod Dan Smith and DR Rahele Kalief, who focused on the Ocular behavioural and imaging elements of the project. The project is exploring deep learning based image analysis of eye-blink-rate alongside the development of organic electrochemical transistors for ocular tear protein detection. The unique combination of methods in the project will enable evaluation, comparison and interaction to ultimately produce a reliable and non-invasive early-stage diagnostic for neurodegenerative disease.



Exciting new Interventions for motor neuron disease?

Professor Paul Chazot, WRIHW Fellow, has been working on Photobiomodulation therapy (PBMT) for over 25 years, and was the first to explore and validate the use of the brain penetrating 1070nm wavelength for use in neurodegenerative diseases. Clinical validation in Alzheimers, Parkinsons and Covid brain fog in the US, has followed in the last few years. A UK trial is currently in preparation. We're thrilled to share the incredible journey of Seb Bousie, who was diagnosed for motor neuron disease 8 years ago. Seb has been using the CERA Thrive PBMT System for 6 months, and in combination with a healthy diet and a supplement regimen, he has experienced a remarkable transformation in his health. After being in a wheelchair for over 4 years, Seb is now able to stand and even take a few steps. He also describes improvement in his brain fog and general health and wellbeing. This amazing progress is a testament to his commitment and the effectiveness of red light therapy to support overall wellness. Seb followed a protocol of infrared light therapy 4-5 times per week, with the CERA headband and body panel (based on a unique brain-microbiome rationale). The device uses a mixture of useful evidence-based infrared wavelengths, including, importantly, in the headband device, our favourite 1070nm wavelength.

Elloraxine, a novel drug compound developed by Durham university spin-out company, Nevargenics, has demonstrated antioxidant and anti-inflammatory effects, which make it a promising new therapy for treating ALS. The results showed that Elloraxine increases MAP2 expression at low concentrations, induces neurite outgrowth, ameliorates neuroinflammation and modifies GluA2 expression. The MHRA provided scientific advice for the design of the First in Human study and the non-clinical plan. A peer reviewed study published in the International Journal of Molecular Sciences by academics led by Wolfson Fellow Paul Chazot has shown that a new treatment for the most common type of motor neurone disease could improve the neuronal health of sufferers and allow their nervous systems to improve regeneration. ALS is the most common motor neurone disease (MND) and is characterised by progressive muscle atrophy, the wasting of muscle mass. It affects over 5000 people in the UK at any one time.



Precision of the Integrated Cognitive Assessment for the assessment of neurocognitive performance in athletes

This study from the Wolfson Research Institute for Health and Wellbeing Concussion Team (Dr Dan Glassbrook, with Professors Paul Chazot and Karen Hind) investigated the precision of the new Integrated Cognitive Assessment (ICA) test for the assessment of information processing ability in athletes. The ICA is a short, computerized test of information processing (CRT) speed that utilizes a rapid categorization task. The ICA test is non-verbal and does not require color vision, and can be completed in a short amount of time (~5 minutes), on a handheld device such as an iPhone or iPad, and is therefore able to be administered easily pre- and post-sport. The results of this new study support the ICA as a precise (as determined by %CV values) measure of information processing speed and information processing accuracy, and overall information processing ability (ICA Index). The ICA can be used for the assessment of information processing ability, and may be useful as a method to assess the effects of sport and brain injury on information processing ability.



UK Rugby Health study - Concussion

A new study showed that retired rugby players who had suffered multiple concussions had abnormal levels of certain proteins in their blood. This may have made them more prone to developing diseases such as motor neurone disease (MND). This is what new research led by our bioscientists has found as part of the UK Rugby Health project. Early diagnosis It shows that it may be possible to measure specific key biomarkers. These biomarkers can indicate disease or predict possible future disease in the blood of athletes who have suffered multiple traumas to the head. If athletes'

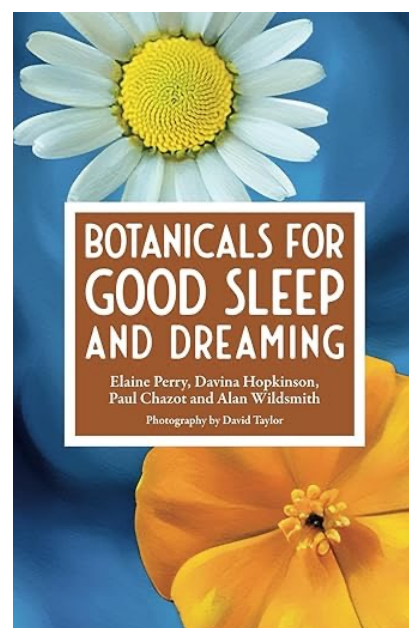
blood can be tested and monitored for these specific proteins, it may be possible to diagnose them early for neurodegenerative diseases and provide early interventions. The research team strongly recommended monitoring of players of contact sports after they retire, especially if they have suffered concussions. Brain health The 30 retired male rugby players who took part had a substantial history of concussions during their playing career. Their blood samples contained more indication of neural damage compared to a control group of 26 fellow athletes who had not suffered head trauma. Researchers found abnormal levels of certain proteins in the players with concussions during their career, which play a crucial role in the development of Alzheimer's and MND, compared to the healthy control group. They also found that the rugby players who had been concussed in their career had lower levels of a different so-called retinoid transport protein which is important for the development and functioning of the brain. Monitoring health In recent years, a lot of effort has been put into developing biomarkers in blood that could potentially help with early diagnosis and monitoring of neurodegenerative diseases such as Alzheimer's or motor neuron disease. This study may provide the beginnings of a biomarker toolbox to periodically monitor the brain health of retired contact sportspeople, particularly those with a history of concussion. It could also help to shape necessary interventions to minimise the development of future neurodegenerative disease. A range of interventions are currently in development at Durham University. The researchers are looking to secure urgent funding to carry out a follow up study with the retired players now. This will give a clearer idea of the current levels of the relevant proteins in the players' blood including any changes, their current health status and potential health outcomes.

Brain, Body and Behaviour Academy (continued)

New book by Wolfson Fellow - Botanicals for Good Sleep and Dreaming Paperback

Enhance your sleep and dreaming experiences with the transformative power of plants. You may already be familiar with the calming effects of chamomile and lavender for a restful night's sleep, but there's much more to discover.

Delve into the mysterious world of dreaming with plants such as valerian for vivid dreams and mugwort for lucid dreaming. Featuring detailed plant profiles, with dosages and cautions assured by a professional Medical Herbalist, this book blends traditional herbalism with modern medicine and neuroscience. Learn about the science of sleep, from brain waves and memory processing to the influence of the lunar cycle, and explore the intriguing realms of lucid or prophetic dreams. Rooted in the wisdom of Dilston Physic Garden in northeast England, this guide is authored by experts in science and therapy, including Wolfson Fellow, Professor Paul Chazot. They invite you to join them on their journey with plants, to eat, drink, sleep, and dream well.



Historic England Every Day Heritage Grant Success. “Our South Shields: Thanks for the Memories”



This project is dedicated to bringing to life the overlooked history of local South Asian and other ethnic minority groups from South Shields affected by dementia. South Shields boasts a substantial South Asian community, with many first-generation residents, especially of Bangladeshi descent, who settled in the area during the 1950s. The town has also been home to a Yemini community from the early 20th century. Working collaboratively with local people, Balbir Singh Dance Company (Arts Council England - National Portfolio Organisation, and Artists in Residence at Hatfield college), and Professor Paul Chazot, Department of Biosciences and Wolfson Research Institute for Health and Wellbeing, Beamish Museum's purpose built 1950s style Health & Wellbeing space, which is a copy of original Aged Miner's Homes in South Shields, has provided an inclusive and enriching space to explore themes around family, work, leisure, ageing and health. In 2024, together this dynamic

cultural partnership has explored and celebrated South Shields' diverse cultural heritage and supported the wellbeing of people affected by dementia.

Creative approaches to Dementia

The new up-to-date guide was developed by the County Durham Dementia Strategy Implementation Group. Durham University group representative and Wolfson Research Institute Fellow Professor Paul Chazot says this is a guide for people in County Durham who have problems with their memory, with important details of people and services you can contact if you need help with your memory or if you or a loved one have a diagnosis of dementia.



EnvironMental Health Nexus

Environ-Mental Health Nexus

Throughout our lives, the environments we inhabit – from our homes and schools to workplaces, digital spaces, and urban landscapes – profoundly shape our experiences and influence our health. These environments expose us to a variety of risks, including urban living, air pollution, climate change, workplace digital-screen hazards, and economic deprivation. Together, these environmental exposures have a powerful impact on brain health, mental health, and overall wellbeing. In fact, over half of the risks to our mental health stem from the spaces we live in and the challenges they present. The global costs of these issues are immense, with estimates reaching £37 billion annually by 2030 and £421 billion by 2050.

Addressing these interconnected challenges requires a new approach – an approach we call environ-mental health. This approach, which focuses on putting the social in front of the science, brings together insights from diverse areas of expertise to create a holistic understanding of how environments affect mental and brain health, while also identifying strategies to improve wellbeing.

Environ-mental health builds on the strengths of several important disciplines, combining their unique perspectives to create something greater than the sum of its parts: from environmental sciences, and exposomics to environmental Psychology and neuroscience to environmental sociology and Law. Our approach – putting the social in front of the science – rests on a framework shaped by lived experience, life-course thinking, and the entangled complexity of people, place, and environment. We unite brain health, mental health, and wellbeing under the concept of Healthy Minds, driven by transdisciplinary collaboration and cutting-edge, mixed-method platforms. Place matters. So do people. InSPIRE's environ-mental health nexus seeks to redefine how we understand and act on the entangled crises of place, inequality, and wellbeing; moving beyond research to co-create evidence-based, complexity-informed strategies that transform policy, centre lived experience, and build healthier, more resilient environments where minds can thrive across the life course.

InSPIRE is expanding to become the Environ-Mental Health Nexus. Our vision is for everyone to live in healthy spaces that promote healthy minds, so that where we live and work becomes a foundation for mental health resilience and equity.

Our goals are to:

- Help create the new interdisciplinary field of environ-mental health.
- Become world-renown for complex systems research and transdisciplinary methods innovation in this area, grounded at the intersection of science, social science and humanities.
- Lead on local, national and international efforts in evidence-based policy for advancing healthier minds through healthier spaces.
- Co-create innovative tools and open-source and market-based digital technologies for mitigating the impact of unhealthy spaces on minds.
- Develop a global ecosystem of regional, national and international stakeholders through world-class research, capacity building and knowledge transfer.
- Establish the EMHC as a global hub for this field's research, education and collaboration.
- Offer doctoral and CPD training, fellowships, and global case study collaborations to advance Environ-Mental Health and shape policy through place-based solutions and sustainable research investment.

Centre for Global Infectious Disease (CGID)

Microbial pathogens are major threats to global human health and food security. For example, Neglected Tropical Diseases (NTDs: 20 diseases, 19 of which are caused by bacteria, viruses, fungi, protozoa and helminths) affect a staggering 2.7 billion people. This problem is exacerbated by the rise of drug resistance and a lack of investment in antimicrobial discovery, issues recently highlighted by the World Health Organisation in a report predicting the dawn of a post-antibiotic era.

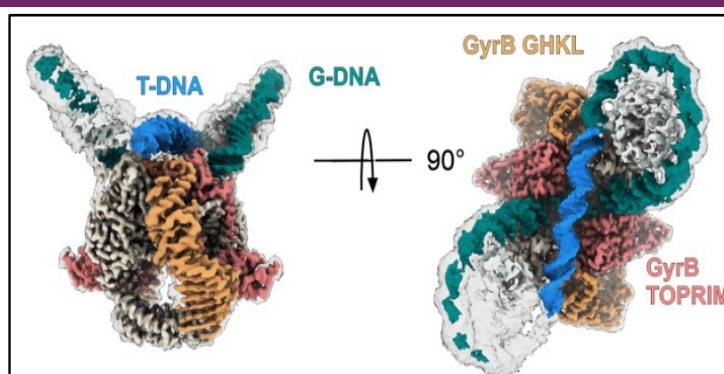
Drawing on expertise at Durham and partner organisations across the biological, chemical and physical sciences we seek to synergize research foci to develop collaborative efforts for the identification of novel antimicrobials and their targets [1-4] and the development of new diagnostic platforms [5], ultimately leading towards the development of new therapies and preventative strategies.

In 2024 we continued to work in a trans-national fashion to combat some of the globe's most pressing health problems. This is illustrated by Highlighted Projects, Outreach Activities and Key Publications listed below.

Centre for Programmable Biological Matter (CPBM)

The CPBM was established as a result of Leverhulme International Professorship funding (£4.8 million) being awarded to Prof Jonathan Heddle (<https://heddlelab.org/>). The CPBM is an ambitious enterprise that aims to break new ground in engineering biology and synthetic structural biology. The lab is driven by the question, "What if we can make artificial biological nanomachines?" and aims to

understand and build both natural and artificial biological nanomachines. One CGID aligned project is focused on understanding DNA gyrase: an enzyme found (and obligatory) in bacteria but not present in humans. DNA gyrase is a highly complex molecular machine that uses energy to carry out a unique reaction – negative supercoiling of DNA. To do this the enzyme has to go through a series of large, coordinated movements – very much a molecular machine and a drug target. The CPBM aim is to elucidate the structure and function of DNA gyrase as this will help to understand how such complex nanomachines work and elucidate potential new targets for antibiotics. Now, in Durham, the Heddle and Denny groups are joining forces to isolate and characterise DNA gyrase from the vestigial plastid (the apicoplast) from the protozoan parasites *Toxoplasma* and *Plasmodium*, the cause of malaria. These present themselves as novel drug targets in these global protozoan pathogens.



A flexible molecular separation platform to enable mechanistic discoveries for anti-viral research

The Royal Society awarded £68k to one of CGID's newer members, Dr Liz Morris, to enable mechanistic discoveries promoting anti-viral research. Nucleotides are the basis of DNA and RNA, and nature has invented its own anti-viral nucleotide analogues, called "ddhNTPs". Discovered only very recently (2018) these have broad activity against multiple viruses, low toxicity and long persistence in cells. Dr Morris will use the platform supported by this award to address why nature has chosen ddhNTPs as its ideal anti-viral nucleotide analogues, and to enable new anti-viral medicines to be safer and more effective.

Outreach Activity

Funded by Durham and COMSTECH in May 2024 Profs Pohl and Denny, with global colleagues, delivered a workshop in Addis Ababa, Ethiopia. This enabled early career scientists from across Africa to be introduced to approaches to drug discovery and diagnostic development for leishmaniasis. Due to high demand and positive feedback, another workshop is scheduled for Rabat, Morocco in February 2025. Supported by the MRC Prize highlighted above, the outputs from this will include three culturally sensitive animated videos designed to inform affected populations of the risks of leishmaniasis and Chagas disease.



MRC Outstanding Team Impact Prize

An international team of scientists led by CGID Profs Paul Denny (PI), Steven Cobb, Ehmke Pohl and Patrick Steel was awarded the prestigious MRC Outstanding Team Impact Prize in June 2024, which rewarded the major impact its collaborative science approach has made in medical research. The Prize recognised the work of the MRC GCRF Global Network for Neglected Tropical Diseases (NTDs), and its core mission to democratise and decolonise research, in bringing together over 500 researchers from 13 institutes worldwide to tackle the challenges caused by insect vector-borne leishmaniasis and Chagas disease in the world's poorest communities. Beyond fostering equitable international cooperation, the Network achieved notable scientific advances, including comprehensive drug target validation [3]. Furthermore, by engaging industry partners the Network has paved the way for further progress in developing treatments for these neglected diseases. The MRC Impact Prize recognised the outstanding achievements of the Global Network for NTDs, celebrating the team's collaborative approach to addressing complex health challenges. The £20,000 received will be used to support a public understanding workshop for African and Middle Eastern early career researchers and health workers.

Established in April 2001, the Centre for the History of Medicine and Disease (CHMD) is a University-approved Research Centre that provides a focus for cutting-edge, interdisciplinary research and postgraduate education in the histories of medicine, health, disease, medical ethics and science. It is linked to the Department of Philosophy and the Wolfson Research Institute for Health and Wellbeing and has members from several further departments with interests in history of medicine, including Archaeology, History, Modern Languages and Cultures, and English.

Bringing together scholars from across the university and across Europe interested in studying disease in historical perspective.

Dr Emily Webster, Co-Director of the CHMD, held a bi-weekly work-in-progress group from January-June 2024 to prepare drafts for the upcoming special issue, "Unruly Microbes: Epidemics, Infections, and Ecologies in Historical Perspectives." On June 6, 2024, we held a workshop that included participants from Germany, Finland, and across the UK to work through our plans for the special issue. The centre also hosted a monthly reading group on the topic of Early Modern Medicine, coordinated by co-Director Matthew Eddy.

In Fall 2024, the CHMD began a collaboration with the Institute for Medical Humanities to sponsor an invited speaker series, "Measurement in the History of Medicine," to run from January-June 2025. We welcomed our first speaker, Dr Adedamola Adetiba, a Wellcome Early Career Fellow at the Centre for the History of Science, Technology, and Medicine at the University of Manchester, in mid-January to speak on the topic of antibiotic resistance surveillance infrastructures in Nigeria in the second half of the 20th century. Our next speaker will be Dr Lukas Engelmänn, from the University of Edinburgh, in April. We plan to host five speakers in total during this time.

In June 2025, the Centre will resume its annual WIP seminar, which brings together historians of medicine from across the North East to discuss their current research projects. For information, please contact Dr Emily Webster (emily.webster@durham.ac.uk) or Professor Holger Maehle (a.h.maehle@durham.ac.uk).

Durham Centre for Ethics and Law in the Life Sciences was established in 2011 and supports excellence in academic research, innovative teaching and public dialogue on the ethical, social and regulatory issues raised by the life sciences. This area is defined broadly to include issues relating to health, the environment and biotechnology. We seek to promote the exchange of ideas and the production of high-quality scholarship within and beyond the University. Our expertise spans a wide range of academic disciplines, including (but not restricted to) anthropology, biology, law, philosophy, sociology and theology.

Report calls for legislation to bolster governance of stem cell-based embryo models

Professor of Healthcare Law and WRIHW Fellow, Emma Cave, has chaired a working group looking into how research involving human stem cell-based embryo models (SCBEMs) should be regulated.

SCBEM is an umbrella term for a range of structures created from stem cells which resemble or replicate aspects of an embryo. The review, led by the Nuffield Council on Bioethics (NCOB), sets out proposals for the governance of research using SCBEMs. These include legislation to distinguish them from embryos and to provide reassurance that ethical 'red lines' are not crossed.

As a research tool, SCBEMs have the potential to bring public benefit through new insights around early human development. They may also have important applications in the future that help improve IVF and pregnancy care. However, there is debate about their status – for example in relation to human embryos – and how they should be used. The ethical and governance review co-authored by Professor Cave concludes that a phased approach is needed – 'soft' governance implementing the UK SCBEM Code of Practice, as a stepping stone to 'hard' law regulation in the medium term. This would strike the right balance of encouraging innovation whilst ensuring that research respects ethical boundaries and delivers public benefits.

The review identifies the points of greatest ethical concern in relation to the potential use of SCBEMs. It also sets out what policy makers and those who have an influence on this field of research could do now to help address them. These 'red lines' include any attempt to develop SCBEMs for reproductive use or to transfer SCBEMs to the reproductive tract of a living person or non-human animal and any potential for SCBEMs to be developed that have the capacity to feel pain or awareness. Neither use would be scientifically feasible now, but could become possible in future as the science develops.



Recommendations

The Nuffield Council on Bioethics recommends an amendment to Human Fertilisation and Embryology Act 1990 to expressly exclude SCBEMs from the definition of an embryo.

It also calls for legal provision within the Act for a flexible approach to regulation of SCBEMs called a 'regulatory sandbox', which would ensure oversight that can accommodate scientific developments.

The Nuffield Council on Bioethics is also calling for a statutory ban on the transfer of SCBEMs into the reproductive tract of human or non-human animals.



The Durham Centre for Imaging brings together cognitive neuroscientists engaged in neuroimaging research. The centre serves as a collaborative hub for interdisciplinary brain research between academic staff at Durham University and clinicians in the NHS.

The centre is currently led by Dr. Liam Norman (Current Acting Director and Director of Operations), and Dr. Haemy Lee Masson (Director of Research). In 2024, the centre welcomed members with diverse expertise and completed several innovative projects that focused on human social perception and brain plasticity. You can read more about some of the exciting research conducted at the Durham Centre for Imaging below.



Expanding the centre to incorporate a wide range of neuroimaging techniques

In 2024, the Durham Centre for Imaging welcomed members with expertise in electroencephalography (EEG). EEG is a technique that samples neural activity with millisecond resolution, and is often used alongside MRI, which offers high spatial resolution but limited temporal accuracy.

The centre also welcomed members with expertise in transcranial magnetic stimulation (TMS). TMS is a non-invasive brain stimulation technique to change human perception and cognition. EEG and TMS are located at the Psychology department.

Legal Paradigms and the Politics of Global COVID-19 Vaccine Access

In this chapter, Wolfson Fellow Renu Singh (co-author) makes a wide range of important proposals on intellectual property, innovation, and access. The question this chapter asks is: which of these might work in an actual pandemic? By tracing the first year of COVID-19 vaccine distribution, it shows the critical importance of aligning choice of policy mechanisms with political forces. Indeed, it argues that an openness paradigm may have been more effective not only for reasons of justice, but because it could accommodate populist politics and vaccine nationalism.

Book Title: Intellectual Property, COVID-19 and the Next Pandemic published by Cambridge University Press

Decoding Social Minds: How Movies Reveal Complex Neural Processes

Humans spend a significant amount of time watching TV series or movies that are rich in social information about characters. Most of us can quickly and accurately interpret social cues from movies, such as facial expressions, conversations, non-verbal social interactions, actions, and the mental states of characters. However, the brain mechanisms underlying these processes while watching naturalistic social scenes embedded in the rich context are not yet fully understood. A recent study led by Dr. Lee Masson, a DCI researcher, used a movie viewing paradigm to explore how social features in a natural setting are represented in the social perceptual, theory of mind, and action observation network in the brain and has identified the superior and middle temporal gyri as the important hub for processing complex social information. The study also has revealed that listening to characters talking about others engaged core theory of mind (guessing others' mind) brain region, temporal parietal junction, suggesting that listeners may spontaneously think about mind of those being talked about. This study entitled "Multidimensional neural representations of social features during movie viewing" is published in *Social Cognitive and Affective Neuroscience*, 2024.



How We Perceive and Recall Social Interactions of Others

Perceiving and remembering the social interactions of others are essential for survival, as they inform our social behaviors toward individuals, such as deciding whether to approach or avoid them. While the social interaction perception has been widely studied, how the brain encodes and stores the memory of these interactions remains largely unknown. A recent study led by Dr. Lee Masson, a DCI researcher employed a movie-viewing and free-speaking paradigm combined with machine learning to investigate the shared neural mechanisms underlying the perception and memory of social interactions. The study found that brain activity elicited by viewing social interactions in a naturalistic movie predicted responses in the mid-superior temporal sulcus (STS) during speaking about remembered social interaction. The current finding suggests that the STS contains representations of social interactions that are not only perceptually driven but also more abstract or conceptual. This study entitled "A shared neural code for perceiving and remembering social interactions in the human superior temporal sulcus." is published in *Neuropsychologia*, 2024.



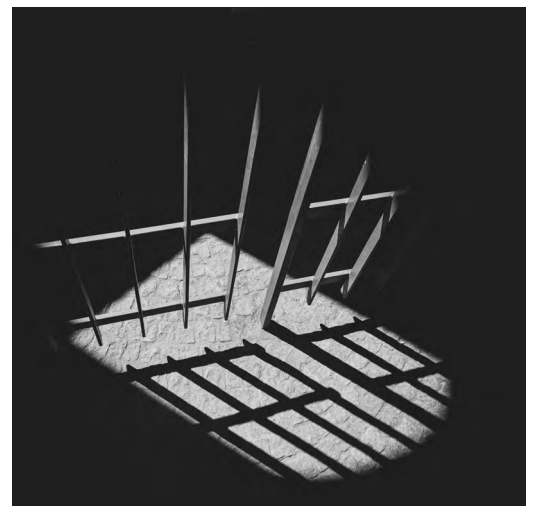


Research reveals how sighted and blind people's brains change when they learn to echolocate

New research, led by Dr. Norman and Dr. Thaler from DCI and Department of Psychology has shown that the brains of sighted and blind people adapt in a similar way when they learn to use sound echoes to understand the world without vision. The study is the first of its kind to use MRI scans to analyse the brain activity of sighted and blind adults before and after they are trained in echolocation. Echolocation is a physiological process that allows us to understand the world around us through sound waves reflected back to the sender. It's best known in bats and marine mammals such as dolphins, but it's also used by some people who are blind or visually impaired to navigate their surroundings. We found that the brains of fully sighted people adapt to learning echolocation in the same way that the brains of blind people do. Specifically, the MRI scans revealed that after learning echolocation, the primary 'visual' cortex part of the brain in both the sighted and blind participants had reorganized and developed sensitivity to sound echoes. Previously it was thought that such reorganization would only be possible in people who are blind, and that it would require much more extensive training. The findings have positive implications for those experiencing progressive sight loss because it demonstrates that the brain adapts successfully regardless of when echolocation is learned. The work informs training workshops for visually impaired and blind people and for professionals who work with them. The study "Changes in primary visual and auditory cortex of blind and sighted adults following 10 weeks of click-based echolocation training" has been published in the scientific journal Cerebral Cortex in 2024.

A Team Science Approach to examining the management and Prevalence of multiple Long-Term cOnditions within England's Prison service (TIPTOP)

The TIPTOP team is an interdisciplinary research team that aims to use this award to draw on Team Science principles to develop into a team that is highly cohesive and ready to take on the challenge of investigating the key research priorities focused on MLTC-M management within England's prison service. This will be achieved through team building activities, upskilling across methodologies, PPIE and stakeholder engagement and expanding our collective knowledge of MLTC-M's and the prison research field.



Brain, Body and Behaviour Academy (continued)

The Centre for Research into Violence and Abuse (CRiVA) is dedicated to improving knowledge about interpersonal violence and abuse, and professional and societal responses to it.

CRiVA welcomed three new members this year:

Dr Briony Anderson (she/her) is a Career Development Fellow (Criminology) in the Department of Sociology at Durham. She is a digital criminologist specialising in privacy abuse, gendered-harms, and technology-facilitated violence and abuse.

Dr Holly McSpadden joined the Department of Sociology as a Career Development Fellow (Criminology) in September 2024. Her research primarily centres sexual and gender minority victims/survivors of sexual violence.

Dr James Rowlands has joined Durham as an Assistant Professor in Sociology. His work focuses on Domestic Homicide Reviews/ Domestic Abuse-Related Death Reviews in England and Wales, as well as their international counterparts (known as 'Domestic Violence Fatality Reviews' or 'Domestic Violence Death Review Committees')



ReachOUT

This February, CRiVA PGR Cait Jobson and young LGBTQ+ Co-researchers launched their ReachOUT Zine, an informative zine on how support services can help young LGBTQ+ people experiencing domestic abuse, at their launch event.

Academics, practitioners who work in youth and domestic abuse settings and other interested parties gathered to hear from the young LGBTQ+ co-researchers who took part in a year-long project researching domestic abuse help-seeking for LGBTQ+ young people. This project was led by Cait, as part of her PhD who took a participatory action research approach with 12 young LGBTQ+ co-researchers to explore young LGBTQ+ people's perceptions and experiences of help-seeking when experiencing domestic abuse. From the beginning of the project, young LGBTQ+ people co-designed the research questions and methods, choosing to interview service providers and survey other LGBTQ+ young people. Through co-analysis and continual discussions, the co-researchers were adamant that research needed to focus not just on the problems LGBTQ+ people face in recognising domestic abuse and getting adequate support but also on how things could be better.

These ideas were collated and shared at the launch event including live presentations from 3 of the co-researchers, videos and quotes from others, sharing experiences of being part of the project, findings and suggestions for the future.

Their key findings highlighted many intersectional barriers to help-seeking for young LGBTQ+ including shame, stigma, stereotypes and assumptions as well as fear of escalation, distrust of many professionals and worries about not being taken seriously. It indicated a disconnection between young LGBTQ+ people's perceptions of services and the positive support services actually provide but acknowledge that young LGBTQ+ people are acutely aware of many limitations to services, including waitlists. This often puts them off reaching out. Hence the title of our zine "ReachOUT: it goes both ways!" – indicating the importance for services to be reaching out to communities too. In our zine, the final section entitled "Making a Change" recognises the barriers faced by many professionals but suggests that we can start the making a change through outreach, training, dialogue and reflection.

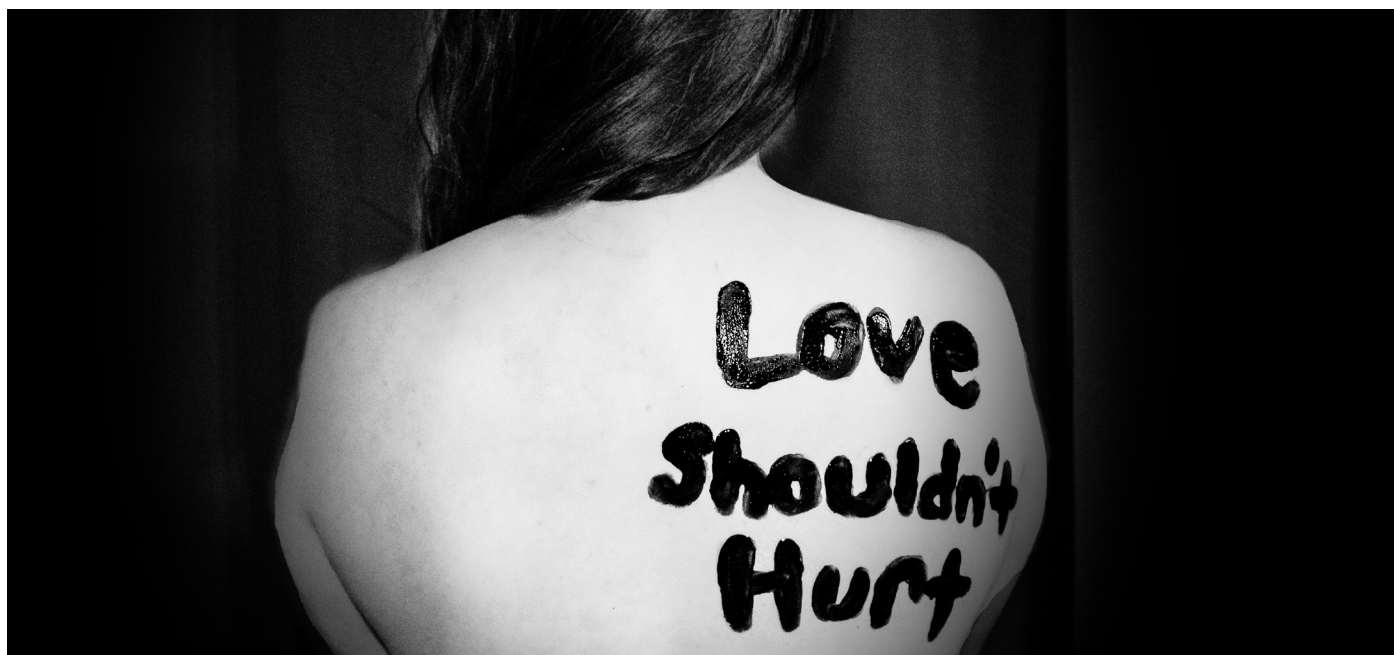


Now and Men

What's it like to be a man in the 21st century? How are feminist issues relevant to men and boys? How can we engage in productive conversations about gender equality? These questions are being discussed more than ever.

This monthly podcast delves into these issues with experts such as practitioners, activists and academics. In each episode, you'll hear in-depth conversations about a wide-range of topics connected to masculinity and the lives of men and boys, from supporting men's health, to preventing gender-based violence, to promoting involved fatherhood.

'Now and Men' is now a wonderful international collaboration hosted by CRiVA members Sandy Ruxton with our Honorary Researcher Stephen Burrell who is now at the University of Melbourne, Australia. Their commitment to changing conversations grows stronger despite the geographical distance.



Domestic Abuse Service Providers and Their Stories

Dr Rebecca Shaw was one of the first recipients of the inaugural ESRC Vulnerability and Policing Futures Research Centre's ECR Development Fund which Professor Nicole Westmarland is co-investigator of. Over the course of the past year, she has worked with Dr Kelly Henderson (CRiVA member) and domestic abuse service providers in Leeds, West Yorkshire and York to explore and scrutinise their stories and experiences of 'dominant narratives' of domestic abuse. Despite decades of activism and legislative changes (most recently in 2021 with the Domestic Abuse Act, and its stated aim to raise awareness of domestic abuse and further improve the effectiveness of the justice system) domestic abuse remains an inherently difficult problem to tackle with problematic myths, biases and stereotypes entrenched within our society, law enforcement, justice system, statutory agencies and so on. This project, therefore, wanted to investigate the power of those systemic and structural narratives that persist in preventing change, as witnessed by service providers who support both victim-survivors and perpetrators of domestic abuse.

Co-designed from its inception with Leeds Women's Aid, Behind Closed Doors, Fresh Futures and Foundations +Choices, the aim of this project was not only to identify and analyse these narratives, but also consider how we might try and change them. By better understanding service providers' perceptions of dominant narratives and the role those narratives can play in perpetuating systemic and structural attitudes to domestic abuse, we can then consider how we might begin to 'rewrite' them. Thus, a key ambition of the project was to use its findings to create a real blueprint for change across Leeds, West Yorkshire and York.

Brain, Body and Behaviour Academy (continued)



Congratulations Florence-Olivia!

Florence-Olivia Genesse has been awarded a prestigious Social Sciences and Humanities Research Council of Canada (SSHRC) Doctoral Fellowship for her Ph.D. research in Criminal and International Law at Durham University in England. Supervised by Professor Clare McGlynn, her work focuses on redefining rape in the criminal law. Florence's research addresses the longstanding issue of sexual assault and how criminal law should respond to it. There has been considerable debate on this issue. Why, exactly, is sexual assault legally and morally wrong? Is it about sex or violence? What is the nature of consent and non-consent? What makes violation of sexual consent especially

harmful? While the MeToo movement has renewed the call to address all forms of sexual harm, it has also spurred increased discussions about the boundaries of sexual assault and the role of criminal law in prosecuting it. Despite growing calls for reform, questions surrounding the legal definition of sexual assault remain unresolved in academic and policy debates, though there is a growing consensus that reform is needed.

Florence's doctoral research aims to explore how sexual assault can be understood as a crime rooted in sex inequality and other intersecting social inequalities—an approach largely absent from national legislations worldwide. By incorporating international human rights standards, Florence proposes a new framework for rethinking and reforming domestic laws on sexual assault, inspired by international examples where human rights principles have been successfully integrated with criminal law.

Vulnerability & Policing Futures Research Centre Annual Event

CRiVA Director Professor Nicole Westmarland and CRiVA member Dr Nikki Rutter presented at the annual event of the Vulnerability & Policing Futures Research Centre. Nicole presented on Vulnerability and Domestic Abuse. Nikki presented the findings from her research project as part of the Vulnerability & Policing Futures Research Centre-funded ECR Development Grant 'A collaborative investigation of Child/Adolescent to Parent Violence & Abuse'. She was commended for her work being the best example of participatory work across the Centre.

Weaving Stories

Final-year PhD student Janelle Rabe has brought her research to life as the Academic Evaluator for the Weaving Stories of Peer Sexual Abuse project in collaboration with Changing Relations. Weaving Stories is a creative co-production initiative that brings together students, survivors of peer sexual abuse, and a multidisciplinary creative team to amplify young people's voices through a co-created

animation. She applied her PhD insights and findings to guide thematic discussions, enhance the co-production process, and design responsive feedback and evaluation activities with the young people. One of Janelle's significant contributions was encouraging a broader exploration of behaviours that cause

discomfort beyond just severe physical instances of peer sexual abuse. This shift created a safe space for young people to share their experiences. Their insights were then woven respectfully and authentically into the animation, ensuring their voices were truly represented. Janelle's emphasis on iterative feedback, a core aspect of her PhD research, helped the young people feel valued and heard throughout the project. This was reflected in their feedback, with one participant noting: "Very kind, listened to everyone, and asked really good questions." Co-production and collaboration were at the heart of Weaving Stories, with the young people influencing every stage of the creative process, shaping the animation's script, soundscape, and visual landscape. The project was a mutual learning experience. Janelle gained insights into the creative world of animation, while the creative practitioners used her research to enrich workshop activities. The project showcased how academic research can inform creative outputs and demonstrated its potential for real-world impact. The impact is already evident, with 85% of students reporting increased confidence in speaking up against problematic behaviours.



Professor Tammi Walker leads the newly launched **Health and Justice Forensic Research Lab (HJFR)** in the Department of Psychology at Durham University. It is a dedicated team of researchers working within psychological sciences. The lab has been created to give students and researchers a space to explore the links between mental health, physical health, forensics, crime, and justice; and to spearhead vital research work exploring the experiences of people within the criminal legal system. Our researchers bring a holistic, interdisciplinary perspective to research, and are committed to supporting, understanding, and improving the health outcomes of people with forensic histories.

The Youth Academy

The future of our children is influenced by multiple factors both within and outside of our control, but over quite a long timespan of (at least) 18 years and our enquiries in this academy challenge the prevailing view that our experiences as youths end as we reach adulthood.

Led by Professor Helen Ball (Anthropology Department) and Professor Nicole Westmarland (Sociology Department) the Youth Academy understands what happens in our youth has ramifications for the rest of our lives in terms of physical and mental health, education, economic and social status. Therefore, our understanding of youth health and wellbeing is critical to the health of our world now and in the future.

The DISC team grew in 2024 with new staff and new students. In March, Chimwemwe Phiri joined us temporarily to work on the Northumberland Eyes on the Baby Project, and in May, Katie Hines joined us for several weeks as an intern. In June Laura Grieve left on maternity leave as we welcomed new baby Robin. In September we were joined by Research Assistants Oghenetega Kokogho and Dr Rebecca Strong, and in October by new postgraduate research student Himani Dalmia.



Eyes on the Baby

Throughout 2024, DISC have continued their ongoing project, 'Eyes on the Baby', a multi-agency approach to SUDI prevention coordinated by Margaret Randall. SUDI, or Sudden Unexpected Death in Infancy, is defined as the death of a baby under the age of one year, usually in their sleep, who were considered healthy 24 hours previously. In England and Wales, whilst universal SUDI prevention has been successful in reducing SUDI rates generally, SUDI now clusters in priority families living in impoverished communities. 'Eyes on the Baby' is DISC's response to the call for a multi-agency approach to SUDI prevention, and was first piloted in Durham in 2023 (funded by NIHR ARC NENC), and is now being run independently by the Durham Safeguarding Training Team. The pilot project outcomes were published in Health & Social Care in the Community in 2024. Eyes on the Baby was then delivered in Northumberland, culminating in a conference in Morpeth in April 2024, attended by those across the multi-agency workforce and the training is now also being run independently in Northumberland. Furthermore, DISC successfully applied for Northern Accelerator Funding and has been able to offer Eyes on the Baby to Darlington Borough Council to deliver to their staff this year. In total 1874 multi-agency staff have completed the training so far.



Safer Infant Sling Use

Alongside this exciting step in SUDI prevention training, the DISC team was successful in their application for funding from The Lullaby Trust and Teddy's Wish, and started a three-part project about safer infant sling use, entitled: "Sling and baby carrier sleep safety: exploring & developing information that parents need" (Sophie Lovell-Kennedy & Rebecca Strong). DISC has also been evaluating the Start for Life Fund in County Durham, a fund aimed at providing families across the county with safety equipment for the home, and to facilitate safe sleep (Helen Ball & Tega Kokogho with Julia Bates from the DCC Public Health Team). Finally, the DISC team also finished their ongoing collaborative project with Amma, a birth companions charity in Glasgow, that sought to investigate the experiences of mothers and babies allocated dispersal accommodation in Glasgow (Helen Ball, Laura Grieve, Sophie Lovell-Kennedy). The project report is published online, and the project culminated with a learning event to share both the report, and the recommendations made. The DISC team continues to collaborate with Amma to further the impact of this report.

The Youth Academy (continued)

Durham Infancy and Sleep Centre Postgraduates

In January 2024 DISC celebrated the graduation of Dr Alice-Amber Keegan, postponed from 2023.

Current DISC postgraduates are exploring various infant sleep topics in a range of locations:

Sophie Lovell-Kennedy is a PhD Student focussing on preventing Sudden Unexpected Death in Infancy in Northumberland. She is investigating barriers to safer sleep guidance, and developing a co-produced intervention with parents and carers.

Lenka Medvecová Tinková is a PhD Student focusing on toddler sleep and falling asleep in the context of family, society, and history in the Czech Republic.

Sarah Turner is a PhD Student exploring the role and involvement of young fathers living in the UK in infant care giving. Sarah is going to investigate whether SUDI prevention interventions for young fathers are viable.

Himani Dalmia is a Masters by Research student researching Contact Naps in India. She is investigating the evolutionary basis of parent-infant contact during daytime sleep, as an extension to the existing research on shared sleep at night, and is designing an intervention to understand costs and benefits of contact napping to carers and babies.



Training and Talks

As well as the research being undertaken at DISC, in 2024, they have provided training about infant sleep for several hundred health professionals and staff working with families around the world. The webinars offered by DISC provide anthropological insights into normal infant sleep and safe infant sleep, and DISC have continued to provide support for families and practitioners through Basis, the Baby Sleep Info Source, an evidence-based resource created by DISC.

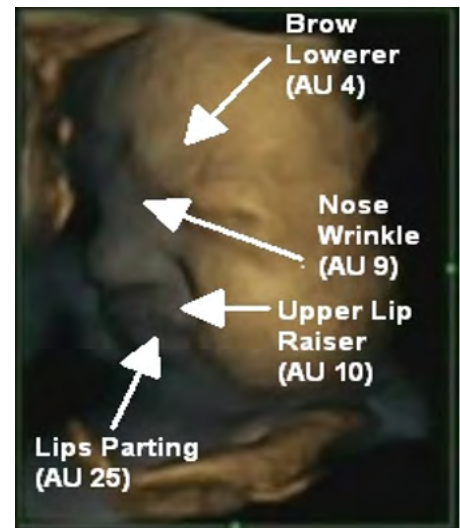
The DISC team have also given talks at various conferences and study days online and in person, including: the i-Lactation Conference; the Lambeth Breastfeeding Network Study Day; the MaMa Conference; Northumbria University's Student Midwives' Infant Feeding Day; the Northumberland Safeguarding Board; the Women's Institute in Newton Aycliffe; the Northumbria Health Inequalities Board; the International Association of Infant Massage's Study Day, the International Biological Nurturing Conference in Paris, and the Annual Conference of Child Death Review Professionals. DISC Director, Professor Helen Ball, was also invited to talk to various media throughout the year, including: the popular 'Cosleepy' podcast; an interview for the Austrian Newspaper 'Die Presse'; an online seminar with Mother Nourish (Melbourne); BBC Radio 4's 'Child' Programme; and Swedish Podcast Okrystat.

The Fetal and Neonatal lab

The question of fetal consciousness and pain perception is currently widely debated in medical communities given the improved facilities to perform prenatal interventions on fetuses. Healthy fetuses observed in ultrasound show a number of facial expressions, including a “pain facial expression” coded using the fetal Observable Movement system (FOMS) without being in pain such as the 32 week old fetus above and the 35 weeks 6 days old fetus below.

Nadja Reissland gave the following talks on lab findings:

- 1) North Denmark Regional hospital Hjørring May 2024 “FOMS coding system for fetal development”;
- 2) International conference on Management of fetal disorders and insights into foetal behaviour. Aalborg Denmark: “Fetal Pain Evaluation and Intra-uterine Fetal Behavior”
- 3) Plenary speaker at the international conference on Consciousness from the cradle to the grave, Stockholm, Sweden “Does the neonate “remember” prenatal experiences?”
- 4) Todai University Tokyo Japan, Robotics department talk entitled: “Prenatal stimulation and postnatal reaction” which included our preliminary work on fetal vision
- 5) Collaborative work with Cambridge University on fetal development was also presented at ICIS 2024 O.07.08

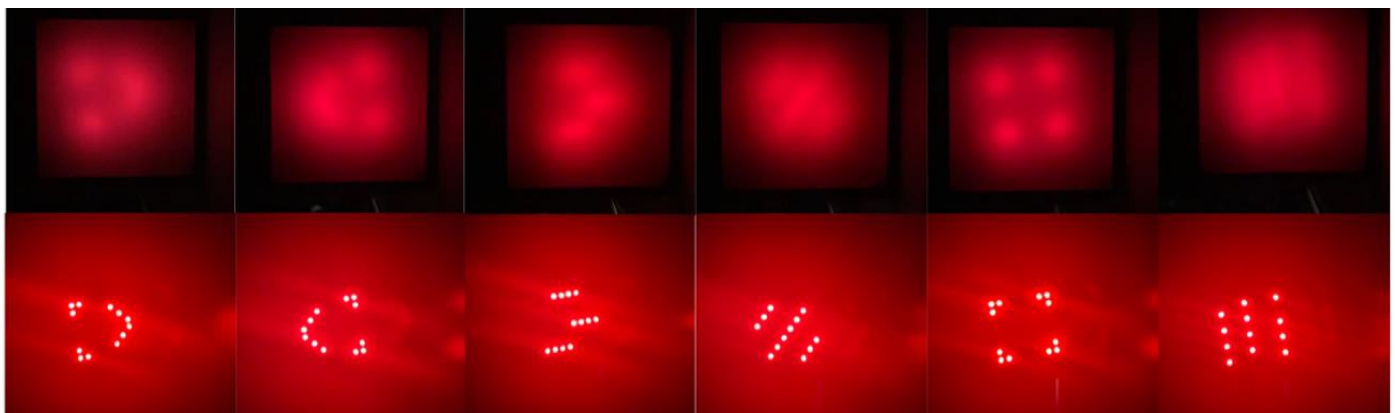


PHD in the fetal and neonatal lab

Deimante Baguckaite is a teaching fellow in the Psychology department and working on her Phd of the effects of e-cigarette (nicotine) use on fetal and neonatal cognitive development. She is currently finalizing her systematic review on the effects of nicotine on fetal development.

Collaboration with Physics with Beth Bromley

The Fetal and Neonatal Lab supervised 6 Physics student projects on modelling what the fetus sees (and hears) when experiencing vision and sound stimulation in the womb. Below a model of what the fetus sees modelling light through skin, fat, muscle, and amniotic fluid.



The Youth Academy (continued)

Child of the North

Durham University is involved in the Northern Health Science Alliance (NHS) Child of the North research partnership. It aims to act as a new focal point for the harnessing of research evidence to achieve transformative impact for children living in the North and beyond. It will also seek to add value to the nationally and internationally significant initiatives and collaborations in this area that already exist within the region.



Co-production with children, practitioners and policy makers will be a core element of Child of the North. This will build on existing N8 strengths in engaging children and young people in participatory science, co-design and co-creation of research, and crowd-sourcing data collection. Please contact the Durham Institutional Champion, Charmele Ayadurai for more information on this partnership.

The All-Party Parliamentary Groups Child of the North Commissioned report in summer 2023 revealed a great appetite within parliament for evidence based recommendations that can shape the policies of the upcoming government in 2024. Also, there was a lot of enthusiasm expressed for a follow up report to maintain the momentum.

To successfully unpack some of the prominent issues and to address them effectively, a plan was devised to produce 12 reports by launching one report per month in 2024. The idea of showcasing a series of reports with each report addressing a single topic is to highlight how the same fundamental themes keep emerging, and this will have a far greater impact.

The 12 reports will ensure politicians stay focussed on developing policies that will improve outcomes for children and young people, and helps ensure these policies are based on the best possible evidence.

To ensure the 12 reports are taken seriously by the next government a campaign on "Children First Government" was actioned. The reports will sit as a backbone as a year long campaign to ensure that the upcoming government puts children first by enacting the policies to address the problems so clearly and upsettingly laid out in the original Child of the North Report.

Report 1: Addressing the autism assessment and support crisis

The report highlighted troubling statistics of children with autism awaiting assessment, help and support. With calls for more assessments to take place in nurseries and schools while providing more support for autistic children before diagnosis and to establish cohesive partnerships between schools, health, voluntary services and universities to transform the support autistic children receive.



Report 2: Addressing poverty with and through schools

Despite the UK being one of the wealthiest economies in the world, with favourable economic conditions and rising wealth associated with the years between 2012 and 2021, this has worryingly not been translated into reductions in child poverty. The report makes it clear that the new government plan needs to incorporate a targeted programme of funding to support schools, targeted extension of Universal Free School Meals in schools, a child poverty unit in No.10 and Government Poverty Tsar to drive improvements.

The Youth Academy (continued)

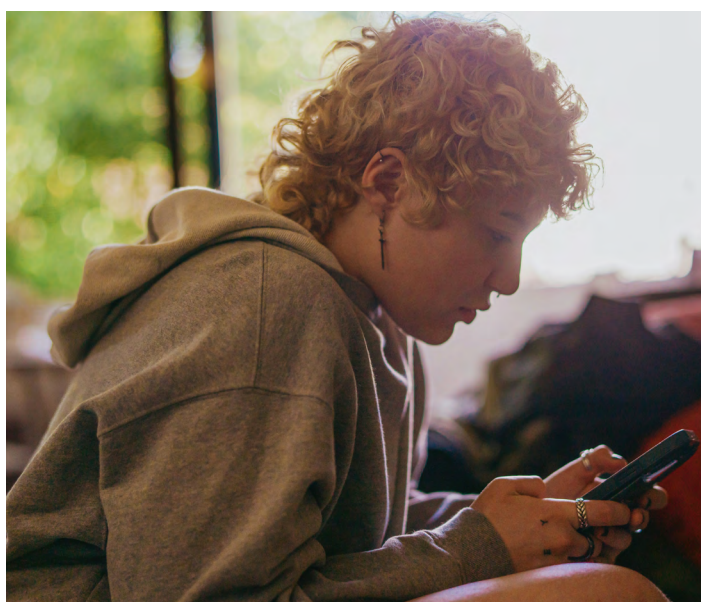
Report 3: Improving mental health and wellbeing with and through educational settings

This report showcase the grim reality of our current mental health support system for children with a dire state outlook for the future if dedicated funding is not available. The report calls for early support for neurodivergent children, NHS information hubs to signpost appropriate local mental health support to children and parents, expansion of mental health support offered through schools and education settings as well as addressing workforce crisis by empowering teachers with trainings on building a wellbeing classroom for children while encouraging psychologists to support schools.



Report 5: Supporting physical activity and health nutrition with and through education settings

Lack of physical activity of 60+ minutes a day, not consuming the recommended 5 daily portions of fruit and vegetables and consumption of double the recommended daily sugar limits has resulted in child obesity crisis, crippling the NHS further. This report urges for a clear nutrition standards for every food and drinks displayed in schools, free fruit and vegetable provisions for schools, expand provision of school breakfast clubs while widening the entitlement to free school meals and provision of healthy start scheme.



Report 4: Connecting and coordinating support and services in and around education settings

The “Sure Start” programme made significant strides in educational outcomes, health outcomes and boosting parental employment of disadvantaged children. Yet, decreased funding resulted in centre closures. The report shows how schools can build bridges with “outside school gate services, programmes and activities” such as mental health services, youth work, dental care, breakfast clubs, holiday clubs amongst others to meet the needs of local children and services.



Report 6: Addressing special educational needs and disabilities (SEND) assessment and support crisis

This report reveals an average wait for ADHD assessment takes almost 4 years in Yorkshire and Humber areas for 19-25 years. This needs to be addressed by better connect systems to facilitate earlier identification of SEN(D) and the provision of more appropriate support. While children with SEN(D) are more persistently absent from school, three times more likely to be suspended from school and “Not in Employment, Education or Training” (NEET) at 16-17 years of age. Holistic measures needs to be put in place i.e. Electronic Development and Support Tool (EDST) and Early Years Foundation Stage Profile (EYFSP) to identify and support pupils with increased likelihood of having SEN(D). Improved and extended training is equally vital for SEN(D) professionals and families.

The Youth Academy (continued)

Report 7: Plan for upskilling our children and young people for digital futures

Covid-19 pandemic amplified the lack of access to suitable device for home study and digital skill shortages. This report outlines minimum digital living standard framework to ensure every household has access to digital infrastructure, enhancing digital inclusivity in schools through Continuing Professional Development for educators and creating a national Digital Creativity “Skills Commons” to foster cross-sectional partnerships and network development.



Report 8: Plan for improving children’s oral health with and through educational settings

An appalling statistic of fewer than four out of ten children in England have good oral health showcases reducing sugar consumption through policy actions such as expanding levy on sugary sweetened milk and soft drink industry. Restrictions on food marketing, advertising and promotions while banning the sale of caffeinated energy drinks to under 16 year olds and optimising exposure to fluoride are some interventions for oral health improvements.

Report 9: Approach to support children in the preschool years

Preschool children readiness shows a great divergence between the North (59% in Manchester) and the South (84% in London). Children who are not school ready are more likely to be NEET (Not in Education, Employment or Training) by the ages of 16-17. This calls for boosting language skills through The Nuffield Early Language Intervention Preschool, initiatives that provides ideas for fun, low or no-cost activities for families with young children that aim to help children develop the skills, language, and resilience needed for starting school and beyond through 50 things to do before you’re five and Sheffield Small Talk speech and language therapy clinic to help all SEND preschool children.



Report 10: Plan for improving school attendance

This report reveals persistent absence and/or non-attendance rates of pupils from disadvantaged background, with Education Health Care plan and pupils identified as young carers. Creative and inspirational programmes such as Wirral Emotionally Based School Avoidance Strategy (EBSA) using a telepresence robot that enables children to access their education remotely; Bradford SAFE Taskforce initiated a variety of carefully designed, evidence-based interventions across 18 schools in the city to improve children’s attendance, behaviour, and engagement with their education. R Place was set up to bridge the gap between long term non-attendance and education for students aged 13-16 with social, emotional, and mental health needs who are finding it difficult to meet the expectations of mainstream education.

Report 11: Plan for addressing childhood vulnerability, crime and justice

This report finds astonishing number of children entering the criminal justice system. This calls for an urgent need and action to set up a holistic child centred approach where public services work together to identify and address reasons why children often or become victims of crime. The focus should be more on Developing a more inclusive school system that supports vulnerable pupils, including training to help school staff to recognise SEND, neurodiversity, and signs of distress and trauma is crucial. Community-based programmes are also encouraged to provide safe and constructive outlets for children, steering them away from harmful environments and potential criminal involvement are urgently needed.



Report 12: Approach to create a culture of inclusive opportunity through arts and creativity

Lack of funding in state schools have resulted in 93% of children being excluded from arts and cultural education. Thus, a career in arts, music and culture has become unreachable despite children's talent. Northumberland based Mortal Fools and Dance Action Zone Leeds in the North are great examples. Children are given opportunities to co-create compelling, socially relevant, and high-quality theatre, film, and creative projects with young people, artists, producers, schools, arts venues, and communities. Dance is also used as a tool to combat health inequalities and improve physical and mental health among local children.

Early Years Evaluation Research - School of Education

The evaluation team from School of Education Durham University have successfully completed three early years evaluation projects in 2024, and have received extended grants to support an ongoing early years evaluation study with 2-year-olds.

PACT Evaluation

The conclusion of the evaluation of the Parents and Children Together (PACT) early years language and communication programme in 2024 has led to the publication of the peer-reviewed project report on the funder's (Education Endowment Foundation) website as well as the publication of paper in JCPP Advances, and a well-attended symposium at the British Education Research Association (BERA) Annual Conference in 2024. The BERA presentation won best presentation in the Language and Literacy SIG. The evaluation found no impact of the PACT shared reading programme on children's language outcomes, the home learning environment or school readiness through two RCTs conducted with 3- and 4-year-olds in school nurseries in the North West of England. This did not replicate the results of an early randomised trial which recruited parents and children from children's centres raising questions about the targeting of parent and child early years intervention. PI: Victoria Menzies

TWITCH Pilot Evaluation

Pilot evaluation of the Talking with Tales for Children (TWiCH) (funded by the EEF) has been using a contribution analysis design to look at whether the TWiCH CPD programme for nursery staff supports them to change their practice with story-time in nurseries. across 25 early years settings in South and West Yorkshire. The evaluation has provided learning and feedback to the programme allowing the developer to adapt and improve the programme for delivery with a new cohort of settings in 2024/2025. The project's report will be published in the summer.PI: Victoria Menzies

The Youth Academy (continued)

Maths Champions Evaluation

PIs: David Torgerson, Lyn Robinson-Smith and Hannah Ainsworth, University of York;
Durham Co-Is – Xiaofei Qi, Victoria Menzies, Carole Torgerson

The final report of the independent evaluation of the National Day Nurseries Association (NDNA)'s Maths Champions programme was published in 2024 by the funder the Education Endowment Foundation. This joint project between Durham University and the University of York used an effectiveness RCT, to evaluate the impact of the CPD programme for nursery staff to support their teaching of early years numeracy. The trial found a positive result of the programme, with children's early mathematical and language ability increasing as a result of the programme. This replicates an earlier efficacy trial conducted by the same team. The Education Endowment Foundation have now commissioned scale up work of the programme rolling it out to a significantly larger sample of nurseries.

EYCP Efficacy Trial (2022-2026)

The Early Years Conversation Project (EYCP) evaluation team concluded the Cohort 1 programme evaluation within 43 nurseries in September 2024, and is currently running the Cohort 2 evaluation across 58 nursery settings in Greater London areas between

2024 and 2025. The EYCP evaluation study is EEF's first early years trial working with 2-year-olds in nursery settings. Developed and delivered by Sheringham Nursery School and Children's Centre, the EYCP programme aims to develop staff interactions with children to improve the language skills of 2-3 year-olds, using the ShREC approach (Share attention, Respond, Expand and Conversation) and interactive book reading. The project's report will be published in the summer 2026.

The EYCP evaluation team leads Dr Xiaofei Qi and Vic Menzies were invited to lead on two roundtable discussions on the EEF Knowledge Exchange: Evaluating Programmes in the Early Years event on 22nd May 2024), and the EEF evaluators conference on 16th July 2024.

PIs: Xiaofei Qi and Vic Menzies; Co-Is: Nadia Siddiqui; Rachel Oughton (from Mathematics Department), Akansha Singh (Trial statistician, from Department of Anthropology); Research Officers: Laura Chambers, Dandan Chen (until Jan 2025), Rowan Van-Muysen (until September 2024).



From the concept of the glass ceiling to the #MeToo movement, the role of women in our world is slowly being recognised. And yet gaps still exist. From the exclusion of women in early clinical trials (due to the variability introduced by cyclical hormones) to policies aimed for inclusion and recognition that are not fit for purpose, there is still much work to be done to ensure the health and wellbeing of women everywhere.

'How can we prevent gender-based violence? A 10 year-vision'

On 19-20 March 2024, the 'How can we prevent gender-based violence? A 10 year-vision' Conference was held in Leeds. The conference aimed to create a manifesto for change with a vision for preventing gender-based violence in 10 years' time. The event was jointly organised by CRiVA and the Connect Centre for Research on Violence and Harm & The Centre for Criminal Justice Partnerships at University of Central Lancashire with support from the N8 Policing Research Partnership, ESRC Vulnerability and Policing Futures Research Centre, and the British Academy.

The event kicked off with a keynote speech from Domestic Abuse Commissioner Nicole Jacobs. She stressed the value of a coordinated community response to prevent domestic abuse facilitated by coherent responses at the local level and increased collaboration with specialist services. Several CRiVA academics led discussions on various topics as speakers and session chairs. In the panel, 'What's the Role of Criminal Justice in Preventing Violence against Women and Girls, Professor Geetanjali Gangoli elevated the voices of women and girls harmed by Female Genital Mutilation in her discussion on the impact of criminalisation and the law on prevention and social justice. At their session on challenging beliefs and engaging men, Professor Catherine Donovan underscored the significance of inclusivity and diversity in reshaping the narratives on domestic abuse, advocating for the integration of LGBTQ+ experiences into the public discourse. Professor Nicole Westmarland stressed the pivotal role of gender norms in shaping the nuanced dynamics of men's experiences of domestic violence and called for increased involvement of men in the movement to end violence against women.



Supporting victim survivors of gambling-related domestic abuse – a focus on women in social housing (including local authority supported accommodation)

The above-named research project, involving CRiVA members Kelly Henderson and Dr Mercy Denedo, runs into 2025 and was awarded by the Gambling Commission, using regulatory settlement funds. The Research Team are seeking information from housing providers (in England) on any approaches they currently use in relation to gambling harms and domestic abuse. It is informed by an expert advisory panel comprising women with lived experience, academics, domestic abuse practitioners and charities as well as housing providers. The research partners are: Durham University (lead organisation), Sheffield Hallam University, Cranfield University, Betknowmore UK and Addressing Domestic Abuse.

As well as using findings from a survey, they are undertaking in depth interviews with victim survivors nationally and carrying out focus groups and interviews with a range of key stakeholders with a view to producing a free toolkit for social housing (and other sectors) based on findings as well as a research report detailing the research findings and policy proposals. We will be holding interviews with stakeholders nationally as well as holding focus groups nationally.



The Women's Academy (continued)

EPSRC IAA Project weDecide: Clinical Tool for Shared Decision-Making for Treatment of Menopause Symptoms (Jan 2024 – June 2025)

PIs Dr Nelly Bencomo, Prof Dorothy Monekoso (co-PI), Mr Dylan Walton (RA), Dr Jennifer Horrocks – MBBS, PGCertClinEd, MRCP GP, Menopause Specialists, BAY MEDICAL GROUP

Menopause care is deeply personal and often involves weighing potential benefits, risks, and individual preferences. While clinical guidelines and specialist input offer structure, women navigating perimenopause increasingly seek personalised, transparent, and participatory approaches. Machine Learning (ML) and Artificial Intelligence (AI) offer promising opportunities to support personalised and shared decision-making (PSDM) by combining clinical insights with individual values and priorities.

Objectives

1. To propose an AI/ML-based clinical tool that supports PSDM for menopause treatment.
2. To ensure that the tool integrates both expert clinical criteria and the preferences of the woman experiencing symptoms.

What has been done so far:

Step 1: Exploration of AI/ML Techniques for Preference-Based Treatment Recommendations.

The research team conducted an initial study evaluating AI methods to support PSDM. Techniques prioritising explainability were selected, including logistic regression, decision trees, linear support vector machines, and multi-criteria decision-making (MCDM) methods.

Step 2: Design and Development of the weDecide Tool Prototype.

- Part 1: A recommender system that suggests treatments based on patients with similar symptoms. Emphasis was placed on explainability, enabling both patients and clinicians to understand the rationale behind recommendations.
- Part 2: An MCDM module allowing patients and clinicians to express preferences and explore treatment options together, supporting collaborative discussion.

The tool uses both a synthetic dataset and anonymised data derived from audits of GP electronic health records. Patient privacy is strictly maintained through data masking techniques.

Results

Several proposed models achieved acceptable accuracy (75%+). The MCDM component was successfully integrated, providing recommendations aligned with both clinical reasoning and patient priorities. Outputs are presented in a user-friendly, interpretable format to support meaningful dialogue.



The Women's Academy (continued)

Girls and Women Involved in the Criminal Justice System Conference

The Health and Justice Forensic Research Lab will be hosting the first inaugural Girls and Women Involved in the Criminal Justice System Conference on the 18th February 2025. This free conference with TEWV Health & Justice Services will address the issues that tend to be particularly unique to girls and women involved in the criminal justice system, including self-harm, drug use, stigmas for mothers, financial stability and income, sex work and human trafficking, domestic violence or intimate partner violence, trauma, and different pathways to criminal behaviour.

Exploring Women, Violence, and Emergency Workers

Status: In Progress (2024-2025)

Ministry of Justice/HM Prison and Probation Service Project

Since legislation was changed to introduce the new offence of 'assault on emergency workers' (2018), women's prisons have identified a large increase in women coming to prison for this offence. This pattern does not appear to be the same across men's prisons. It is important to undertake research to explore the attitudes and experiences of emergency workers involved as victims about incidents where this offence has occurred. The project will also attempt to speak to women who have left prison for such offences as it is very important to understand their accounts too. The circumstances of the incidents and the antecedents, as well as exploring what might account for any gender differences in the prosecutions for this crime is also important. (Prof Walker, MSc student Maria Birchall and Dr Jude Kelman (HMPPS).



Funded Research Projects

Improving Primary Care Services for Imprisoned Women with Serious Mental Illness

Funding: National Institute for Health and Care Research (NIHR) - Research for Patient Benefit (RfPB)

Status: In Progress (2024-2026)

There is a gap in existing physical healthcare provision for women with Severe Mental Illness (SMI), including racially minoritised women, in prison and on release to mainstream primary care. Women in such settings tend to have complex mental health problems, often with comorbid physical health problems. The prison regime can be a barrier to addressing the health needs of women: low prison staffing levels and time available out of cell. Little is known about how imprisoned women with SMI use primary care services, to what extent services are meeting health care needs, and how these services are experienced by different racial groups.

Aims:

1. To explore the range of primary care services delivered to imprisoned women with severe mental illness (SMI) in England and describe what is working well and the barriers to accessing care.
2. To develop a framework for use in women's prison services to support the primary care of racially minoritised women with SMI.

Publication

Roden-Lui, G., Chew-Graham, C. A., Hard, J., Harriott, P., King, H., Mastrocola, E., & Walker, T. (in press). Improving primary care services for imprisoned women with severe mental illness (IP-SIS). NIHR Open Research.

In addition to understanding the biomedical symptoms of pain with reference to the physiology and biochemistry of the body and how it is perceived in the brain, we are also interested in the factors outside of the body that influences how we feel pain. This includes our prior experience with pain, the prevalence of pain in our family, our diet, physical activity, our jobs, the list goes on. We also work as part of multidisciplinary teams to find ways to interact with and mitigate pain. Understanding the pharmacology and behavioural effect of medical interventions such as painkillers is just as important as knowing when to apply more social mediations (like walking and talking therapies). Our aim is to improve knowledge both within healthcare and the public to change the narrative around pain, opening up possibilities for tackling it that have not been considered before.

Living well with Pain 10 Footsteps programme

Our researchers are changing lives by equipping clinicians and patients with the skills to help manage painful health conditions without using potentially harmful strong opioids. Experts from our Wolfson Research Institute for Health and Wellbeing have developed a ten-footsteps training programme with the Live Well with Pain team. It provides effective ways for patients to self-manage their pain and equips clinicians to feel more confident in advising their patients how to manage their pain without medication. People who live with painful health conditions worked with our researchers to develop the programme which has been accredited by the Personalised Care Institute (PCI). The original AHSN Bright ideas Health award winning training scheme offered to clinicians is the Gabapentinoid and Opioid Toolkit, known as the GOTT, was developed and evaluated during the pandemic. It was tailored to individual clinicians' learning needs and is designed to raise confidence in how medical staff treat and advise patients experiencing chronic pain.

Clinicians from a GP practice in a highly deprived part of County Durham, UK, implemented the GOTT. Its effectiveness was assessed over a 12-month period. Follow-up analysis was carried out 30-months later to evaluate the ongoing impact of the programme on strong opioid prescription rates. At the start of the study, the GP practice had one of the country's highest rates of prescribing opioids, and clinicians were very low in confidence to deliver a pain management programme to their patients. After clinicians adopted the GOTT, confidence was significantly raised and the practice brought high dose opioid prescriptions down to zero. It also halved major opioid and gabapentinoid prescriptions – bringing the GP practice well below the national average.

The research was a small-scale proof of concept study, which has been rapidly all over the UK, with positive results soon to be published from East and West midlands, St Georges, London and the South West of England. Professor Paul Chazot said: "Although this is a relatively small study, the programme we developed has been promoted by NICE and rolled out across the UK. "It has been digitalised, and there are follow-up papers to come, including more patient-focused evaluations. Dr Frances Cole an Honorary Fellow of the Wolfson Research Institute and lead of the 'Live well with Pain' Team, said: "The harmful side-effects of taking high doses of opioids are well-known and we've probably saved people's lives by reducing their use to zero as a result of this training programme." The research was an interdisciplinary study between our Anthropology (Dr Lucy Johnson and Prof Kate Hampshire), and Biosciences departments.

Many front-line staff who might be expected to introduce and deliver self-management support for persistent pain lack the confidence and skills to do so. This is consistent with a known lack of education about pain across disciplinary boundaries in primary and community-based care. In order to meet treatment priorities for persistent pain there is an urgent need to upskill the workforce by providing access to good quality training and resources. Our Live well with pain-WRIHW Pain challenge Academy 10-Footsteps pain self-management training programme is designed to deliver the necessary confidence and skills, and is being successfully rolled out all over the UK.



The Pain Academy (continued)

Unmasking Pain (UP)

Unmasking Pain (UP), the Fuse Health Award winner for Innovative and Creative Communications, led by Balbir Singh, Director of Balbir Singh Dance Company and Prof Paul Chazot, Director of WRIHW Pain challenge Academy, to enable the person with pain through the creative arts process to unlock themselves from the fear, anger, depression, physical limitations and lack of social and creative engagement. This project was conceived to enable people discover themselves and build self-confidence in their differing self-identity and health. UP was a brave and bold engagement in persistent pain, a well-known yet neglected and avoided area of human experience.

The UP project tackled diverse ways to explore pain with a non-judgemental and curious approach to engage those with pain with a rich mixture of creative arts. The plan now is to continue the development of Unmasking Pain with original partners: Balbir Singh Dance Company; Live Well With Pain; Durham University WRIHW Pain Challenge Academy and Leeds Beckett University Centre for Pain Research, together with pain communities predominantly in County Durham. Other locations may include Kirklees, Leeds, North Tyneside and Cumbria. The next phase of the collaboration is to co-design Creative Footsteps, developing the Live Well With Pain and the Pain Challenge academy's AHSN Bright ideas in Health award winning Ten Footsteps programme, a step-by-step online and f2f training guide to living well despite your persistent pain; working with people living with persistent pain through regular sessions in Durham (Parkinsons, Fibromyalgia, Dementia participants) to take creative approaches to explore and develop Creative Footsteps; their clinicians and pain management specialists and researchers at Durham University WRIHW.



Developed by a clinical psychologist working with Live Well with Pain and WRIHW Pain Challenge Academy, the Ten Footsteps Handbook is designed to be used in conjunction with the Ten Footsteps programme on our www.livewellwithpain.co.uk website. This 48 page A5 handbook booklets for the self-management journey for the LWWP Durham University WRIHW Pain Academy 10-Footsteps programme. Every year, thousands of people learn to self-manage their persistent pain using Live Well with Pain's resources. Our printed booklets focus on some of the key skills people will need on their self-management journey. They are professionally printed in full colour and produced in a handy A5, saddle stitched format. All proceeds contributes to the updating and sustainability of the LWWP 10 Footsteps programme, which is changing lives for the better for those individuals living with Persistent pain, young and old.

Nutrition top tips for self-management of Persistent pain

What we eat not only impacts our overall health, it can actually affect our pain levels too. So what exactly are the foods we need – and why are they important for pain? The Pain Academy have put together some top nutrition tips to help you find out.

Director of the WRIHW Pain Challenge Academy, Professor Paul Chazot, and WRIHW Fellow Dr Frances Cole, Lead on the Live well with pain team asks us to Explore our top nutrition tips for people living with persistent pain - - it is released and has already helped one person already with osteoarthritis with knee pain who rarely eats Omega 3 foods and is vegetarian!! So sorted in one go and we only got as far as nutrition needs assessment Q2 and she is off to get soya and walnuts etc, from her local supermarket.

Radio 4 coverage of the project

TV and radio presenter Kirsty Young has spoken out about her ongoing struggle with chronic pain, on Radio 4's Today programme in 2024. As part of the programme, Today presenter Emma Barnett interviewed Dr Kamila Hawthorne, Chair of the Royal College of GPs. Emma was keen to know what was available for people other than opioids, which are increasingly recognised as being potentially harmful. Dr Hawthorne highlighted that a number of services have emerged, particularly recommending Live Well with Pain, the initiative led by Wolfson Fellow and Pain Academy Lead Professor Paul Chazot, which she described as 'a fantastic service.' As Dr Hawthorne explained, Live Well with Pain's website has a wealth of resources both for people with pain and the healthcare professionals who support them.



The Mental Health Academy

We recognise that mental and physical health are contingent upon each other. Long-term illness has severe and lasting mental ramifications both for the patient and those around them. Equally, poor mental health affects our physical wellbeing making life even more difficult.

It is also clear that keeping our mental health in balance is important across every aspect of our lives. That is why we represent our work which seeks to understand how and where we live influences how we feel, act and react as cutting across each of our Challenge Academies. This can be in relation to how loneliness is experienced by stroke survivors and how this affects their interaction with rehab (Brain, body and behaviour academy) to mental health issues in our Youth Academy (CRIVA). However, mental health is also interrelated with our other cross-cuts such as Race, Culture and Inequality and Work for example.

Solitude Research - The Solitude Lab

Durham University Solitude Lab™ explores the role of solitude in daily life and modern societies, whether it be a life choice, a spontaneous desire, or a momentary experience. The lab are currently working on a 3-year research program funded by UKRI to look at the role of solitude as opportunity for rest. Specifically, the lab focused on those who are going through life transitions, first-time mothers and retirees, because we believe that those transitions present new opportunities as well as challenges for people to embrace solitude for their well-being.

The Solitude Lab launched a website to share insights on solitude, featuring bi-weekly blog posts and regular updates on emerging solo living trends. Our goal is to foster conversations around solitude and its role in well-being. Visit: solitude-lab.com.

The Solitude Lab's work has been featured in major media outlets, including the Washington Post, Well+Good, and Scott Barry Kaufman's blog, spotlighting our research and perspectives on solitude.



Solitude: The Science and Power of Being Alone

The lab's work on solitude culminates in the upcoming book, *Solitude: The Science and Power of Being Alone*, published by Cambridge University Press. The book explores the psychological science of solitude and its potential benefits. Release date: March 18, 2024.

Empirical Paper on Solitude and Emotions

The lab published an empirical study in the *Journal of Personality* examining how our momentary preference for solitude is often linked to aversive emotions. The findings contribute to understanding when and why people want time alone. In our daily life, we find ourselves alone quite often. Solitude occurs spontaneously in between social times or sometimes might be pursued purposefully when we need some time for ourselves. Recent experimental studies have showed that solitude might function as an "approach for affective self-regulation" (Nguyen et al., 2018), particularly allowing opportunities to downregulate high-arousal emotions like excitement or anger. Building from that framework, this research aims to capture occurrences of solitude in daily life to test whether solitude is more likely to occur when emotional activation is high.

Perspective Paper on Solitude and Well-Being

Although solitude is a common experience in daily life, empirical research on its effects is scarce and challenging to interpret. Here, we propose a methodological framework to study solitude and highlight its value in understanding the link between solitude and well-being. First, we advocate for clear conceptualization and operationalizations of solitude and provide recommendations for how to achieve these objectives. Second, we tease apart various dimensions of solitude, including its duration and underlying motivational, emotional and cognitive qualities. Finally, we integrate research from various subfields of psychology (e.g., social-personality, clinical, developmental) and summarize the nuanced and complex relationship between solitude and well-being, which depends on the specific dimensions being studied. Taken together, we hope the proposed framework will equip the next generation of researchers with a systematic methodology for studying solitude and ultimately facilitate more productive research in this domain.

Article Published on Psyche Guides

The Solitude Lab contributed an article to Psyche titled “Solitude can be profoundly restorative. Here’s how to savour it.” The piece offers practical insights on embracing and enjoying solitude in everyday life.

Solitude offers many benefits. Used wisely, short periods alone can be profoundly restorative, bringing down intense emotions and offering a much-needed break from the hustle of daily life.

Start gradually

A common mistake people make when trying to build a new habit is adopting a ‘go hard or go home’ mentality. If solitude is unfamiliar to you, start small, such as with a short solo walk around your neighbourhood.

Change how you think about time alone

It is important to see it as a personal choice and a valuable opportunity for emotion regulation and self-reflection, rather than as a condition imposed by external circumstances or dictated by other people’s plans and decisions.

Plan how you want to use your time alone

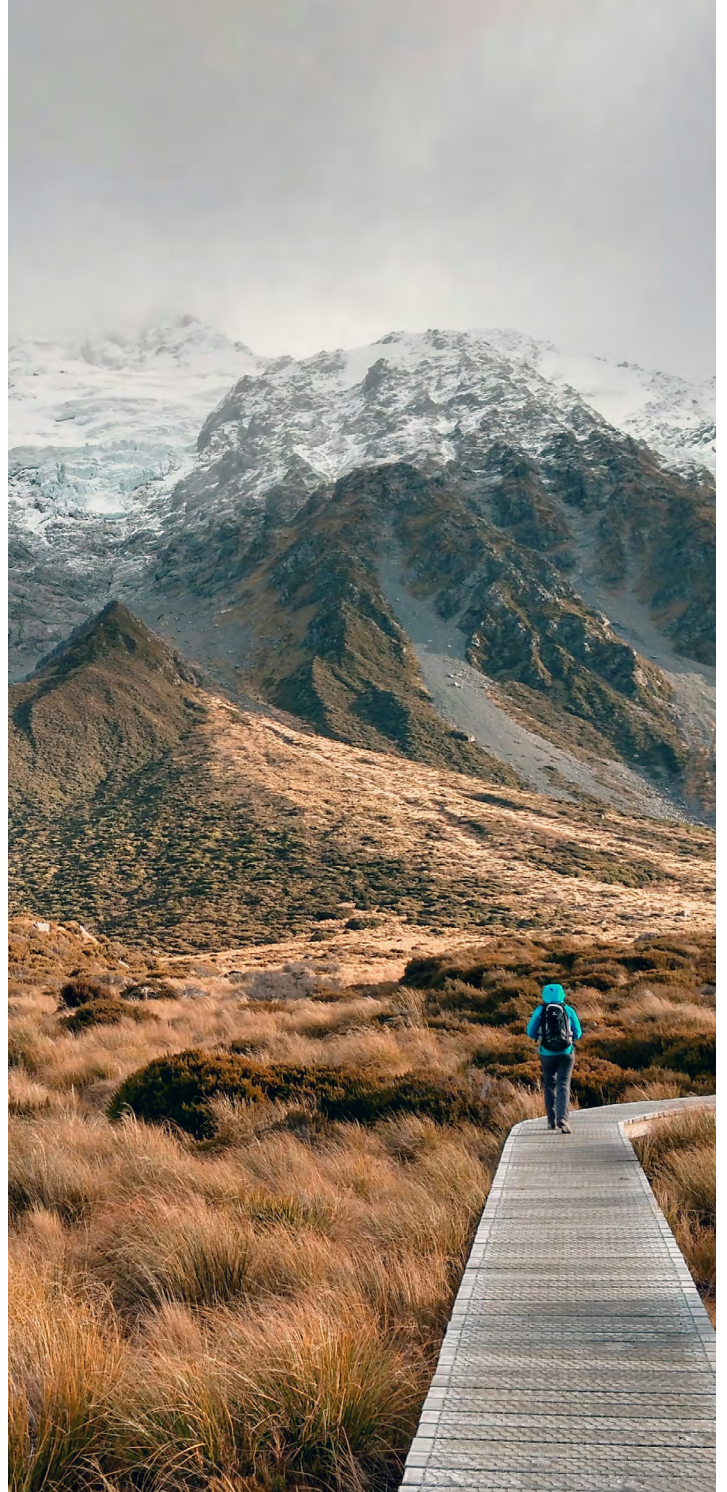
Rather than defaulting to completing chores or passive activities, try to use this time with more intention. Experiment to find what works for you.

Have a protected space and time for your solitude

Try to build opportunities for solitude into your daily routine. Use props such as headphones or a book to signal to others that you’re having a quiet moment.

Step outside

Studies have shown that nature doesn’t demand or overwhelm our attention the way build or human-designed environments do, making it the perfect space for solitude.



The Mental Health Academy (continued)

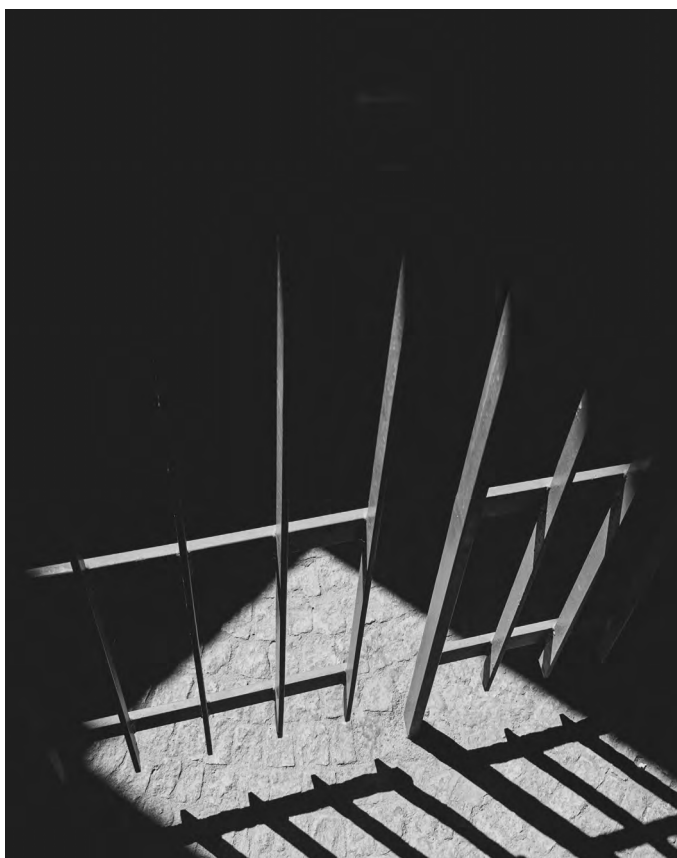
Building Mindfulness in Communities

On August 27, 2024, Dr. Loretta Lou organised a public panel titled "Building Mindfulness in Communities" in collaboration with NIHR Career Development Fellow Dr. Xandra Miguel-Lorenzo and NIHR Applied Research Collaboration North Thames in central London. The event was fully booked shortly after its announcement, attracting over 50 attendees, including members of the public, mental health professionals, community practitioners, and individuals with lived experience in mindfulness. The panel featured Dr. Chou Wah-shan, sociologist and founder of the Hong Kong-based mental health charity Dreams Possible, and Vimalamani, a practicing Buddhist ordained in the Triratna Order, who teaches mindful yoga, nature connection workshops, and yoga retreats in London and beyond. The event began with a guided mindfulness practice led by Vimalamani, followed by speaker presentations on building mindfulness communities and an open Q&A on whether mindfulness is effective as an individual practice or requires a supportive community to be impactful. Dr. Loretta Lou continues to explore mindfulness in communities as part of her current research on ecological and spiritual healing in communities in Europe, U.K., and Asia.



Understanding temporal myopia in life, work, and decision making

Prof Sirois was awarded a Seedcorn Grant Fund to support the project "Understanding temporal myopia in life, work, and decision making." The project takes an interdisciplinary approach to understand the role of emotions in short-term decision making and how longer-term thinking can be cultivated. Temporal myopia refers to the inability or unwillingness to consider the long-term consequences of a decision, leading to a focus on immediate gratification and short-term benefits. It's a cognitive bias that can impact decision-making in various areas of life, from personal choices to business strategies.



Improving Patient and Public Involvement and Engagement with Imprisoned Women with Severe Mental Illness

Funding: National Institute for Health and Care Research (NIHR) - Three NIHR Research Schools' Mental Health Programme
Statue: Commencing 2025-2026

This study will build on an NIHR RfPB funded study IP-SIS (grant number 205337). We aim to understand of the views of women with SMI who are in contact with the CJS about the facilitators and barriers to their involvement across the research cycle. We will then develop and evaluate new ways of engaging and working in partnership to improve research undertaken in primary care services.

Aims

1. To understand the views of women with severe mental illness (SMI) who are in contact with the criminal justice system (CJS) about research, including facilitators and barriers to their involvement across the research cycle.
2. To develop and evaluate new ways of engaging and working in partnership with women with SMI who are in contact with the criminal justice system to improve primary care services.

The Physical Activity Academy

The interdisciplinary Physical Activity theme is aligned to the Fuse (<http://www.fuse.ac.uk/>) physical activity special interest group which comprises members from all five north east Universities. The remit of the theme is broad, but seeks to understand physical activity inequalities, ultimately generating and evaluating evidence for policy and practice. The theme has multi- and inter-disciplinary expertise to address a range of complex questions from a variety of discipline and methodological perspectives. By working together with our public health, public sector, and community partners (present and future) we strive to advance knowledge and understanding of physical activity in terms of what works, for whom, and in what circumstances, and ultimately to create impact through policy change.



In 2024 work has been continuing on externally funded projects in social prescribing and active travel (Pollard) and physical activity insecurity and health inequalities in children and young people (Dodd-Reynolds). In particular, we highlight our work on three School for Public Health Research Projects.

Results from a project on active travel to and from school in Healthy New Towns were published, highlighting the importance of opportunities for friendship and family care for children, friends, parents and carers when walking or cycling to and from school (Tupper et al 2024).

We reported findings from the first work package in our ongoing research on active and sustainable travel in coastal rural communities in the UK in talks at the School for Public Health Research Annual Scientific Meeting in Birmingham in May, and at the Public Health Science conference in Cardiff in September. Here we explored how those working in local government manoeuvre to implement measures to promote active travel in a context of sometimes volatile policy and scarce funding for rural areas. Research is ongoing in rural coastal communities to explore everyday lived experience of active and sustainable travel in these marginalised areas.



Findings from SPHR-funded work with young people experiencing health inequalities were published, providing the first ever definition physical activity insecurity as 'a limited or restricted ability to be active, reinforced by worries and lived experiences of feeling uncomfortable, insecure, or unsafe.' Follow-on work, also funded by SPHR, has involved LGBTQIA+ children and young people from the north of England co-producing thinking around how physical activity might be more joyful, inclusive and safe. The young people worked with a designer to co-produce a zine on this. We presented work linked to the co-production process at HEPA in 2024, as well as to the SPHR Children, Young People and Families network. A number of reports and blogs about the project are available online.

The Race, Culture and Inequality Academy

We cannot address any of our challenges without framing our enquiries around race and culture. We must identify inequalities where they are found in each of our academies and find ways to mitigate them in a way that is fit for purpose. What works for one population strata will not work for all. In order to improve the health and wellbeing of all in our region, country and across the world, we need to resist the urge to help some of the people some of the time through inclusion and diversity. Only then can we truly help all of the people, all of the time.

Health Determinants Research and Development (HDRD) collaboration

Since September 2024 Jonathan Wistow's role on Durham County Council's (DCC) Health Determinants Research and Development (HDRD) collaboration with Durham Community Action and Durham university, has evolved into, 'Strategic Research Lead: Wider Determinants of Health'. The strategic vision of the HDRD is: Together, we harness the power of research and innovation to tackle the causes of unfair differences in health outcomes across County Durham, which aligns with the University's strategy for 'City and Region'. As the strategic vision indicates the collaboration is concerned with enhancing the use of research in relation to local health inequalities. The ongoing work involves providing support and engagement around research capability within the collaboration and fostering links between Durham University academics (including Wolfson Fellows) with practitioners and policy-makers. In addition, specific lines of research are developing in, for example, the areas of healthy weight, stop smoking services and suicide prevention.



Since September 2024 Jonathan Wistow's role on Durham County Council's (DCC) Research and Engagement Across Communities for Health (REACH) collaboration with Durham Community Action and Durham University, has evolved into, 'Strategic Research Lead: Wider Determinants of Health'. The strategic vision of the HDRD is: Together, we harness the power of research and innovation to tackle the causes of unfair differences in health outcomes across County Durham, which aligns with the University's strategy for 'City and Region'. As the strategic vision indicates the collaboration is concerned with enhancing the use of research in relation to local health inequalities. The ongoing work involves providing support and engagement around research capability within the collaboration and fostering links between Durham University academics (including Wolfson Fellows) with practitioners and policy-makers. In addition, specific lines of research are developing in, for example, the areas of healthy weight, stop smoking services and suicide prevention.

A 'Cultural Models' Approach to Psychotherapy for Refugees and Asylum Seekers: A Case Study from the UK

Despite the existence of significant research on the mental health care challenges of migrants, particularly refugees and asylum seekers, less attention has been paid to treatment approaches. We used a case study from the UK to look at the topic from a cultural models approach (which comes from cognitive anthropology) to analyse migrants' experiences with mental health care. Twenty-five refugees and asylum seekers living in North East England and Northern Ireland were interviewed who had used at least six sessions of talking therapy during the last three years. Our results suggested that adopting a 'cultural models' approach, which offers a new conceptual and methodological framework of migrants' experiences and their underlying schemas and expectations, would significantly contribute to building therapeutic alliances and provide relevant and appropriate treatments for migrant clients, particularly for unrecognised pre- and post-migration traumatic experiences.



The Work Academy

The focus of the Work Academy is on how work can influence an individual's well-being and brings together academics from different disciplines and health professionals to develop strategies that employers can use to improve employees' health and wellbeing.

On average, we spend more than half of our lives working or engaging in work-related activities. The time we spend at the workplace, the tasks we perform, the work environment, and social relationships with colleagues and friends at work, all affect our health and wellbeing. For many employees, the job they perform is a great source of joy and fulfillment, for others, work means working long hours under stressful conditions, lacking income security, and inability to balance work and non-work commitments. When people experience a lot of stress over a long period of time this can lead to a feeling of physical, mental, and emotional exhaustion, this was especially the case for occupations classified as key workers during the Covid-19 pandemic.

The Work Academy emphasises disease prevention and health promotion and, aims to tackle health and wellbeing at the intersections of personal characteristics and working conditions, and space that can individuals, family members, and communities.

Inequalities in Resilience: Hidden Precarities and Policymaking at a Time of Polycrisis

This is interdisciplinary research carried out by Professor Barbara Bechter (Business School) Professor Nadin Beckmann (School of Education) Dr Francis McKay, (Gateshead Research Portfolio Lead Health Determinants Research Collaboration Gateshead Council; Research Associate Population Health Sciences Institute Newcastle University), Dr Jordan Mollard (NIHR Health Determinants Research Collaboration in Gateshead Council's public health team and a Senior Researcher in the Population Health Sciences Institute, Newcastle University), Prof Fuschia Sirois (Department of Psychology).

The "Polycrisis" research project examines how multiple compounding crises (COVID-19, climate change, economic instability, etc.) impact health inequalities in the North East. While local authorities currently focus resources on the most vulnerable due to financial constraints, this approach may overlook "hidden precarities" - individuals who don't meet traditional vulnerability criteria but whose resilience against multiple crises is progressively weakening.

Our goal is to research the experience of polycrisis of people living in the North East to inform more effective and preventative policymaking for future polycrisis.

Local Authorities (LAs) in England provide various services for people in need, often focusing on the most vulnerable due to limited resources. However, their approach may overlook new vulnerabilities emerging in contexts of "polycrisis."

Polycrisis refers to situations where multiple crises interact and compound, causing harms beyond those of a single crisis. These events significantly impact the most vulnerable but also challenge individuals typically outside traditional vulnerability categories. As crises accumulate, such individuals may transition from relative stability to vulnerability due to decreasing resources for coping with polycrisis impacts. These individuals represent a type of vulnerable group by virtue of being susceptible to, or having decreasing resilience against, compounding system shocks. This susceptibility, evident in markers of increasing precarity - such as depleting savings and declining job security - represents a previously overlooked form of inequality, termed "hidden precarity," rooted in differential capacities for resilience against polycrisis impacts.

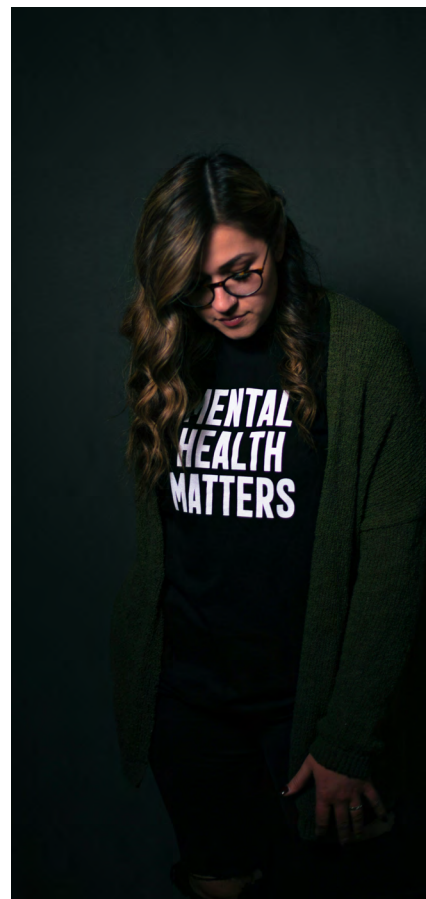


The Work Academy (continued)

Local Authorities focus on the most vulnerable often overlooks this form of inequality, failing to provide resources to limit it, potentially increasing future reliance on already stretched council services. This issue suggests the need for more inclusive vulnerability assessments within councils that consider polycrisis resilience factors alongside traditional deprivation metrics. Additionally, it suggests the need for preventative measures aimed at those not yet in crisis to prevent them from needing council services in the future. However, further research is required on this emerging vulnerability to better understand resilience needs and inform future polycrisis policymaking.

The emergence of polycrisis presents distinct challenges for LAs' policymaking and service delivery. While councils rightly prioritise acute services for those in immediate need, this approach may overlook an emerging form of vulnerability - those whose resilience against compounding system shocks is progressively weakening. This group, though not currently meeting traditional vulnerability criteria, risks future reliance on council services if preventative support is not provided. However, two key barriers prevent effective intervention: severely constrained resources limiting councils' preventative capabilities and insufficient research on regional polycrisis impacts and resilience needs.

To address these challenges, we research people's experience of polycrisis at the regional level. This approach helps identify early indicators of emerging vulnerability and inform more inclusive vulnerability assessments within councils. Such research supports the development of preventative measures that include those not yet in crisis, potentially reducing future service demand. While resource constraints remain a significant challenge, better understanding of regional polycrisis impacts on individuals, groups, and institutions helps councils allocate limited resources more effectively and build stronger cases for preventative investment.



Workforce challenges in healthcare

Professor Barbara Bechter is leading a team of internal and external researchers and collaborators. The internal team members are Dr Gokce Basbug and Professor Bernd Brandl. Dr Arezou Ghiassaleh and Professor Amir Michael are representing the Business School team and work in collaboration with Dr Adeyeye Adefolake (School of Law).

The COVID-19 pandemic has significantly impacted the NHS workforce and productivity. Key drivers of this loss include reduced resilience, more complex population needs, decreased flow through care pathways, staff burnout, and lower engagement. However, the factors causing these problems on the input side have not been thoroughly researched. This research focuses on factors affecting productivity, such as changes in workforce numbers (understaffing), workforce quality, the skill set and mix of administrative and healthcare professionals, patient and non-patient facing staff (e.g., the significant increase in support care staff in hospitals relative to nurses), hours worked by staff, and the training and development they receive. This analysis also investigates the role of legislation, acts, policies, and guidelines that can impact how services are provided and the quality of those services.

The NHS England is the primary beneficiary of this research, which provides new insights into improving the quality of the workforce responsible for delivering quality services. Workforce composition is critical for service delivery. This research also benefits policymakers, the UK Parliament as the legislature, the Department of Health and Social Care, Integrated Care Boards (regional ICBs), and the NHS Pay Review Body responsible for NHS staffing, rewards, and education.

The Ageing Academy

Ageing healthily is a universal goal but not always achieved. By considering ageing in each of our academies we can identify and effects ways in which people can be healthier for longer across their life course.

Of course, ageing begins from the day we are born and has different profiles across gender, brain health, race, culture, work, activity etc. That is why this truly interrelational cross-cut provides such a fruitful window on how to inform what keeps us well (salutogenesis) in the face of the threat of ill health (pathogenesis).



Dementia in the outdoors: exploring mechanisms of engagement.

Elaine Weirsmas (PI – Lakehead University), Charlotte Clarke et al.

Being in the outdoors is important for people living with dementia for wellbeing, physical activity, sensory engagement, social interaction, and community connections. Nature-based outdoor programs or innovations have become more common, such as dementia green care farms, gardening programs, and walking programs. While we know that the outdoors is beneficial for people with dementia, we know less about the mechanisms of these innovations that contribute to those benefits. People with dementia are often assumed to be passive recipients of assistance, but in this project, people with dementia have an important role in contributing to community, to positive change, to environmental rehabilitation as concerned citizens. In summary, we want to explore aspects of nature based outdoor innovations for people with dementia, and how people with dementia use these opportunities to contribute to positive change within their own communities. The purpose of this research is to explore the mechanisms by which nature-based outdoor innovations contribute to and shape experiences for people with dementia, and how people with dementia enact citizenship within these innovations. We will be using a participatory qualitative case study approach, where people with dementia are co-researchers with the academic research team. We are including three case study sites: i) Dementia Gardens: A Place to Grow, Thunder Bay, Ontario; ii) the Fireweed Club in Vancouver, BC; and iii) the Trishaw Rides program in Chilliwack, BC. Using interviews, focus groups, participant observation and visual data methods such as photography and video, we will engage people with dementia, families, staff, community partners, and students to gain a better understanding of what contributes to the engagement of people with dementia in these innovations and to their active citizenship. Our research findings will provide insights to create guides on nature-based outdoor programs for people with dementia.



Imagining and promoting compassionate end of life care for people living with dementia using documentary film.

Sherry Dupuis & Pia Kontos (co-PIs – University of Waterloo and University of Toronto), Charlotte Clarke et al.

People living with dementia suffer painful, inhumane and over-treated end-of-life (EOL) due to the biomedical approach to care. Few studies have explored the perspectives of persons living with dementia, especially from diverse backgrounds/identities. Fewer still have explored EOL experiences from the perspectives of all involved (people with dementia, family, professionals).

The documentary will facilitate conversations about EOL wishes, foster critical reflection about harmful EOL practices, and highlight what is necessary for compassionate relational EOL care. The intent is to improve EOL experiences. Our team has significant experience creating research-based films that challenge stigma, expose inhumane policies/practices, and humanise dementia care.

The Ageing Academy (continued)

Harnessing knowledge of lifespan biological, health, environmental and psychosocial mechanisms of cognitive frailty for integrated interventions (CFIN).

Carol Holland (PI - Lancaster University) et al. Charlotte Clarke (Chair of External Advisory Group)

We are proud to play a role in the formation of an exciting new Cognitive Frailty Interdisciplinary Network (CFIN) – one of 11 new networks, which has received a major funding boost from the Biotechnology and Biological Sciences Research Council (BBSRC) and the Medical Research Council (MRC), part of UK Research and Innovation. Working across disciplines, CFIN will bring together biogerontologists, neuroscientists, psychologists, social scientists and the voice of the older person, to understand mechanisms of cognitive frailty and identify pathways for targeted interventions across the lifespan.

Cognitive frailty is when individuals are both physically frail and have a cognitive impairment, compared with typical individuals of the same age, but without dementia. We do not yet fully understand the biological mechanisms causing cognitive frailty, or how these relate to lifestyle factors that correlate with cognitive frailty later in life, such as educational attainment and environmental inequalities. We know that as we get older, our bodies often can't do what they used to and we may become frailer. We also know that our mind is often not as sharp as it used to be. These physical and cognitive changes are often seen even when we don't have diagnosed age-related diseases such as arthritis or dementia. Physical frailty and cognitive frailty are often present at the same time in older adults.

Northern Health Futures Hub (NorthHFutures).

Abi Durrant (PI – Newcastle University), Charlotte Clarke et al.

The Northern Health Futures (NorthHFutures) Hub aims to enhance health and wellbeing across the North East and North Cumbria region of the UK. The hub facilitates responsible research and innovation in healthcare technologies (health-tech), supported by inclusive digital skills sharing, training, and making connections.

The hub takes a people-centred approach and are committed to humanising health-tech by championing equity, participation, and investment across the region. The goal is to establish NorthHFutures as a pioneering ecosystem working across job sectors that empowers people to engage and lead in digital health and health-tech initiatives. It practices participant-led user research and evaluation of tools and resources to strive for the design of useable and useful technologies and services. The hub aims to create an inclusive environment where everyone, from health and social care professionals and industry leaders to community organisations, advocacy groups and academic researchers, can come together to collaborate, innovate and share insights and experience.

The Comprehensive Resilience-building psychosocial Intervention (CREST) for people with dementia in the community: a feasibility and acceptability study. Pilot and Feasibility Studies

A dementia diagnosis can lead to a decline in cognitive, social, and physical health, but people with dementia can live meaningful lives and participate actively in society with psychosocial support. This single-arm, non-randomised feasibility study explored the feasibility and acceptability of a Comprehensive RESilience-building psychoSocial intervenTion (CREST) for people with dementia, their caregivers, General Practitioners (GPs), and the public.

A scoping review on the opportunities for social engagement - impact of the social environment on cognitive frailty in older adults.

Cognitive frailty (CF) is defined as the clinical syndrome of the combination of physical frailty and cognitive impairment, without dementia. Numerous risk factors for CF have been previously identified but this scoping review focusses on the critical need for social engagement and the association with cognition. The focus of this scoping review on the opportunity for social engagement rather than on perception or experience of loneliness. Based on the results of 55 studies were synthesised into four social engagement categories, namely participation, household, network, and habitat. Social engagement is associated with maintaining or improving cognition, particularly through active participation in social roles. Habitat (i.e., rural or urban settings) also influences cognition and the challenge is to enable social participation.

Health, Environment and Architecture: Discourses from the Past, Challenges for the Present, Perspectives for the Future

Everybody's life and health are affected by environmental factors. Housing conditions, workplace, architecture, design and landscape constitute important individual and interdependent elements in that regard. To this we must add environmental factors such as global warming, extreme weather events and pollution, which have repercussions for the ways in which we think about architecture and housing.

This guest lecture series running in 2023 and early 2024 approached the relationship between health, environment and architecture from various different angles:

An emphasis on historical, philosophical and aesthetic perspectives will lead to an informed understanding of exemplary discourses that have taken place in the past and inspired current debates on the topic. The basis will be the detailed analysis of the rich tradition of architectural writing, starting from Graeco-Roman antiquity (with an emphasis on Vitruvius' *De architectura* and Frontinus' *De aquaeductu urbis Romae*), but also covering later periods such as the Renaissance (e.g. Leon Battista Alberti's *De re aedificatoria*). Equally important is the corpus of medical texts, as represented by the *Corpus Hippocraticum* and later treatises, which devote a great deal of attention to the impact of the environment and housing on the health and wellbeing of patients. Aesthetic and creative aspects, explored by disciplines such as art and design, also play a vital role in shaping quality



concepts of space, in particular the often fluid environmental and health-related issues. A focus on socio-political and medical perspectives will incorporate disciplines such as modern sociology, public health, political science and medicine to complement the perspectives outlined above and approach the nexus between health, environment and architecture – at local, national and international levels. In a globalised world, decisions taken at different scales have repercussions for larger groups of people and for wider geographical areas. Recent phenomena such as pandemics, the scarcity of material resources and energy crises have had an influence on how ideas on architecture, housing and landscaping are now conceptualised.

The project will also embed and iterate its more theoretical approaches within practical and technical perspectives, in particular when it comes to aspects of participation in society; this includes how architecture facilitates social interactions between individuals and groups. We are interested in developing the co-production of knowledge about how local planners, policymakers, politicians, entrepreneurs and other decision-makers come together in governance systems to take responsibility for the integration of theoretical, scientifically underpinned considerations into practice and how they do this on different levels. One area that is of particular relevance in this regard is the aspect of disability and accessibility.

The combination of these approaches provides a ground-breaking and innovative venture. The Wolfson Research Institute for Health and Wellbeing (WRIHW) at Durham (<https://www.durham.ac.uk/research/institutes-and-centres/wolfson/>) will provide a framework for the interdisciplinary dialogue that is envisaged.

Main organisers:

Thorsten Fögen, WRIHW Honorary Fellow

Jonathan Wistow, WRIHW Co-Director (Department of Sociology)

Our Events in 2024 (continued)

The Healing Seven: How architecture impacts health

17th January 2024

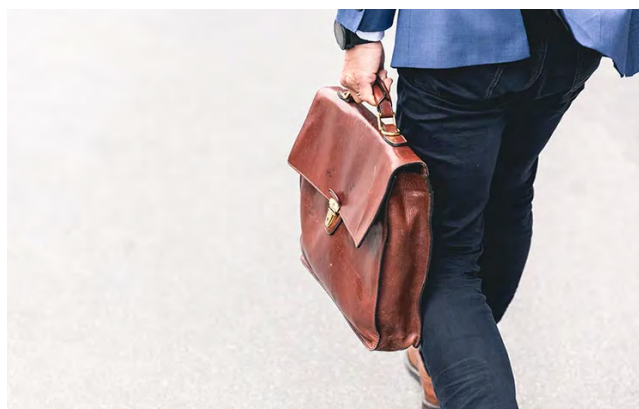
What if tomorrow the space we thought was safest – our own body – no longer offered protection? Are there protective shells that we could slip into? Hospitals that help heal our body and soul? Anyone embarking on a quest for answers will discover that there is an urgent need for thorough change in the planning and design of hospitals and healthcare facilities. Taking an understanding of severely ill people's perceptions as a reference point (a scientific human scale) for this change, and thus arriving at a new architecture, is the scientifically defensible and auspicious way to fulfil the aspiration to design 'healing buildings'



More than 'just nature': Investigating the built environment as a place for psychological restoration

31st January 2024

Extensive literature in environmental psychology is devoted to study of the connections between physical environment and health and wellbeing, including psychological outcomes. A subsection of this literature focuses on 'restorative environments', or settings that support psychological recovery from everyday stress and/or demands on attention.



Architect of Information: Race and the Environmental Health Models of Dr James Africanus Beale Horton in British Africa during the Nineteenth Century

14th February 2024

Information is often characterized as facts that float effortlessly across time and space. But during the nineteenth century, information was seen as a process that included a set of skills enacted through media on a daily basis. Media systems, like buildings and roads, had to be designed and, like architects, information engineers had to think about a host of material and social issues when they created data. This was especially the case in colonial settings such as British West Africa, where the structural inequalities of race influenced the design of health models and the collection of inadequate medical and climatological data. nineteenth century colonial Sierra Leone.



Our Events in 2024 (continued)

The results freed us from some of our Western assumptions about how a hospital ought to be: Aga Khan University Hospital in Karachi and hospital architecture in the mid-twentieth century

28th February 2024

In 1970, after interviewing several architects based in Britain, France and the USA, His Highness the Aga Khan IV chose Boston-based Thomas Payette as the architect and Mozhan Khadem, an Iranian architect, as the design consultant to design the Aga Khan Medical Complex in Karachi, Pakistan. Payette and Khadem designed the Complex in 1972/73 together with a group

of health consultants, a landscape designer, a local design consultant and several tilemakers. The construction of the Complex, which consisted of a 721-bed hospital, a medical school for 500 students, a school of nursing, housing for staff and students and a mosque, was completed in 1985. Prior to designing the Complex, Payette and Khadem visited Spain, North Africa, Turkey, Persia and Pakistan to study historic hospitals and buildings. Payette called this trip a “process of discovery”, stating that “the results freed us from some of our Western assumptions about what a hospital ought to be”. This paper will contemplate this statement by examining the architecture of the Aga Khan Medical Complex in Karachi in the context of hospital architecture in the middle decades of the twentieth century. It shows how the design team’s purpose was to put forward a different vision distinct from both the capitalist West and the Socialist East. This vision focused on “all-encompassing unity” of “spirit and body” and “man and nature” by drawing on prevailing ideas concerning Islamic architecture that, for example, were being discussed in Persia by the likes of Mohammad Karim Pirnia.



Joining the Dots

17th April 2024

On 17th April 2024 we hosted a training and networking day on Cerebral Visual Impairment or CVI at Durham University for professionals from the North East. We aimed to build regional strength, expertise and coordination across health and education in the North East for children with CVI.

At the meeting, we showcased the expertise we have across clinical care, educational support and research on CVI. The connections and ideas generated at that meeting can hopefully lead to future joint initiatives and to improved continuity of care for the children and their families.

In the morning, we heard from 2 keynote speakers; Prof Cathy Williams, Associate Professor in Paediatric Ophthalmology at University of Bristol and Professor Naomi Dale, Professor of Paediatric Neurodisability/Consultant Psychologist, Great Ormond Street Hospital



The afternoon saw a round-table discussions on clinically relevant topics that might lead to practical recommendations and questions for further research like ‘What is an appropriate testing protocol for diagnosis of CVI?’, ‘How to best support children with CVI in school?’. Our aim is for attendees to leave with some specific pointers on what they can change in their daily practice and identify some challenges that we as a region want to work on in the next few years.

Our Events in 2024 (continued)

More Skills Less Pills: Introduction to safer prescribing and supporting pain self- management

23rd April 2024

Overall aim: to increase confidence in knowledge, skills and use of tools/resources to enable the person with pain engage in self-care and safer use of medicines

Who is workshop for? Prescribing clinicians, pharmacists, general practitioners or anyone involved in reviewing pain relieving medicines for chronic pain



Behavioural Insight to understand participation with cardiovascular risk reduction

22nd May 2024

The webinar will provide a reminder of the key principles of behavioural insights, why they are important and how understanding them can improve the care we provide. Working with communities in Middlesbrough, behavioural insights have helped us understand some of the challenges faced accessing cardiovascular risk assessments. We have co-designed solutions to these challenges and have been piloting delivery of these in community settings in collaboration with outreach teams including the Middlesbrough FC Foundation Health Bus.

In the webinar we will hear how a behavioural insights approach has informed every stage of the project and underpinned relationships with the communities in Middlesbrough. Community leaders will tell us how this approach is beginning to meet the needs of local people and we will begin to explore next steps.



A memorable walk through time and nature with Balbir Singh Dance Company

18th October 2024

Join Balbir Singh Dance Company and Durham University for an immersive research experience connecting nature, heritage, and the sensing body to help address chronic pain. This unique event features an outdoor experience at Durham's "Sakura Friendship Garden" and the Japan section of the Oriental Museum, supported by the newly formed Student Creative Health and Wellbeing Society. Participants will explore language within nature and understand the body's relationship to the landscape. Engaging those with long-term health conditions, their carers, the general public, researchers, funders, and policy makers, this interdisciplinary collaboration aims to foster understanding, empathy, and innovative solutions that could be implemented on a broader scale.



Our Events in 2024 (continued)

7th Annual ECR Conference

11th June 2024

The Wolfson Early Career Researcher committee is made up of PhD students and postdocs early in their research career and focuses on nurturing an early career research (ECR) community in Durham across all departments.

This conference aims to showcase the wide range of Health and Wellbeing research at Durham University and promote interdisciplinary work amongst early career researchers. The conference will include a keynote speaker, presentations, flash talks and posters. All disciplines are welcome and encouraged to submit and attend. Given the recognised importance of interdisciplinary work, talks will be aimed at a general academic audience. All tickets are free and food and refreshments will be provided throughout the day.



There was a wonderful atmosphere and the quality of talks and posters were fantastic.

We would like to say Congratulations to Chloe Fielding for being awarded Best Talk entitled “Neurodivergent Pupils’ School Distress and Attendance Difficulties”; and Charlotte Lock for being awarded Best Poster entitled “Looking at the Echo: An Investigation into the Lived Experience of the Transthoracic Echocardiogram”

Coffee and Connections

23rd May 2024, 17th June 2024, 2nd December 2024 and many new dates for 2025

These sessions were hosted by the ECR committee and helped bring together like-minded people, from all disciplines and faculties of Durham University, in the early stages of their research careers

Our ECR members meet informally over warm drinks to get to know each other, make connections and build networks. These events are a wonderful opportunity to learn about the work of the WRIHW, and also allow us to learn about the work going on across the university in our ECR community. All are welcome and future dates for these meetings are available on our website.



Unbound opportunities: A silo-busting exploration of health and wellbeing research ideas

Planned for February/March 2025

We learn to be researchers through our academic discipline and the methods it utilises, but we seldom have the opportunity to come together with researchers from other disciplines to view our diverse research talents through a collaborative lens. Meanwhile, across all disciplines, there are people who are interested in developing into researchers whose work makes a positive impact on the health and wellbeing of individuals and populations.

Two two-hour creatively facilitated workshops will bring together Early Career Researchers to explore ideas, make connections, and map talents and interests in issues which influence the wider determinants of health and wellbeing - at all scales and in all contexts.

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