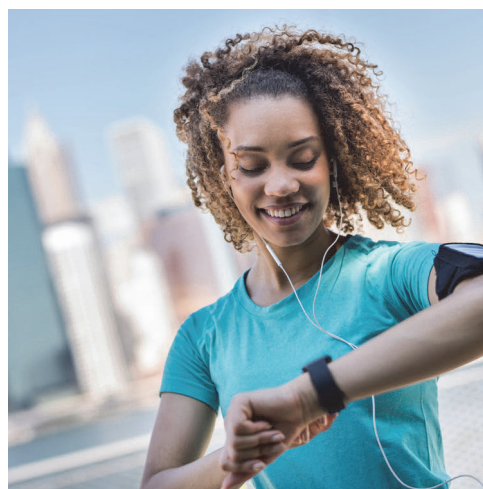


Annual Report 2021



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Message from the Executive Director Professor Amanda Ellison

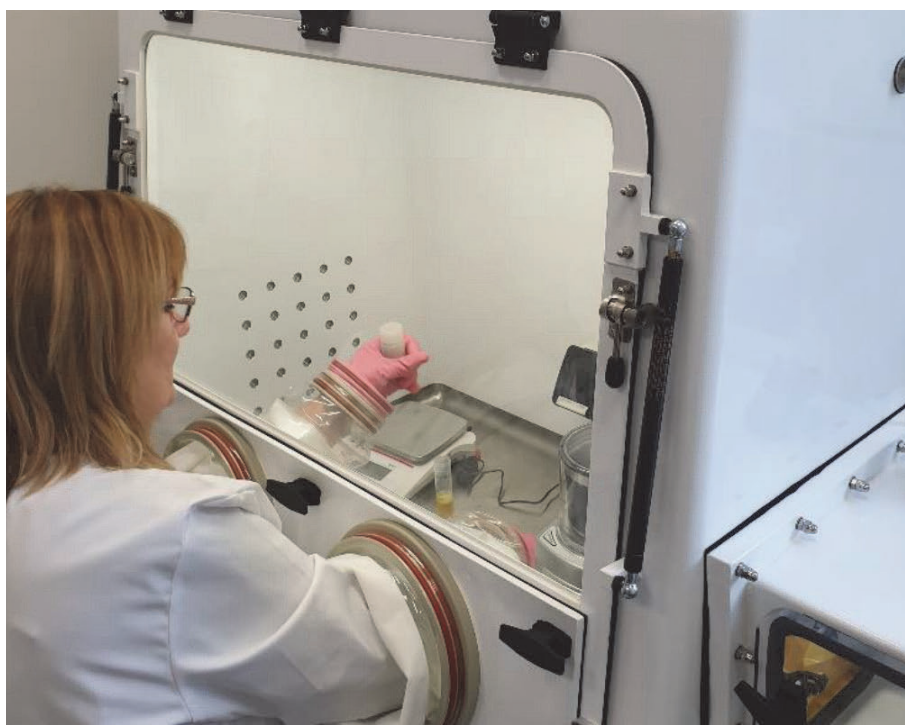
I am pleased to welcome you to the Durham University Wolfson Research Institute for Health and Wellbeing (WRIHW) annual report covering our activities in 2021. Over this period, much of what we did was still online with England entering its third period of lockdown in January. As restrictions eased over the course of the year, teaching resumed with an in-person experience fully from October 2021. However, much online academic practice for the purposes of research and admin remained. Indeed, our engagement series comprising public lectures, academic seminars and research conversations thrived in this space, with excellent attendance across the range of talks we offered.

We launched our Doctoral Training Programme in Health Related Research taking applications for our first cohort in October 2021. We have devised a nimble curriculum, geared to the needs of our cohort with the aim of providing training and networking opportunities for those students who wish to approach their intellectual and professional development utilising a more interdisciplinary and rounded approach. The offering of an Action-Learning set to our early career researchers (ECR) group was also well received with ECRs being exposed to elements of reflective practice, support and process sharing much earlier than is otherwise realised in the academic career pathway. Such skills can be easily attuned to issues relating to network building, career and job presentations and much needed empathy within and outside their field.

In 2021, we were delighted to launch our Challenge Academy matrix, which recognises our core areas of strength and yet providing a conceptual framework whereby researchers from other fields can see the confluences that exist within and outwith their work. It is our belief that no challenge in health and wellbeing should be addressed without an understanding of the mental health and physical activity ramifications across race, culture and inequalities, within the workplace and across the lifespan. This provides an extra layer of interdisciplinarity over and above the multiple disciplinary apertures we train upon issues relating to health and wellbeing. Our matrix has been acknowledged as particularly useful for new members of the academy, and those contemplating the role of their research in the wider world and maps well onto the subsequent UKRI research strategy which was published later in the year.

Having had the pleasure of reconstituting our Internal advisory board which is membered by our challenge academy leads, Directors of Research from across the University and college representatives in addition to supporting the research arm of the University Health Strategy, we feel that 2021 was certainly the year that our University stuck its health colours to the mast. This was represented by multi-million pound UKRI applications, Bright Idea award recognition and demonstrable impact projects that made up over 40% of the 2021 REF submission. Our core ethos ensures our academy addresses the beginning, the middle and the end of societal challenges. We must ask the right questions to understand the shape and scope of impacts on individuals, families and populations. Crucially however, we must also develop interventions, be they practical or policy based, in concert with those affected by or involved in the issue. By including such stakeholders from the beginning in an iterative process, we can ensure fit for purpose solutions, with the ability to target solutions more efficiently saving time and money.

We firmly believe our Institute and its fellowship are indeed in rude health.



Meet the WRIHW Team

Our mission is to encourage and support high calibre interdisciplinary research to understand and address human health challenges. We do this through our Challenge Academies. Each 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.

We help our Challenge Academies grow, fostering networking, identifying and assisting with funding opportunities, expanding their internationalisation and ensuring impact through clinical, industry or policy collaboration. This approach is central to our core ethos where our Academies address the beginning (identifying the correct question), the middle (understanding who the problem affects and how) and the end (how we can use this knowledge to create purpose built solutions that don't just help some of the people some of the time but all of the people, all of the time).

Professor Amanda Ellison, Executive Director

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Professor Amanda Ellison is a neuroscientist and physiologist who never got past the why phase. This approach has served her well as Executive Director of the WRIHW as she not only gets to help our fellowship understand the various influences on our health and wellbeing and how they manifest themselves, but she also gets to support them make real change across our region and our world. Her research seeks to bridge the gap between basic research related to how the brain works and effective rehabilitation paradigms when behaviour is affected by brain damage. In her spare time, she writes popular science books.

Dr Barbara Bechter, Co-Director

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Barbara is Associate Professor in Human Resource Management at Durham University Business School (DUBS). She is a social scientist, she developed and led multidisciplinary projects and managed international project teams. With her international and interdisciplinary research, she contributes to policy debates around new forms of employment and their regulation. She is especially interested in the link between employment and health. Her research extends beyond the workplace by investigating interventions and support provided by social partner organisations at organisational, national and transnational level to improve the health and safety of workers.

Dr Zach Lee, ECR Director

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Zach W. Y. Lee is an Associate Professor at Durham University Business School and a Fellow of the Higher Education Academy. His research interests include online consumer behaviours (e.g., online consumer engagement, omnichannel marketing), organisational and societal implications of IT use (e.g., workplace cyberdeviance, technology addiction, cyberbullying, and well-being), social media (e.g., social media firestorm), and digital service innovation (e.g., blockchain, artificial intelligence). He has organised tracks and mini-tracks on related topics in international conferences. He has published in international journals such as Industrial Marketing Management, Information Systems Journal, Information & Management, Journal of the Association for Information Science and Technology, Journal of Management Information Systems and among others. Zach serves as an Associate Editor of Internet Research and is an editorial board member of Industrial Management & Data Systems.

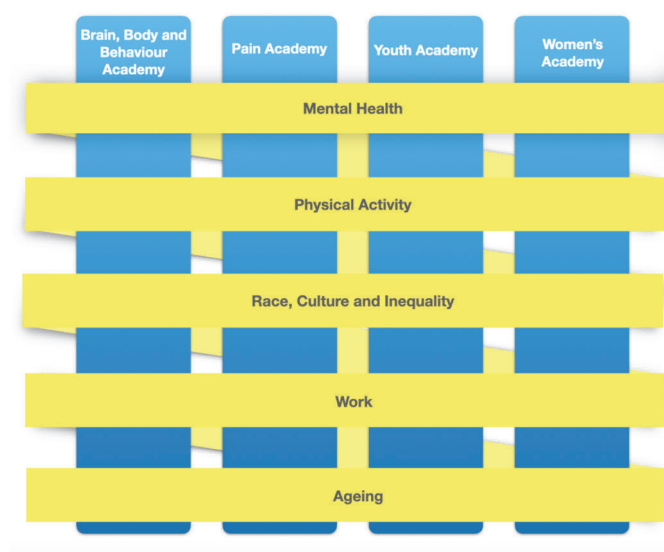
Mrs Suzanne Boyd, Senior Officer

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Suzanne is responsible for the day to day running of the WRIHW, dealing with matters pertaining to HR, finance, committee support/management, project support and Fellowship support. She is also responsible for the Institute website, fortnightly newsletter and social media accounts.

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.

Our Fellowship and Postgraduate Associate Scheme



The 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 Postgraduate students the opportunity to become Postgraduate Associates (PGA) of the Wolfson Research Institute for Health and Wellbeing.

The Institute's Postgraduate Associates scheme is open to all Postgraduates, 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.

If you would like to apply to become a Fellow or a Postgraduate Associate please visit durham.ac.uk/research/institutes-and-centres/wolfson/about-us/people

Our ECR Community

As the Wolfson Research Institute for Health and Wellbeing (WRIHW) our ECR community mirrors the interdisciplinary commitment of the WRIHW, with PhD students in anthropology illuminating a brighter side to Ayahuasca tourism in South America, peers in bioscience ironing out some truths about dementia, and a wide variety in-between. Improving health and wellbeing is not restricted to a particular academic discipline, and neither are we.

The main goals of the ECR committee are to increase the sense of community between ECRs within the WRIHW, to increase the visibility of ECRs within the WRIHW, and to wider audiences, and also to offer ECRs within the WRIHW opportunities to develop their research, CVs, understanding of what a career in research can look like and what their skills can bring to the world beyond.

Action Learning Sets

WRIHW have organised an Action Learning Set that focuses on developing external engagement experience, networking, and peer support among a small cohort of early career researchers (ECRs) working in the broad area of health and wellbeing. We have recruited 6 ECRs coming from across faculties and departments, including Sport and Exercise Sciences, English Studies, Centre for Research into Violence & Abuse, Anthropology, Computer Science, and Psychology. Participants have worked on a wide array of health-related research, from neurodiversity, to domestic violence and intelligent healthcare system. Participants have met regularly (with the first and second meetings held in October and November 2021 respectively) to help each other to learn from their experiences.

"For me the ALS highlighted the importance of self-reflection, and how taking the time to reflect on our experiences and skills in a deliberate and candid way can unlock so much potential. I feel like I've learned a valuable skill that I plan to continue using in my research career going forward."

Through being involved, participants have formed a facilitated supportive peer group in which they have had the opportunity to connect with others from different academic disciplines to share ideas and develop plans for engaging with relevant stakeholder groups or individuals.

The group has included more experienced academic colleagues and relevant professional support staff, who have offered mentorship and practical guidance on developing connections and initiating and engaging in research related conversation with external partners. Involvement in the action learning set has offered participants the opportunity to act as an advocate for the Health@Durham strategy and raise the profile of Durham's broad base of health-related research to external audiences.

Doctoral Training Programme

The Wolfson Research Institute for Health and Wellbeing has been delighted to pilot a new initiative focused on supporting and developing doctoral students from all four faculties of Durham University working in the broad area of health-related research, the WRIHW's Doctoral Training Programme (DTP).

Our DTP consists of a series of events and activities, including but not limited to Interdisciplinary Health and Wellbeing Research Workshops, a Mentoring Scheme, Training Need Analyses, Career Planning and Employability Development, and Research Conferences. In term 1 of the academic year 2021-22, we have successfully recruited eleven first-year doctoral students from across the faculties and departments, including Anthropology, Bioscience, Creative Writing and Medical Humanities, Education, Psychology, Sport and Exercise Sciences, Sociology, and Theology. Our doctoral students have worked on a wide array of health-related research, from women's reproductive health and contraceptive use, to trauma, community gardening and wellbeing, and harmful sexual behaviour displayed by children and young people.

Through being involved our series of events and activities, students have not only received additional support and development opportunities beyond their departments but also connected with other students and researchers from different academic disciplines working in health-related research. The programme will offer mentorship and practical guidance on the possibility of interdisciplinary research on health and their pathways to implementation that is of prime importance to the career ahead.

Brain, Body and Behaviour Academy

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 and 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).



Exploring the wellbeing of stroke survivors, and in particular the impact of Covid-19

Loneliness is a serious public health issue, and has garnered increasing interest generally as a consequence of the restrictions implemented during the pandemic. The research, led by Dr Alison Lane (Psychology Department) has therefore been investigating specifically how this has affected stroke survivors, and have continued to do so in 2021 using a mixed-method approach including surveys and interviews.

They had previously collected data about loneliness in stroke survivors from before Covid-19, and the qualitative data was published in 2021. In addition to which details of this research have been disseminated both to an academic and clinical audience at the British Society of Gerontology annual conference, and also to the general public via podcasts for example.

In addition to this a covid comparison study is underway, collecting data to understand how covid-19 and the associated restrictions have impacted on the lives of stroke and brain injury survivors and their experiences of loneliness. The analysis for the comparison between pre- and post-covid stroke survivor loneliness is ongoing, in addition to data exploring similarities across acquired brain injury generally. Papers are in preparation and the hope is that these will be published in the coming year.

Academy cross cuts

Mental Health Academy and Ageing Academy

Brain, Body and Behaviour Academy cont.

En'light'en in Intensive Care

Durham University Enlighten Research Team, led by Dr Paul Chazot (Biosciences) and local artist Dr Laura Johnston, explores the impact of the physical environment on health and well-being with a particular focus on the harsh nature of the critical care environment. Our interest is in how our senses are impacted by the conditions of the environment and how changes can be made to improve this. In this Innovate UK-funded project our role has been to evaluate a prototype circadian lighting system designed by Circada Ltd. Participants repeatedly highlighted the disorientating nature of these critical care units which often lack natural light and where there is little change in night and day light levels. It was thought that a light that altered over a 24-hour period may help bring a sense of time and help patients to sleep.

Delirium is a common and serious condition suffered by many critical care patients and a contributing factor is thought to be disruption of circadian rhythms that occurs in this clinical environment, detached from more natural stimuli. Clinical staff were generally very positive about the prospect of a dynamic lighting system, especially if this were low cost and easy to install, and were keen to put it into practice. The concept of dynamic circadian lighting for critical care was widely seen as an improvement on current more static lighting. A system that is easy to install in a hospital setting with low cost and minimum disruption would be a positive addition to the market. Technical lighting profile data gathering proved very successful and, as a result of this project, Durham University Enlighten Team have developed a valuable tool for future research in this field.

In a second study, we followed the journey of a long stay critical care patient (18 months), Carol, recording her observations and memories of her experiences in different bed spaces of both ICU and HDU departments at James Cook University Hospital, Middlesbrough. Patient's account gave insight into the patient's eye view from various critical care bed spaces and how different positions across a unit can impact patient experience. Different bed positions and side rooms yielded different degrees of positive and negative responses, causing varying levels of comfort/discomfort and contentment/distress. Patient's eye view perspective strongly influenced Carol's experience in Critical care, and she displayed a positive attitude to personalised lighting, aesthetics, and levels of environmental and communication control, which were introduced to her during the study.

Most notably, was that in the 18 months in intensive care, Carol did not experience a single bout of delirium, despite her being a primary candidate.



Old age and Age-dependent disease

According to a recent report from the WHO, neurological disorders affect up to a billion people worldwide, and growing with Alzheimer's disease (AD) and Parkinson's Disease being number one and two. Currently, there is a paucity in effective treatments for all the major neurological disorders, with little prospect of this changing in the near future. Based on our innovative pre-clinical work over the last 20 years in Durham University, a series of recent clinical studies have begun to validate the use of Photobiomodulation therapy (PBMT) NIR1070nm as a rapid, effective and safe treatment for Alzheimer's disease, in the USA funded by our collaborators at Quietmind Charity Foundation.

A double placebo-controlled study was conducted at a Texas Medical school, Temple, USA with 70 participants. The treatment protocol comprised two 6 minutes sessions daily for 8 weeks at home with either the active PBMT1070 or placebo device, self-administered by patient or family caregiver. A remarkable improvement of 4.8 MMSE units was achieved, with equal efficacy in both men and women participants in the trial. Importantly no side effects were reported.

Our parallel study in Europe reported an improvement in memory and mobility in a healthy ageing human study (n=30) using the same protocol. Lumiere Bright Ideas October 2021 was a vehicle for presenting this programme of work by programme lead Dr Paul Chazot. Funding has been secured to perform a clinical trial with PBMT 1070nm in Alzheimers in the UK (Agreed clinical partners, Newcastle and Exeter NHS Trusts), and advanced discussions are in progress for a funded PBMT 1070nm clinical trial for Parkinsons, in Guernsey.

Academy cross cuts

Mental Health Academy and Ageing Academy

Brain, Body and Behaviour Academy cont.



UK Rugby Health Project

The UK Rugby Health project, led by Dr Karen Hind from the Department of Sport and Exercise Science) examines long term health outcomes in retired elite and community level rugby players, and is part of the Global Rugby Health Research Programme. The UK Rugby Health Project team found that former elite rugby players had experienced a higher number of concussions and scored consistently worse for psychological signs of depression, anxiety and irritability compared to amateur rugby players and non-contact athletes. Former elite players also reported greater sleep disruption and 1 in 5 reported that they would not seek help from anyone if they had a problem or were upset. Following analysis of concussion history, it was found that 3 or more concussions were associated with worse mental health scores and poorer sleep, and 5 or more concussions were associated with increased covert anger scores. The findings were published this year in Sports Medicine, with co-authors including several Durham University postgraduate students. The publication attracted attention from 92 news outlets around the world, resulting in a top 5% altmetric score. The team have also secured funding from Alzheimer's Research UK to evaluate prodromal biomarkers of neurodegeneration.

Academy cross cuts

Ageing Academy, Physical Activity Academy and Mental Health Academy

In 2021, evidence from the concussion research programme was published in support of the Department of Culture, Media and Sport UK Parliament Inquiry in Sports-related Concussion. Several colleagues are also members of the Repercussion Group - an international group of academics, medics, and former athletes and family members, lobbying for transparency and player-centred approaches to concussion prevention, assessment and management.

Multi-modal Evaluation of Head Impacts in Professional Rugby Union

The Durham University Concussion Research Programme are prospectively examining head impacts, blood biomarkers and cognition in current Premiership rugby union players to improve understanding of head impact risks and inform on strategies for mitigation of risk. Newcastle Falcons players have worn impact sensors during contact training and matches for the last two seasons. Doctoral student, Tom Goodbourn (Department of Sport & Exercise Sciences) is making excellent progress in the quantification of rotational and linear head impact forces from the sensor data and has one publication currently in peer review. The next step in this project is to code and tag impacts sustained by players during matches, so we can identify which techniques and tackles lead to the greatest head impact forces.

Academy cross cuts

Youth Academy, Mental Health Academy and Physical Activity Academy

Effect of Sub-Concussive Head Impacts on Eye Movement, Reflexes, and Cognition in Female Rugby Players

Postgraduate student, Abbigayle Roberts (Department of Psychology) has completed data collection for her project investigating changes in eye tracking across one season of rugby union in female rugby players. Concussion can disrupt ocular motility, but few studies have investigated associations with sub-concussive impact exposure. Abbigayle's study is comparing eye movements, reflexes and cognition in female contact and non-contact sport athletes. Assessments were completed early and at the end of the 2021/22 season to enable the exploration of associations with sub-concussive head impact cumulative exposure.

Academy cross cuts

Physical Activity Academy and Mental Health Academy

Brain, Body and Behaviour Academy cont.

Resting and Post-Sport Neurocognitive Performance in Athletes at Risk of Concussion

The Durham University Concussion Research Programme were approached by My Sports Wellbeing company to design and conduct a study to develop normal ranges for neurocognitive scores in contact and non-contact athletes at rest and post sport. This research also includes collaboration with Cambridge University spin-out company, Cognetivity (read more). The data collection for this study was expertly led by post doctoral research associate, Dr Dan Glassbrook (Department of Sport & Exercise Sciences) and is now complete. Dr Glassbrook presented the preliminary results at the recent Wolfson Research Institute for Health and Wellbeing Early Career Researcher Conference, a full report is currently in preparation and stage two research plan is currently in preparation. This work will inform the development of an App which will enable athletes to self-record their concussions, track symptoms and cognitive recovery. The University will be trialling the App with Team Durham contact sports students next academic year, as Durham leads the way in improving the management of concussion in University athletes.

Academy cross cuts

Mental Health Academy and Physical Activity Academy

Developing a sports post-concussion syndrome (PCS) model in *Drosophila melanogaster* fly to evaluate rational and novel PCS therapeutics and Test of a patented combined-plant product in vitro and in vivo, on a sport Post-Concussion Syndrome (PCS) model in *Drosophila melanogaster*.

These projects (Department of Biosciences) involved the development of a fruit fly model for testing the effects of concussion on biochemical, behavioural and lifespan outcomes. The fly model was designed to replicate repeated sports-related concussions in humans, over several years. The model also enabled the testing by Erasmus student, Audrey Fraysse, of a patented combined plant product on these outcomes with promising results, including profound life-span extension, reduced oxidative stress markers, improved mobility scores in aging flies, and reversal of concussion-induced deficits.

Academy cross cuts

Mental Health Academy and Physical Activity Academy



A New Combined Patented Treatment for Post-Concussion Syndrome: a Pilot Trial

In February this year Durham University Concussion Research Programme filed a patent for a new treatment for post concussion syndrome (PCS), based on pharmacological rationale and preliminary case study work. The case study will be presented at the forthcoming EHRS 50th Anniversary Conference in Germany. Furthermore, funding was secured from Northern Accelerator and an anonymous donor, for a pilot clinical trial which will be delivered in collaboration with Dr Suresh Komati (Tyne and Wear NHS Trust). The trial is expected to commence in August 2022 and ethical review is now underway. PCS is a complex disorder for which there is currently no treatment. The syndrome can develop following a mild or traumatic brain injury, but can also occur in association with post-traumatic stress disorder. PCS profoundly affects an individual's quality of life through somatic symptoms such as persistent headache, migraine, dizziness, fatigue, sleep disturbances, and blurred vision, cognitive complaints such as forgetfulness and concentration difficulties, and an overlay of serious physical and emotional issues. The complex pathology and presentation of PCS presents an ongoing challenge in clinical practice and a significant burden to patients, families and health care systems. In some, PCS can persist for years, with increased or differential reporting of symptoms at follow-up compared to initial presentation.

Academy cross cuts

Mental Health Academy and Physical Activity Academy

Brain, Body and Behaviour Academy cont.

Law at the Frontiers of Biomedicine

This project, led by Professor Shaun Pattinson (Durham Centre for Ethics and Law in the Life Sciences) examines the way that the current law is challenged by biomedical developments that will create, enhance or extend human life. Its central question is: how should judges and legislators understand and address the substantive, structural and conceptual challenges arising at the frontiers of biomedicine? The result will be a novel approach to legal theory. It aims to show that law is a subcategory of a secular morality and fully respond to challenges presented by the historical compromises of English law and the issues raised by three case studies on future biomedical developments. The resulting book will be published by Hart in 2023 with the title:

Law at the Frontiers of Biomedicine: Creating, Enhancing and Extending Human Life

This project is funded by a Leverhulme Trust Major Research Fellowship, awarded to Professor Shaun Pattinson (Durham CELLS).

Academy cross cuts

Pain Academy, Mental Health Academy and Ageing Academy

Ethical advice and ethics committees in the Covid-19 pandemic

Led by Professor Emma Cave, Durham CELLS with PI Emeritus Professor David Archard, Queen's University, Belfast this research will conduct an evaluation of the role of ethics committees in the pandemic. Committees operate at the national level - both as part of Government and in relevant professional organizations - and at the local clinical level. They produce guidance supported by statements of general principles raising questions as to the origin, status, value, relevance and timeliness of guidance and its potential to conflict. The research will evaluate the guidance and offer recommendations as to the best and most appropriate role of the ethics committees interpreting, supporting and implementing that guidance. A series of webinars will span the year, culminating in a national conference in London in July 2021.

This project is funded by the British Academy Special Research Grants: Covid-19 Scheme. It runs from 1 August 2020-31 July 2021.

Academy cross cuts

Mental Health Academy



Brain, Body and Behaviour Academy cont.

InSPIRE: Innovating UK clean air policies to prevent cognitive disorders across the lifespan, particularly for vulnerable urban populations.

Air pollution is the largest environmental risk to public health in the UK with over 9 out of 10 people living in areas which exceed World Health Organisation (WHO) Global Air Quality Guidelines. The most vulnerable to poor air quality include children, the elderly, and those with pre-existing medical conditions. The greatest health burden of air pollution is experienced in the most socio-economically deprived parts of densely populated urban areas with those most susceptible typically experiencing the highest exposure levels, thereby widening existing health and social inequities.

Epidemiological studies have shown that long-term exposure to air pollution (over years or lifetimes) reduces life expectancy, mainly due to cardiovascular and respiratory diseases and lung cancer. More recent evidence suggests an association with adverse cognitive and brain health outcomes, including early-life cognitive and neurodevelopmental impairment and later-life increased risk of cognitive decline and dementia.

The UK Clean Air, Net Zero and Levelling-Up Strategy ambitions provide a unique public health policy context for central and local government to deliver place-based interventions that have co-benefits for air quality, climate change and brain health. At the city level, urban design is a key intervention measure, as it influences where air pollution is produced, how it disperses, how people are exposed and what can be done to mitigate or protect against its impact. Urban design also has a key role in delivering nature-based solutions to address air pollution, climate change and meet net zero targets. These design strategies need, however, to be matched by scientific evidence and appropriate guidelines, including the development of bespoke policy strategies to optimise their impact and mitigate any unintended consequences.



InSPIRE, led by Professor Brian Castellani, Sociology Department, was developed in 2020 from a £41k UKPRP consortium development grant. Since then, we have received two ESRC IAA grants in 2021-2022 (RI200189 = £6.5k, RI200191 = £15k) and are presently developing a 2022 project proposal as part of the new £4.1mil Healthy Places, Healthy Planet research programme, NIHR School of Public Health Research. Our remit is based on the very real and immediate need for a knowledge hub/network that brings together research, practice, and policy guidance to co-produce solutions, tools, translational materials, and to develop innovative research into the historical links between air quality and brain health in the UK.

Here are some of the projects we are engaged in presently:
An academic publication setting the policy agenda in this area.

A policy brief to share with central government and public and third-sector organisations.
Research on the role urban planning in the UK has on air quality and brain health across the life course, including dementia post diagnosis.
A one hour 'healthy air and happy brains' lesson plan for schools.

Several stakeholder workshops.

Academy cross cuts
Race, Culture and Inequality
Academy

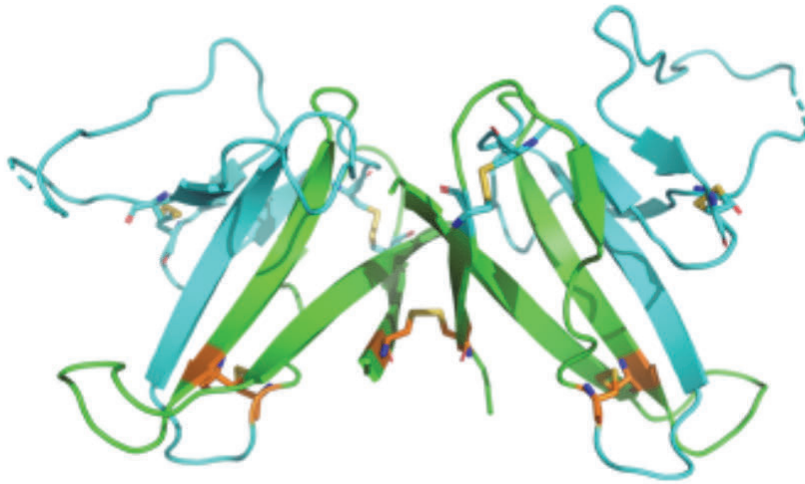
Brain, Body and Behaviour Academy cont.

The role of a 168-nucleotide deletion in the SARS-Cov2 ORF8 protein

The Covid19 pandemic has sparked an unprecedented, and essential, global genomic surveillance effort to track the progression of emerging variants. The Centre of GLocal Infectious Disease With colleagues at the University of Bielefeld, Prof Ehmke Pohl (Chemistry Department and Biosciences Department) investigated a large deletion in a gene (orf8) encoding a coronavirus protein thought to be involved in the immune evasion. Employing the latest deep-learning structure prediction techniques [Alpha Fold 2, see figure] the effect of this deletion was explored: <https://www.mdpi.com/1999-4915/13/9/1870>

Academy cross cuts

Race, Culture and Inequality Academy



Deconvoluting the mode-of-action of novel anti-Chagas and anti-leishmanial compounds.

Caused by the kinetoplastid protozoa *Leishmania* species and *Trypanosoma cruzi*, the NTDs leishmaniasis and Chagas disease represent a major and increasing threat to the health of individuals in the developing world. A small number of toxic drugs are the mainstay of treatment and control. To develop new therapies it is necessary to identify essential parasitic processes (drug targets) and compounds that disrupt these. In this trans-national project 17 anti-kinetoplastid compounds are being analysed identify their mode of action – knowledge essential for further development towards new therapies.

Academy cross cuts

Race, Culture and Inequality Academy

Centre for Global Infectious Disease

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 CGID, led by Professor Paul Denny, seek to synergize research foci to develop collaborative efforts for the identification and inhibition of novel antimicrobial targets, ultimately leading towards the development of new therapies and preventative strategies.

Throughout the COVID pandemic CGID has continued to work in a trans-national fashion to combat some of the globe's most pressing health problems, SARS-CoV-2 and many more historically persistent pathogens. The Highlighted Projects, Outreach Activities and Key Publications below illustrate this activity.

Brain, Body and Behaviour Academy cont.

The Centre for the History of Medicine and Disease (CHMD) continued its meetings in 2021 online due to the Covid-19 restrictions.

The annual CHMD Workshop 'New Research in the History of Medicine and Science' was held on Zoom on 25 June 2021 with the following panel of speakers: Ruben Verwaal on deafness in the early modern period; Ursula Mulcahy on eighteenth-century surgery books; Cheryl Lancaster on Stockton surgeon Sir Anthony Carlisle (1786-1840); Matthew Eddy on medical activism and female testimony in Regency Britain; Holger Maehle on the psychology of Freud's Berlin Rival Albert Moll; John Shepherd on clinical crime prevention in interwar Massachusetts; Andy Byford on primatology in the USSR; and Tiago Moreira on controversies in cellular senescence research, 1965-1995

In addition, a reading group on psychoanalysis composed of staff and postgraduate students has been meeting fortnightly since October 2021, discussing texts on the epistemology and history of psychoanalysis by Michael Brearley, Susan Budd, David Tuckett, and Michael Rustin. The co-operation with the Cultural History Group of the KU Leuven and the international network on 'Catholicism and Medicine' led to a presentation at the European Association for the History of Medicine and Health conference (online, September 2021) and completion of a joint-authored article on Catholic medical ethics, c. 1840-1960, by Jolien Gijbels, Cheryl Lancaster, Holger Maehle and Reinout Vander Hulst, forthcoming in the *Journal of Religious History*.

Philosopher of Medicine Alex Broadbent was appointed as a full professor in the Philosophy Department in September 2021. The next CHMD Workshop is planned for 24 June 2022.



Sexology, Medical Ethics and Occultism: Albert Moll in Context

Professor Holger Maehle and Dr Lutz Sauerteig from the Centre for the History of Medicine and Disease are the guest editors of a special issue of the international journal *Medical History*, entitled 'Sexology, Medical Ethics and Occultism: Albert Moll in Context', which is now available through Cambridge University Press. The Berlin physician Albert Moll (1862-1939) was an important innovator in psychotherapy, sexual science and medical professional ethics as well as a fierce critic of occult beliefs. The special issue results from a Wellcome Trust supported project of the CHMD and unites contributions from Britain, Germany, the Netherlands, USA, and New Zealand.

Academy cross cuts
Mental Health Academy

The Pain Academy

Our pain academy, led by Dr Paul Chazot (Department of Biosciences) is a truly interdisciplinary endeavour that places the individual at its core. 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.

The Gabapentinoid and Opioids Tapering Toolbox Footsteps programme

Persistent pain is a huge world-wide health challenge. It is the primary reason people in the UK see their GP. The World Health Organisation recognised it as a priority disease in 2019. NICE (National Institute of Clinical Excellence) has also recently accepted that current chronic pain medications have limited use, and in fact carry serious safety concerns. Reducing opioid prescriptions (for non-cancer pain) to zero by 2024 is a priority for Public Health England.

Our GOTT Pain Self-management Footsteps programme training programme (AHSN Bright Ideas Health Award 2021 winner) will be accredited by NHS "Personalised Care Institute (PCI) for self-management" in April 2022. PCI was set up to help staff involved in people's health and care, and to develop the knowledge and skills to support the implementation of the NHS Long Term Plan & Comprehensive Model for Personalised Care. PCI Accreditation will ensure that the GOTT 10 footsteps programme is promoted and accessed throughout the UK at low cost, maximising impact for DU. Multi-centre evaluation trials co-ordinated by Dr Chazot and his team will ensure, ultimately, the adoption of GOTT 10 Footsteps by the NHS, maximising national and international impact within the next two years. Evaluation has already begun in Somerset and S Wales.

This work builds on the fact that the NE and Cumbria represent the highest prescribers of opioids in the UK, as documented by members of the current research team in 2018. The Gabapentinoid and Opioids Tapering Toolbox (GOTT) emerged in 2020 after a decade of work in DU (headed by Dr Paul Chazot & Dr Frances Cole), to address the problem of over-reliance on prescribing of opioids and gabapentinoids in primary care. GOTT led to the creation of the Ten Footsteps for Self-Management of pain programme, designed to address the key shared problems; the clinicians lack of confidence in knowledge, skills and use of tools and resources to guide lived experience engagement in self-management.

A DU-led evaluation of the GOTT showed improvements in self-management support, both individually and as a team, and delivered a more person- centred pain management approach. A key consequence of this strategy was the profound reduction in both opioid and gabapentinoid prescription rates to below the national average. Notably, the DU-led programme received the AHSN Bright Ideas in Health award 2021.

As further evidence of the success of the programme so far, we have a section in National Health Service Safety Improvement documents, and GP Red Whale Update and Learning support within their Muscular Skeletal Pain and Chronic Pain GP online update. GP Red Whale contributed some top-up funding towards the creation of the Ten Footsteps programme for social prescribers and GP/nurses/pharmacists in 2021.

Academy cross cuts
Mental Health Academy, Work Academy, Physical Activity Academy, Ageing Academy and Brain, Body and Behaviour Academy



The Pain Academy cont.

Unmasking pain (funded by Arts Council)

Unmasking Pain is a creative collaboration between artists, people living with on-going pain and pain management specialists to explore the shared challenges of living with pain. It seeks to find a voice for those living with pain through artistic collaboration, the artist and the artform to trial different creative approaches through a co-creative framework. Those living with pain will gain a sense of identity beyond their all-encompassing pain echoed in the relationship artists create with themselves between their everyday life and performer persona.

Key issues for people living with pain include the invisibility of their pain; their personal experience and the complexity of impact, especially emotionally on them as individuals. This requires time, skill and commitment to empathic listening. The increased pressure on health services makes this even less likely to be resolved in the near future. There is an ongoing need to enable people with pain to communicate in a wide variety of ways their invisible experience and so shape their own management and other care efficiently, effectively and compassionately.

Living Well With Pain are hosting the first ever Footsteps Festival 2021, a co-production outcome of clinicians and lived experience. This year it is offering a programme of activities including arts, culture, linking to the natural world, and physical and mental health support. Beyond lack of time and opportunity for people living with pain to tell their stories and have them heard, there is a lack of vocabulary and expression that can genuinely articulate pain and the wider feelings and thoughts it evokes. This fits within the need for a holistic context that acknowledges the inherent connection of body and mind, the many types of pain: physical, psychological, emotional and spiritual, and the subtle relationships they have with each other. Bringing different artforms and media in to conversations, opens new lexicons and modes of expression through which these stories can be told and enables those living with pain to gain autonomy of their stories and reduce their isolated existence.

Academy cross cuts

Mental Health Academy, Work Academy, Physical Activity Academy, Ageing Academy and Brain, Body and Behaviour Academy



Votucalis

New research has shown that a protein – called Votucalis – provided pain and itch relief in preclinical studies. The findings could lead to a replacement for traditional painkillers, for example opioids, that can be ineffective, can have serious side-effects and can be addictive.

Interestingly, Votucalis is derived from the saliva of ticks – in this case the brown-ear tick *Rhipicephalus appendiculatus* – who secrete the protein into their host when feeding so the host is unaware that they have been bitten. Votucalis is a biologic drug that works by binding histamine, produced in the body, with high-affinity and thereby prevents histamine activating its four cell surface receptors resulting in reduced itch or chronic neuropathic pain responses.

Conditions that cause chronic pain or itching include atopic dermatitis, psoriasis, arthritis, diabetes, sciatica, back injuries. Crucially, unlike opioids or gabapentinoids, the research showed that Votucalis does not enter the brain, which means it is not addictive and less likely to cause adverse effects. It can be manufactured in large amounts using recombinant methods, and is under patent (Dr Chazot, DU as co-author) and is a pipeline drug for Akari Therapeutics (UK) to take to the clinic in the next two years.

Academy cross cuts

Mental Health Academy, Work Academy, Physical Activity Academy, Ageing Academy and Brain, Body and Behaviour Academy

The Pain Academy cont.

National Footsteps PainFest virtual festival (launched January 2021)

The aim of this programme was to create a free, fully accessible, engaging online digital social prescribing resource to enable people with persistent pain to focus on rewarding ways to learn and cope with daily persistent pain confidently and with compassion, as well as to raise confidence in the primary care health service practitioners to support their patients. Covid-19 has proven disastrous for people with persistent pain, as there is no national investment or significant charity, which provides a centre-point for the wealth of resources and means to live well with pain. Opioid prescribing is increasing along with its significant harmful effects on both body and mind.

Footsteps 2021/2022 group is a core group of people with pain, pain management and other professionals around the UK who came together in the summer of 2020. Dr Paul Chazot (Durham University Biosciences) and Dr Frances Cole, Live Well with Pain, www.my.livewellwithpain.co.uk and www.livewellwithpain.co.uk, have assembled an enthusiastic group, including Pain-Livers and NICE Pain management advisory panel members, to create an easily accessible and valued interactive online route to self-managing pain.



This group has the support of the British Pain Society Special Interest Groups, and WRIHW Pain Challenge Academy, headed by Dr Paul Chazot, Biosciences (including the Gabapentinoid and Opioid Tapering Toolbox (GOTT) team, as well as colleagues in Anthropology, Geography, Psychology and Mathematics departments and IMH at Durham University), "Unmasking Pain" Balbir Singh School of Dance, "Dancing for Parkinson's" UK (Kiki Gale MBE), and "Step to Singing", Opera North, with Dr Judith Hooper (ex. director of PHE, Kirklees). This was largely set up with voluntary donations.

Academy cross cuts

Mental Health Academy, Work Academy, Physical Activity Academy, Ageing Academy and Brain, Body and Behaviour Academy



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.

State, Communities and Familial Regulation of Young People's Sexuality and Gender in England

The research aims to enable young people to have greater autonomy over the development of their sexuality and gender in their transition to adulthood by providing new knowledge to appropriate statutory (e.g. education, police) and third sector agencies (e.g. youth work) and policy makers about their needs.

Regulatory and facilitatory factors shaping sexuality and gender that operate through families, communities and the state will be explored including how young people's coexisting intersecting identities (e.g. of religion/faith, ethnicity/race, dis/ability) and access to resources (social class, citizenship) mitigate and/or inhibit young people's claims to their identities (in progress) of gender and sexuality. Participatory research will be undertaken with a range of partner organisations and young people (aged 16-24) in the North East. This project is led by the Centre for Research Into Violence and Abuse (CRIVA).

Academy cross cuts

Mental Health Academy and Race, Culture and Inequality Academy

Masculine Violence and the Climate Crisis

In his current piece of work, funded by the Leverhulme Trust, Dr Stephen Burrell is looking at how men and boys can play a role in building more caring relationships with the environment, with a concern around the connections between the climate crisis and masculine violence. This work is led by the Centre for Research into Violence and Abuse (CRIVA).

Academy cross cuts

Mental Health Academy and Race, Culture and Inequality Academy



Adolescent sleep patterns in Mexico

Andrea Silva-Caballero, PhD candidate and member of the Durham Infancy & Sleep Centre, has been investigating adolescent sleep patterns in two non-industrial and one post-industrial society in Mexico. Her research is focused on identifying the bio-socio-cultural factors shaping the duration and timing of teenage sleep (ages 11-16).

She has found that, contrary to the current biomedical assumptions of normal human sleep, short sleep quotas can also be encountered in traditional societies that are more entrained to natural light and social cues. Moreover, she found that late chronotypes (i.e., individuals with strong preferences for extreme late activity-rest schedules in a given 24-hour day) were rare in non-industrial, traditional settings, suggesting that human chronotypes expression might be regulated by epigenetic mechanisms. This project is led by the Anthropology of Health Research Group

Academy cross cuts

Mental Health Academy and Race, Culture and Inequality Academy

The Youth Academy cont.

Making Decisions on Behalf of Young Children

Several recent high-profile cases involve disagreements between parents of young children and healthcare professionals. Whilst parents generally make medical decisions for their very young children, their powers are limited where the child is being given medical treatment and the parental view is considered by health care professionals to conflict with the best interests of the child. Problems intensify if the parents seek treatment abroad or if the therapy they want is experimental. Where disagreement cannot be resolved, the court is often called upon to make an independent assessment. In the UK the best interests test is determinative, but there is renewed pressure to challenge its application and give greater powers to parents.

In the cases of Gard, Haastrup and Evans, the High Court granted the declarations sought by respective NHS Trusts: decisions that were upheld on appeal. Charlie Gard, Isaiah Haastrup and Alfie Evans were given palliative care and died soon after the final judgments. In Razeqeb, the court held that the 5-year-old could travel to Italy for further treatment, notwithstanding the view of the treating health care professionals that this would be contrary to her best interests.

The cases raise several important issues, many of which are explored in three case notes from Durham Centre for Ethics and Law in the Life Sciences (CELLS) members. van Leeuwen (2020) analyses the interaction between the best interests test and the right to freely receive services in Article 56 TFEU in Razeqeb. Cave and Nottingham (2018) uphold the application of the best interests test as opposed to a test of significant harm. Cave, Brierley and Archard (2019) highlight problematic aspects in the application of the best interests test in Razeqeb

Academy cross cuts

Women's Academy, Mental Health Academy and Race, Culture and Inequality Academy



Durham Infancy and Sleep Centre (DISC) were interviewed for, and our work featured in, the New Yorker in June 2021 and several international podcasts including Untaming Podcast USA, Possums podcast Australia, Evolutionary Parenting podcast Canada, Swedish podcast babybaby and Little Nest podcast UK. We participated in Sleep Week with the University of Cambridge Intellectual Forum, the 2021 Raised Good Summit and the La Leche League 65th Anniversary Conference (among many others).

Basis-Learn

In 2021 Durham Infancy and Sleep Centre launched Basis-Learn, a dedicated online platform for delivering their popular infant sleep webinars (Normal Infant Sleep, and SIDS & Sleep Safety). For each of the two topics participants can watch video lectures, complete self-test quizzes, post on discussion boards and access useful resources.

As the University buildings re-opened in June DISC gained approval to resume in person studies for parents and babies in the DISC sleep lab, hosting a series of families for a funded consultancy project assessing the safety and practicality of infant sleep products, and welcoming two postgraduate RAs (Dan & Yunal) to help with the overnight monitoring. Our Laidlaw scholar Hannah Huysmans managed the recruitment for this project as part of leadership training during her internship. In September/October DISC were commissioned by the Lullaby Trust to review recent research corresponding to the 2016 GAPS (Global Action and Prioritisation of Sudden infant death) project.

Funding was awarded for two new projects in 2021: DISC received an ESRC IAA award to conduct an evaluation of the Safer Sleep for Babies campaign materials they co-produced with Lullaby Trust, Unicef UK Baby Friendly Initiative and Public Health England, launched in 2019. They also received NIHR ARC NENC funding for a project commencing in 2022 with Durham County Council Public Health Department and the Durham County Clinical Commissioning Group to develop and multi-agency workforce approach to tackling sudden unexpected infant deaths (SUDI) amongst disadvantaged families in the local area.

The Women's Academy

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. Led by Professor Helen Ball (Anthropology Department), Professor Nicole Westmarland (Sociology Department) and Dr Chloe Romanis (Law School), we hope to address these gaps.

Digital Duluth

CRiVA members: Professor Nicole Westmarland and Rosanna Bellini

Since the early 1980s, a small community in northern Minnesota (US) has led the way in innovating ways to prioritise victim-survivors safety, and hold men that use violence in relationships accountable for their actions. Despite evolving and changing over the last three decades, crossing continents and being translated into over fifteen languages, the role of technology within the delivery of domestic abuse intervention programs.

While digital tools have become a necessity for societal and interpersonal communication, these have to be designed and implemented carefully to ensure the content and mode of delivery of such programs are not lost. Through a partnership with Partnerships with Family Peace and Menswork Program in Family Violence, we sought to explore what role video conferencing technologies might play in emerging programs by taking part in the evaluation of their 40-week batterers intervention program. This research aims to explore what are the perceptions of using video conferencing software in the delivery of sensitive content, how does the use of video conferencing impact group dynamics, and identify the constraints and benefits of using digitally-facilitated communication to inform future perpetrator courses. Through the use of a mixed methods approach, including semi-structured interviews, digital ethnographies and quantitative survey data, we aim to capture a complete picture of how the introduction of this tool can illuminate some of the unknowns within this space.

Academy cross cuts

Mental Health Academy, Youth Academy and Race, Culture and Inequality Academy

Engaging with the business sector to prevent violence against women and build gender equality

CRiVA member Dr Stephen Burrell undertook an ESRC Postdoctoral Fellowship in 2019-2020, where he carried out key-informant interviews to explore opportunities to engage men in the prevention of violence against women in the business sector. He has created a briefing paper for businesses and workplaces on this topic. Subsequently he has also carried out a survey with local social enterprise Changing Relations, to examine how businesses in the North East of England are addressing gender equality issues, and how these have been impacted by the Covid-19 crisis

Academy cross cuts Work Academy



The Women's Academy cont.

Narratives of Consent and Invisible Women

Consent is the golden principle that determines the legality of most medical treatment. However, whilst choice is the much-vaunted central tenet of maternity care, its importance emphasised in policy documents, the lived experience is often rather different, particularly in the case of women constructed as 'other'. This class of invisible women includes women with a serious mental illness, women with a learning difficulty, women of colour, women who do not want to be mothers... In each case their 'choice', their 'consent' is devalued, afforded less significance by societal structures, healthcare professionals and indeed the law. This project brings together a range of researchers and practitioners from multiple disciplines to address the issue of choice in the context of reproduction, focussing upon narratives of consent as they pertain to women who all too often are rendered invisible by the law, by the healthcare professionals treating them, or by society. It is led by Dr Samantha Halliday (Durham CELLS), Rebecca Brione (Birthrights) and Dr Jacqueline Nicholls (UCL).

Academy cross cuts

Mental Health Academy, Race, Culture and Inequality Academy, and Brain, Body and Behaviour Academy



Trust in Women

Trust in Women brings together academics at Durham from across disciplines that are researching women's health and wellbeing. Far too often laws, policies, and practices are developed and implemented from the presumption that women cannot be trusted to make decisions about their own lives, health, and wellbeing. We can see this clearly in the laws around abortion in Great Britain that regulate how, when, and why a woman can end a pregnancy; in criminal law and justice responses to women's experiences of sexual violence or intimate partner violence and abuse; and in the reaction of healthcare institutions to women's reporting and experiences of pain and/or ill-health.

Women also remain overwhelmingly the victims of serious clinical negligence in healthcare, often in instances where they have been denied information about their care. There are far too many tangible examples that this world is made for men, and so women are considered the untrusted 'other'. This is even more apparent when women have other intersecting identities that are likely to increase their vulnerabilities, such as having a disability, being LGBTQ+, or being from an ethnic minority. The reality of laws and policies that treat women as untrustworthy, is that they have been systematically prevented from taking charge of their health, safety and wellbeing.

Identifying discrimination in law, policy, and practice is the first step to identify the harm, allowing us to take steps to rectify it. Trust in Women provides a forum for academic researchers to come together to highlight areas of women's health and wellbeing where more needs to be done to put trust in women, and to highlight how a lack of trust in women is harming their health. Areas of research include:

- reproductive healthcare: abortion, contraception, assisted conception
- healthcare in pregnancy, labour, delivery
- participation in clinical research and diagnostic models
- violence and abuse within interpersonal relationships
- clinical negligence

Academy cross cuts

Mental Health Academy, Race, Culture and Inequality Academy and Youth Academy

The Women's Academy cont.

Prosecuting, Defending, Sentencing: Infant Killing and the Role of the Law and Courts in England and Wales

In 2021 Dr Emma Milne (Durham CELLS) will be starting a new project looking at attitudes and perspectives of core legal professionals (solicitors, barristers, prosecutors, and judges) to criminal law and criminal justice responses to women suspected of killing newborn children or harming fetuses. Emma's previous research has illustrated which laws are used and what is formerly said about accused women during criminal hearings, but there remains a gap in our knowledge about the perspectives of those who work to apply the law. Qualitative interviews with legal professionals will directly address this under-researched issue. This research will promote understanding of the societal contexts of professionals' responses, examining how gendered ideas of women's roles as mothers, and perceptions of female offending, figure in professionals' assessments of these cases. The project will also address how legal professionals understand and interpret the law around pregnancy and the start of life, so assessing the connected legal and ethical issues. As such, this research will enable clearer conclusions to be drawn about the law's current appropriateness.

This project is funded by the BA/Leverhulme Small Research Grants 2020.

Academy cross cuts

Youth Academy and Race, Culture and Inequality Academy

CELLS invites collaborative research from a wide range of academic disciplines. Durham CELLS has facilitated such collaboration, both within and beyond the university, through a series of workshops, conferences, funding applications, and papers presented by academics from outside of the university.

Durham CELLS has both junior and senior academic members from the Departments of Anthropology, Philosophy, and Theology and Religion, and the Schools of Applied Social Sciences, Biological and Biomedical Science, Law, and Medicine and Health. It also organises an annual postgraduate research conference.



Obstetric Violence and the Law

Obstetric violence and the law is an ongoing project that started at the University of Oxford in 2017, under a British Academy Postdoctoral Fellowship. The project explores what 'obstetric violence' means, how it manifests in different contexts and it asks how the law should respond to this form of violence against women. Obstetric violence is a global issue that plagues women's childbirth experiences within healthcare facility contexts. This form of violence concerns disrespectful, abusive and coercive treatment of pregnant and birthing people during childbirth and it results in the violation of their autonomy, human rights and sexual and reproductive health.

Some examples of obstetric violence include medical neglect, verbal and physical abuse, humiliation, shouting, scolding, threatening, and crude and aggressive attacks on women's sexuality. At times, healthcare professionals intentionally employ these tactics to assert authority, remove women's agency and cast shame on them for breaching gender norms. Performing procedures without informed consent, with coerced consent, or performing procedures by an order of court are also deemed examples of obstetric violence.

Procedures that have been identified as forms of obstetric violence are those that are imposed on women as routine (without having any clinical indication or evidence base) and without informed consent. These include unnecessary caesarean-section procedures and episiotomies, manual revision of women's uterine cavities without pain relief, inserting long-term birth control mechanisms directly after birth, collective vaginal examinations for training purposes, restraining women to their beds, and forced or coerced sterilisations. This project is led by Camilla Pickles (Durham CELLS)

Academy cross cuts

Youth Academy, Race, Culture and Inequality Academy, and Mental Health Academy

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.

'Virtual Care' - Telehealth in mental healthcare

Abby King, a final year PhD student (Anthropology of Health Research Group), has been researching use of telehealth in mental healthcare in New Mexico, USA. She found that telehealth does not reproduce conventional care at a distance. Instead, these technologies shift the processes, materials, spaces and relations of care, leading to transformations in the nature of care itself. Further, she found that the use of telehealth extends far beyond the physical components of the technology (computer screens, speakers and microphones). Telehealth seeps into the wider functioning of the health system and further into the daily lives of those living in the state.

Academy cross cuts

Brain, body and Behaviour Academy, and Race, Culture and Inequality Academy

Student mental wellbeing and help-seeking at Durham University

MRes student Rosie Harris (Anthropology of Health Research Group) is assessing 'Sense of belonging and its relationship with student mental wellbeing and help-seeking at Durham University' through a mixed methods study. Her research can contribute to an in-depth understanding of our student's experiences and play role in bridging between student perspectives and university wellbeing service provisions.

Academy cross cuts

Race, Culture and Inequality Academy and Youth Academy



Transformation in Mental Healthcare: An Anthropological Study of Open Dialogue in the UK's National Health Service (APOD)

This project by Liana Chase (Co-I, Anthropology of Health Research Group, PI - Professor David Mosse) provides new evidence on what is arguably the most significant innovation in Western psychiatry in recent years: Open Dialogue (OD). OD is a non-diagnostic approach that shifts the focus of care from treating individual psychopathology to empowering social networks for recovery from crisis and serious mental illness. Instead of an expert-led diagnosis-treatment model, OD places clients and members of their social network at the centre of a 'dialogical' process aimed at discovering ways out of crisis. At the organisational level, OD ensures rapid response, continuity of care and avoids clinical discussion about clients in their absence.

Britain's NHS is now conducting the world's first randomised controlled trial of OD. The trial will tell us whether on average people in crisis receiving OD do better across 5 NHS Trust sites; but it will not explain why or how OD works, or its wider effects. APOD was designed as a complementary ethnographic study to investigate how OD principles are put into practice, the effect of working in this way for families and clinical teams, and the social and contextual factors that shape observed outcomes. All researchers are themselves trained in OD and practicing in NHS community mental health teams implementing the trial. Study findings will enhance the trial's policy-relevance and improve the translation of OD into new settings, including, if adopted, across the UK's NHS.

Academy cross cuts

Race, Culture and Inequality Academy and Youth Academy

Physical Activity Academy

As a Challenge Academy cross-cutting theme we focus on generating and evaluating evidence for policy and practice concerning physical activity. Across the lifespan and in wide-ranging geographies we work together with our public health, public sector and community partners (present and future) to advance understanding of the positioning of physical activity in driving a healthier and fairer society. As such, we work with marginalised communities in particular, using this knowledge to reduce longstanding health inequalities.

We have inter-disciplinary expertise to address complex questions from a variety of perspectives, for example via quantitative and mixed methods, ethnographic methods, and different evaluation frameworks. We will work across the Challenge Academies and continue to impact through policy change (local to global).

Physical activity policy

Working with County Durham Sport (Rachel Mowbray) and through a secondment funded by the QR Strategic Priorities Fund, Caroline Dodd-Reynolds and Iain Lindsey supported evidence generation in order to identify and address county-level physical activity inequalities within the county. This involved modelling, in collaboration with Durham Research Methods Centre, of existing quantitative national survey data (Active Lives Survey, Sport England), as well as developing qualitative insights. The secondment has informed policy/strategy development with County Durham Sport and Durham County Council. PhD student Sophie Phillips wrote two blogs about her experiences with County Durham Sport. Collaboration is ongoing with the Durham Research Methods Centre, and we will be working with Sport England in 2022 to aid modelling of economic impact linked to sports volunteering at local authority level.

Co-supervised by Caroline Dodd-Reynolds and Emily Oliver, PhD candidate Benjamin Rigby is nearing completion of his doctorate which examines 'Complexity and physical activity policy: considerations for theory and practice'. Ben has now secured a role as Research Assistant in the Institute of Health and Wellbeing, Glasgow University.

Following the award of a funded extension, Steph Morris, with assistance from Emily Tupper, was able to complete long-postponed fieldwork on children's experiences of environmental interventions to promote active school travel in Healthy New Towns as part of a School for Public Health Research funded project led by Tessa Pollard and Carolyn Summerbell at Durham University in collaboration with colleagues at the University of Cambridge. Steph Morris also completed a meta-ethnography of children's experiences of school travel for this project, which is currently under review.



The interdisciplinary Physical Activity Academy (PAA) welcomes membership from all areas of the University where there is an interest in physical activity. We are 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 Physical Activity Academy is broad, but ultimately focused on understanding not only the wide-ranging determinants of physical activity, but how best to support engagement, generating and evaluating evidence for policy and practice. The PAA has multi- and inter-disciplinary expertise to address a range of complex questions from a variety of paradigm 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. Here we document some of 2021's key activities.

Academy cross cuts

Race, Culture and Inequality Academy, Mental Health Academy, Youth Academy and Brain, Body and Behaviour Academy

Physical Activity Academy cont.

Physical activity referral and inequalities

The PAA have continued their work with UKActive (representing over 4,000 members of leisure provision sector), in particular with their National Exercise Referral Database. This year saw the publication of Emily Oliver's research exploring inclusion and inequalities in exercise referral, with the findings presented in a sponsored webinar to inform members' practices regarding how best to recruit and engaging disadvantaged groups. This work has subsequently been cited in a report co-published by the Sport for Development Coalition and Mind, titled 'Moving for Mental Health following COVID19: The Role of Physical Activity, Sport and Sport for Development in Promoting Movement and Mental Health', to underpin recommendations concerning proportionate resourcing and service delivery and investment decisions linked to health inequality data. Importantly, this partnership arose from a WRIHW-funded seminar Dr Oliver hosted at Durham back in 2015, and was further supported by Dimitri Vallis' internship funded by the Durham Research Methods Centre.

Overall, this programme of research has strengthened the reputation of the PAA for exploring PA and inequalities, with additional invited presentations from Dr Oliver this year including at Liverpool John Moores University Global Online Sport Psychology Symposium in February and as part of the MRC-funded Appetite and Obesity (UK NRP) Nutrition Workshop in June. Work continues with UkActive and with a new NENC ARC-funded PhD student, Gianmarco Dellacasa, who is exploring collective physical activity as a way of challenging and changing both community engagement and problematic social determinants of health for marginalised young adults.

Work is coming to a close on an NIHR SPHR-funded work package, 'Enabling children and young people's involvement in whole system action to reduce inequalities in the social determinants of health, for which Caroline Dodd-Reynolds is Durham PI. Whilst this work does not consider referral per se, the work has drawn out a particular set of struggles around physical activity access for disadvantaged young people across England. For these individuals, feeling safe and secure to engage in physical activity is critical. We are currently preparing a manuscript for publication.

Academy cross cuts

Youth Academy, Race, Culture and Inequality Academy and Brain Body and Behaviour Academy

Physical activity referral and social prescribing

Tessa Pollard's Covid-interrupted work on social prescribing into walking and gardening was supported by Covid recovery funding from the university, which allowed Emily Tupper to complete fieldwork on this project. Extending this work, Laura McGuire is conducting NINE DTP funded PhD research on the relationship between social prescribing and community gardening and has had a first paper accepted for publication in Health and Place. Laura is supervised by Tessa Pollard, Cassie Phoenix, and Steph Morris at Durham, with Suzanne Moffatt at Newcastle University.

Academy cross cuts

Brain, Body and Behaviour Academy and Mental Health Academy

Sedentary Time

Janelle Wagnild (Durham Research Methods Centre and Department of Anthropology) continued to develop her PhD work with Tessa Pollard on the impact of sedentary time on health, publishing two papers, including a systematic review examining possible mechanisms to explain the impact of time spent watching television on cardiometabolic health.

Academy cross cuts

Brain, Body and Behaviour and Youth Academy



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.

Early life development and reproductive physiology and health

Gillian Bentley (CRIVA) has been continuing to work on projects relating to how early life development impacts on reproductive physiology and health. She was awarded a Durham University Seedcorn grant in 2021 to undertake collaborative, pilot work examining epigenetic data from different groups of Bangladeshi girls growing up in Bangladesh or the UK. The research aims to investigate whether methylation patterns of specific genes change across early childhood in relation to a developmental phase called adrenarche. Her team is now working with biostatisticians to understand these data further.

Academy cross cuts

Youth Academy, Brain, Body and Behaviour Academy and Women's Academy

Early life, life course and gender influences on levels of C-reactive protein among migrant Bangladeshis in the UK

Migrants to the UK who spent early childhoods in less hygienic environments in Bangladesh that help to educate their immune systems had lower levels of the inflammatory marker, C-reactive protein (CRP) compared to migrants who grew up in UK. Both gender and increasing obesity were associated with increased levels of CRP. This work was completed by the Behavioural Endocrinology and Physiology Lab and more details can be found on our website.

Academy cross cuts

Women's Academy and Youth Academy



Socioeconomic position and child growth

Nuzhat Choudhury, a final year PhD student (Anthropology of Health Research Group) has been exploring the role of 'relative socioeconomic position' on child growth testing a controversial hypothesis that relative social status may affect the growth of children and final height more than nutritional status using two large datasets from Bangladesh. She has found that relative social status is strongly associated with child growth, measured as low height for age (stunting), and is even more important than nutrition or disease factors in influencing height. Her findings have implications for nutritional programmes sent to lower- and middle-income countries and addresses issues of social inequalities. She is going to present her initial findings at the Human Biology Association Conference in Denver, USA, in March 2022.

Academy cross cuts

Youth Academy

Race, Culture and Inequality Academy cont.

Examining epigenetic mechanisms that might explain reproductive and developmental variation between populations

Women facing increased energetic demands in childhood commonly have altered adult ovarian activity and shorter reproductive lifespan, possibly comprising a strategy to optimize reproductive success. Here we sought to understand the mechanisms of early-life programming of reproductive function, by integrating analysis of reproductive tissues in an appropriate mouse model with methylation analysis of proxy tissue DNA in a well-characterized population of Bangladeshi migrants in the UK. Bangladeshi women whose childhood was in Bangladesh were found to have later pubertal onset and lower age-matched ovarian reserve than Bangladeshi women who grew-up in England. These findings help to explain diversity in reproductive characteristics and how they are shaped by early-life environment, and reveal novel pathways that might be targeted to mitigate health issues caused by life-history trade-offs. More information on this Durham Behavioural Endocrinology and Physiology Lab work can be found on the website.

Academy cross cuts

Youth Academy and Women's Academy

Relevant Grants

G Bentley, A Kasim, R Stöger, P Melamed (2021) Developmental windows during childhood susceptible to epigenetic modification. Durham University Seedcorn Grant (£28,850).

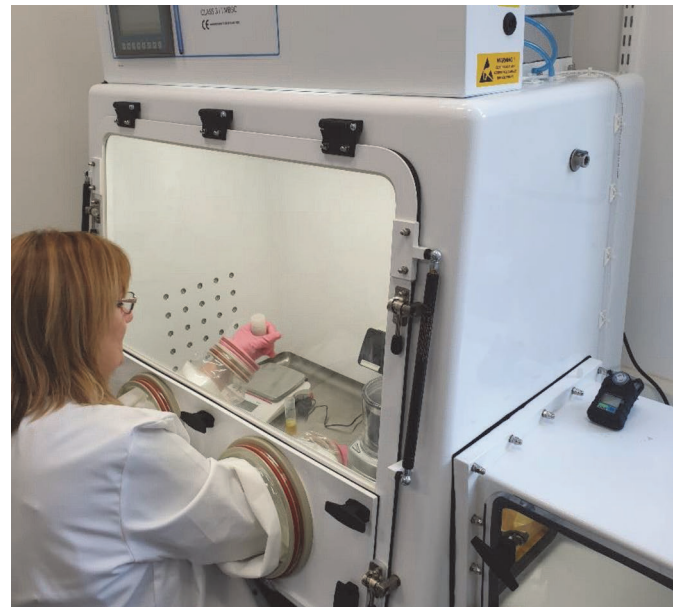


Image: Val Afflect, Lab Manager, preparing urine samples collected from Africa baboons for stress hormone analyses

The timing of adrenarche in Maya girls, Merida, Mexico

Adrenarche involves maturation of the hypothalamic-pituitary-adrenal axis and increased production of dehydroepiandrosterone and its sulfate ester, dehydroepiandrosterone-sulfate (DHEA-S). It occurs at ages 6 to 8 in industrialized populations, marking the transition from childhood to juvenility and cognitive development at middle childhood. Studies in subsistence level populations indicate a later age (8-9) for adrenarche, but only two such studies currently exist for comparison. Like other populations living in ecologically challenging environments, adrenarche occurred relatively late among Maya girls. Adrenarche has been linked to measures of body composition, particularly, the adiposity or body mass index rebound, but no relevant anthropometric measures were associated, possibly because of the small sample. The Durham Behavioural Endocrinology and Physiology Lab concluded that further studies are required to illuminate how adrenarcheal variation relates to developmental plasticity, body composition, pubertal progression, and animal product consumption in other transitional populations.

Academy cross cuts

Youth Academy and Women's Academy

Work Academy

The Work Academy, led by Dr Barbara Bechter, addresses modern workplace challenges, particularly to mental health and wellbeing. The Work Academy has an interdisciplinary approach aimed at facilitating interdepartmental exchange and collaboration, and the goals are closely aligned with the University's Sustainable Development Goals.

The Work Academy provides the necessary infrastructure to identify collaboration partners and support to researchers that enable cooperation by organizing Research Conversations on specific topics. Research Conversations bring together researchers across the university and beyond aimed at promoting interdisciplinary research with a focus on health and wellbeing.

The first Research Conversation held on 17 November 2021 did address issues of Work and Health and Wellbeing aimed at increasing our knowledge and understanding of how work and the workplace can have an impact on people's health and wellbeing.

The coronavirus pandemic led to increased attention to people's health and raises some urgent questions about healthy work and workplaces. The pandemic has also exposed existing health inequalities and the importance of life circumstances and conditions in which people live to individual health and quality of life which were addressed by the speakers and the discussion that followed the presentations.



Invited Speakers:

Professor Sarah Curtis, Durham University (Department of Geography, Professor Emerita)
Title of talk: Work, Health and Wellbeing: Labour Market Changes as Wider Determinants of Health.

Professor Deirdre McCann, Durham University (Durham Law School)
Title of talk: Regulated casualisation: working time, decent work, and the Supreme Court judgments in Mencap and Uber.

Rob Miguel, Unite the Union, National Health & Safety Advisor
Title of talk: Working through COVID 19 as seen by Unite Workplace Representatives

Researchers from different departments were interested in the Research Conversation ranging from Anthropology, Business, the Department of Management and Marketing, Education, Geography, RIS, to Sport and Exercise Science. As a result of the Research Conversation in November 2021, a team of researchers meets once a month. The team comprises Durham University researchers from Business, Education, and Geography and a researcher in Anthropology from Oxford University. This team works on "uncertainty, change, and challenges caused by digitalisation, and how it affects the health & wellbeing of social groups".

The ongoing Research Conversations support the team in its ambition to connect different ideas, connect with external partners, organise workshops, and identification of research funding opportunities.

Academy cross cuts

Mental Health Academy, Youth Academy and Women's Academy

Work Academy cont.

Research with British Association of Social Workers on social work during Covid-19 led by Sui Ting Kong

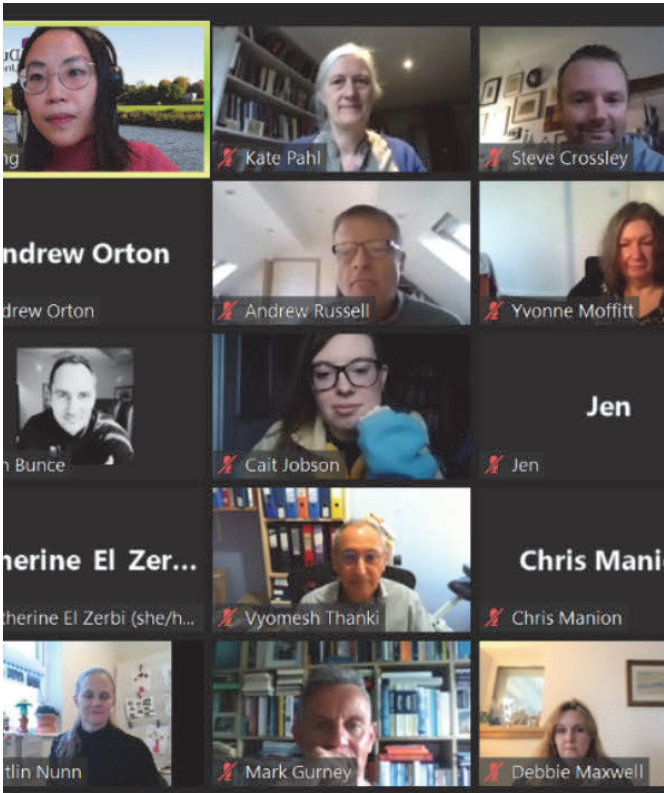
This project by the Centre for Social Justice and Community Action aimed to identify best practice and ethical and practical challenges facing social work in the UK during Covid-19 through collaborative work. The project set up the first BASW UK Practitioner Research Network (the Network) in August 2020 to collaborate with academics from Durham University in analysing the data collected from BASW’s Ongoing Survey on Social Work during COVID-19. The final report and the practice toolkit are now available on the BASW website.

Academy cross cuts
Brain, Body and Behaviour Academy, Mental Health Academy, Youth Academy, Ageing Academy and Race, Culture and Inequality Academy.

Youth engagement and skills acquisition within Africa’s transport sector: promoting a gender agenda towards transition into meaningful work

CSJCA have continued to work in the three study cities [Abuja, Tunis and Cape Town] in collaboration with our peer research team of young unemployed women, local academic collaborators, staff from the international NGO Transaid, in-country NGOs and various ministry collaborators. Despite pandemic challenges, some training workshops have taken place [some online, some face-to-face]. They are aimed at supporting women as transport users and women working in the transport sector in all three cities.

Academy cross cuts
Brain, Body and Behaviour Academy, Mental Health Academy, Youth Academy and Women’s Academy



Ethical challenges for social workers during Covid-19

This international research by the Centre for Social Justice and Community Action started in Spring 2020 and has been extended with follow-up funding until September 2022, coordinated by Sarah Banks with international partners. During 2021, Nikki Rutter worked with Sarah to analyse the UK data, undertake follow up interviews and produce a report and a continuing professional development resource with the British Association of Social Workers. Further details and publications can be found on the CSJCA website.

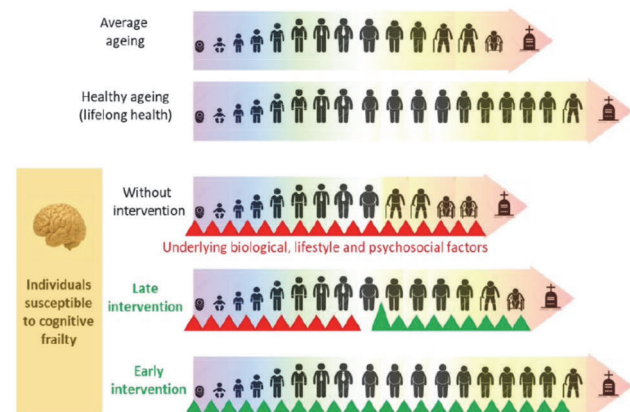
Academy cross cuts
Brain, Body and Behaviour Academy, Mental Health Academy, Youth Academy, Ageing Academy and Race, Culture and Inequality Academy

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 inter-relational 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).



The WRIHW was instrumental in the network building that led to an award in December 2021 from BBSRC to become one of UKRIs Ageing Networks.

We all 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. Even outside of age related diseases such as arthritis or dementia. What is really striking however is that physical frailty and cognitive frailty are often present at the same time in older adults and seem to be related in ways other than just a common relationship with chronological age. We don't understand how one might cause the other or what drives this coincidence.

To investigate this, we have set up the Cognitive Frailty Interdisciplinary Network to find out what the behavioural, social and biological determinants of cognitive frailty are, linking underlying biological mechanisms to these other contributors. We need to know what interventions, based on nutrition, education or exercise for example, work for whom and why, but importantly why what works for some does not work for others. Only by putting all of the factors that influence our health together in a more personalised way with an understanding of the environment in which we live will we truly be able to mitigate predictors of cognitive frailty, keeping us healthy for longer.

WRIHW is delighted to lead the external advisory board for this network and look forward to multiple interdisciplinary projects to come.

Our Events in 2021

The Wolfson Research Institute for Health and Wellbeing were delighted to announce an engagement series including public lectures and academic seminars, all covering topics from our Challenge Academies. Recordings of all of our events are available on our website.

Skills for all: Primary care and community-based pain self-management

6th October 2021

Chronic pain is a huge health challenge. It is the biggest reason people in the UK see their GP. The World Health Organisation (WHO) recognised it as a priority disease in 2019. The National Institute for Health and Care Excellence (NICE) has also recently accepted that current chronic pain medications have limited long-term benefit, and in fact carry serious safety concerns. That is why reducing opioid prescriptions (for non-cancer pain) to zero by 2024 is a priority for Public Health England.

Speakers

Dr Paul Chazot is the Director of the Durham WRIHW Pain Academy. He is an Associate Professor of Pharmacology and Fellow of British Pharmacological Society.

Dr Frances Cole is a GP and pain rehabilitation specialist



Bringing Meaning and Authenticity to Collaboration

20th October 2021

In this Academic Seminar, Professor Nicola Wilson shares her passion and insights for collaboration, built up over the course of her career. From her earliest experiences of building collaborative relationships to create new referral pathways, through navigating the geopolitical landscape of trans-European research collaboration and into more recent years of interdisciplinary and interorganisational collaboration, she will share anecdotes and her insights; including

- How the term 'networking' has become lost in translation
- The value of emotional intelligence when building lasting professional relationships and collaborations
- How the benefits of collaborating outweigh going it alone
- The various roles within collaboration, and how 'the convenor' and 'the lead' are not necessarily synonymous.

In a world where we are all too often tempted by the desire for recognition as an individual, Nicola will seek to make the case for how amazing things can happen when you bring together like minds.

Speaker

Professor Nicola Wilson is a WRIHW Professor in Practice in association with the Psychology Department and Deputy Chief Executive at the Northern Health Science Alliance (NHS) brokering European health and life-sciences project partnerships, building consortia, facilitating valuable knowledge exchange opportunities and creating informal, trans-European networks of clinical and research excellence.



Events cont.

Changing baby sleep conversations in the UK – the role of Durham Infancy & Sleep Centre (DISC), and the Baby Sleep Info Source (Basis)

3rd November 2021

For over twenty years research at DISC (formerly the Parent-Infant Sleep Lab) has been influencing infant sleep guidance in the UK that is spreading around the world. We demonstrated the close link between increased breastfeeding frequency and mother-baby night-time contact via two randomised trials of night-time care on a UK postnatal ward. We explored why, when and how UK parents sleep with their babies, revealing that 50% of UK parents rejected 'never co-sleep' guidance for various reasons. We showed that parents need tailored information on infant sleep safety, and that a blanket 'risk elimination' approach is disregarded as unrealistic. In 2012 we launched the Baby Sleep Information Source (Basis) to make academic information on the relationship between sleep and breastfeeding available online to parents and health practitioners. This talk will consider how the research of DISC and the outreach work of Basis have contributed to a rethink of the official infant sleep safety guidance in the UK to accommodate the needs of culturally diverse families and acknowledge the benefits to mothers and babies of sleeping together while providing information about hazards to avoid, and how UK and international organisations have used our work to develop new policies for staff and guidance for parents, epitomised by new national guidance on infant sleep safety in 2019 by Public Health England, and a new international protocol in 2020 by the Academy of Breastfeeding Medicine.

Speaker

Professor Helen Ball, Durham Infancy & Sleep Centre, & Baby Sleep Information Source (BASIS), Department of Anthropology, Durham University, Durham, UK

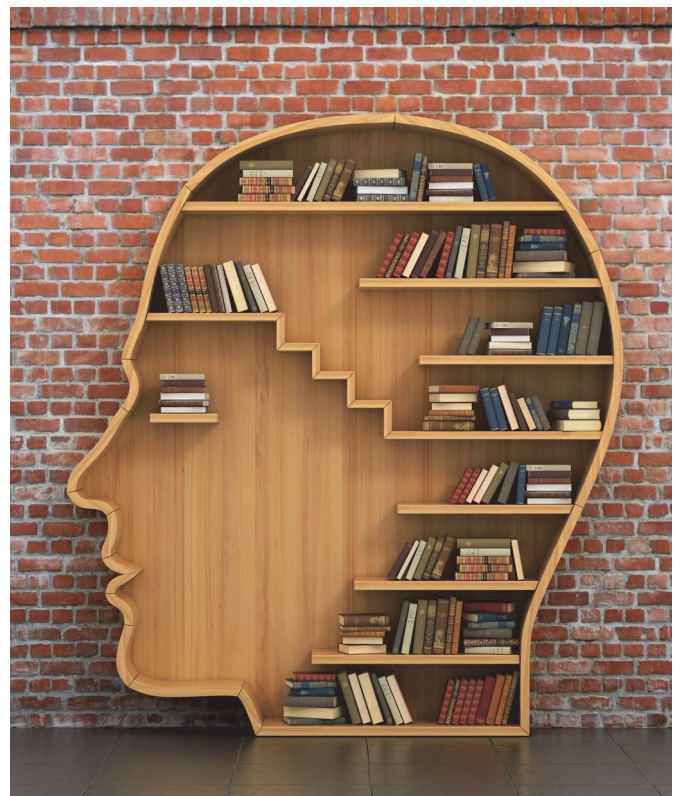
What your headache says about you

1st December 2021

Most of us get a headache at one time or another. Some of us experience severe, even debilitating pain. But why do we experience headache? And what clues can be found in how we live our lives that can enable us to fight back or even stop them from happening at all? In this lecture, we will discuss the various types of headaches that affect us, why they feel the way they do, what causes them and what we can do about them.

Speaker

Professor Amanda Ellison is a physiologist and neuroscientist at Durham University and the Executive Director of the Wolfson Research Institute for Health and Wellbeing.



Our Partners and Networks





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