NIHR | School for Public Health Research

PhD studentships 2022

Call for applications

NIHR | School for Public Health Research

NIHR SPHR PhD studentship projects 2022

Applications are invited from individuals who wish to develop a career in public health research. We are committed to a supportive, inclusive, caring, and positive community. We warmly welcome applications from disabled people and those of different cultures, genders, ages, ethnicities, and beliefs.

The NIHR School for Public Health Research (SPHR) is a partnership between the Universities of Bristol, Cambridge, Exeter and Sheffield; Imperial College London; The London School for Hygiene and Tropical Medicine (LSHTM); the LiLaC collaboration between the Universities of Liverpool and Lancaster; Fuse, The Centre for Translational Research in Public Health, a collaboration between Newcastle, Durham, Northumbria, Sunderland and Teesside Universities; and the PHRESH collaboration between the Universities of Birmingham, Warwick and Keele.

Awards will be taken up in April 2022 for part-time applicants and by October 2022 for full-time applicants.

Applicants must have a first degree in a discipline relevant to public health research and will be expected to complete a PhD during the award period.

These studentships will fund tuition fees up to the value of UK fees (UKRI rate); students with overseas status are welcome to apply but will need to fund the remainder of their fees and any visa requirements from alternative sources. Please note: non UK students should check the requirements of the host institution before submitting an application.

Studentship awards will also include, an annual tax-free stipend at £15,609 (UKRI rate), and a contribution towards research and training costs. Students at our member universities in London will receive a London weighting.

Application information and details of the projects on offer follow in this document.

Applications must be received by 5pm on Thursday 18th November 2021.

NIHR | School for Public Health Research

Background

The NIHR School for Public Health Research aims to increase the evidence base for cost-effective public health practice by:

- Conducting applied public health research to increase the volume and quality of useful evidence on cost-effective interventions
- Creating an environment where first class applied public health research, focussed on the needs of the public, can thrive
- Supporting local public health practitioners and policy makers to engage with research, and actively seek out high quality research evidence to inform their decisions
- Contributing to ongoing efforts to build research capacity in public health research

SPHR is funded by the National Institute for Health Research (NIHR).

You can find out more about the School, our research and researchers on our website.

You can find information about each of the members and view the projects on offer by institution by clicking on the links below;

University of Bristol; University of Cambridge; Fuse; The Centre for Translational Research in Public Health, a collaboration between Newcastle, Durham, Northumbria, Sunderland and Teesside Universities; Imperial College London; the LiLaC collaboration between the Universities of Liverpool and Lancaster; The London School for Hygiene and Tropical Medicine (LSHTM); University of Sheffield, University of Exeter, the PHRESH collaboration between the Universities of Birmingham, Warwick and Keele.

Please note, we are advertising a total of 27 project outlines of which we expect to fund up to 9 studentships.

Supervision

The NIHR School for Public Health Research brings together academics from nine leading academic centres with excellence in applied public health research in England. Applicants are encouraged to contact potential supervisors for more information on specific topics of interest.

NIHR | School for Public Health Research

SPHR Training Pathway

In SPHR we aim to inspire the next generation of academics into public health research with the option to combine academic research with practice as a career pathway. We have developed a training pathway that provides a range of training opportunities for those interested in pursuing a career in public health research including internships, PhD studentships, and pre and post-doctoral fellowships. You can find out more information about these opportunities and hear from our current students by following the links below:

NIHR Academy

All SPHR PhD students become members of the NIHR Academy. The purpose of the NIHR Academy is to develop a highly-skilled academic research workforce capable of advancing the best research which improves health, and benefits society and the economy.

NIHR is committed to a supportive, inclusive, caring, and positive community. Diversity and inclusion are fundamental to NIHR's values and success. As NIHR Academy Members, you will be able to access a portfolio of NIHR Academy development and support activities. The NIHR Academy also provide a range of leadership and mentoring programmes, regular networking opportunities, bespoke workshops and events and personal advice and guidance on funding opportunities. This includes an annual NIHR Academy conference and Doctoral Training Camp.

"The NIHR Doctoral Research Training Camp was a great experience. I was incredibly lucky to be paired with a team that gelled instantly and were really open to listening and learning from each other. I gained so much from the camp, both in terms of hard skills around grant proposals and presenting but also soft skills in relationship-building, delegation, and teamwork"
SPHR PhD student, Sarah Ledden, UCL

Development and support opportunities

In addition to activities and training opportunities within NIHR Academy and your host institution, you will also have access to development and support opportunities provided by us in the School.

We aim to provide a supportive environment for our trainees in which you can thrive through training, networking, guidance and collaboration between members and your peers. Examples of past training and development events can be seen by following the links below:

"The Annual SPHR PhD student meeting was a great opportunity to network with other PhD students in my cohort which was of great value. I really enjoyed catching up with my peers"
SPHR PhD students, Dolly Theis, Cambridge University

Most of the studentship projects will offer links within Local Authority or other public health practice settings, which will provide an opportunity for you to undertake a short placement in a public health practice or policy setting. We strongly encourage all of our students to work in practice as part of their award. Carrying out a practice placement helps you to gain an insight into the opportunities and challenges of implementing research in fast moving public health practice and policy environments.

The School is committed to providing a positive research culture in which our PhD students can flourish. We believe in offering opportunities that will help to develop your research and leadership skills as an early career researcher in public health research. Our PhD students can apply to supervise a summer intern within the School through our summer internship programme.

"Many thanks for all the support from the SPHR team, it is really appreciated. I think the summer internship programme is a great scheme to diversify engagement in public health research and give undergraduate students insight into public health research"

"I think having this opportunity during PhD studies is a nice time to start to learn the skills of being a supervisor in a research setting"

SPHR PhD students

ResNet

The SPHR Researchers' Network (ResNet) links our researchers working on projects across all the members of the School. As an SPHR PhD student you automatically become a member of the ResNet community. It is a forum for communication, peer support and networking to aid the professional development of researchers at any level.

Publication & wider dissemination

It is expected that students will publish research from their PhD studies in good quality, peer-reviewed academic journals and communicate findings at conferences. In addition, we expect the research to generate outputs that are tailored to applied health research, public health practitioner, and policy making audiences.

Eligibility criteria

Applicants must have a first degree in a discipline relevant to public health research and will be expected to complete a PhD during the award period. Candidates should also ensure they meet the eligibility criteria of the host institution (please see individual university websites for details).

Application shortlisting criteria

Your application will be assessed using the following criteria as part of the application shortlisting process:

- A first or upper second class UK honours degree, or the equivalent qualifications gained outside the UK, in an appropriate subject (qualifications, or a combination of qualifications and experience, which demonstrate equivalent ability and attainment will also be considered)
- Previous research experience or formal training (e.g. a Master's degree) is desirable
- Relevant previous research experience
- Output from previous research experience
- Evidence of commitment to a research career
- Evidence of potential as a career researcher
- Excellent written and verbal communication skills
- Supportive academic references
- Highly motivated
- Able to work both independently and as part as part of a team
- Able to plan and manage own work

How to make an application

The application process consists of three stages.

Stage 1 Please complete and submit an application form here.

Please complete the form, indicating your project preference where indicated. **Codes for each project can be found in this document. You may apply for a maximum of 3 projects. You may choose to submit one covering letter or one letter for each project, if you applying for more than one.**

Please upload a two-page CV and at least one covering letter (max. 1 page). We also ask that you identify two academic referees.
Please name your CV and covering letter using the following naming convention:
Surname_CV
Surname_letter_project code

Applications must be received by 5pm Thursday 18th November 2021.

Stage 2

Applications will be shortlisted and candidates selected for interview will be contacted and invited to attend an assessment panel week commencing 10th January 2022. Unsuccessful applicants will be informed.

Stage 3

Successful candidates will be required to register for a PhD at the host institution. Detailed guidance will be provided to successful candidates. More information can be found on individual institution websites.

Please direct questions to Andeep Sull, SPHR Training and Development Manager sphr.training@ncl.ac.uk. Questions about individual projects should be directed to lead supervisors (contact details are provided on project pages).

NIHR and DHSC have a duty as a public body to promote equality of opportunity. We will contact all applicants shortly after the application closure date with an Equality Monitoring Form. Monitoring ensures that all applications to NIHR SPHR Programmes are treated equally in terms of gender, ethnicity and/or disability. Information will be anonymised and stored separately from your application, only be used for the purpose of monitoring equal opportunities and be kept securely and in confidence.

NIHR | School for Public Health Research

Project directory

Project code	Title
Bristol_1_Caldwell	Using novel synthesis methods to identify and optimise components for public mental health interventions.
Bristol_2_deVocht	Local citizen- and Council-led initiatives to address the climate crisis, with a focus on transport and air pollution
Bristol_3_Kidger	An examination of risk factors for poor mental health among young women and exploration of interventions to support mental health in FE colleges
Cambridge_1_Hawkins	Framing of 'obesity' and its impact on UK health policy
Cambridge_2_Lafortune	Sustainable Healthy Ageing: policy analysis and data mapping to document England's progress towards the sustainable development goals.
Cambridge_3_Sluijs	Listening to all voices in school-based prevention research – exploring involvement and research participation and identifying opportunities for more inclusive research processes.
Exeter_1_Fleming	The Effects of Local Adaptation Planning for Climate Change on Health and Environment Inequalities
Exeter_2_Smith	Are healthy diets really more expensive than unhealthy diets? Understanding drivers of choice between healthy and unhealthy food and drinks
Exeter_3_Melendez-Torres	Data-enabled cluster-randomised trials for public health improvement
Fuse_1_Rodrigues	Increasing timely cervical screening participation in areas of high socioeconomic deprivation.
Fuse _2_Vasiljevic	The impact of nature-based citizen science interventions on mental health and wellbeing: An interdisciplinary mixed-methods study
Fuse_3_Zohoori	Cost-effectiveness and acceptability of milk supplemented with fluoride and/or probiotics in improving the oral health of older adults
Imperial_1_Hargreaves	Using individually-linked, multi-sectoral datasets to investigate health needs and outcomes of Children Looked After
Imperial_2_Laverty	Synergistic impacts of transport interventions on travel behaviours and health
Imperial_3_Millett	Identifying dual benefit dietary changes under different trade and land use scenarios in the UK
LiLaC_1_Hollingsworth	Resilience, health, and economic shocks: how is a health shock different to an economic shock, and how can we be better prepared.
LiLaC_2_Popay	Reducing health inequalities through embedding community participation and co-production in public health systems
LiLaC_3_Rodgers	Longitudinal analysis of the impact of Green and Blue Spaces on health
LSHTM_1_Bonell	Implementation of relationships, sex and health education in English schools
LSHTM_2_Knai	Partnerships to improve diets in England at the local level
LSHTM_3_Scheelbeek	The role of app-based tools in nudging behaviour change towards more sustainable and healthier diets
PHRESH_1_ Frew	Decision-analytic modelling to estimate the economic implications of population obesity and preventative actions on local authority budgets
PHRESH_2_Oyebode	Social networks, mental wellbeing and behavioural risk-taking in adolescents
PHRESH_3_Stathi	Maximising the impact of an effective and cost-effective active ageing intervention: The Retirement in ACTion (REACT) digital-hybrid programme
Sheffield_1_Hughes	Understanding children's pathways from social care to adolescent health: integrating public services data to transform preventive support
Sheffield_2_Kersbergen	Understanding how being part of a digital sober community may affect drinking and mental health
Sheffield_3_Powell	Media coverage of health inequalities in a post-pandemic world

University of Bristol

Bristol has an international reputation for research excellence in applied Public Health Research through its Centre for Public Health Research in Bristol Medical School: Population Health Sciences. There are strong collaborations with the Centre for Exercise, Nutrition and Health Sciences in the School for Policy Studies, as well as relationships with Experimental Psychology, Social Work and Care.

The Centre for Public Health also includes the NIHR Public Health Intervention Responsive Studies Team (PHIRST) and the NIHR Health Protection Research Unit (HPRU) in Behavioural Science and Evaluation with team members also part of the NIHR Applied Research Collaboration (ARC) West.

A multidisciplinary team of researchers lead our public health research. We have major strengths in conducting school-based RCTs of public health interventions, evaluating natural experiments to strengthen the evidence base for public health policy, evidence synthesis and applied public health studies including research on obesity, physical activity, nutrition, smoking, alcohol and other drug misuse, sexual health, infectious diseases and mental health.

Public Health at the University of Bristol has been ranked as 4th in the UK, 5th in Europe and 9th globally by the Shanghai Ranking 2021 Global Ranking of Academic Subjects (GRAS). The 2014 Research Excellence Framework rated 86% of Bristol's research within the unit of assessment including Public Health as world leading or internationally excellent (4* or 3*). All 8 of our impact case studies were judged to be world leading: the majority of these arose from public health research.

Our research is highly inter-disciplinary and collaborative, involving public health specialists, social scientists, economists, psychologists, statisticians, modellers, epidemiologists, geographers and clinicians. We provide excellent training in research with over 35 research methods short courses. We provide postgraduate training to approximately 100 students through our MSc in Public Health an MSc in Epidemiology courses. In 2022 additional MSc courses will start on health economics and data science.

Projects led by the University of Bristol:
For more information about each project, please click on the title in the table below;

Project code	Title
Bristol_1_Caldwell	Using novel synthesis methods to identify and optimise components for public mental health interventions.
Bristol_2_deVocht	Local citizen- and Council-led initiatives to address the climate crisis, with a focus on transport and air pollution
Bristol_3_Kidger	An examination of risk factors for poor mental health among young women and exploration of interventions to support mental health in FE colleges

Title:	Using novel synthesis methods to identify and optimise components for public mental health interventions.
Supervisory team:	Dr Deborah Caldwell - University of Bristol Professor Nicky Welton - University of Bristol Professor GJ Melendez-Torres - University of Exeter Dr Georgie MacArthur - Consultant in Public Health, North Somerset Council
Project code:	Bristol_1_Caldwell
Contact:	d.m.caldwell@bristol.ac.uk

Project outline

Concern that the COVID-19 pandemic will further exacerbate recent rises in mental health problems experienced by children and young people (CYP) has renewed policy interest in preventative and early intervention. However, developing or adapting interventions is costly and time-consuming. Advances in quantitative evidence synthesis methods, in particular component network meta-analysis (CNMA), provide greater flexibility to evaluate whether interventions containing specific components are effective in a given setting or context, and offer empirical insight into the critical intervention 'ingredients' to include when developing or adapting new interventions. CNMA is under-utilised in public health and could support local decision-makers adapt and implement existing interventions, based on knowledge of which components are effective, for whom, and whether they provide value-for-money.

The aim of this mixed methods PhD is to determine the potential benefit and role of CNMA for mental health intervention adaptation and development. It can be tailored to the student's specific skills and interests; however, areas of current CYP policy relevance are preferred, e.g. emotional resilience and wellbeing. This PhD will include the following 3 elements:

(1) Systematic review and critical evaluation of component identification methods.

(2) Assessment of the utility and feasibility of applying approaches identified by (1).
   a. Use stated preference methods to assess the level of component abstraction of greatest utility for various stakeholders. Follow-up interviews will explore barriers and enablers to applying the approaches in practice.
   b. Conduct a simulation study to examine the modelling implications of approaches identified in element (1), e.g., feasibility of analysis, network connectedness, the number and size of studies included and the impact on reliability of results.

(3) An applied CNMA will be conducted, using the most promising identification method. This strand of work will use R software and will identify the components, activities and actions associated with intervention effect and acceptability.

Title:	Local citizen- and Council-led initiatives to address the climate crisis, with a focus on transport and air pollution
Supervisory team:	Professor Frank de Vocht - University of Bristol Professor Russ Jago - University of Bristol Dr Anthony Laverty - Imperial College London Dr Beki Langford - University of Bristol All projects will give the successful candidate the opportunity to link with practice whilst carrying out their PhD project. Further information on this will be updated in due course.
Project code:	Bristol_2_deVocht
Contact:	frank.devocht@bristol.ac.uk

Project outline

It is now beyond scientific doubt that if humanity does not change the way it engages with energy, transport, waste, and consumption the climate crisis will reach a tipping point where mitigation will be very difficult and costly, if not impossible. Transport and air pollution are prominent areas of concern and research focusses on global, national and regional programmes by which the course of the crisis may be changed and its impacts reduced. However, there has been much less research conducted on understanding local initiatives aimed at affecting the local environment or behaviours of its residents, and evaluation of whether these have measurable impacts.

In this mixed methods PhD project, the student will create on overview of the patchwork of local projects and programmes initiated by Councils and citizens', including activist groups in Bristol, their motivations, aims and interpretations of success. It will assess the extent to which individual or public health is an important motivation for such projects, and how public health principles, including those of health inequities and susceptible subgroups such as children, may shape these. The project will be tailored to the interest of the student but could include the synthesis of peer-reviewed and grey literature, and/or discourse analysis of different groups including citizen groups. It may further include the interviewing of people involved in these initiatives from Councils, citizens, activist groups and NGOs.

It is envisaged that a small group of projects identified during the early phase of the PhD will then be selected for quantitative evaluation.

This mixed-method PhD aims to fill the gap of what local initiatives exist around improving transport and air pollution, what the motivations are of the people engaged in these activities, what they hope to achieve and finally, through formal evaluation what the impact of these local activities are.

Title:	An examination of risk factors for poor mental health among young women and exploration of interventions to support mental health in FE colleges
Supervisory team:	Dr Judi Kidger - University of Bristol Dr Lucy Biddle - University of Bristol Dr Myles-Jay Linton - University of Bristol Dr Tamsin Ford -University of Cambridge Dr Mark Limmer - Lancaster University Geraldine Smyth - Senior Public Health Specialist, Bristol City Council Further links within Local Authorities (LA) children and young people's / education teams will be pursued.
Project code:	Bristol_3_Kidger
Contact:	judi.kidger@bristol.ac.uk

Project outline

Latest figures show the prevalence of mental health difficulties is high and on the increase among young women aged 17-19 years; the proportion with a probable mental health disorder rose from 13.4% in 2017 to 24.8% in 2021, and as many as 76.4% had possible eating problems in 2021. One possible explanation is uncertainties or lack of support around the transition from school to further education, higher education or work. While much policy and research has focused on the potential of schools to support young people's mental health, there has been less of a focus on Further Education (FE) colleges, despite these being the settings in which young people who may be at highest risk of poor mental health (for example those with special educational needs, those from poorer backgrounds and those who have felt disconnected from school) may be. This mixed methods studentship will aim to improve understanding of the reasons for the rise in poor mental health among young women aged 17-19 years, and will co-produce an intervention to improve support available to this population within FE colleges, through:

1. A secondary analysis of longitudinal data in order to identify key risk factors for poor mental health among young women aged 17-19 years. Examples of datasets that may be appropriate include the Millenium Cohort study and the Understanding Society household longitudinal study

2. Qualitative interviews with young women aged 17-19 years attending FE colleges, to explore their views on why there are high and increasing rates of poor mental health among their age group

3. Workshops with young people and staff in FE colleges, parents and other stakeholders from local government and third sector organisations, to explore potential interventions within this setting that would improve mental health among young women aged 17-19 years, and reduce mental health inequalities

University of Cambridge

Cambridge Public Health (CPH) is a leader in interdisciplinary public health research, co-directed from the Schools of Clinical Medicine and Technology, with research pillars and cross cutting themes operating across the University (details here: https://www.cph.cam.ac.uk).

Aligned with the ethos of SPHR, CPH and the MRC Epidemiology unit work with key service, third and fourth sector stakeholders, and members of the public to:

i) address large-scale research challenges to generate evidence of immediate and future value;
ii) strengthen research collaborations and working across institutions;
iii) improve knowledge transfer across disciplines;
iv) develop and test new methodologies more suited to contemporary challenges;
v) increase research capacity by strengthening opportunities for large-scale funding applications, capacity building recruitment, and place and practice-led evidence generating partnerships;
vi) influence local, national and international research, policy and funding agendas.

Cambridge has a strong track record of training future leaders for positions where they can influence practice and policy to improve population health, ranging from academic and service to business and NGO sectors.

CPH, associated departments, and research units provide access to informal networks and dedicated training in transferable skills and research methods. Building on our strong track record of partnerships, and engagement with policy and practice and the public, we will offer opportunities for immersive experiences, communication and research co-production with communities. Our extensive networks provide strong connectivity between on-the-ground public health and regional academics, enabling responsiveness to policy and practice needs (e.g. evaluation and policy analysis) at many levels, including local authorities, Office of Health Improvement and Disparities, and regional and national institutions.

We offer high quality departmental and college accommodation, and facilities for early career researchers, including dedicated rooms for training and desk space; and access to shared services including advanced IT systems, data management, statistical support, fieldwork management, and communications.

Projects led by the University of Cambridge:
For more information about each project, please click on the title in the table below;

Project code	Title
Cambridge_1_Hawkins	Framing 'obesity' and its impact on UK health policy.
Cambridge_2_Laforune	Sustainable Healthy Ageing: policy analysis and data mapping to document England's progress towards the sustainable development goals.
Cambridge_3_Sluijs	Listening to all voices in school-based prevention research – exploring involvement and research participation and identifying opportunities for more inclusive research processes.

Title:	Framing of 'obesity' and its impact on UK health policy.
Supervisory team:	Dr Benjamin Hawkins – University of Cambridge Professor Martin White – University of Cambridge Dr Cecile Knai – LSHTM Professor Karen Lock – LSHTM Links with policymakers from DHSC/OHID and local government, and from the 3rd sector (e.g. Obesity Health Alliance).
Project code:	Cambridge_1_Hawkins
Contact:	ben.hawkins@mrc-epid.cam.ac.uk

Project outline

The 'framing' of health issues by policy actors (policymakers, interested stakeholders and the public) is a key factor in deciding which issues get identified as problems worthy of government intervention, what the problem is perceived to be and what are legitimate policy solutions. The importance of framing is recognised by commercial actors in health harming industries, such as alcohol, tobacco, gambling and processed foods, which invest significant resources in attempts to influence policy debates in ways that serve their commercial interests at the expense of public health.

Consequently, it is important for public health researchers, policymakers and advocates to understand the ways in which health policy debates are framed, by whom, and the consequences for policy outcomes. Revealing the effects of policy framing could help public health actors to reframe debates and advocate for effective, evidence-informed alternatives.

In this mixed-methods study, the student will undertake a framing analysis of obesity policies in England with a comparative perspective (over time, with devolved administrations and/ or with related policy areas such as alcohol) informed by critical discourse theory. This will help us to understand how framings are developed and implemented, the attribution of responsibility for obesity and the proposed solutions to address this evident in policy discourses. The proposed methods are well-established in social and public policy research and their application to public health research is growing.

Data sources will include: relevant policy documents (e.g. parliamentary debates and legislation); public consultations and responses to emerging policy proposals (such as the Childhood Obesity Plan); intervention in these debates by policy stakeholders across public, voluntary and commercial sectors; and the coverage of these in the media. The PhD is of immediate policy relevance as it will seek to identify the extent to which different actors' framings (e.g. the food industry, medical professionals or researchers) are reflected in policy.

This project addresses a need for further research identified by Theis and White (Milbank Quarterly, 2021) in a current SPHR PhD studentship, and builds on and updates the only other recent review of policy framing on obesity in England (Ulijaszek and McLennan 2016). It will extend our understanding of a key public health challenge and address barriers to more effective evidence-informed policymaking. The findings will be of critical relevance to policymakers at both local and national levels in the UK and globally.

Resources for this studentship are limited to the student's tuition fees and stipend as well as minimal equipment costs and funds for travel, conference attendance and open access and other publication charges. If viable, an internship with a policy partner would enhance the studentship. This could be, for example, with the Obesity Team within OHID in DHSC or within a relevant NGO or public health body advocating for more effective policy in this area.

Title:	Sustainable Healthy Ageing: policy analysis and data mapping to document England's progress towards the sustainable development goals.
Supervisory team:	Dr Louise Lafortune - University of Cambridge Professor Carol Brayne - University of Cambridge Additional supervisor - LiLaC Additional supervisor - Exeter All projects will give the successful candidate the opportunity to link with practice whilst carrying out their PhD project. Further information on this will be updated in due course.
Project code:	Cambridge_2_Laforune
Contact:	ll394@medschl.cam.ac.uk

Project outline

Increases in life expectancy and subsequent population growth fundamentally affect sustainable development efforts to eradicate poverty, achieve food security, build inclusive and resilient communities, and ensure sustainable consumption. A focus on sustainable healthy ageing is thus essential to a healthy planet, and healthy communities. The recently declared 2021–30 UN Decade of Healthy Ageing, which aligns with the UN 2030 Sustainable Development Goals (SDGs) agenda, provides an ideal platform for action. Across England, initiatives that offer opportunities for synergistic action and mutual benefits - across the life course - include accessible transport, quality housing, well designed outdoor spaces and buildings, social inclusion and participation. Yet, to fully understand their impact we need to critically examine their intersection, and have the collaborative and data infrastructures in place to monitor progress.

This PhD studentship will:

- Explore the intersection between national and local policies designed to build sustainable and equitable places to grow in and grow old in.
- Describe how these policies map on to the SDGs - or vice versa - and where the overlap is
- Map the gaps, accessibility, and quality of available indicators and data disaggregation required to monitor progress across relevant SDGs at national and local levels
- Contribute to the development of a framework for the monitoring and evaluation of sustainable healthy ageing initiatives, and progress towards the SDGs.

Although the project is broadly defined, the specific focus (e.g. housing, social inclusion) will depend on the interest of the successful candidate, and will be decided in collaboration with key stakeholders and members of the public.

Embedded in a truly multidisciplinary team, the PhD will enable the student to develop skills in policy analysis, systematic reviews, mixed methods research, and engagement with diverse communities.

Title:	Listening to all voices in school-based prevention research – exploring involvement and research participation and identifying opportunities for more inclusive research processes.
Supervisory team:	Dr Esther van Sluijs - University of Cambridge Dr Kristin Liabo - University of Exeter Professor Tamsin Ford - University of Cambridge Professor GJ Melendez-Torres - University of Exeter All projects will give the successful candidate the opportunity to link with practice whilst carrying out their PhD project. Further information on this will be updated in due course.
Project code:	Cambridge_3_Sluijs
Contact:	esther.vansluijs@mrc-epid.cam.ac.uk

Project outline

Schools are an important setting for prevention, but the evidence on school-based preventative interventions is mixed. One reason may be the lack of involvement of key stakeholders in the research process. This project aims to identify (1) to what extent school-based preventative research considers the voices of key stakeholders, and (2) whether the research effectively engages those that might benefit most. This PhD studentship will:

- explore the involvement of different actors in school-based preventative efforts (e.g. students, teachers, wider school staff, parents) in the design and evaluation of interventions,
- identify potential inequalities in involvement (e.g. by age, sex or socioeconomic status),
- evaluate the impact of meaningful involvement, and
- generate opportunities for more engaging and inclusive research processes.

The PhD work will be developed in discussion with the successful candidate and through co-creation with stakeholders. The focus may be limited to specific topics (such as obesity or mental health), dependent on interest and data availability. The PhD will explore stakeholder involvement from both the perspective of public involvement and engagement (e.g. identification/design of intervention approaches) and evaluative (e.g. whose voice is heard in evaluations). We envisage the project will involve:

- systematic literature review of school-based preventative interventions to identify mechanisms for meaningful involvement in intervention and project development
- secondary mixed-methods analysis of existing intervention studies to analyse which informants provide data and on whom conclusions about impact and success are based
- primary qualitative study exploring effective involvement with researchers and stakeholders (including young people)

This PhD will enable the student to develop and enhance skills in mixed-methods research, evidence synthesis and dissemination. The studentship is closely linked with the Patient and Public Involvement and Engagement Team in PenARC (NIHR Applied Research Collaboration South West Peninsula), who have a track record of innovative involvement practice.

University of Exeter

The School for Public Health Environments Research at Exeter (SPHERE) leads the University of Exeter's membership in the School for Public Health Research. Based in the College of Medicine and Health, SPHERE is a multidisciplinary hub for expertise in public health research that spans each of the University's six colleges. The College of Medicine and Health has world-leading public health research strengths in child health, evaluation (including public health trials) and evidence synthesis, environment and human health, and social environments of health, as well as a university-wide reputation for data science. Public engagement and involvement is at the core of our work, and we hold several long-running NIHR investments focused on providing responsive, timely and policy-relevant research to shape national decision-making in health.

Located primarily in central Exeter with campuses in Truro and Penryn, the University of Exeter has a strong and vibrant postgraduate community, including dedicated resources and programme for postgraduate research students, offered through the Doctoral College. Within the College of Medicine and Health, tailored and specialised programming for postgraduate research students, such as the Annual Research Event, creates opportunities for close connections and fertilisation of interdisciplinary collaborations. While the College of Medicine and Health is primarily based at the St Luke's campus in Exeter, the European Centre for Environment and Human Health is based in Truro. Postgraduate research students can expect to benefit from supportive and collaborative supervision and careful attention to skills and methodological development.

Project supervisors are always glad to hear from prospective students for more information on specific topics of interest.

Projects led by the University of Exeter:
For more information about each project, please click on the title in the table below;

Project code	Title
Exeter_1_Fleming	The Effects of Local Adaptation Planning for Climate Change on Health and Environment Inequalities
Exeter_2_Smith	Are healthy diets really more expensive than unhealthy diets? Understanding drivers of choice between healthy and unhealthy food and drinks
Exeter_3_Melendez-Torres	Data-enabled cluster-randomised trials for public health improvement

Title:	The Effects of Local Adaptation Planning for Climate Change on Health and Environment Inequalities
Supervisory team:	Professor Lora E Fleming - University of Exeter Professor Sarah Rodgers - LiLaC (University of Liverpool) Associate Professor Emma Bland - University of Exeter Professor Gavin Shaddick - University of Exeter All projects will give the successful candidate the opportunity to link with practice whilst carrying out their PhD project. Further information on this will be updated in due course.
Project code:	Exeter_1_Fleming
Contact:	l.e.fleming@exeter.ac.uk

Project outline

As the impacts of climate change on human health move from the future to the present, local authorities, planners and other institutions need information on the local impacts of climate change to adapt appropriately. In particular, they want to identify both local populations and places disproportionately vulnerable to environmental change, and the extent to which these changes will exacerbate health inequalities.

This PhD will combine the tools and data products from the Turing-sponsored Dynamic Modelling for Environments (**DyME**) Project and University of Exeter-Met Office Joint Centre Climate Impacts Mitigation, Adaption and Resilience (**CLIMAR**) computational framework with the Local Climate Adaptation Tool (**LCAT**) co-created with Cornwall Council Local Authority to examine how health, environment and social inequalities are impacted by climate change adaptation planning at the local level across the UK.

Supervised by an interdisciplinary team, the student will gain skills in big data analysis, community engagement/involvement, and environment and public health. They will work on:

- Co-creation with UK local authorities of the LCAT and its potential applications, with a **Placement** at Cornwall Council;
- Artificial Intelligence (AI) applications to provide and incorporate both local population health/social vulnerability factors and data on environmental change;
- Interpretation and communication of the evidence and action recommendations with local planners;
- Scaling up the implementation of the enhanced LCAT to the national level.

The LCAT supports local decision makers to plan and adapt to climate change; and generates recommendations for appropriate adaptation approaches to support the health and wellbeing of local people. DyME and CLIMAR produce high quality disaggregated information on heat and other environmental exposures, assessing impacts on different population groups at LSOA level. Enhanced by AI, co-creation and iteration, the combined resource will provide unique resources for climate change public health planning essential in developing current and future local adaptation measures.

Title:	Are healthy diets really more expensive than unhealthy diets? Understanding drivers of choice between healthy and unhealthy food and drinks
Supervisory team:	Professor Richard Smith – University of Exeter Professor Emma Frew - PHRESH (University of Birmingham) Dr Laura Cornelsen - LSHTM All projects will give the successful candidate the opportunity to link with practice whilst carrying out their PhD project. Further information on this will be updated.
Project code:	Exeter_2_Smith
Contact:	rich.smith@exeter.ac.uk

Project outline

There is a popular perception, based on some evidence, that healthy food costs more than unhealthy food, and since price is a major determinant of demand, that addressing this price imbalance will rebalance consumption of healthy versus unhealthy foods. This has been the rationale behind the high-profile rise of various 'fat tax' and 'sugar tax' initiatives in recent years. However, when the cost of the whole diet is considered, evidence from Australia found that healthy diets could be 15% less expensive than current (unhealthy) diets. There is concern, also, that taxing specific products does not necessarily lead to overall healthier dietary patterns. These observations cast doubt on the relative importance of price as the critical driver of food choice in the context of the whole diet, and this remains a significant gap in evidence underlying related health and fiscal policies. The assumption from which this study departs is that demand is affected not only by price but also by consumers' knowledge, attitudes and behaviours that are in close inter-play with socio-demographic characteristics, as well as by food availability, access, marketing, food preferences and values, 'taste', food literacy, ability to prepare and store foods, perceptions of 'healthiness' etc.

The aim of this project is to add to the evidence base around food and diet costs and drivers of food choice. Specifically to:

1. Determine the cost of healthy vs unhealthy diets in the UK
2. Investigate the main price and non-price drivers for healthy and unhealthy food demand
3. Analyse those drivers attending to socioeconomic contexts, including the study of the heterogeneity between food markets and socioeconomic and demographic structures
4. Develop mechanisms to turn this knowledge into policies and practices that promote healthier food consumption and thus to promote health, i.e. to generate impact from research.

Methods:

1. The researcher will identify and then adapt existing tools that measure food affordability and availability, for the purposes of measuring food costs for healthy and unhealthy diets.
2. A systematic review of non-price determinants of food choices, and use this to determine follow-up empirical work to explore in more detail heterogeneity in non-price determinants by particular population subgroups.
3. The candidate will try to corroborate those findings through quantitative analysis such as the use of discrete choice experiments.
4. In order to generate impact from this research, work will focus on a case-study of Birmingham whose LA is currently interested in understanding availability and affordability of different types of food that reflect a healthy and sustainable diet.

Title:	Data-enabled cluster-randomised trials for public health improvement
Supervisory team:	Professor G.J. Melendez-Torres - University of Exeter Professor Obi Ukoumunne - University of Exeter Professor Sian Taylor-Phillips - PHRESH (University of Warwick) Professor Chris Bonell - LSHTM Simon Chant - Consultant in Public Health, Devon County Council The student will have access to local authority partners within Birmingham and across the West Midlands and will work as part of a wider team to help inform the development of the Birmingham Food Strategy and the Birmingham Health and Wellbeing strategy.
Project code:	Exeter_3_Melendez-Torres
Contact:	g.j.melendez-torres@exeter.ac.uk

Project outline

Data-enabled trials are trials that make use of routinely collected data to support design, data collection and analysis. Discussion of data-enabled trials in the UK context has focused on the use of electronic health records (Sydes et al., 2021), including in the context of rapid COVID-19 trials (Cake et al., 2021) and trials in health technology assessment funded by NIHR (McKay et al., 2020). However, there is a substantial tradition in fields linked to population health, such as development economics and criminology, of trials using a range of routinely collected data sources, such as health service utilisation or crime statistics, as part of trial design and analysis. Data-enabled trials are especially appealing in population health as they offer the opportunity to assess outcomes over multiple levels (e.g. individual, family, and neighbourhood; or child and school) and longitudinally.

The purpose of this PhD is to investigate how approaches to data-enabled trials from a range of domains and disciplines can be used to inform design, data collection and analysis of cluster-randomised trials in population health. Considering specifically cluster-randomised trials of school-based interventions for mental health and community-based interventions for violence reduction (i.e. trials where schools and communities, respectively, are allocated), this PhD will:

- assess the current use of routinely collected data for design and analysis of trials;
- assess the feasibility of linked data for long-term follow-up of one or more existing cluster randomised trials undertaken by the lead supervisors and, where appropriate, undertake a linked data analysis using routinely collected data;
- use an existing cohort based on linked data (the One Devon dataset) to explore and simulate design and analysis of cluster-randomised trials (including implications for data management and quality assurance); and,
- based on current practice and work undertaken, develop key considerations for future triallists in population health wishing to undertake data-enabled trials.

Fuse- The Centre for Translational Research in Public Health

Fuse is the UKCRC Centre of Excellence for Translational Research in Public Health which offers SPHR a portfolio of high-quality applied public health research spanning the five North East universities (Durham, Newcastle, Northumbria, Sunderland and Teesside). Fuse was funded in 2008 by UKCRC to build capacity in applied public health research with the particular remit of translation. Fuse brought together a unique partnership of public health researchers in the five universities and practice and policy makers from across the North East creating a new environment to support world class research with a focus on translational research. We work in an area of the country with historically high levels of deprivation, social inequality and concomitantly poor health outcomes. Our cross-cutting strategic aim is to achieve better, fairer health across the life course and to conduct applied public health research to support the prevention and public health essential for health and prosperity. Fuse hosts the Equal England Network a community of academics, researchers and practitioners who share a common interest in addressing health and social inequalities, AskFuse an innovative responsive research and evaluation service, a national Embedded Researcher network and NIHR PHIRST North funded Public Health Intervention Responsive Studies Team, which provides timely and accessible research to local authorities that wish to work with us and to have their interventions evaluated.

Over 50 PhD students have been affiliated directly to Fuse over the last ten years in addition to those in each of five Fuse universities. Our postgraduate programme contributes extensively to one of our primary goals of capacity building, as well as helping to promote research excellence by fostering innovative research on the generation and translation of public health research. Fuse has a nominated postgraduate tutor and wherever possible, students are supervised by multidisciplinary supervisory teams from two or more of Fuse's host institutions, as well as involving policy and practice partners in their research. Students have been instrumental in delivering theoretical and methodological advances and, in some cases, achieving tangible impacts. In addition to being part of the NIHR SPHR, Fuse PhD students benefit from excellent training and experience in a vibrant postgraduate research environment both within Fuse and in the post-graduate programme offered by the host university.

Projects led by Fuse:
For more information about each project, please click on the title in the table below;

Project code	Title
Fuse_1_Rodrigues	Increasing timely cervical screening participation in areas of high socioeconomic deprivation.
Fuse _2_Vasiljevic	The impact of nature-based citizen science interventions on mental health and wellbeing: An interdisciplinary mixed-methods study
Fuse_3_Zohoori	Cost-effectiveness and acceptability of milk supplemented with fluoride and/or probiotics in improving the oral health of older adults

Title:	Increasing timely cervical screening participation in areas of high socioeconomic deprivation.
Supervisory team:	Dr Angela Rodrigues – Fuse (Northumbria University) Dr Angela Wearn - Fuse (Newcastle University) Professor Elizabeth Goyder - University of Sheffield Mr Paul Court - Healthworks
Project code:	Fuse_1_Rodrigues
Contact:	angela.rodrigues@northumbria.ac.uk

Project outline

Cancer Research UK estimate that 99.8% of cervical cancer cases are preventable, well-attended routine cervical screening programmes as one of the most effective ways to reduce cervical cancer morbidity and mortality. Despite this, uptake regularly falls short of the NHS 80% target, with a persistent social gradient in uptake (i.e. whereby those living in the most deprived communities are less likely to attend in line with NHS guidelines, in comparison to those in more affluent communities; Douglas et al., 2016).

A recent project conducted within the North East of England explored socioeconomic inequalities in cervical screening participation and how to address barriers most relevant for those living in areas of high deprivation (Wearn, 2020). Experiences and suggestions from the community were combined with a behavioural analysis (using the Behaviour Change Wheel; Michie et al., 2018) to develop a 'toolbox' of evidence-based intervention strategies that could be used to construct novel interventions and/or to refine and strengthen existing provision in keeping with local needs and resources.

This PhD project will appraise existing interventions by exploring effective behaviour change strategies and mechanisms of change associated with cervical screening uptake (e.g. systematic review). We then aim to extend and refine the toolbox of intervention strategies (Wearn, 2020) through a series of stakeholder engagement activities employing diverse validated methods (e.g. Think-aloud protocols, Delphi studies) to build upon stakeholders' existing knowledge, capabilities and experiences, and accurately assess feasibility and acceptability of this approach. We will also combine online and community-based studies to further explore mechanisms of action and associations between co-produced strategies and cervical screening participation.

There will be a strong focus on public involvement throughout, with the inclusion of a reference group of women living in areas of high deprivation to inform and steer project progress and outcomes.

Title:	The impact of nature-based citizen science interventions on mental health and wellbeing: An interdisciplinary mixed-methods study
Supervisory team:	Dr Milica Vasiljevic - Fuse (Durham University) Professor Stephen Willis – Fuse (Durham University) Professor Philip Stephens - Fuse (Durham University) Dr Mark Tarrant - University of Exeter University Mr Jim Murray - Head of Education and Skills, Children and Young People's Services, Durham County Council, Education Durham: Mr Murray is Head of Education and Skills within the Durham County Council's Children and Young People Services.
Project code:	Fuse _2_Vasiljevic
Contact:	milica.vasiljevic@durham.ac.uk

Project outline

Along with the ongoing COVID-19 pandemic, the world is also in the midst of both a global biodiversity crisis and a climate change crisis. 82% of young people prioritise protecting the environment and 83% reported that nature increased their happiness and mental health. Yet, 81% of children spent less time outdoors in 2020 compared to previous years, with low-income households disproportionately affected[1]. In north-east England, children and young people spend less time outdoors than elsewhere in the country and have limited opportunities to access nature[2].

The proposed PhD project will evaluate the effectiveness of participating in citizen science[3] interventions that encourage engaging with the natural world, and learning about local biodiversity. We will assess the impact on mental health and wellbeing amongst children and young people using two biodiversity-focussed participation platforms: MammalWeb (https://www.mammalweb.org/en/) and Nature's Audio (https://www.naturesaudio.org/). We will involve two sets of participants: (1) schoolchildren in an ongoing Group of Anxious Pupils (GAP) initiative; (2) young offenders at Deerbolt Prison YOI. The team have well-established links with both GAP and Deerbolt, and pilot initiatives with both have been established with external funding. The principal test of intervention effectiveness will come from a comparison of (quantitative) outcomes amongst those who receive the intervention and those in a wait-list control group. A mixed methods process evaluation (including interviews, focus groups, surveys, experiments) will assess intervention fidelity and mechanisms of action articulated in the logic model.

Based on pilot data from COVID-19 lockdowns we hypothesise that children and youths who engage with nature via our platforms will report improved mental health and wellbeing compared to those allocated to a wait-list control condition. Based on emerging evidence of the positive impact of group/network interventions, we also hypothesise that those engaging with the intervention in groups will report better mental health and wellbeing than those who engage alone.

References:

[1]. Natural England (2021). *The People and Nature Survey for England: Children's survey (Experimental Statistics).*
[2]. Natural England (2019). *Monitor of Engagement with the Natural Environment - The national survey on people and the natural environment: Children and Young People report*.
[3]. Gura, T. (2013). Citizen science: Amateur experts. *Nature 496,* 259–261.

Title:	Cost-effectiveness and acceptability of milk supplemented with fluoride and/or probiotics in improving the oral health of older adults
Supervisory team:	Professor Vida Zohoori – Fuse (Teesside University) Dr Chris Vernazza – Fuse (Newcastle University) Dr Sheena Ramsay – Fuse (Newcastle University) Dr Angela Bate – Fuse (Northumbria University) Professor Zoe Marshman – University of Sheffield Mr David Landes - Consultant in Dental Public Health, Health Care Public Health Team, NHS England and NHS Improvement - North East.
Project code:	Fuse_3_Zohoori
Contact:	v.zohoori@tees.ac.uk

Project outline

Oral diseases are among the most common and preventable non-communicable diseases in older people worldwide. In the UK, there are currently 12.4 million adults aged ≥65y, a figure projected to increase to 16.5 million by 2039. However, national surveys have reported marked inequalities in oral health in England across this age group both by geography and by deprivation. Aside from the impact of poor oral health on older individuals' ability to eat, speak and socialise, poor oral health is also associated with other health conditions including malnutrition and pneumonia, particularly in settings such as care homes.

This growing problem will consequently have significant financial repercussions for the NHS. There is, therefore, a real and urgent need to find feasible and cost-effective community-based oral health preventive measures for older people. A daily intake of milk supplemented with fluoride and probiotics has been proposed to improve oral and general health in older people residing in the community.

We have received funding for a "pilot cluster-RCT" to explore supplemented-milk as a community-based oral health intervention in care homes (please refer to the last box for more information). This funding provides an opportunity for a linked-PhD project, to

• investigate the acceptability of the intervention by conducting interviews with older adults living in care homes and other key stakeholders (including carers, health and social care services, commissioners, policy makers, etc). Normalisation Process Theory and Diffusion of Innovation Theory will be applied to find out how intervention can be distributed throughout societal groups; and

• in the context of the pilot, explore the feasibility of collection of economic outcome measures related to clinical effectiveness and cost (e.g., urgent medical/dental appointments, frequency of infection, costs of intervention provision), and Oral Health Related Quality of Life Measures (e.g., physical pain, psychological discomfort) using the validated 5-item Oral Health Impact Profile and EQ-5D to inform the full trial.

Imperial College London

Consistently rated amongst the world's best universities, Imperial College London is a science-based institution with a reputation for excellence in public health teaching and research.

The School of Public Health combines world-class research at the local, national and international level, translating science and epidemiology into policy, health education and primary care. Together with its research, teaching and evidence-led policy work, the School of Public Health aims to address the major public health challenges of the 21st century. The School was rated joint top nationally in the 2014 Research Excellence Framework (REF), in the "Public Health, Health Services & Primary Care" Unit of Assessment, with the proportion of world-leading and internationally excellent research combined graded at 91

The PhD student will be based in the School of Public Health (Head, Professor Deborah Ashby) or the Centre for Health Economics and Policy Innovation (Head, Professor Franco Sassi). Both locations have a focus on promoting interdisciplinary research in population health, including on the social determinants, and health interventions in populations, as well as providing substantial training and teaching programmes. There are strong collaborative links with other academic departments of Imperial College and elsewhere in the UK and overseas as well as local and national public health organisations.

Further information is available at:
https://www.imperial.ac.uk/school-public-healthand
https://www.imperial.ac.uk/business-school/faculty-research/research-centres/centre-health-economics-policy-innovation/

Projects led by Imperial College London:
For more information about each project, please click on the title in the table below;

Project code	Title
Imperial_1_Hargreaves	Using individually-linked, multi-sectoral datasets to investigate health needs and outcomes of Children Looked After
Imperial_2_Laverty	Synergistic impacts of transport interventions on travel behaviours and health
Imperial_3_Millett	Identifying dual benefit dietary changes under different trade and land use scenarios in the UK

Title:	Using individually-linked, multi-sectoral datasets to investigate health needs and outcomes of Children Looked After
Supervisory team:	Dr Dougal Hargreaves - Imperial College London Professor David Taylor-Robinson - LiLaC (University of Liverpool) All projects will give the successful candidate the opportunity to link with practice whilst carrying out their PhD project. Further information on this will be updated in due course.
Project code:	Imperial_1_Hargreaves
Contact:	d.hargreaves@imperial.ac.uk

Project outline

There are growing numbers of Children Looked After (CLA) in England, with increasing inequalities between more and less deprived areas. These trends are likely to be driven by social determinants, reduced spending on children's services, and possibly higher thresholds for early intervention and support, but previous research has been limited by lack of individual-level data.

Individual-level analyses are needed to investigate how health and other needs interact in trajectories to becoming a CLA, and the extent to which earlier intervention could improve outcomes.

Datasets

- Health and Local Authority datasets on children and young people in London
- English national datasets on education and social care (National Pupil Database), hospital care (Hospital Episode Statistics) and primary care (Clinical Practice Research Datalink)

Methods

- Develop and secure access to individually-linked, multi-sectoral datasets at local, regional and national level.
- Use a range of appropriate quantitative statistical methods to analyse
    i) trajectories before becoming CLA – including health needs of children and their families; education history; and contact with social care
    ii) subsequent trajectories of children referred to social care but who did not meet the threshold for further action
    iii) healthcare activity and mental/physical health outcomes among CLA
    iv) links between interventions by Local Authority and/or health professionals and subsequent outcomes
- If desired, placement in a Local Authority Children's Services team and/or national policy team can be included

Outputs

The project will use unique, new datasets to investigate the health needs and outcomes of CLA using individually-linked data from social care, education and health systems. This is a superb opportunity for a PhD student to develop expertise in linked multi-sectoral datasets and address importance policy questions relating to children's social care, education and health services.

Title:	Synergistic impacts of transport interventions on travel behaviours and health
Supervisory team:	Dr Anthony Laverty - Imperial College London Dr Bethan Davies - Imperial College London Dr Sean Beevers - Imperial College London Dr Oyinlola Oyebode - University of Warwick Dr Suzanne Bartington - PHRESH (University of Birmingham) All projects will give the successful candidate the opportunity to link with practice whilst carrying out their PhD project. Further information on this will be updated in due course.
Project code:	Imperial_2_Laverty
Contact:	a.laverty@imperial.ac.uk

Project outline

The human and environmental impacts of transport are now well recognised and there has been an increase in policies implemented to change transport choices. This includes the implementation of congestion charges, Low Traffic Neighbourhoods, Clean Air Zones and reallocation of road space for active travel. Birmingham has recently approved an ambitious new Transport Plan which includes a range of measures in line with their ambition to be a carbon neutral city by 2030. London has a range of interventions planned or underway, including the recent introduction of the Ultra-Low Emission Zone (ULEZ).

Research is underway at both the University of Birmingham and Imperial College London to examine the impacts of Clean Air Zones nationally and this project will advance our understanding by examining synergistic impacts of this range of transport policies being implemented in Birmingham and London. Imperial is also undertaking online panel surveys of travel behaviour as part of an SPHR-funded project on Road User Charging which provide the opportunity to assess behaviour changes.

This project will:

- Use online panel data and travel survey data to assess changes in transport use among residents of Birmingham as the Birmingham Transport Plan is implemented.
- Determine transport mode change elasticities in areas with individual and a combination of interventions in London and Birmingham.
- Use data from the Small Area Health Statistics Unit at Imperial and West Midlands Air Quality Improvement Programme to assess changes in health outcomes including Road Traffic Injuries, air pollution exposure, physical activity and premature mortality and economic costs (from the Air Quality Lifecourse Assessment Tool).
- Compare health benefits arising from transport interventions implemented in a range of urban contexts.

Title:	Identifying dual benefit dietary changes under different trade and land use scenarios in the UK
Supervisory team:	Professor Christopher Millett - Imperial College London Dr Jem Woods - Imperial College London Dr Paraskevi Seferidi - Imperial College London Dr Pauline Scheelbeek - LSHTM Dr Rosemary Green - LSHTM All projects will give the successful candidate the opportunity to link with practice whilst carrying out their PhD project. Further information on this will be updated in due course.
Project code:	Imperial_3_Millett
Contact:	c.millett@imperial.ac.uk

Project outline

The UK government has set the ambitious target to reach net zero by 2050. Changes in the food system – currently responsible for 20-40% of all anthropogenic carbon emissions – will be essential in achieving this goal. Due to exiting the EU, the UK has been tasked to set its own agricultural and trade policies; presenting a major opportunity to include sustainability at their core. The 2021 National Food Strategy provides some practical guidance and recommendations on how to develop such policies that contribute to achieving more sustainable and resilient food systems. The Strategy recommends changes in agricultural land use, using the "three compartment model", which distributes land use between low-yielding agroecological farms, high-yielding farms, and wildlife land, to maximise food production while maintaining biodiversity. It also warns against "outsourcing" (through imports) carbon emissions that are often hidden in the reported UK food system carbon emissions which are based on UK production alone. It is crucial that post-Brexit trade agreements hold trade partners to the same environmental standards as those held domestically and ensure that environmental goals are met at a global level. Overall, UK trade and agricultural policies should have multiple benefits for both public health and the environment.

In this project, you will:

1. Estimate the environmental impacts of different scenarios of agricultural land use change, including implementation of the "three compartment model" as suggested in the National Food Strategy, as well as trade policy scenarios, using the UK 2050 calculator.
2. Estimate the corresponding health impacts of different scenarios of agricultural land use and trade policy scenarios, by extending the UK 2050 calculator to incorporate health outcomes.
3. Identify targets of current UK food policies (health, sustainability, or co-benefit targets) and opportunities to integrate the co-benefit agenda in trade and agricultural policymaking, using policy analysis and stakeholder interviews.

LiLaC (Liverpool and Lancaster Universities Collaboration)

LiLaC is the Liverpool and Lancaster Universities Collaboration for Public Health Research. It was established in 2011 building on more than a decade of collaboration between health researchers at two research intensive universities in the North West of England. We are a member of the NIHR School for Public Health Research and contribute to the NIHR Applied Research Collaboration for the North West Coast and the NIHR Research Design Service North West (RDS NW).

Our goal is to work with public, community, policy and professional partners to better understand 'what works' to improve health and wellbeing and reduce the health inequalities experienced by disadvantaged children and adults. Our research findings are influencing policies and other actions to reduce inequalities in health locally, nationally and globally. We are also involved in a range of activities aimed at building capacity for the conduct and uptake of research to inform policy and other action on the structural determinants of health inequalities.

Our Approach
Firstly, the right of the public to be involved in research and decisions that affect their lives, is central. Extending our existing public involvement activities, we create opportunities for the public, including children, to work as partners with researchers and organisations to identify priorities, design and deliver research and co-produce evidence-based policies and other action. Research has shown that if organisations such as councils commit to promoting these rights, solutions are more appropriate, accessible and effective.

Secondly, LiLaC is uniquely multi-disciplinary, drawing members from across both universities, encompassing: clinical, social, spatial and environmental epidemiologists; economists in public health, health care, labour, education and finance; and experts in statistics, health informatics, computational science and implementation science. We also include geographers, sociologists, anthropologists, social psychologists, policy analysts, political scientists, linguists, lawyers, historians and planners and designers.

Thirdly, we have developed unique resources that provide an in-depth understanding of the changing conditions in places that influence health. These include a long-term programme of supporting and training residents in specific communities as partners in our research, digital online resources that enable members of the public to record their experiences and linked datasets that enable the health impact of social, environmental and economic initiatives to be evaluated.

Fourthly, our research has shown that addressing the complex problem of health inequalities, requires multiple perspectives. LiLaC brings together researchers who have developed ways of jointly applying their wide-ranging expertise, alongside the expertise of the public and professionals. We work with these diverse partners to identify practical solutions to challenging problems in order to improve the health of populations and reduce health inequalities.

Projects led by LiLaC:
For more information about each project, please click on the title in the table below;

Project code	Title
LiLaC_1_Hollingsworth	Resilience, health, and economic shocks: how is a health shock different to an economic shock, and how can we be better prepared.
LiLaC_2_Popay	Reducing health inequalities through embedding community participation and co-production in public health systems
LiLaC_3_Rodgers	Longitudinal analysis of the impact of Green and Blue Spaces on health

Title:	Resilience, health, and economic shocks: how is a health shock different to an economic shock, and how can we be better prepared.
Supervisory team:	Professor Bruce Hollingsworth - LiLaC (Lancaster University) Dr Eugenio Zucchelli - LiLaC (Lancaster University) Dr Emma Halliday - (LiLaC) Professor John Wildman – Fuse Dr Sakthi Karunanithi - Director of Public Health, Lancashire County Council
Project code:	LiLaC_1_Hollingsworth
Contact:	bruce.hollingsworth@lancaster.ac.uk

Project outline

There has been a lot of research concerning economic shocks, the relationship to health (physical and mental) and there is an emerging literature on resilience and inequalities.

The aim of this PhD is to explore the impact of a health shock, specifically the COVID-19 pandemic, and the consequent economic impact in terms of which groups in society are more resilient. What can we learn in policy terms as to where to invest resources to build resilience to future health shocks, and which groups need more resources to recover in the aftermath.

Proposed design and methods

This study would make use of secondary data, including Understanding Society, and would entail:

1. Literature review of current evidence on the economic shocks and resilience.

2. Quantitative analysis using data from Understanding Society, and methods such as matching and instrumental variable modelling to undertake investigation of the before and after effects of the pandemic in terms of which groups were able to react and sustain health, and which groups have been able to recover faster. Data are available to cover this period and the variables, and we have full access.

3. Particular emphasis will be on areas of inequality, for example we will look at the relationship between health and education before during and after the pandemic, and on families and young peoples health and education outcomes.

Support/development opportunities for candidate

The student will develop quantitative and economic skills across the LiLac team, and will be supported by the Health Economics at Lancaster team, a cross Faculty team drawing upon expertise in Health Research and Economics.

Title:	Reducing health inequalities through embedding community participation and co-production in public health systems
Supervisory team:	Professor Jennie Popay - LiLaC (Lancaster University) Professor Leon Cruickshank - LiLaC (Lancaster University) Dr Louise LaFortune - University of Cambridge Dr Dalya Marks - LSHTM Andy Knox - GP, Director of Population Health & Engagement Morecambe Bay integrated care partnership (ICP) This projects has links with Cumbria Council for Voluntary Service (CVS) and Lancaster CVS, both of which are undertaking work on action to reduce health inequalities.
Project code:	LiLaC_2_Popay
Contact:	j.popay@lancaster.ac.uk

Project outline

There is an urgent need to embed participation and promote real empowerment with communities as a central component of developing equitable public health systems. Research is rapidly accumulating on the benefits in terms of the acceptability and uptake of services and positive social and health impacts of community participation in decision making. There is a large body of research on specific co-production initiatives but relatively little on co-production at a systems level.

SPHR has undertaken innovative research on community-centred approaches to local action on health equity and pioneered using complex systems perspectives in evaluation. The proposed studentship would forge theoretical and empirical links across these areas, conducting in-depth qualitative research on co-production of action on health inequalities between the wider public health workforce and lay communities from a complex systems perspective.

This is one of two PhD studentships to provide the necessary lens on system relationships, one will be embedded within the Lancashire & South Cumbria ICS and the other in a 3rd sector organisation. As participant observers the students will conduct participative action research with a group of key stakeholders including professional staff and members of relevant communities of interest/place in each organisational context. The interactive PAR process would involve:

1. Developing a shared understanding of barriers and enablers to achieving inclusive community involvement in designing action to reduce health inequalities;
2. Using creative design approaches to develop 'interventions' to address some of the issues identified (e.g. service co-design; policy equity audit)
3. Implementing interventions and evaluating the process and impact
4. Reflecting on the learning and deciding on next steps

Data collection and analysis will involve observational notes, documentary analysis, transcripts of group discussion and mechanisms to monitor intervention impacts. The students would be based at Lancaster University and part of a diverse disciplinary group of public health researchers across LiLaC.

Title:	Longitudinal analysis of the impact of Green and Blue Spaces on health
Supervisory team:	Dr Rebecca Geary - LiLaC (University of Liverpool) Dr Ruwanthi Kolamunnage-Dona - LiLaC (University of Liverpool) Professor Sarah Rodgers - LiLaC (University of Liverpool) Professor Lora E Fleming - University of Exeter This project links with Green Blue Spaces study team. All projects will give the successful candidate the opportunity to link with practice whilst carrying out their PhD project. Further information on this will be updated in due course.
Project code:	LiLaC_3_Rodgers
Contact:	sarah.rodgers@liverpool.ac.uk

Project outline

As part of an NIHR Public Health Research project, we created a large “Green and Blue Spaces” dataset with 98 million environmental exposures and other observations for more than a million adults through time (2009-2018).

We established an outcome of common mental health disorders and used it to answer several important research questions about the impact of GBS on mental health. We linked to these data a cross-sectional dataset from the National Survey for Wales, containing responses from individuals on their leisure visits to outdoor spaces, and detailed wellbeing and household deprivation. We found distinct patterns by deprivation that are important to disseminate widely.

This dataset is suitable to answer several additional research questions.The student will extend the dataset to include children, for example, as well as additional health outcomes, or they could focus on e.g. pregnant women, with new data linkage enabling assessment of the impact of GBS during pregnancy on maternal health (e.g. perinatal diabetes, mental health) and infant health, investigating how the strength of any associations differ by small area deprivation, and household material deprivation for the survey subsample. This will ensure the inequitable health impacts of these health promoting spaces is evidenced and disseminated widely.

We anticipate methods used will include extraction of outcome(s) using routine data, according to validated algorithms scoped from existing literature, and “data wrangling” skills to extend the dataset to include children, to prime the student to work on large, linked population health databanks. This would suit a student interested in developing expertise on the impact of in/equitable access to health promoting environments on different health outcomes. The student would be part of the LiLaC SPHR, and affiliated with the Applied Research Collaboration NWC as part of a large and vibrant academic community at University of Liverpool and across the northwest coast.

London School of Hygiene & Tropical Medicine (LSHTM)

LSHTM is renowned for its research, postgraduate studies and continuing education in public and global health. We have an annual research income of more than £124 million. The School performs well in various UK and global university league tables. In the US News Best Global Universities Ranking 2018, we are ranked sixth in the world in the fields of social sciences and public health. The School is ranked 25th for medicine in the 2017 QS World University Rankings. The inaugural Center for World University Rankings by Subject in 2017 placed the School first in the world for tropical medicine research, second for parasitology and seventh for infectious diseases, public, environment and occupational health, and social sciences and biomedical. The School was named University of the Year 2016 by Times Higher Education and awarded a Queen's Anniversary Prize for Higher and Further Education in 2017 in recognition of our response to the Ebola epidemic. The School for Public Health Research at LSHTM includes an exciting and supportive team of widely recognised senior researchers and early-mid career researchers (as well as access to a much wider network of research leaders and practitioners within and beyond LSHTM.

Students appointed to LSHTM through this scheme would sit within LSHTM's Faculty of Public Health and Policy. We are looking for excellent students with knowledge of, and interest in, applied public health research. To be appointable, students must meet LSHTM's minimum entrance requirements (see admissions policy here: https://www.lshtm.ac.uk/sites/default/files/PGR_Admissions_Policy.pdf).

If applying, pay close attention to each proposal outline and provide details of experience and skillsets relevant to that proposal. One LSHTM-led proposal (Food systems - agent based modelling) requires excellent quantitative skills, whilst the other three involve more mixed methods (including qualitative) approaches, and evidence synthesis skills.

Projects led by LSHTM:
For more information about each project, please click on the title in the table below;

Project code	Title
LSHTM_1_Bonell	Implementation of relationships, sex and health education in English schools
LSHTM_2_Knai	Partnerships to improve diets in England at the local level
LSHTM_3_Scheelbeek	The role of app-based tools in nudging behaviour change towards more sustainable and healthier diets

NIHR | School for Public Health Research

Title:	Implementation of relationships, sex and health education in English schools
Supervisory team:	Professor Chris Bonell - LSHTM Dr Ruth Ponsford - LSHTM Dr Judi Kidger - University of Bristol Lucy Emmerson, CEO, Sex Education Forum
Project code:	LSHTM_1_Bonell
Contact:	chris.bonell@lshtm.ac.uk

Project outline

This studentship will seek to understand the factors that are associated with better implementation of relationship and sexual health education (RSHE) in schools in England. RSHE has recently become a statutory requirement for all schools in England to provide. The curriculum addresses a broad range of RSHE topics. It is unclear yet how well the statutory curriculum will be implemented or what factors will affect this.

There has been extensive examination of the factors affecting implementation of health interventions in schools. This has tended to focus on factors concerning local capacity and the acceptability and workability of interventions. While such factors may be important in the case of RSHE, other topic specific factors may also come into play. Such factors might include the local acceptability of intervention components addressing topics which are contentious for some, such as sexuality and gender identity, contraception and abortion, as well as gender based harassment and abuse. Whether implementation occurs may be an outcome of negotiations and conflict between different cultural groups within a school community.

The studentship will consist of a review of the existing evidence on the implementation of RSHE and other school-based health interventions in schools in high-income settings. This would be followed by secondary analysis of data from the intervention and control schools of the randomised controlled trial of Positive Choices, funded by NIHR. Positive Choices is a whole-school intervention to promote sexual health and reduce health inequalities in English secondary schools. There are 50 schools participating in the study, of which 25 will act as controls. This studentship will take a mixed methods approach to understand the factors that promote or hinder implementation of statutory RSHE, both in terms of the Positive Choices intervention but also of 'treatment as usual' RSHE delivered in control schools. This extends the focus of the trial itself by exploring the broader factors affecting implementation and by exploring the implementation of RSHE treatment as usual in addition to the intervention.

Title:	Partnerships to improve diets in England at the local level
Supervisory team:	Professor Cécile Knai - LSHTM Professor Mark Petticrew – LSHTM Dr Elizabeth McGill - LSHTM Professor Chris Millett – Imperial Claire Bennett – Senior public health manager, Royal Borough of Greenwich (TBC)
Project code:	LSHTM_2_Knai
Contact:	cecile.knai@lshtm.ac.uk

Project outline

Diet-related non-communicable diseases (NCDs) continue as the leading cause of death and disability in the UK. It is in this context that population interventions to promote diets have been implemented for the whole population, at local and national levels. The most effective interventions with most long-term promise are those targeting upstream determinants of poor diet, aiming to improve conditions and opportunities, rather than focusing on individual change. They also employ regulatory approaches (where action is required by government and regulated by public authorities), rather than food industry led voluntary or self-regulatory approaches or collaborations such as public-private partnerships: existing evaluations have shown limited positive impact of self regulation and PPPs in diet improvement. Yet recent qualitative research with experts indicates that for both the food industry and government, *"the big partnerships [between industry and government] have been the gold standard for many years"* with "*the question of having a mandatory system […] not even discussed*", all the while acknowledging that these are *"not working"* to meet public health goals.

This doctoral study will investigate partnerships and voluntary agreements in policy to improve diet, with a focus on England and the local context, via

1) a retrospective documentary/stakeholder analysis of how partnership working has evolved / has established itself in policy in England,

2) a critical evaluation of the literature, using critical interpretive synthesis, building from a database collected in the context of an ongoing NIHR funded evidence synthesis of policy mechanisms (voluntary to mandatory) for diet improvement (PI Knai), and

3) the evaluation of an existing public private partnership to improve diet in England at the local level, assessing policy processes, effectiveness against stated objectives, and changes over time, using a systems approach for local policy evaluation (McGill 2020) including documentary analysis, interviews and observations.

Title:	The role of app-based tools in nudging behaviour change towards more sustainable and healthier diets
Supervisory team:	Dr Pauline Scheelbeek - LSHTM Dr Samantha Caton - University of Sheffield Dr Rosemary Green – LSHTM Revati Phalkey - UKHSA
Project code:	LSHTM_3_Scheelbeek
Contact:	Pauline.Scheelbeek@lshtm.ac.uk

Project outline

Food system transformations will be crucial to meet UK health and environmental targets, and these will necessarily include individual behaviour change as well as structural changes to food production and availability. Research on what "sustainable and healthy" diets comprise has accumulated rapidly, and for the UK this typically involves a reduction in animal sourced foods (ASF) and adherence to diets that are predominantly plant-based. While interest in reducing consumption of ASF has accelerated over the past years in the UK, this has not led to similar levels of dietary change.

The student will investigate to what extent app-based tools are successful/effective in accelerating dietary change towards more healthy and sustainable diets, including increased consumption of fruits, vegetables and other plant-based foods, reduced ASF-consumption, and reduced food waste at household level. They will study uptake/use and effectiveness of apps for behaviour change - across different socio-economic, geographical and societal groups and identify leverage points to reduce UK's inequalities in access to and consumption of healthy and sustainable foods.

The student will generate crucial evidence that will inform UK national/local strategies aiming to accelerate dietary change towards healthy and sustainable diets.

The student will apply four main methods:

- The student will bring together available evidence on application stimulated dietary behaviour change, using systematic evidence synthesis methods
- The student will collect primary data using online tools and recruitment from large employers (e.g. council offices/civil service) to measure app uptake/use, dietary change and motivations for change – and their socio-economical determinants.
- The student will conduct a stepped wedge (cross-over) trial among individuals not currently using food-related apps and assess their dietary habits before and after downloading one or more apps.
- The student will model the potential health and environmental gains if these behaviour changes could be scaled up to national level.

PHRESH (Universities of Birmingham, Warwick and Keele collaboration)

The PHRESH Consortium, including the three leading universities (Birmingham, Warwick and Keele) in the West Midlands, provides a highly supportive public health research and training environment. Our 70 key researchers, from a range of professional and disciplinary backgrounds spanning sciences, economics, education, geography and business, are each linked to a wider network and teams actively engaged in applied public health research and capacity building. Underpinned by the fundamental principles of inclusivity, equality and social justice, our collaborative research teams address the breadth of public health challenges using the scientific methods which can be used to work with communities, key agencies and local government to develop solutions. In the last 5-years, we have received over £170m from a range of UK funders to deliver research. This has led to >1,700 scientific papers and reports which have contributed to changes in policy to improve people's health and wellbeing.

We work in a region with a relatively highly deprived, superdiverse and high ethnic mix population, and geographic diversity, containing the largest UK urban conurbation after Greater London. This allows us to undertake transformative public health research, informed by, and with our local communities.

Embedded within our consortium, we have established facilities and infrastructure to support flexible and blended training in public health at all levels. Over the last 5-years, we have trained >180 postgraduate research students in public health
and applied health research and 40 funded fellowships were awarded. Our doctoral students will be part of a vibrant postgraduate research environment, with access to a range of training modules and courses tailored to their needs and their specific area of research. In addition to supervision by a team of leading academics, our doctoral students will become members of the Graduate School within the host institution, which offers academic mentorship, generic training and skills development, opportunities for networking and academic presentation, physical state-of-the art facilities to support learning, as well as careers, employability and wellbeing advice.

All potential students are encouraged to contact potential supervisors for more information on specific projects and to find out more about the PhD programme.

Projects led by PHRESH:
For more information about each project, please click on the title in the table below;

Project code	Title
PHRESH_1_ Frew	Decision-analytic modelling to estimate the economic implications of population obesity and preventative actions on local authority budgets
PHRESH_2_Oyebode	Social networks, mental wellbeing and behavioural risk-taking in adolescents
PHRESH_3_Stathi	Maximising the impact of an effective and cost-effective active ageing intervention:The Retirement in ACTion (REACT) digital-hybrid programme.

Title:	Decision-analytic modelling to estimate the economic implications of population obesity and preventative actions on local authority budgets
Supervisory team:	Professor Emma Frew – PHRESH (University of Birmingham) Dr Paolo Candio - PHRESH (University of Birmingham) Professor Alan Brennan – University of Sheffield Dr Penny Breeze – University of Sheffield Dr Hazel Squires – University of Sheffield Dr Chloe Thomas – University of Sheffield Dr Sarah Bates – University of Sheffield The student will also have direct access to our established LA-partners in the West Midlands including Coventry City Council active travel team; and Birmingham City Council public health team.
Project code:	PHRESH_1_ Frew
Contact:	e.frew@bham.ac.uk

Project outline

Background
Obesity is a serious condition that increases the risk of chronic disease, impairs quality of life, wellbeing, and productivity. It is most prevalent among socio-economically deprived groups and is a major cause of inequalities. In England, local authorities (LAs) are responsible for action to tackle obesity and although there have been valuable research efforts to estimate the economic burden of obesity, these studies often take a narrow, healthcare perspective and are conducted at a national macro-level producing values that do not translate well to LA budgets.

Aim
To work closely with LA's located in the West Midlands to develop an economic model that simulates the societal costs of obesity at a LA-level and acts as a decision-making tool to enable investment decisions on preventative actions.

Outline of methods
The first phase of the PhD will be a systematic literature review with the aim of critically appraising existing economic models. Then, in collaboration with our LA-partners, a model will be adapted or developed to reflect the English LA context and parameterised using local population data – obtained from a variety of sources. One such potential model is the SPHR Diabetes Prevention model, an individual patient-level model that can translate changes to adult BMI trajectories to estimate the long-term health, NHS cost and equity impacts of public health policies. This model will be assessed for extension to incorporate a wider set of costs relevant to LA's associated with changes to adult BMI trajectories. Forecast techniques will be applied to predict future changes and resulting impact on LA budgets. In the last phase, the student will liaise closely with the LA-partners to model the impact of selected interventions. Scenario analyses will enable the understanding of the economic implications of obesity prevention interventions and track impact on LA-wide costs, health and wellbeing, and inequalities.

Title:	Social networks, mental wellbeing and behavioural risk-taking in adolescents
Supervisory team:	Dr Oyinlola Oyebode – PHRESH (University of Warwick) Dr Stephanie Burnett Heyes - PHRESH (University of Birmingham) Dr Eszter Vamos - Imperial College London Professor GJ Melendez-Torres - University of Exeter All projects will give the successful candidate the opportunity to link with practice whilst carrying out their PhD project. For this project, this is most likely to be with the Office for Health Improvement and Disparities at the Department of Health, but with the possibility of local authority or education links depending on the interests of the student.
Project code:	PHRESH_2_Oyebode
Contact:	O.R.O.Oyebode@warwick.ac.uk

Project outline

Topic: This project aims to explore the complex interplay between social context (e.g. group norms, peer influence, social support), mental wellbeing and behaviour. It is specifically focussed on adolescence, as a time when many health risk behaviours emerge.

Methods: First the student will conduct literature review (perhaps including a systematic review) to synthesise existing evidence on social networks, mental health and health risk behaviours in adolescence which will inform design of the quantitative and qualitative components of the PhD.

Secondly, the student will design a quantitative study to collect data from ~240 adolescents from 4-10 West Midlands schools. Baseline data collection will include participant's social networks, socio-demographic data, peer group norms, diet/physical activity, substance use (alcohol, nicotine), addictive behaviour (gambling), life events and mental health/wellbeing. This will be followed by high temporal density data collection for which participants rate briefer, targeted versions of social, behavioural and wellbeing variables repeatedly over time (e.g. 2x/week for 4 months), with sampling frequency/duration determined by the student informed by literature and analysis/simulation of comparable existing datasets. Advanced analysis methods (e.g. time-series analysis, ERGM/RSIENA social network analysis) will be used to explore the temporal structure of each data stream, interrelationships between them and the role of baseline variables. For example, does a shift to unstable mental health precipitate substance use, or vice versa? How do interactions with friends buffer or exacerbate risk taking, and what is the role of peer group norms?

Finally, participants who show distinct patterns will be invited for qualitative interview to illuminate causes, mechanisms and mediators beyond the scope of the quantitative data collection.

Ultimately, this PhD will identify factors and subgroups to target (e.g. through educational interventions to shift norms), and periods of acutely heightened risk to inform how/when we should intervene to improve adolescent current and future health.

Title:	Maximising the impact of an effective and cost-effective active ageing intervention: The Retirement in ACTion (REACT) digital-hybrid programme.
Supervisory team:	**Supervisory Team:** Professor Afroditi Stathi - PHRESH (University of Birmingham) Professor Colin Greaves - PHRESH (University of Birmingham) Dr Vicky Goodyear - PHRESH (University of Birmingham) Professor Suzanne Moffatt - Fuse (Newcastle University) Dr Peter Ladlow - Higher Scientific Officer, Academic Department of Military Rehabilitation, Ministry of Defense Professor Kate Walters – University College London
Project code:	PHRESH_3_Stathi
Contact:	A.Stathi@bham.ac.uk

Project outline

Background: Mobility-related disability affects 30% of pension age adults and the distribution is highly socially patterned. Mobility-related disability significantly reduces independence and quality of life in older adults and generates high health and social care costs. Identifying programmes that can delay the ageing-related progression from physical frailty to dependence/disability is a public health priority. The World Health Organisation suggests that digital interventions are a promising global approach for health promotion and prevention. However, there is limited evidence on how effective offline interventions can be adapted into effective digital formats, particularly for older adults.

Building on solid scientific evidence: The REACT RCT (NIHR-PHR 13/164/51) provides robust evidence that a one-year exercise and behaviour-maintenance intervention can reduce the ageing-related decline in physical functioning, with clinically meaningful benefits over at least 24 months. Adapting the REACT programme for delivery in a hybrid mode (initial face-to-face training followed by online group exercise classes) will, by reducing costs, allow wider-scale implementation. However, in doing this it is very important to avoid inequalities that may be generated by digital interventions.

Proposed PhD programme: The successful candidate will develop skills in public health research/practice, person-centred intervention development and implementation, public engagement and related research methods, including secondments at exercise and health organisations. The candidate will be supervised by experts in development and evaluation of complex interventions (Stathi; Greaves, Moffatt) and online exercise promotion (Greaves, Goodyear). The thesis will comprise:

1. **Systematic review** of barriers to and enablers of engagement in digital active ageing interventions.
2. **Co-development** of the digital-hybrid REACT programme with service providers and service users.
3. **Feasibility study** of the digital hybrid REACT programme with mixed-methods process evaluation.

Public Health Impact: Adapting REACT into a digital hybrid version will facilitate scale-up of this effective active ageing intervention to a national level whilst minimising health inequalities.

University of Sheffield

The University of Sheffield was established with the aim of improving the wellbeing of our local population. Our School of Health and Related Research (ScHARR) - a vibrant, multidisciplinary department of over 300 staff and over 100 postgraduate research students - leads the University's applied public health portfolio. We work collaboratively across faculties, particularly with colleagues in the Faculty of Social Science, to conduct world-class research, training and knowledge translation across a range of public health issues. Our core mission is to work in partnership with local people, policy-makers and practitioners to deliver research which has an impact on the health of the population and reduces inequality.

We bring a unique perspective from working in a city with diverse communities and stark health inequalities. Regionally, our work extends across both the Yorkshire and Humber and the East Midlands, covering a wide spectrum of urban and rural populations, from the affluent to the very deprived.

Information about our research themes and current research related to the PhD topics on offer is available from our webpages:

https://www.sheffield.ac.uk/scharr/sections/ph
https://www.sheffield.ac.uk/scharr/sections/ph/research/index

As a diverse and friendly academic community, we also offer an excellent training environment, with access to a wide range of both generic and individualised research skills training, depending on the needs of the students and their PhD field. We encourage our doctoral students develop their topic and methodological expertise and to take advantage of our diverse collaborative programmes, including the School of Public Health Research, the Healthy Lifespan Institute and others such as the National Centre for Sport & Exercise Medicine, as well as to local, regional and national networks of practitioners and community organisations. Sheffield is a fabulous, friendly place to live, with a vibrant cultural life and the Peak District national park on its doorstep.

Potential applicants are encouraged to contact potential supervisors for more information on specific topics of interest.

Projects led by the University of Sheffield:
For more information about each project, please click on the title in the table below;

Project code	Title
Sheffield_1_Hughes	Understanding children's pathways from social care to adolescent health: integrating public services data to transform preventive support
Sheffield_2_Kersbergen	Understanding how being part of a digital sober community may affect drinking and mental health
Sheffield_3_Powell	Media coverage of health inequalities in a post-pandemic world

Title:	Understanding children's pathways from social care to adolescent health: integrating public services data to transform preventive support
Supervisory team:	Professor Nathan Hughes - University of Sheffield Professor Matt Bennett - University of Sheffield Professor Jon Glasby – PHRESH (University of Birmingham) Detective Chief Inspector Lewis Prescott-Mayling, Lead for Data and Targeting, Thames Valley Violence Reduction Unit, and Jill Dando Institute at University College London
Project code:	Sheffield_1_Hughes
Contact:	nathan.hughes@sheffield.ac.uk

Project outline

This project provides a unique opportunity to both learn how to apply cutting-edge data analytics to understand a key public health issue, and work with service managers and commissioners to ensure research evidence can directly inform local service provision.

The project will explore how the engagement in social care services of children and their families – including safeguarding and child protection, disability care, family support, and youth services – can predict health outcomes in adolescence. The 'Thames Valley Together' initiative provides a unique opportunity for such analysis, integrating data from health, social care, and numerous other services at the child and family level, for the entire population of the Thames Valley area. This offers a micro-longitudinal approach to model patterns in service use, experiences and outcomes across entire populations at individual-level over the life course.

Furthermore, TVT's strategic board, with representation from all key agencies, provides means to effectively interpret our findings to achieve coordinated reform of service planning, commissioning and targeting. The student will engage directly with senior managers and commissioners to identify: optimal points of intervention to prevent future outcome; the likely levels of need and uptake required at each intercept point; the costs implied; and the success rate needed through that intervention to ensure suitable (cost) effectiveness. This provides an exciting opportunity to learn how research, and data science in particular, can be translated into local public health responses.

Title:	Understanding how being part of a digital sober community may affect drinking and mental health
Supervisory team:	Dr Inge Kersbergen - University of Sheffield Professor Matt Field - University of Sheffield Dr Anna Lavis - PHRESH (University of Birmingham) Dr Rachel Winter - PHRESH (University of Birmingham) The successful candidate will have the opportunity to directly link in with policy and practice through a placement with Alcohol Change UK (a leading UK alcohol charity). The supervisory team will also provide links to other alcohol and mental health charities, digital sober communities, and public bodies.
Project code:	Sheffield_2_Kersbergen
Contact:	i.kersbergen@sheffield.ac.uk

Project outline

Alcohol negatively affects drinkers' physical and mental health and mental health difficulties are associated with harmful alcohol consumption. In recent years, there has been a rise in digital sober communities (DSCs) of various formats (e.g., free or subscription based; embedded within social media platforms or on bespoke platforms; anonymous or using real names on private or public platforms; providing expert advice or peer support). Engagement with DSCs is associated with improved drinking outcomes and wellbeing, but studies have tended to focus on a few communities that target the general population. DSCs could reduce alcohol-related harm and improve mental health as they serve a range of drinkers and may support vulnerable groups that are less likely to access traditional alcohol interventions (i.e., sexual and ethnic minorities and people with disabilities). It is unclear how different DSC types promote reductions in alcohol consumption and improved mental health and to what extent different vulnerable groups might benefit.

This project aims to understand how DSCs influence alcohol consumption and mental health outcomes among members, focussing on vulnerable groups (sexual and ethnic minorities and people with disabilities). There will be three main stages to the PhD project. First, using systematic search strategies and content analysis, the student will identify what DSCs are accessible to UK members, analyse their websites and create a taxonomy of DSC types. Second, the student will use online ethnography on a subset of DSCs to understand how different communities provide support and how this might improve alcohol consumption and mental health. Finally, using quantitative survey methods, the student will investigate how community engagement is associated with alcohol consumption and mental health with a focus on the aforementioned vulnerable groups. Throughout the project, the student will communicate with relevant stakeholders, such as DSCs, alcohol charities and mental health charities, organisations involved in alcohol treatment provision and public bodies.

Title:	Media coverage of health inequalities in a post-pandemic world
Supervisory team:	Dr Katie Powell - University of Sheffield Professor Liddy Goyder - University of Sheffield Dr Naoimh McMahon - LiLaC (Lancaster University) Andy Tattersall - University of Sheffield Alan Taman -Birmingham City University All projects will give the successful candidate the opportunity to link with practice whilst carrying out their PhD project. Further information on this will be updated in due course.
Project code:	Sheffield_3_Powell
Contact:	k.powell@sheffield.ac.uk

Project outline

Despite much critique of media coverage of health inequalities there are few systematic analyses of the ways in which health inequalities are discussed in the UK media. Research demonstrates that post-pandemic, there has been increased media coverage of health inequalities and a shift in language in UK government policy. The proposed research would build on pilot work (jointly supervised by Naoimh and Katie) carried out in the SPHR 2021 internship programme which explored methods for identifying and analysing print stories on health inequalities.

This doctoral project would examine i) media coverage and ii) the context in which media stories are developed to understand: how are health inequalities being framed in UK media in a post-pandemic world?

This project will make a methodological contribution to the field of health inequalities by developing ways to examine different conceptualisations of 'health inequalities;' a broad and complex topic, in print, televised or social media. The supplementary focus on the context in which media stories are developed (through examination of power dynamics between key stakeholders - journalists, audiences, media owners, academics, academic publishers, public health leaders and others) will support more accurate interpretations of the ways in which health inequalities are being framed.

NIHR | School for Public Health Research

For more information, please contact sphr.training@ncl.ac.uk
Produced by SPHR November 2021

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