

School of Social & Community Medicine



Research student opportunities 2011

University of Bristol
School of Social and Community Medicine

The School of Social and Community Medicine is a leading centre for research and teaching of population health sciences. Our research is collaborative, multi-disciplinary and diverse, spanning public health, health services research and epidemiology. In the 2008 Research Assessment Exercise, 35% of the School's Epidemiology and Public Health research was rated 4* (world leading); and 80% of Health Services Research (HSR), 70% of Primary Care research and 60% of Psychiatry research rated 3* or 4* (world leading or internationally excellent) with top 6 rankings in all these areas. The School's staff are located in Canynge Hall (39 Whatley Road, BS8 2PS) and Oakfield House (Oakfield Grove, BS8 2BN) in the Clifton area of Bristol, a short walk from the main University of Bristol Precinct.

Within the School are several major research centres and programmes:

[MRC CAiTE \(Causal Analyses in Translational Epidemiology\) Centre](#), directed by Professor George Davey Smith and deputy directors Professor Debbie Lawlor and Professor Ian Day;
[ALSPAC](#) (Avon Longitudinal Study of Parents and Children), the premier birth cohort study, directed by Professor George Davey Smith;
[UKCRC DECIPHer](#) (Development and Evaluation of Complex Interventions for Public Health Improvement) Centre, jointly with the Universities of Cardiff and Swansea, directed by Professor Rona Campbell;
MRC ConDuCT (COllaboration and iNnovation in DifficUlt and complex randomised Controlled Trials) methodology hub, directed by Professor Jane Blazeby;
[BRTC \(Bristol Randomised Trials Collaboration\)](#) UKCRC/NCRI-accredited trials unit, directed by Dr Alan Montgomery;
[NIHR HTA Programme-funded ProtecT](#) (Prostate testing for Cancer and Treatment) study - now the largest evaluation of prostate cancer treatments in the world.
NIHR Programme Grants for Applied Research in the areas of suicide, infection, domestic violence, cancer diagnostics, and telehealth.

Undergraduate and postgraduate teaching programmes provide training and career development for undergraduate medical students, public health trainees, clinicians, and research staff. The postgraduate [Short Course Programme](#) is a popular source of intensive short courses in epidemiological and HSR research methods and skills. There is an active programme of research seminars in term-time. For the latest news from the School, please see [here](#).

Academic staff in the School are leaders in their fields and have extensive national and international research collaborations, with several providing health policy advice for government organisations and international bodies. Within its subjects the School is seen as one of the leading centres in the world. The skills of a variety of health care researchers including statisticians, epidemiologists, geneticists, sociologists, psychologists, anthropologists, health economists, public health physicians, neuroscientists, and various community based physicians and nurses are all available and contribute to the excellent working environment in which to undertake interdisciplinary research and teaching. The School is keen to attract graduates from all the above disciplines to carry out postgraduate research.

Research

Researchers in the School tackle many of the key public health and health care related issues facing high and low income countries, such as obesity, AIDS, mental illness, child health, cancer detection and treatment. These issues are often complex in nature, so multi-disciplinary and multi-method approaches are adopted, giving a system wide perspective of issues and interventions that are relevant to whole populations as well as for individuals. The School has an exceptional set of resources for research and a wide range of opportunities exist for students wishing to pursue a higher degree or a career in the fields of epidemiology and health services research. In addition to its high achieving and enthusiastic academic staff, there is a collection of [historical and contemporary cohort studies](#), and a large number of ongoing randomised controlled trials (RCTs) and other studies with opportunities for both applied and methodological research topics suitable for PhD study.

The School's epidemiology research is concerned with life-course, clinical, genetic and molecular epidemiology, bioinformatics, human gene mapping and statistical methods. The programme provides opportunities to explore the aetiological aspects of life-threatening diseases across the lifecourse, and their social and health care impact, and research is strengthened by international collaborations with researchers in Sweden, Norway, Belarus, India, Sri Lanka, USA, Canada, Southern Africa, the Netherlands and Australia.

Health Services Research (HSR) may be defined as research into all aspects of health technologies and the delivery of health care, and is becoming increasingly more important as it becomes necessary to have reliable information on which to base decisions on the allocation of limited resources. The School's HSR programme aims to conduct cutting-edge methodological, theoretical and applied research examining the effectiveness and efficiency of health care interventions, health services and healthcare policy, and to assess the impact of these on the experiences of patients and the health of the public.

1. Cancer

Inter professional collaborations in cancer research are applied to a wide range of tumor sites, such as oesophageal cancer, colorectal cancer and oral cancer. Established activities exist in cancer screening, genetic epidemiology, health services research and public health. The ProtecT study (Prostate testing for cancer and Treatment) is a large RCT evaluating treatments for localised prostate cancer in nine centres in the UK, of which Bristol is one. General health, quality of life, prostate cancer development, treatment outcome, length of life and cost implications will be investigated. Early diagnosis of cancer is another strength; from identifying reasons why patients attend or do not attend when they have a symptom that may represent cancer, through to identifying and quantifying the risk of cancer once symptoms have been reported to primary care. We lead the cancer theme within the National School of Primary Care Research.

2. Cardiovascular Disease

Researchers investigate the aetiology, prevention and management of cardiovascular conditions from population and primary care perspectives, with particular attention to inequalities. Our methods span birth (eg. ALSPAC), adult (eg. Caerphilly & BWHHS) and clinical cohorts (eg. ACRE), randomised controlled trials (eg. ARIA, OMA), new prognostic/risk scores (eg. QRisk), meta-analyses of epidemiological and trial data, triangulation of genomic, socio-economic and phenotypic data, linkage of clinical record and outcome data, and associated qualitative and economic analyses. Our current research programmes focus on life course influences on cardiovascular health, genetic and environmental determinants of cardiovascular disease, optimising diagnosis and management of stable angina and the primary and secondary prevention of cardiovascular disease.

3. Human genetics and genetic epidemiology

Genetic Epidemiology is the science that deals with the aetiology, distribution and control of disease in groups of relatives and with inherited causes of disease in populations. Modern approaches include a mix of molecular, statistical genetics and bioinformatic methods to access and analyze sequence variation and to relate this to different traits and diseases. At present genome-wide association studies, study of gene copy number variation and large scale resequencing are having a major impact on the rate of new discoveries. Emergent findings have diverse applicability in identifying previously unknown disease pathways, in determining causality among epidemiological associations (through Mendelian Randomization) and in some instances diagnostics and therapeutics.

4. Infectious disease

Infectious disease epidemiology in the department covers a range of different areas, including clinical research, evidence synthesis, statistical and mathematical modelling. Primary care infection research currently focuses on investigating and optimising the diagnosis and treatment of respiratory and urinary tract infections in children and on the determinants of bacterial resistant infections in primary and secondary care. Research on sexually transmitted infections focuses on HIV/AIDS and chlamydia. Researchers play a leading role in The ART Cohort Collaboration, a collaboration between the investigators of 18 HIV/AIDS cohort studies from across Europe and North America which aims to investigate all aspects of the prognosis for clinical events (particularly AIDS and death) of HIV-infected patients in the era of combination antiretroviral therapy. There is a growing research group interested in infectious disease modelling, particularly the application of these models to inform public health policy. Examples of current projects include models designed to assess the impact of vaccination against bacterial meningitis, interventions to prevent infections in injecting drug users and chlamydia screening.

5. International health

The scope of international collaboration projects is wide, including child health, chronic and infectious diseases, nutrition and mental health, socio-economic inequalities and a variety of other cross-cutting topics involving social sciences such as socio-economic inequalities and domestic violence. There are substantial collaborative projects in developed and developing countries such as India, Sri Lanka, Bangladesh, Lebanon, Saudi Arabia, Brazil, and Chile. Several promising lines of research involve developing and evaluating interventions for the treatment and prevention of mental health problems in Chile, Brazil and Sri Lanka. Results from these projects have led to important policy-making decisions in Sri Lanka and Chile. There are other, intense ongoing collaborations with the US, Switzerland, Norway, Sweden, Belarus, Denmark and several other countries.

6. Mental health and neurodegeneration

This programme covers a range of research topics including common psychiatric disorders, suicide, psychosis, anxiety, Alzheimer's disease and related dementias. Our interdisciplinary research employs a number of approaches including cohort studies, randomised controlled trials, systematic reviews, record linkage studies (in collaboration with colleagues in Sweden, Norway and Denmark), qualitative methods, ecological studies and genetic epidemiology. We carry out research in both high and low income countries and we have particularly strong links with psychiatric researchers in Chile, Sri Lanka, Brazil, Sweden, Taiwan and Norway.

7. Nutrition and metabolic disorders

Research within this topic covers the aetiology and prevention of poor nutrition at a population level, including eating disorders, under and over nutrition and the consequences of poor nutrition - obesity and associated metabolic abnormalities (insulin resistance, type 2 diabetes, dyslipidaemia). It includes observational and genetic epidemiology and complex intervention studies in the community (including in pre-school, primary and secondary school settings), primary care and secondary care. Researchers in this topic are involved with setting

public health policy through providing an evidence base, such as to the National Child Measurement Programme.

8. Organisation and delivery of care

Implementing the most effective and appropriate ways to organise and deliver health and social care involves the generation of research evidence, evaluation of care provision and innovation in proposing alternative pathways. Researchers involved in this stream of research come from many disciplines, but all are actively engaged in influencing and contributing to improvements in health service practice and policy decision-making. Research themes include patient safety, patient and professional decision-making, pathways to care and the relevance of socio-economic status.

9. Paediatric epidemiology

Paediatric epidemiology research is characterised by the study of child health through inter-professional collaborations. Research in this programme contributed to the 1991 "back to sleep" health education campaign, linked to the fall in the incidence of sudden infant death syndrome. Avon Longitudinal Study of Parents and Children (ALSPAC) is a major resource for researchers, and has yielded numerous publications on the genetic, environmental and social influences on child health and development.

10. Health economics

All resources are limited in their supply, which means that individuals and organisations need to make choices about which goods and services to consume. Economics is the study of scarce resources, and health economics applies concepts from economic theory to healthcare issues with the aim of achieving efficiencies in the delivery of healthcare. Economic evaluation is one aspect of health economics, which is widely used to determine efficiency by estimating the cost-effectiveness of an intervention. This is normally done either alongside a randomised controlled trial or by modelling, synthesising results from a number of different sources. The National Institute of Health and Clinical Excellence (NICE) uses this technique to make recommendations about the provision of technologies and treatments in the UK.

11. Ethics

The Centre for Ethics in Medicine is a multi-disciplinary Centre, comprising staff qualified in philosophy, law, social science and medicine, working with colleagues (internationally) from a range of disciplines and academic and health care settings. The Centre's research interests and expertise encompass (a) educating and supporting health care professionals, (b) chronic illness, terminal illness and long-term care, and (c) biotechnologies and biosciences. Projects and publications span such topics and issues as clinical ethics, enhancing human capacities, end-of-life decision making, genetics, synthetic biology and health policy and market reform.

12. Lifecourse epidemiology

A life course approach to epidemiology is the study of the long term effects on later health or disease risk of physical or social exposures during gestation, childhood, adolescence, young adulthood, or later adult life. Much of the interest in life course epidemiology has centred around chronic diseases such as coronary heart disease, type II diabetes and cancer, but its concepts have also been adopted for mental health and ageing. It proposes various models as to how exposures in early and later life may operate in a cumulative or interactive fashion to alter disease risk and functional decline.

13. Randomised controlled trials

A major strength within the School is the design and conduct of randomised controlled trials, with substantial research funding from NIHR, research council, charity and other sources. The School hosts the Bristol Randomised Trials Collaboration (BRTC, UKCRC-registered and NCRI-accredited) which provides academic and clinical leadership in large-scale pragmatic randomised trials in community and hospital settings, across a wide range of therapeutic areas

and types of interventions. The ConDuCT Hub (COllaboration and iNnovation in DifficUlt and complex randomised Controlled Trials), funded by the MRC, has been established to provide a regional focus for high-quality, cutting-edge methodology research in randomised controlled trials. The Centre for the Development and Evaluation of Complex Interventions for Public Health Improvement (DECIPHer) is a UKCRC-funded collaboration between the Universities of Bristol, Cardiff and Swansea, with a particular focus on developing and evaluating multi-level interventions that will have an impact on the health and well-being of children and young people.

14. Statistical methods

Studies of population health are complicated by many factors outside the control of researchers, such as clusters of participants with similar outcomes, failure to obtain outcomes for various reasons, confounding of associations of interest by other factors, and trial participants not fully following their allocated intervention. Statisticians at Bristol are developing and refining methodologies that avoid misleading results in such situations. The MRC ConDucT hub is working with trial units such as BRTC on RCTs methodology, the MRC CAiTE centre is focused on causal analyses of large epidemiological studies, DECIPHer is adopting multilevel modelling for the evaluation of complex public health interventions and the Multi-parameter Evidence Synthesis Research Group develop and evaluate new statistical methods for complex evidence synthesis with applications in both epidemiology and medical decision-making.

15. Qualitative methods

Qualitative studies, either as stand alone projects or projects nested within large quantitative studies, such as RCTs, are invaluable in giving detailed insight into patients' and professionals' views and experiences, and rationale behind their behaviour and decision-making. Researchers in this theme employ a full range of qualitative methods, including in-depth interviews, focus groups and observations. Recent work has considered patient treatment preferences, psychosocial impact of interventions, patient use of complementary medicine, outcome assessment, causes and consequences of health-related behaviour, and patients' experiences of trial recruitment and involvement. Findings have informed policy and clinical practice, and improved the design of trials.

16. Mixed methods

There is increasingly recognition of the value of combining quantitative and qualitative methods within the same research study, described as 'mixed methods' research. Many research questions benefit from the insights gained by studying the problem from different methodological perspectives. This particularly applies to research which is pragmatic and directly applied to improving health care, often involving the evaluation of 'complex interventions'. Such studies address not only whether or not interventions are effective, but also how and why they are effective (or not), and sometimes whether or not they are cost-effective.

17. Systematic reviews

Systematic reviews aim to assemble and synthesise all evidence relating to a specified research question. They are characterised by well-defined methods that allow the results to be reproduced. Systematic reviews of randomised controlled trials (RCTs) are widely acknowledged to underpin the practice of evidence-based medicine. [The Cochrane Collaboration](#) is a worldwide network that aims to produce, disseminate and update such reviews. Research in the School includes the conduct of high quality systematic reviews as well as development of systematic review methodology.

Research students

The School has a well-established policy for research students, please see:

<http://www.epi.bris.ac.uk/postgrad/pdf/postgrad_policydoc.pdf>covering training, expectations of students and advisers, reviews, and University and School facilities. Within the School, each student has a desk, filing cabinet, a networked PC with email facilities, access to a 'phone, and access to a high performance PC. Each student has two supervisors to give guidance about the research, and there are two co-Directors of Graduate Studies, Professor Richard Martin and Dr Alan Montgomery, who have overall responsibility for postgraduate students. The School provides research training through a wide range of short courses, for example, several courses in medical statistics, basic and advanced epidemiology, genetic epidemiology, health economics, qualitative research methods, questionnaire design, meta analysis, study design, and data management (see www.epi.bris.ac.uk/shortc/shortc.htm). Seminars are held weekly in term time (see www.epi.bris.ac.uk/seminar/socmedseminar.htm). There is an active research students' training and support group, which meets monthly in term time, with various sessions. There are currently approximately 75 PhD students.

Research studentships

Closing dates for School studentships can be found using the links below each programme. The following studentships are currently available:

MRC Studentships and University of Bristol Scholarships. The School is eligible to apply for studentships of three or four years duration from the MRC and the University of Bristol for Home (UK or EU) students. Award of these studentships is made by Faculty or University Selection Panels. The scholarships cover tuition fees and a maintenance stipend. These prestigious awards are awarded in open competition across all faculties, and students must demonstrate academic excellence and outstanding research potential.

Details and closing date: http://www.bristol.ac.uk/studentfunding/home_pg/

Contact: Alan Montgomery or Richard Huxtable

Wellcome Trust 4 year PhD studentships: Students interested in molecular, genetic or lifecourse epidemiology should also view our [Wellcome Trust 4-Year PhD Programme](#). The aim of this 4 year Programme is to equip epidemiologists with the technical skills and training to be able to exploit rapidly developing new technologies in molecular and genetic sciences within population-based cohorts in ways that could significantly improve our understanding of causal pathways that lead to disease and its progression.

Details and closing date: <http://www.findaphd.com/custadverts/4year/bristolsocmed/wellcome.asp>

MRC ConDuCT (COllaboration and iNnovation in DifficUlt and complex randomised Controlled Trials) PhD studentships: Students interested in the application of their area of expertise to the commissioning, design or conduct of phase III randomised controlled trials (RCTs) will be interested in the five four-year Ph.D. studentships we have in this area, funded jointly by the MRC and the University of Bristol as part of the [ConDuCT](#) programme. In the first year students will attend courses from Social & Community Medicine's popular [short course programme](#), and elsewhere, to build a comprehensive knowledge of RCT design and conduct. The first year will also provide the opportunity to conduct small studies in different areas of trials methodology, allowing students to confirm their area of interest, build their research skills, formulate a detailed research plan for the subsequent three years, conduct feasibility studies of intended research procedures, and meet and work with theme leads within the Hub. Students must be defined as "home" for fee purposes to be eligible to apply for many of these award and information and guidance on how this classification is reached can be found at <http://www.bris.ac.uk/academicregistry/fees/class.html>

Contact: Chris Metcalfe (chris.metcalfe@bristol.ac.uk)

MRC Bristol Centre for Systems Biomedicine (BCSBmed) 4 year PhD studentships: The School hosts an MRC doctoral training core (ten four year [1+3] PhD studentships, recruitments 2009 and

2010) applying computational, mathematical and statistical approaches to biomedical questions. Within this programme, which with other research nucleates Bristol Centre for Systems Biomedicine (BCSBmed), students from engineering, computational and mathematical disciplines will be broadly trained in applications to biomedical research emphasizing systems approaches. BCSBmed is interdisciplinary between both of the medical Faculties, Mathematics and Statistics (Science) and Engineering Maths. BCSBmed complements both the EPSRC-funded Bristol Centre for Complexity Sciences (BCCS) and also complements two other doctoral training cores (in Neurosciences and Cell Imaging) in Bristol funded by MRC in 2008.

Details and closing date: <http://www.findaphd.com/custadverts/4year/bristolsocmed/sysbiomed.asp>

DECIPHer: Centre for the Development and Evaluation of Complex Interventions for Public Health Improvement: The Development and Evaluation of Complex Interventions for Public Health Improvement (DECIPHer) Centre is a [UKCRC](#) Public Health Research Centre of Excellence. Its overall aim is: "to undertake methodologically innovative multidisciplinary research with a focus on the development and evaluation of complex interventions and policies to achieve sustainable improvements in the health and well being of children and young people"

The Centre is collaborative between the Universities of Bristol, Cardiff and Swansea, and has a large number of partnerships with other academic, governmental, NHS and non-governmental organisations. The main DECIPHer website is at www.decipher.uk.net.

There are five key [scientific programmes](#), and the School of Social Medicine will lead on "Multiple risk behaviours in young people and their underlying causes". We will also be involved in the other programmes, particularly "Health promoting schools and other youth settings" and "Environmental determinants of health".

Ten studentships are available, across the three universities, on a range of topics including your own choice in the fields of: social sciences, law, dentistry, medicine, social medicine, health information, public health, geography and statistics.

Please contact **Prof Rona Campbell** to discuss your proposal and application before submission. (Rona.Campbell@bristol.ac.uk). For further information please visit www.decipher.uk.net

Overseas scholarships: Funding for overseas PhD students is limited, but some opportunities do exist.

Details: http://www.bristol.ac.uk/studentfunding/overseas_pg/

Contact: Alan Montgomery or Richard Huxtable

Applications

Applications are invited from graduates with good honours degrees (2i or higher). Research experience or a Masters degree in a related area will be advantageous. Applications should be made online at: <http://www.bristol.ac.uk/prospectus/postgraduate/2011/intro/apply.html>
In addition to the fields required in the online application form, you will also need to provide the following either as part of the online form or as scanned attachments to the online application:

- an academic CV
- brief covering letter indicating your topic of interest and stating your suitability for study for a research degree at the University of Bristol
- a research proposal comprising at least two A4 pages (see below). Topic titles, potential supervisors/adviser(s) and a brief project outlines are available on the website at: http://www.epi.bris.ac.uk/postgrad/pdf/topics_for_postgrad_2010.pdf
- Two references
- Certified copies of degree certificates and transcripts
- Language certification if appropriate

When you apply, you must include a proposal for the research you would like to undertake, describing the particular methods you would employ and a timetable for the research. We are not expecting a definitive proposal – indeed we would expect further refinement once you arrive in the School - but it should demonstrate your ideas for transforming the project outlines into a research programme for a PhD.

Your proposal should consist of 2 to 4 sides of A4. You are encouraged to discuss your ideas with the named supervisor(s). The proposal, along with your application form/CV will be used for shortlisting. Candidates may also apply to study a topic of their own choice. The research areas of members of staff can be found on the website at:

http://www.epi.bris.ac.uk/postgrad/pdf/Postgrad_Research_Interests_Leaflet.pdf.

With this information and candidates are encouraged to discuss their ideas with a suitable prospective supervisor.

For further information about specified topics, please contact the supervisor named. For general information about research studentships (or if you cannot get through to supervisors), contact Susie Potts (email: Susie.Potts@bristol.ac.uk)