National Prevention Research Initiative Awards
2005

Additional information on each award, including a list of the co-investigators and an abstract of the research, can be found by clicking on the name of the Principal Investigator.

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**Co-Investigators**
- Dr Timothy Barrett (University of Birmingham)
- Professor Janet Cade (University of Leeds)
- Professor KK Cheng (University of Birmingham)
- Dr Amanda Daley (University of Birmingham)
- Professor Joan Duda (University of Birmingham)
- Dr Ulf Ekelund (MRC)
- Dr Paramjit Gill (University of Birmingham)
- Dr Jayne Parry (University of Birmingham)

**Abstract**
Obesity is a risk factor for many chronic diseases and is an increasing problem. Prevention is best targeted at children. However, systematic reviews have found limited high quality data on the effectiveness of interventions tested. In the UK, the rapidly increasing South Asian (SA) population is at particular risk of obesity and its consequences. However, no previous intervention studies have targeted this population. The aim of this study is to develop an intervention which can later be used in a definitive RCT. We plan to undertake an environmental analysis to identify modifiable factors contributing to obesity, plan and undertake an exploratory trial for preventing obesity in SA children, and pilot the measurement instruments for a definitive trial. The intervention package will be developed using the MRC framework for complex interventions, focusing on environmental factors.
Co-Investigators
Dr Anne Dale (Queen Elizabeth Hospital)
Dr Robert Drewett (Durham University)
Professor Ann Le Couteur (University of Newcastle upon Tyne)
Dr Paul McCardle (Fleming Nuffield Unit)
Professor Louise Parker (University of Newcastle upon Tyne)
Dr Kathryn Norah Parkinson (University of Newcastle upon Tyne)
Dr Mark Stephen Pearce (University of Newcastle upon Tyne)
Dr John Reilly (University of Glasgow)
Dr Charlotte Margaret Wright (Glasgow University)

Abstract
Rates of obesity in childhood are rising rapidly, with important implications for future health, but little is known about risk factors for childhood obesity, partly because body mass index (BMI) is both insensitive and non specific as a measure of fatness in childhood and because no-one has yet directly assessed the role of physical activity. There is thus a need for a new prospective cohort study which links specific measures of body fat to early risk factors for obesity and identifies important potentially modifiable correlates in the child and family, such as parental perceptions and attitudes and risk related health behaviours such as physical activity and diet.

The Gateshead Millennium Study recruited 1029 newborn babies who will be aged 6-7 years in 2006. Data are available on feeding behaviour, growth, social circumstances and feeding behaviour in the first year. The families are currently being re-contacted and parents will receive postal questionnaires about family circumstances, childhood behaviours including emotional and behavioural difficulties, and their child's eating and feeding behaviour. We expect to trace 80% of the subjects and plan that the work will be completed by April 2006.

This proposal is a new two stage study. In Stage One we will directly assess the children in school or via home visits. Measurements will include body composition (BMI, bioelectrical impedance, skin folds, waist circumference, body frame size), diet (FAST questionnaire), activity (accelerometry), and psychosocial factors in order to identify potentially modifiable risk factors in early life or current lifestyle which predict body fatness at age 6-7 years, as opposed to muscularity or large frame size. The study will also assess parental adiposity (BMI, bioelectrical impedance) and the relationship between this and their attitude to health related behaviours and levels of concern about adiposity in their child.

In the second stage of the study, key subgroups of parents will be invited to focus groups and interviews to explore perceptions of and attributions for adiposity and identify factors amenable to change. The work will inform the development of effective interventions designed to reduce risk exposure, influence health behaviour and reduce the number of new cases of childhood obesity.

The proposal will fund a project manager, two junior research associates, two research nurses and clerical support as well as lay observers in Newcastle, supervised by Dr Adamson, and a biostatistician in Glasgow working on the analysis with Dr Wright and Dr Reilly.
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**Co-Investigators**  
- Professor Jill Belch (University of Dundee)  
- Dr Graeme Houston (Ninewells Hospital and Medical School)  
- Dr Alison Kirk (University of Dundee)  
- Professor Allan David Struthers (University of Dundee)  
- Dr Edwin van Teijlingen (University of Aberdeen)  
- Dr Brian Williams (University of Dundee)  

**Abstract**  
The HealthForce programme aims to motivate, facilitate and support changes in lifestyle and weight management in adults from deprived backgrounds who are participating in a novel cardio-vascular risk-screening programme (TASCFORCE). The programme development (formative research) will incorporate user-community views on peer leaders, counselling approaches and practical approaches to facilitate change. The overall aim of the intervention is to achieve long term weight maintenance (e.g. avoiding any weight gain), increase current levels of physical activity (minimum increase of at least 30 minutes per week) towards achieving current targets for moderate exercise of 30 minutes on most days of the week and to increase fruit and vegetable intakes (minimum increase of at least 1 portion per day) towards achieving current targets for five portions fruits and vegetables per day. The implementation of the programme will (initially) be nurse delivered, based on the trans-theoretical model, with tailored feedback and personal goals. Delivery will be provided in 3 stages (activity, diet and weight control approaches) emphasising achievement of small changes and improved self-efficacy. To facilitate lifestyle change, advice will be based on knowledge of local community shopping and activity. Equipment to support action (e.g. pedometers) will be available for loan. On completion of the programme, motivated participants will be eligible to become HealthForce counsellor (Peer educators) and will be provided with free training and volunteer payments for support work. Evaluation includes process of programme delivery, acceptability and measurements, impact on psychological parameters and outcome measures of health behaviours and biomarkers. This data will inform the design of a lifestyle arm of TASCFORCE RCT. The study will add to the evidence base on the effectiveness of lifestyle interventions and explore the potential to use peer educators in community based weight management programmes.
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Co-Investigators
Dr Ben Edwards (Liverpool John Moores University)
Professor Thomas Reilly (Liverpool John Moores University)
Dr David Richardson (Liverpool John Moores University)
Professor Jim Waterhouse (Liverpool John Moores University)

Abstract
About 20% of the European workforce comprises shiftworkers in order to ensure that society’s needs for 24-hour services, process industries and emergency cover are met. We aim to explore the gap in health equality between shiftworkers and dayworkers and focus on the NPRI key research areas of “diet and nutrition” and “physical activity”. We will identify the most appropriate timing and composition of such interventions for reducing shiftworkers’ problems (chronic fatigue, gastro-intestinal and cardiovascular disorders). The major novel methodological angle to this project is the combination of quantitative and qualitative research strategies. Two research assistants will complete three research phases; (i) A survey of shiftworkers’ dietary and physical activity habits. Fifteen hundred participants will be sampled in a stratified random fashion. Confidence intervals will be calculated for the binary and Likert scale type responses, which will be compared between shiftwork factors. Qualitative data will also be collected through unstructured interviews with shiftworkers and their families. (ii) Four controlled experimental interventions on participants living in our shiftwork simulation unit. Twenty shiftworkers will be recruited for each of the 4 experiments. The exact interventions will be informed by the results of phase (i), but will involve the timing of physical activity (activity taken either before or after the workshift), the intensity of activity (either a relatively short 30-min bout of intense exercise or a relatively long 1-hour bout of moderate exercise), the timing of meals (the main meal of the day taken either before or after the workshift) and the content of food intake during a shift (food that matches typical content during daywork and food that matches typical content during nightwork). Likert scale “acceptability” responses will be compared between repeated simulated shifts and between the various interventions. (iii) A field-based intervention study on health outcomes over an 18-month period. One hundred participants will be recruited for each of two intervention groups and a control group. The primary outcome measures to be investigated in this phase are cardiovascular health measures, frequency data relevant to the incidence of gastro-intestinal and menstrual cycle disorders over the study period and subjective scales to measure fatigue and sleep disturbance. Qualitative data will be generated (through interviews and focus groups) that are relevant to social and family conflict issues. When this project is complete, employers and health promotion experts would gain ergonomic data to guide shift-work arrangements and promote optimum work-life balance of their employees.

http://cwis.livjm.ac.uk/sportandexercisesciences/RISES/Chronobiology/index.htm
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- Dr John Forbes (University of Edinburgh)
- Dr Julia Lawton (University of Edinburgh)
- Professor Mike Lean (University of Glasgow)
- Dr John Alexander McKnight (Lothian University Hospital Division)
- Professor Gordon Murray (University of Edinburgh)
- Professor Aziz Sheikh (University of Edinburgh)
- Mrs Sunita Wallia (Community Multicultural Health Dietician)
- Dr Sarah Wild (University of Edinburgh)

**Abstract**

Central obesity, a sedentary lifestyle, impaired glucose tolerance (IGT) and diabetes are highly prevalent in South Asians. Diabetes is preventable through weight loss and increasing physical activity but this has not been demonstrated either in the UK or for South Asians. This trial evaluates an intervention within the family of people with diabetes but designed to reduce weight and increase physical activity in their adult relatives at high risk of diabetes indicated by IGT, thereby preventing or delaying diabetes. The interventions will be those used internationally, but adapted for South Asians. 300 families will be randomised into intervention and control groups, each containing two people with IGT (600 people in total). The intervention group of 300 will receive 15 contacts with a trained dietician over three years, with the goal of reducing weight, achieving at least 30 minutes of physical activity daily, and making measurements. The control group of 300 will have 4 contacts with a dietician to provide health information and make measurements. The primary outcome is progression from IGT to diabetes, based on the oral glucose tolerance test (OGTT). The intervention is anticipated to reduce the 3-year incidence of diabetes from 30 percent to 15 percent. Cost effectiveness of the intervention will be calculated. Qualitative research will help in implementing the trial.

www.chs.med.ed.ac.uk/phs/
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- Professor David Robert Cohen (University of Glamorgan)
- Dr Jarold Cosby (Cardiff University)
- Professor Adrian Gwyn Konrad Edwards (Cardiff University)
- Dr Kerenza Hood (Cardiff University)
- Ms Claire Lane (Cardiff University)
- Dr Jim McCambridge (Institute of Psychiatry)
- Professor Laurence Anthony Russell Moore (Cardiff University)
- Professor Stephen Rollnick (Cardiff University)
- Dr Sharon Simpson (Cardiff University)
- Dr Christine Smith (Cardiff University)
- Professor John Strang (University of London)
- Dr Fiona Wood (Cardiff University)

**Abstract**
General Practice holds considerable potential for primary prevention through modifying patient’s multiple risk behaviours, but feasible, effective and acceptable interventions are poorly developed, and uptake by practitioners is low. Through a process of theoretical development, modelling and exploratory trials spanning 15 years, we have developed an internationally known intervention called Behaviour Change Counselling (BCC) based on Motivational Interviewing. This efficacy cluster RCT will be the first evaluation of outcomes and costs of this intervention for GPs and nurses to opportunistically engage patients in the primary prevention of disease. At least one GP and one practice nurse from each of 24 general practices will be recruited. These practices will then be randomised. Clinicians from half of the practices will be trained in BCC at the beginning of the study. The rest will provide their usual care, and be offered BCC training at the end of the study. Training in BCC will use a blend of innovative methods including web-based learning, training workshops with opportunity to practice with patient-actors, context bound learning, critical incident and reflective learning during real consultations, and ongoing interaction with BCC coaches and web forums. The primary outcome will be the proportion of patients making positive changes in one or more of four behaviours (smoking, risky drinking, unhealthy eating, and lack of exercise) at three months. A target sample size of 1440 patients is required which includes allowance for clustering and loss to follow up. Patients attending both intervention and control practices will be screened for the four unhealthy behaviours using established questionnaires. BMI will be measured. Clinicians will receive the results, with cut-off points identified reflecting thresholds for each behaviour that should usually trigger an intervention in general practice. After the consultations, patients will be asked if they recall an intervention about health related behaviour, what they felt about it, intentions for change, and ‘enablement’. Patients will be assessed for the four health behaviours again at three and twelve months using DINE, IPAQ, Heaviness of Smoking Index and AUDIT questionnaires. SF12 will also be measured. At 12 months, BMI and cotinine in smokers reporting quitting will be measured. Results will be compared for those patients who saw clinicians trained in BCC with patients who saw clinicians not trained in BCC. A range of secondary outcomes will be analysed. Positive results are likely to lead to method refinement, phase four studies and roll out.

[www.cardiff.ac.uk/medicine/general_practice/about_the_department/staff/cbutler.htm](http://www.cardiff.ac.uk/medicine/general_practice/about_the_department/staff/cbutler.htm)
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**Co-Investigators**

- Dr Karl Atkin (University of Leeds)
- Professor Graham Clarke (University of Leeds)
- Dr Jennie Cockroft (University of Leeds)
- Dr Mark Conner (University of Leeds)
- Mr Darren Charles Greenwood (University of Leeds)
- Dr Joan Ransley (University of Leeds)
- Professor Christopher Wild (University of Leeds)

**Abstract**

The National School Fruit and Vegetable Scheme is an important public health intervention. Free fruit is provided from reception to school year 2.

The principal research questions to be addressed are:

1. Can a flexible multi-component intervention in schools support the maintenance of fruit consumption following removal of free school fruit for year 3 children?
2. What is the impact of the National School Fruit and Vegetable scheme in areas with low socio-economic and high ethnic populations?
3. What is the impact of the wider environment on childrens fruit and vegetable consumption (spatial interaction modelling)?

This proposal will tackle two aspects of relevance to the effectiveness of the NSFVS.

1. A cross-sectional national sample of year 2 children (receiving free fruit) with emphasis on areas of low income and high ethnic diversity. Diet will be assessed using a CADET questionnaire; heights and weights measured and cheek cell samples taken from a subgroup for antioxidant measurements.
2. A multicomponent flexible intervention will be developed and piloted for delivery to children/parents/schools in year 3. A subsample of schools from the cross-sectional study will be randomised to receive an intervention to support maintenance of fruit intake in year 3, other than through free school fruit. When the children move from year 2 to year 3 half of these schools will continue as normal (ie. free school fruit is stopped) and half will receive fruit using locally appropriate strategies devised with schools and parents. Measurements will be repeated during year 4 (ie. 18 months after first measurement).

The results of this trial will be used to inform policy concerning the NSFVS, school dinners and food at school in general, and in a wider context the diets of young children. In particular, it will show how increased fruit and vegetable consumption can be maintained. The first descriptive part of the study (non-trial) will improve our understanding of how school fruit affects the diet of children from a range of different ethnic and economic backgrounds in England.
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Dr Richard Harris (University of Bristol)  
Dr Melvyn Hillsdon (University of Bristol)  
Dr Russell Jago (University of Bristol)  
Dr Alan Montgomery (University of Bristol)  
Dr Angela Page (University of Bristol)

**Abstract**  
Being physically active is important for the optimal physical development of children. In addition being active with other children may enhance social development through assisting children to gain independence, improve self-esteem and make social contacts. There is concern that neighbourhoods around homes and schools are becoming less conducive to walking or cycling as well as active play, with parental concerns for safety leading to greater reliance on motorised transport and consequently lower levels of physical activity. Lower levels of physical activity are suggested to be an important factor leading to the development of obesity. National surveys indicate that 25-35% of adolescents are insufficiently active for the maintenance of good health, but we know little about the physical activity patterns of young people, where they go to be active, and how their neighbourhood and distance to school and other amenities may affect the amount of activity they do. We have a strong track record in measurement of physical activity in children, and we will be the first group to combine expertise in human geography and behavioural sciences to provide state of the art measurement of physical activity patterns and their environmental and social determinants in young adolescents. The focus will be young adolescents in the last year of primary school and the first year of secondary school, as this transition phase often triggers a decline in physical activity. As a result activity promotion and policy will be better informed, targeted and directed.
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Co-Investigators

Dr Christopher Armitage (Sheffield University)
Professor Tom Cochrane (Staffordshire University)
Mr Bob Erens (National Centre for Social Research)
Mr Jonathan Fairburn (Staffordshire University)
Professor Richard Heller (University of Manchester)
Dr David Sheffield (University of Staffordshire)
Dr Rashmita Shukla (Department of Health)

Abstract

Increasing population physical activity (PA) is a priority for improved public health. The research proposed will provide a detailed mapping of the environment at lower super output area (SOA) level in Stoke on Trent (SoT) and will evaluate the relationship between the environment, PA, health and health and social care utilisation. The environmental mapping will aggregate data from available databases, augmented by local data gathering and validation, to produce a comprehensive geo-coded map of 10 SOAs (covering a population ~15000). Further analysis, using graphical information systems (GIS) and associated software, will be used to derive indices through which to evaluate the relationship between environmental characteristics and levels of physical activity and health, using hierarchical linear modelling. Environmental indices used will include: proximity of PA spaces and facilities, street connectivity, land use mix, population density, mass transport provision, traffic, safety, crime, proximity of food outlets and shops, weather and indices of multiple deprivation. The areas for mapping and baseline assessment will be considered in two parts, one community-based and one schools-based. The mapping approach will adopt a social ecological perspective, with a view to better understand (and, in future, change) the relationship between the environment and health behaviours, such as physical activity. This will include input from organisations, groups and individuals already working in the areas selected. The ten neighbourhoods (SOAs) will be chosen (structured random sample) from the 79 eligible SOAs and the ten schools will be chosen (cluster randomised sample) from the 17 secondary and 75 junior/primary schools in SoT. For the community-based sample, sixty participants in each area will be selected at random from the Postcode Address File. Baseline data in the selected communities will be collected by independent interviewer-administered survey covering physical activity, stages of change process (self-efficacy, intentions, attitudes, subjective norms) and outcomes, health, health-related quality of life, health behaviours, perceptions of the local neighbourhood and socio-demographic information (such as gender, age, ethnicity, socio-economic circumstances, education level, tenure). Data on health and social care utilisation and costs for PA participation will also be gathered. For the schools-based sample, 60 participants from each school will be selected randomly from the school list. Measures used will include PA, fitness, body mass index and waist-hip ratio. Objective
measures of physical activity in both samples will be obtained using accelerometry. Findings from the project will inform public policy for increasing population PA and urban design.
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### Co-Investigators
- Dr Ashley Cooper (University of Bristol)
- Dr Richard Harris (University of Bristol)
- Dr Melvyn Hillsdon (University of Bristol)
- Professor James McKenna (Leeds Metropolitan University)
- Professor Marco Narici (Manchester Metropolitan University)
- Professor Deborah Sharp (University of Bristol)
- Dr Afrodit Stathi (Middlesex University)

### Abstract
The recent Chief Medical Officer’s report on activity and health established that physical activity is effective in reducing risk of disease and maintaining physical and mental function in later life. We know very little about the levels, modes and patterns of physical activity in older people although national surveys indicate that over 80% are insufficiently active for health. Neighbourhoods are becoming less conducive to walking and cycling, with greater reliance on motorised transport, loss of local amenities and increased concerns for safety. We have a strong track record of funded research (NIH, CRUK, NHS, Diabetes UK) in many aspects of activity and health including our EU Better Ageing project, and BHF and CABE work on the effects of the changing environment on physical activity. From this, we propose to bring together expertise in human geography, neighbourhood sociology, exercise physiology, and primary care in order to document physical activity patterns and their environmental and social determinants in urban dwelling older people. The focus will be men and women aged 70 or over living in neighbourhoods of different levels of social deprivation and amenity provision. Physical activity will be assessed using accelerometry, global positioning technology, which allow the objective assessment of levels and patterns of movement across time and space. Spheres of activity will be meshed with local land use data using geographical information systems to plot the influence of local amenities and services on patterns of movement. Questionnaires will be administered, and focus groups and interviews conducted to establish a) perceptions of older people about the influence of characteristics of the neighbourhood such as safety, risk, distance from recreational spaces, shops and other services, transport, housing, and social connectedness on their activity, and b) the effects of activity on psychological well-being and life quality. Tests of functionality and tasks of daily living will be undertaken to explore the links with activity, well-being and life quality. We believe that this multidisciplinary ecological approach will provide a unique vision that will help provide vital foundational information for directing public health initiatives.

[www.bris.ac.uk/ehs/staff/ken_fox](http://www.bris.ac.uk/ehs/staff/ken_fox)
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- Dr Andrew Jones (University of East Anglia)
- Dr Iain R Lake (University of East Anglia)
- Dr Paula Skidmore (University of East Anglia)
- Dr Esther van Sluijs (MRC Epidemiology Unit)
- Dr Nicholas John Wareham (Medical Research Council)

### Abstract
Sedentary living is a major public health problem as it accounts for more than 11% of all deaths in developed countries and is causally associated with coronary heart disease, diabetes, osteoporosis and some cancers. Interventions aimed at increasing population levels of physical activity have had only modest success and in order to develop effective interventions to halt or reverse the population decline in physical activity, a better understanding of the potentially modifiable determinants of physical activity is required.

These physiological, psychological, socio-cultural and environmental determinants operate both at the individual and collective or societal level. In children and adults, numerous studies have focussed on studying individual determinants of health behaviour, whereas the collective determinants have previously received little attention. An unsupportive environment may play a part in the reduction in population levels of physical activity and in the rapid rise of obesity levels. However, there is little published UK data, either in children or adults, on the association between subjectively or objectively assessed environmental determinants and physical activity.

The aims of this study, therefore, are to identify objective and subjective environmental determinants of physical activity in middle-aged adults and to describe the patterns and individual and collective determinants of physical activity in children. In the childhood group, we also aim to describe the perceptions of parents concerning their children’s levels of physical activity and to identify opportunities and barriers to increasing levels of activity. Finally we aim to develop measures of the environmental determinants of activity that can be used in subsequent evaluations of natural experiments of environmental change which may impact on physical activity levels.

The proposed study has four phases; observational studies of the individual and environmental determinants of activity in an existing study of adults (Phase 1) and in a new study of children (phase 2) in an area with detailed previously collated environmental Geographical Information System (GIS) data. Phase 3 is a qualitative study nested within the survey of children to assess parental perceptions of environmental barriers and opportunities for activity. Phase 4 is a formal dissemination to key stakeholders, to inform and influence those involved with the design and maintenance of the built environment, and also the development of new measures to evaluate natural experiments.
### National Prevention Research Initiative Awards 2005

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<tr>
<th>Grant Holder</th>
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<tbody>
<tr>
<td>Dr Mark Gabbay</td>
<td>University of Liverpool</td>
<td>Exploring the ability of lay workers to support health-related behaviour change in deprived areas through Heart of Mersey</td>
</tr>
</tbody>
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#### Co-Investigators

- Dr Peter Bower (University of Manchester)
- Professor Simon Capewell (University of Liverpool)
- Dr Peter Richard Edwards (University of Manchester)
- Dr Roger Harrison (University of Manchester)
- Professor Ian Harvey (University of East Anglia)
- Professor Richard Heller (University of Manchester)
- Dr Lynne Kennedy (University of Liverpool)
- Dr Ffion Lloyd-Williams (University of Liverpool)

#### Abstract

90% of cardiovascular disease, still the UK’s biggest killer, is associated with key modifiable lifestyles; mainly smoking, high saturated fat diet, low intake of fruit & vegetables, & lack of physical activity. Appropriate dietary support is particularly lacking within the NHS and elsewhere. Though attention on ‘five a day’ is welcomed; the public remain bombarded with intense commercial marketing about high-saturated fat, calorie dense foods & snacks. Significant practical barriers prevent many from translating health promotion messages, including heart-health dietary information, into sustained behaviours. These barriers are significant amongst social & economically deprived groups and individuals, contributing to their much higher rates of CVD. The government remains committed to reducing health inequalities providing opportunities within a national and local policy context to reduce such unacceptable disparities in CVD in the UK.

The public health White Paper ‘Choosing Health’ introduced ‘health trainers’ to encourage uptake of heart-health behaviours, providing an opportunity to robustly evaluate this approach in randomised controlled trials. It is imperative that these interventions are robustly evaluated to ensure their effectiveness and the most effective deployment of scarce resources.

We have extensive experience of using lay health trainers (LHTs) to work with individuals & groups, mainly in deprived areas, to improve their diet including a randomised controlled trial to get people to eat more oil-rich fish and fruit & vegetables and a Beacon Status lay-led programme of community nutrition support.

We also draw on our experience of the implementation and evaluation of smoking cessation and tobacco control and of physical activity. Our work shows that lay health trainers offer important opportunities to effectively engage with local people and provide some of the practical and ‘real life’ skills needed to help people adopt sustained heart-health lifestyle behaviours. They are also likely to be more cost-effective than traditional health professionals.

Our aim is to robustly evaluate the effectiveness of LHTs to increase the uptake of key heart-health lifestyle behaviours among people in deprived communities with at least one existing risk factor for CHD. The current application will develop an exploratory trial. This will include investigating the training needs of LHTs, previously ignored; testing a proposed trial design; collecting robust information to inform amongst other things, the costs and sample sizes for a fully powered trial; and to identify key factors associated with the potential effectiveness of the LHT intervention to perfect before embarking on a full trial of this exciting intervention.
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<tr>
<td>Professor Gerard Hastings</td>
<td>Stirling University</td>
<td>Assessing the cumulative impact of alcohol marketing communications on youth drinking</td>
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#### Co-Investigators
- Dr Amanda Amos (University of Edinburgh)
- Mr Douglas Eadie (University of Stirling)
- Dr Fiona Harris (The Open University)
- Ms Sally Haw (NHS Health Scotland)
- Professor Avril Taylor (University of Paisley)

#### Abstract
The last decade has seen a significant increase in alcohol consumption in the UK and a growth in binge drinking amongst young people. These trends have been responsible for raising particular health concerns as there is now clear evidence of a link between regular recreational alcohol use in adolescence and alcohol dependence in early adulthood. This study aims to examine the marketing communication techniques used by the UK alcohol industry to assess its impact on youth drinking and risk taking during the period when most young people start experimenting with alcohol, from ages 13-15. It will address four deficiencies in the current evidence base. Firstly, whilst the evidence indicates that alcohol promotion has a reinforcing effect on young people’s drinking, there is a paucity of research to establish whether or not it is implicated in the onset of drinking and harmful drinking patterns. Secondly, the evidence focuses almost exclusively on traditional ‘above-the-line’ advertising (television, billboards, magazine advertising etc) and fails to take account of new, largely unregulated interactive media such as the internet and the mobile phone. Thirdly, no attempt has been made to examine the cumulative impact of marketing communications in establishing evocative alcohol brands. Finally, no one has checked for any differential effect on gender and by affluence and deprivation. The study will address these gaps and play a proactive role in developing evidence-based policy to respond with countervailing social marketing and smarter regulation.

www.ism.stir.ac.uk
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<tbody>
<tr>
<td>Professor Graham Hitman</td>
<td>Queen Mary, University of London</td>
<td>Diabetes prevention in people from Bangladesh; a pilot trial in east London</td>
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**Co-Investigators**

Professor Deborah Ashby (Barts & the London, QMUL)
Professor Kamaldeep Bhui (Institute of Community Health Sciences)
Dr Tahseen Chowdhury (Barts and the London NHS Trust)
Professor Raymond Eric Croucher (Queen Marys School of Medicine & Dentistry)
Professor Gene Feder (Queen Mary, University of London)
Dr Simon Griffin (MRC Epidemiology Unit)
Professor Christopher Griffiths (Queen Mary, University of London)
Professor Peter Hajek (Queen Mary, University of London)
Professor Peter Graham Kopelman (Queen Mary, University of London)
Professor Ambady Ramachandran (Diabetes Research Centre, MV Hospital)
Dr Anne Spencer (Queen Mary, University of London)

**Abstract**

The increase of diabetes worldwide has been attributed to changes in human behaviour and lifestyle over the last century on the background of genetic susceptibility. Type 2 diabetes (T2D) and the associated metabolic syndrome (hyperinsulinaemia, impaired glucose regulation, hypertension, dyslipidaemia, central obesity) is a major risk factor for cardiovascular disease (CVD). We propose to test in a pilot study the feasibility of a randomised controlled trial (RCT) of an intervention for the primary prevention of type 2 diabetes (T2D) and subsequent cardiovascular disease. A 2x2 factorial design of behavioural lifestyle modification and the use of metformin will be targeted at people of Bangladeshi origin at high risk of diabetes who have the metabolic syndrome. Participants will be identified via general practice electronic medical records using a diabetes risk score based on routinely collected data. The pilot will test the feasibility of identification and recruitment of participants and all aspects of study design, data collection and intervention. The main outcome of the pilot will be a robust protocol for the full cost-effectiveness trial.
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<tbody>
<tr>
<td>Dr Susan Kerr</td>
<td>Glasgow Caledonian University</td>
<td>Reducing the prevalence of smoking in people with mental health problems: an exploration of the role, knowledge and attitudes of community-based mental health professionals and general practitioners</td>
</tr>
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**Co-Investigators**  
Dr Barry Gibson-Smith (Anniesland Medical Practice)  
Professor Robert Hunter (Greater Glasgow Primary Care Division)  
Dr Murray Lough (NHS Education Scotland)  
Professor Robin McCreadie (Crichton Royal Hospital)  
Professor Hazel Watson (Glasgow Caledonian University)

**Abstract**  
The prevalence of smoking in people with mental health problems has been shown to be more than twice that of the general population. In addition, people with mental health problems are more likely to suffer from smoking-related diseases, including heart disease and respiratory disorders. Studies have shown that more than 50% of people with mental health problems who smoke would likely to stop; however, support is rarely provided by the health professionals with whom they have contact. The aim of the proposed study is to gather information that will be used to develop an educational intervention designed to, encourage community-based mental health professionals and general practitioners to discuss the subject of smoking cessation with people who have mental health problems, and, to ensure that people who wish to stop smoking are provided with appropriate levels of support. The study will adopt a qualitative approach and will gather interview data from community-based mental health professionals, general practitioners and people with mental health problems who smoke. The efficacy of the educational intervention, informed by the findings of the study, will be tested in future work.

www.caledonian.ac.uk/nmch/research/CNMRC.html
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<td>Professor Keith Lloyd</td>
<td>University of Wales Swansea</td>
<td>Lifestyle interventions to improve the physical health of people with severe mental illness: barriers to uptake</td>
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<tr>
<td>Dr Peter Henry Lowry Aitken (Devon Partnership NHS Trust)</td>
<td><strong>BACKGROUND:</strong> People with severe mental illness (SMI) are a socially excluded, high risk group for developing smoking, alcohol, physical inactivity and obesity related diseases. <strong>OBJECTIVES:</strong> To investigate barriers and opportunities to promoting uptake of positive lifestyle interventions among SMI populations. <strong>RESEARCH QUESTION:</strong> How do people with SMI, their carers and professionals, perceive physical health-improving lifestyle changes compared to other aspects of wellbeing such as psychiatric symptom control? <strong>DESIGN:</strong> Mixed methodology qualitative and quantitative study using questionnaires and focus groups. <strong>SETTING:</strong> S.Wales and S.W England. <strong>BENEFITS:</strong> Better targeting of more generalisable preventive interventions in this high risk group.</td>
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<td>Professor Guy Edward John Faulkner (University of Toronto)</td>
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<td>Dr Kenneth Macleod (Royal Devon &amp; Exeter Hospital)</td>
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<td>Dr Jaynie Yvonne Rance (University of Wales Swansea)</td>
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<td>Dr Frances Rapport (University of Wales Swansea)</td>
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<td>Professor Gareth Howard Williams (Cardiff University)</td>
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<td>Professor David Robert Rhys Williams (University of Wales Swansea)</td>
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</table>
Co-Investigators
Professor Simon Capewell (University of Liverpool)
Dr Andrew Cunliffe Hayward (University College London)
Mr Paul Lincoln (National Heart Forum)
Dr Irene Petersen (University College London)
Professor Peter Hynes Whincup (St George's Hospital Medical School)

Abstract
Mortality for coronary heart disease (CHD) in the UK has halved since 1980, but CHD is still the commonest cause of death. The decrease since 1980 may be due to lower incidence of CHD, or because of better survival and prognosis after CHD, or both. Lower incidence may be due to changes in risk factors in the population: for example, the decline in smoking. Improved prognosis following CHD will mainly be attributable to wider use of proven treatments in secondary and primary care. Since the publication in 2000 of the National Service Framework for CHD, health service expenditure on CHD has greatly increased, and the UK now spends more per head than any other European country. However most of the spending increase has been concentrated on treatment for CHD, in particular on an expansion in revascularisation services. It is therefore important that we understand the main reasons why CHD has fallen in the last two decades. Then government departments will be able to make evidence-based choices concerning resource allocation, to bring about further decreases in CHD mortality. We will analyse three data sets; (i) the British Regional Heart Study which has followed over 7000 British men for 25 years for CHD incidence and has collected physical and biochemical measures, and has administered seven questionnaires concerning health status, use of treatment, health behaviour etc; (ii) the General Practice Research Database (and the similar THIN database), which has captured computer-recorded information on consultations by patients from over 700 general practices since 1990, and (iii) the Health Survey for England (HSE), which annually surveys about 19,000 people, and in 1994, 1998 and 2003 concentrated on cardiovascular disease. From these studies, we will describe trends in CHD, in risk factors, treatment rates, and survival rates after CHD. In particular we will evaluate the relationship between risk factor changes, treatment and trends in CHD. Using the established IMPACT model, we will then estimate the contribution of changes in risk factors, and increases in treatment, in decreasing the CHD epidemic. We will work with the National Heart Forum, a well-established and influential advocacy group concerning government health policy, to help guide our analysis, and to disseminate our findings.
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<tbody>
<tr>
<td>Dr Andrew Russell</td>
<td>Durham University</td>
<td>The Smoke Free North East Office: a model of good practice for England</td>
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**Co-Investigators**

- Dr David Chappel (North East Public Health Observatory)
- Professor David Hunter (Durham University)
- Professor James Mason (Durham University)
- Professor Martin White (University of Newcastle-Upon-Tyne)

**Abstract**

This proposal is to study the effectiveness of the Smoke Free North East Office (SFNEO), the first regional Tobacco Control Office (TCO) in England. It is modelled on the successful experience of the California TCO. A phased approach using multiple methods (including anthropological, epidemiological and economic) will be used to fully describe the formation and functioning of the TCO and to monitor outcomes. Primary outcomes include changes to public opinion; secondary outcomes include prevalence of smoking. Comparisons will be made with England over the same time period. The results of this study will be used to further publicise the work and operation of the SFNEO in the NE of England, provide a model for other regions considering developing a TCO and evidence on which the development of equivalent bodies can be based, and will inform the development of the SFNEO and increase its efficiency.

www.dur.ac.uk/anthropology/research/projects/fresh/
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<tr>
<td>Professor Aziz Sheikh</td>
<td>Edinburgh University</td>
<td>Promoting smoking cessation in Bangladeshi and Pakistani male adults: pilot randomised controlled trial</td>
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**Co-Investigators**

- Dr Amanda Amos (University of Edinburgh)
- Dr Paul Aveyard (University of Birmingham)
- Professor Raman Bedi (Department of Health)
- Professor Raj Bhopal (University of Edinburgh)
- Dr Paramjit Gill (University of Birmingham)
- Professor Robin John Prescott (University of Edinburgh)
- Dr Philip Shackley (University of Newcastle)
- Professor Martin White (University of Newcastle upon Tyne)
- Mr Qaim Zaidi (British Heart Foundation)

**Abstract**

Background: Bangladeshis and Pakistanis are two of the most deprived and marginalised communities in Britain, with persistent poor health outcomes for a range of chronic disorders. Tobacco use is particularly high amongst males. Bangladeshis and Pakistani smokers are poorly served by current primary care and specialist smoking cessation services; existing service formulations need adaptation to better meet their needs.

Objectives: In relation to Bangladeshi and Pakistani adult male smokers, we aim to refine and pilot two models (operating within smoking cessation clinics; and operating within clinics + additional community outreach work) of using trained community smoking cessation workers to improve reach of, access to and success of NHS smoking cessation services.

Methods: Pilot cluster randomised controlled trial based in Birmingham comparing the effectiveness of these interventions with standard care.

Outcomes: Our outcome measures of interest include the proportion of smokers that attempt to quit using the stop smoking service as a proportion of all those in intervention and control areas that attempt to stop smoking in the same period, the acceptability of the interventions offered, concordance, design effect and short- (4 weeks) and medium-term (3 and 6 month) quit rates with a view to conducting a definitive trial. In addition, we will assess the impact of these interventions on concomitant short- and medium-term smokeless (oral) tobacco use.
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<tr>
<td>Ms Martine Stead</td>
<td>Stirling University</td>
<td>Buywell: evaluation of a targeted marketing intervention to influence food purchasing behaviour by low income consumers</td>
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</tbody>
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Co-Investigators
Professor Annie Anderson (University of Dundee)
Mr Douglas Eadie (University of Stirling)
Mrs Anne Findlay (University of Stirling)
Professor Nick Hanley (University of Stirling)
Ms Anne Marie MacKintosh (University of Stirling)
Professor Leigh Sparks (University of Stirling)

Abstract
BUYWELL aims to use marketing levers to influence the food purchasing behaviour of low income consumers. Formative research with low income consumers will be used to develop a targeted marketing intervention to encourage and facilitate healthier food purchases. The intervention will be implemented in a sample of 10 Co-operative Group stores in one or two television regions of the UK, and will include direct mail price promotions linked to specific products, tailored messages promoting the benefits of dietary change, and other marketing strategies (for example, loyalty card points/vouchers linked to one-off and repeat purchases of specific products, in-store and shelf-edge signage). A sample of 10 stores matched on area and trading characteristics will serve as a control group. The impact on purchases of targeted and associated products will be assessed through analysis of electronic retail sales data in both intervention and control stores for a period of 8 months pre-, during and post-intervention. Consumer views on and response to the marketing intervention will be assessed through a post-intervention in-home survey with 1,500 intervention and control store consumers. Process evaluation will assess the quality of implementation and intervention feasibility and sustainability. Economic evaluation will assess the costs and benefits of the intervention from the perspective of the retailer, and potentially also from the consumer perspective. The study will add to the evidence base on the effectiveness of ecological interventions in general and marketing interventions in particular, for addressing health inequalities in diet. By demonstrating the impacts and costs of marketing interventions delivered by food retailers, its findings will have important implications both for nutrition policy and for industry.

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<tr>
<td>Professor Andrew Steptoe</td>
<td>University College London</td>
<td>Web-based weight loss interventions for African-Caribbean women</td>
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**Co-Investigator**  
Professor Jane Wardle (University College London)

**Abstract**  
African-Caribbean women are more likely to be obese than are other women in the population, and are more likely to suffer from non insulin-dependent diabetes and cardiovascular disease. However they are not currently well supported in weight loss efforts. US-based studies have shown the potential for culturally-adapted weight loss interventions and Internet-based behavioural weight loss programmes, but there has not been a study combining these two approaches. We aim to reduce the risk of chronic disease in African-Caribbean women by promoting weight loss by developing a culturally appropriate Internet based weight loss programme. This 3 year research project will utilise both qualitative and quantitative methodologies, working with the African-Caribbean community at all stages. It will have four phases. Phase 1 will be a qualitative investigation of cultural issues applicable to food and physical activity habits in the context of promoting weight loss. Focus groups will be conducted with African-Caribbean women and also health professionals who work with African-Caribbean women. Findings from Phase 1 will inform the adaptation of an existing lifestyle programme developed by the research charity Weight Concern that has already successfully helped people manage their weight. This will be implemented on the Internet. Phase 2 will be a qualitative analysis of the resulting programme in terms of usability (e.g. navigation), and cultural relevance (e.g. specific content). Phase 3 will be a feasibility trial involving a waiting-list controlled design to assess the efficacy of the programme with overweight and obese African-Caribbean women recruited via a workplace. Outcome measures will include weight loss, changes in diet, physical activity and quality of life (including self-esteem and body-image). Phase 4 is a quantitative (questionnaire) and qualitative (semi-structured interviews) analysis of the programme’s strengths and weaknesses, to inform future development and use of the package. This intervention has the potential to reach large numbers of people. National trends indicate that African-Caribbean women will increasingly have access to the Internet through work and home, and the development of validated materials to support their weight loss efforts is a priority. The study will also serve as a model for how weight loss programmes can be customised to the needs of different subgroups in the population.
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<tr>
<td>Dr Adrian Taylor</td>
<td>Exeter University</td>
<td>Walking as an aid to smoking cessation: a feasibility study in an NHS Stop Smoking Service</td>
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**Co-Investigator**
Dr Michael Ussher (St Georges Hospital Medical School)

**Abstract**
Research suggests that brief low-moderate intensity exercise, such as walking, can be used to regulate withdrawal symptoms and cigarette cravings during temporary smoking abstinence. However, few trials have identified an effect of exercise programmes on rates of smoking abstinence. A reason may be that brief exercise has not been promoted as a coping strategy for reducing the desire to smoke. The proposed will develop and evaluate an exercise component (for inclusion in a standard 6-week smoking cessation clinic), based on scientific research and an initial survey of smoking counsellors and quitters. The outcomes will inform future research trials.

www.sshs.ex.ac.uk/staffprofiles/taylor_b.htm
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<tr>
<td>Dr Luke Vale</td>
<td>University of Aberdeen</td>
<td>An economic evaluation of obesity prevention for UK adults</td>
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### Co-Investigators
- Dr Lorna Aucott (University of Aberdeen)
- Dr Alison Avenell (University of Aberdeen)
- Ms Flora Douglas (University of Aberdeen)
- Ms Alison Goode (University of Aberdeen)
- Professor Mandy Ryan (University of Aberdeen)
- Professor Matthew Sutton (University of Aberdeen)
- Dr Edwin van Teijlingen (University of Aberdeen)

### Abstract
This study will allow policy makers to choose from alternative obesity-reducing interventions, which aim to reduce diabetes, coronary heart disease (CHD) and cancer through lifestyle changes in the population. The study will involve the collaborative effort of specialists from the disciplines of economics, public health, clinical nutrition, epidemiology and sociology. The main objective is to perform a Cost-Benefit Analysis (CBA) to compare alternative lifestyle interventions. The data required to perform the CBA will be generated within six Phases of this co-ordinated, tightly focussed, multidisciplinary research project. Phase 1 (systematic reviews) will place the project within the existing literature regarding lifestyles and interventions. Phase 2 (qualitative analysis) will investigate in depth the perceptions of lay persons, NHS professionals and policy makers on obesity and its prevention. Phases 1 and 2 will feed crucial and indispensable information into all subsequent phases. Phase 3 (health economics analysis) will perform a Discrete Choice Experiment (DCE) to estimate monetary values and expected take-up rates of alternative lifestyle plans aimed at preventing obesity. Phase 4 (econometric analysis) will perform large panel data set estimations to establish the sensitivity of obesity outcomes to lifestyle levels and changes at the population level. Phases 3 and 4 will be linked, in that the design of the DCE will reflect the structure of the survey data sets variables. DCE and survey estimates will be combined to perform counterfactual analysis and generate predictions on alternative lifestyle interventions based on population characteristics. Phase 5 (analysis of cost) will use unique NHS Scotland hospitalisation data to estimate lifetime costs and benefits based on changes in the onset of diabetes, CHD and cancer attributed to changes in lifestyles and obesity levels. Phase 6 (CBA) will use all the data generated by Phases 1-5. This CBA will provide incremental net benefits for alternative lifestyle interventions. The output will inform policy on the development and implementation of optimal lifestyle interventions for the future prevention of obesity. The multivariate nature of the analysis will enable specific targeting according to specific population characteristics.
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<tr>
<td>Professor Paul Wallace</td>
<td>University College London</td>
<td>DYD-RCT: on-line randomised controlled trial of an interactive web-based intervention for reducing alcohol consumption</td>
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</table>

## Co-Investigators
- Professor Christine Ann Godfrey (University of York)
- Mr Stuart Linke (Camden & Islington Mental Health)
- Dr Jim McCambridge (Institute of Psychiatry)
- Dr Elizabeth Murray (University College London)
- Professor Simon Thompson (University of Cambridge)

## Abstract
Excess alcohol consumption is a major public health problem with around one quarter of the UK population at risk of harm from excess alcohol. Brief interventions are known to be effective in reducing alcohol consumption, but often fail to reach those at risk. A pilot study found that an on-line intervention could reduce alcohol consumption in heavy drinkers. The aim of the study is to determine whether the fully interactive on-line intervention DYD: www.downyourdrink.org.uk leads to important reductions in alcohol consumption amongst members of the public at risk of harm from alcohol. The comparator for the study will be the minimally interactive website HYD: www.howsyourdrink.org.uk which will provide information only. The trial will be conducted entirely on-line, including registration, screening, recruitment, randomisation and baseline and follow-up assessments. This will be a 3.5-year complex intervention study, incorporating a Phase 2 development stage taking 15 months (optimization of intervention, on-line trial materials, and overall trial design, together with a pilot phase to determine the likely rates of recruitment and compliance), and a Phase 3 two-arm randomized controlled trial conducted on-line, with recruitment over 12 months and follow-up for 12 months. Stop-go criteria will be used for decisions regarding progression from Phase 2 to Phase 3. Trial closure, analysis and publication will take a further 3 months.

www.ucl.ac.uk/pcps/research/ehealth/index.htm
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<tr>
<td>Professor Robert West</td>
<td>University College London</td>
<td>The effect of Tabex (cytisine) on success of attempts to stop smoking</td>
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</table>

**Co-Investigators**
- Dr Paul Aveyard (University of Birmingham)
- Ms Magda Cedzynska (Cancer Centre & Institute of Oncology)
- Mr John Stapleton (Institute of Psychiatry, Kings College London)
- Professor Witold Zatonski (Cancer Centre & Institute of Oncology)

**Abstract**
This is a placebo-controlled RCT of Tabex (cytisine) as an aid to smoking cessation. Tabex currently has a licence as a stop smoking medication in some countries in Eastern Europe and has undergone Phase I, Phase II studies and clinical trials. However, the clinical evidence is not sufficient to permit firm conclusions to be made about efficacy or for a licence to be granted in countries such as the UK or US. A recent uncontrolled study in Poland found 12-month continuous abstinence rates, verified by expired air CO, of 18% with minimal behavioural support. This compares favourably with success rates using nicotine replacement therapy. Tabex is very inexpensive and offers the prospect of a treatment costing a small fraction of that currently available. 720 smokers of 10 or more cigarettes per day who are not contra-indicated for the medication would receive Tabex or matching placebo. The primary outcome measure would be 6-months’ continuous abstinence verified by expired-air CO.
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<tr>
<td>Professor Peter Whincup</td>
<td>St George's Hospital Medical School</td>
<td>Early emergence of ethnic differences in chronic disease risk: the contribution of diet and physical activity</td>
</tr>
</tbody>
</table>

**Co-Investigators**

Professor Derek Cook (St Georges, University of London)
Dr Ulf Ekelund (University of Cambridge)
Dr Alison Stephen (MRC Human Nutrition Research Unit)

**Abstract**

British South Asian adults have increased risks of obesity, type 2 diabetes and coronary heart disease compared with White Europeans, while those of African-Caribbean origin have increased risks of obesity, type 2 diabetes and stroke. Recent studies suggest that these ethnic differences in disease risk are persisting in second/third generation immigrants and that they emerge in childhood. Dietary and physical activity patterns are important determinants of risks of obesity, type 2 diabetes and cardiovascular disease; ethnic differences in diet and physical activity could be important in the aetiology of ethnic differences in risks of these diseases and may offer scope for prevention. However, information on the extent to which diet and physical activity differs among British children from different ethnic groups is limited. In an ongoing survey of the cardiovascular health of 9-10 year old British children among different ethnic groups, we will carry out detailed assessments of dietary intake (using a 24 hour dietary recall and a 3-day prospective dietary diary) and make objective measurements of physical activity over a 7-day period using the validated Actigraph movement sensor. The information collected will allow us (a) to quantify ethnic differences in dietary intake and levels of physical activity; (b) to determine the relations of diet and physical activity to adiposity, insulin resistance, the metabolic syndrome and other cardiovascular risk markers among children of different ethnic groups; (c) to examine the extent to which ethnic differences in diet and physical activity explain emerging ethnic differences in these risk markers and (d) to study the potential determinants of diet and physical activity levels in an ethnically diverse population of children (including factors measured at individual, family, school and community levels). The results of the study will inform the development of strategies directed to early prevention of chronic disease in these high-risk ethnic groups.