

**NATIONAL PREVENTION RESEARCH INITIATIVE:
LIST OF AWARDS AND ABSTRACTS FOR PHASES 4**

NPRI Phase 4 Awards (n=19) Awards Announced 2012

Applicant/Grant Holder	Research Organisation	Title
Adamson Professor Ashley	Newcastle University	How can we help parents recognise unhealthy body weight in their children
Ahern Dr Amy	MRC Centre Cambridge	A randomised controlled trial to test the clinical and cost-effectiveness of primary care referral to a commercial weight loss provider.
Conner Professor Mark	University of Leeds	Smoking prevention in young people: A cluster randomised controlled trial of implementation intentions
Gardner Dr Benjamin	University College London	Reducing sedentary behaviour in older adults: Development of a brief habit-based intervention
Hastings Professor Gerard	University of Stirling	Alcohol Policy Interventions in Scotland and England: APISE
Irvine, Dr Linda	University of Dundee	Preventing alcohol-related harm among young women: development and feasibility testing of a community-based group intervention
Jago Dr Russell	University of Bristol	Action330: Promoting children's physical activity via enhanced after-school leadership
Lakshman Dr Rajalakshmi	MRC Centre Cambridge	Establishing a healthy growth trajectory from birth: The Baby Milk Trial
Lewis Ms Amanda Louise	University of Birmingham	A randomised controlled trial to test the effectiveness of a brief intervention for weight management for obese adults in primary care.
Lewis Professor Sarah	University of Nottingham	The effectiveness of mass media campaigns in reducing smoking, second-hand smoke exposure and smoking-related disease in England & Wales
Norman Dr Paul	University of Sheffield	Time to change! Using the transition from school to university to promote healthy lifestyle habits in young people

Owen Dr Christopher	St George's University of London	Will moving into social and affordable housing in the Athletes' Village increase family physical activity levels? Evaluation of a natural experiment
Rayner Dr Michael John	University of Oxford	FLICC (Front of pack food Labelling: Impact on Consumer Choice)
Relton Dr Clare	University of Sheffield	A randomised controlled trial of the 'Health in Early Feeding Scheme' to improve breastfeeding in neighbourhoods with low 6 week breastfeeding rates
Siddiqi Dr Kamran	University of Leeds	Muslim Communities Learning About Second-hand Smoke - MCLASS pilot cluster randomised controlled trial
Sniehotta Dr Falko Frank	Newcastle University	Development and stage 2 RCT with internal pilot of a weight loss maintenance intervention for obese adults after clinically significant weight loss
Taylor Professor Adrian	University of Exeter	Integrating Behavioural Activation and Physical Activity promotion (BACPAc): A pilot randomised controlled trial with depressed patients
Thompson Dr Dylan	University of Bath	Personalised social marketing of multi-dimensional physical activity profiles in at risk men & women
Woodside Dr Jayne	Queen's University of Belfast	Peer support to encourage adoption and maintenance of Mediterranean diet: a feasibility and pilot study.

Phase 4: Abstracts of awards

Professor Ashley Adamson (Newcastle University)

How can we help parents recognise unhealthy body weight in their children?

Childhood obesity is an urgent public health problem yet the identification of effective preventive strategies remains elusive. Parents have a key role in prevention strategies; they are central to the development of their child's health-related behaviours and are relied upon to distinguish between healthy and unhealthy weight. A wealth of data exist which shows that parents are unable to make this distinction. Previous work in Newcastle and by others has shown that, rather than using objective methods, parents tend to use alternative approaches such as assessing their child's appearance and comparing them with others to identify their weight status, which, in the context of a high prevalence of childhood overweight and obesity means that they rely on extreme cases as a reference point. We have also shown that parents are more sensitive to visual characteristics (skinfolds and waist circumference) than BMI when determining their child's weight status.

Addressing the disconnect between parents' perceptions and actual child weight status is important. If parents do not perceive their child as deviating from a healthy weight they are unlikely to take action to implement change. Research indicates that parents who perceive their child's weight as being a health problem are more likely to make changes to their lifestyle.

This multistage study will develop and test measures to improve parents' ability to correctly assess their child's weight status (in line with the criteria used in the National Child Measurement Programme (NCMP)), as well to increase their knowledge of the health consequences of childhood overweight.

In stage 1 we will use portable 3D body scanning technology to create gender specific body image scales for 4-5 and 10-11 year olds (age groups included in the NCMP). In stages 2 and 3 we will use these scales and evidence from previous research to develop three tools to enable parents to better recognise childhood overweight along with supporting information to increase parental knowledge of its consequences. These two stages will include extensive consultation with parents who will inform the development of the tools and supporting information and the approach to delivery. Two tools will be selected to take forward to a cluster randomised trial in stage 4 to determine which works best. Policy and practitioner partners in the study team will ensure that the study outputs are directly transferable to practice and will support the work of the National Obesity Observatory and NHS Choices.

Dr Amy Ahern (MRC Centre Cambridge)

A randomised controlled trial to test the clinical and cost-effectiveness of primary care referral to a commercial weight loss provider

The rising prevalence of adult overweight and obesity and the associated burden of disease are putting increasing pressure on NHS resources. There is an urgent need for treatment options for weight-loss that are clinically and cost-effective and deliverable at scale in primary care. Recent trials demonstrate the acceptability and short term efficacy of primary care referral to a commercial weight loss provider. NHS commissioners now need information on the optimal duration of intervention and the longer term outcomes and cost effectiveness of such treatment to give best value for money. The proposed 2 year randomised controlled trial will evaluate the clinical and cost effectiveness of 3 weight loss treatments that can be delivered in primary care (referral to a commercial weight loss provider (Weight Watchers; WW) for 12 weeks; referral to WW for 12 months; and a brief intervention that consists of standard information and periodic weighing with feedback). Participants will be 1200 overweight and obese adults (BMI 27kg/m² and above; Age 18years and over) identified by their GP as benefitting from weight loss and randomised at a baseline assessment by the research team. Follow up assessments will be made by the research team at 3, 12 and 24 months and data reported to the GP. Main outcomes for evaluation of clinical effectiveness will be changes in weight, fat mass, and blood pressure, and the primary analysis will be an intention to treat analysis of differences between treatments. Secondary analyses will include a completer's only analysis and the proportion of participants losing 5% or more of initial weight. Evaluation of cost-effectiveness will include changes in quality of life and health care usage over the two year period. A within-trial and long term cost-effectiveness analysis will be conducted from an NHS perspective. Qualitative methods will be used to examine the

experience of patients and practitioners involved in the trial and their attitudes to weight loss treatment in primary care in general and to commercial partnerships specifically. The quantitative and qualitative research findings will combine to give meaningful information on the implementation and effectiveness of primary care referral to a commercial weight loss provider and will directly inform commissioning of weight loss treatment in primary care. Plans for dissemination of research findings include specific strategies for health professionals, NHS commissioners and policy makers, as well as the general public and academic peers.

Professor Mark Conner (University of Leeds)

Smoking prevention in young people: A cluster randomised controlled trial of implementation intentions

This research would test an intervention to reduce smoking initiation in adolescents initially aged 11-12 years over a 4 year time period. The intervention would employ a simple but effective strategy to refuse offers of cigarettes (if-then plans about how to say no to offers of cigarettes) against a control condition. The intervention would be conducted in schools in classroom time on nine occasions. The outcome measure would be smoking behaviour assessed by self-report and more objective measures (smokerlyser) at ages 11-12, 12-13, 13-14, 14-15, and 15-16 years.

Dr Benjamin Gardner (University College London)

Reducing sedentary behaviour in older adults: Development of a brief habit-based intervention

Regular physical activity (PA) can improve physical and mental health and enhance quality of life among older adults. PA promotion attempts among this population have tended to focus on initiation of activity, but problems remain around activity maintenance after cessation of an intervention period. Maintenance of PA can be aided through the development of 'habits', whereby PA becomes a relatively automatic response to settings in which PA is usually undertaken. We propose to develop and assess the feasibility of a brief intervention based on provision of simple advice to older adults, with the aim of prompting the formation of PA habits following retirement from work. Such an intervention would be a potentially low-cost, non-resource-intensive method to promote enduring PA change among older adults, so reducing costs of service provision and promoting self-care, self-management, and independence among older adults.

In Study 1, an expert panel will develop a set of recommendations for the performance of simple, non-intensive everyday physical activities likely to benefit health and lead to habit formation. The credibility of these will subsequently be assessed via interviews conducted with a panel of older adults (aged 60+). Feedback will be used to refine the recommendations. In Study 2, we will assess the feasibility of recruiting participants to an intervention based on these recommendations, and explore whether the intervention should be expanded so as to incorporate elements of social or community support. A sample of 30 older adults will receive the recommendations. Analysis will focus on recruitment and retention rates, adherence to recommendations, and changes in health between baseline and eight-week follow-up. Semi-structured interviews will explore experiences of using the recommendations, and whether further intervention content is needed to complement the recommendations. In Study 3, the feasibility of administering the intervention, as refined to address intervention content or recruitment issues identified in Study 2, will be assessed among 50 older adults. We will also assess pre-post behaviour changes. Study 4 will use an exploratory controlled trial design to evaluate the intervention administered in Study 3 among 150 older adults that have recently retired or are due to retire imminently. Changes in physical activity, habit, health and functioning will be explored. If Study 4 were to suggest efficacy, future work would subject the intervention to a definitive RCT to assess efficacy and cost-effectiveness, informed by an effect size estimate generated by Study 4.

Professor Gerard Hastings (University of Stirling)

Alcohol Policy Interventions in Scotland and England: APISE

This study will examine impact of alcohol control efforts and marketing on the knowledge, attitudes and behaviours of adult drinkers in Scotland and England. As alcohol policies differ, a natural experimental setting exists to compare the impact of policies implemented in either

of the countries. The study will comprise a literature review of key alcohol strategy documents, interviews with professionals involved in alcohol control, focus groups with adult drinkers, and telephone surveys of adult drinkers. The same adult drinkers will be surveyed twice to assess changes in knowledge, attitudes or behaviours attributable to changes in alcohol control or marketing efforts.

Dr Linda Irvine (University of Dundee)

Preventing alcohol-related harm among young women: development and feasibility testing of a community-based group intervention

Binge drinking is common among young women. This feasibility study will develop and test a community based group intervention to reduce binge drinking among women aged 18 – 34 years. It follows MRC guidelines for developing complex interventions.

The feasibility study will be presented as a study about “looking good and feeling great”. It will be conducted in three phases. Phase 1 will develop the recruitment strategy and intervention package. A community outreach strategy will recruit participants in three ways: by word of mouth from existing formal community groups; by advertising on two local radio stations and through a poster campaign. Six focus groups with young women will be convened to develop the recruitment strategy and test the components of the intervention package.

Phase 2 is a before and after intervention study. The intervention, which is age and gender sensitive, will be delivered to 20 groups of women (comprising three to eight individuals) who regularly drink together. Different types of groups will be recruited eg work colleagues; young mothers; gym or other activity group members; students; and unemployed young women from areas of high deprivation. The intervention is based on the health action process approach (HAPA) model which specifies motivational and volitional components of behaviour change. Three sessions will be delivered to complete groups of women approximately one week apart. Motivation to change will be generated using motivational interviewing techniques, which have been shown to be effective with groups. Intentions to reduce the frequency of binge drinking will be translated into behaviour change using action planning and coping planning. The sessions will be divided according to the HAPA model; promoting motivation/intention, action planning/coping planning and maintenance/relapse prevention. Women will be followed up individually by telephone interview three months after the intervention. The study will assess the acceptability and perceived impact of the intervention and changes in the women’s drinking and intentions to drink alcohol.

In Phase 3, four focus groups will explore the impact of each of the components of the intervention. In addition, a survey of young women who were exposed to the recruitment campaign will also be conducted to assess its impact. If the feasibility study is successful in changing drinking intentions, funding will be sought for a large before and after study to test the effectiveness of the intervention on binge drinking.

Dr Russell Jago (University of Bristol)

Action330: Promoting children's physical activity via enhanced after-school leadership

Many children do not engage in enough physical activity (PA). After-school PA sessions delivered by trained Teaching Assistants (TAs) could be a pragmatic, scaleable method of increasing children’s PA. We will develop a new TA programme that is based on behaviour change theory. We will conduct a feasibility study in which Year 5/6 children in 10 schools receive the programme. The effect of the programme on the PA of this group will be compared to the PA of children in 10 comparison schools. We will obtain all of the information needed to design an evaluation of the programme

Dr Rajalakshmi Lakshman (MRC Centre Cambridge)

Establishing a healthy growth trajectory from birth: The Baby Milk Trial

The prevalence of childhood obesity has increased rapidly over the past two decades. This has important consequences for morbidity and mortality in childhood and in later life. The 2006/07 National Child Measurement Programme (NCMP) showed that in England, by the time children start school, 13% are overweight and a further 10% are obese. The Foresight Report and the Healthy Weight Healthy Lives strategy have highlighted the importance of

preventing childhood obesity by focussing on the early years. However, to date there is little evidence on which to develop effective preventive strategies. Infancy is a period of rapid growth, developmental plasticity and habit formation; hence could be a critical period when obesity prevention may be most effective.

Current UK formula-milk feeding instructions are based on 1985 World Health Organisation (WHO) recommendations. In 2004, based on new data on energy expenditure in infants, the WHO suggested that 1985 recommendations overestimated infant energy requirements by 15 to 20%. This may contribute to excess weight gain in formula-milk fed infants. The UK 2005 Infant Feeding Survey showed that the number of babies receiving formula-milk increased from 35% at birth to 92% at 6 months. Hence, in addition to promoting breastfeeding, it is important to optimise the growth of formula-milk fed babies.

We aim to evaluate the cost-effectiveness and acceptability of a complex behavioural intervention to avoid excess formula-milk intake and to prevent rapid weight gain during infancy. Guided by the MRC framework for complex interventions, our multi-disciplinary group have used an iterative process to optimise the proposed intervention and its evaluation.

We will recruit 700 mothers who introduce formula-milk feeds within six weeks of their baby's birth into a randomised controlled trial. The intervention group will receive the theory-based behavioural intervention delivered by trained and quality-assured facilitators over six months through 3 face-to-face contacts, 2 telephone contacts and written materials. The control group will have the same number of contacts with facilitators during which general issues about feeding will be discussed. The primary outcome is change in weight standard deviation score (SDS) from birth to 1 year. Secondary objectives are to quantify the effects of the intervention on infant energy intake and diet at age 8 months and changes in infant adiposity during the first year of life.

The study will increase our understanding of infant nutrition and growth. This intervention can be potentially incorporated into routine UK infant health promotion and education strategies.

Ms Amanda Louise (University of Birmingham)

A randomised controlled trial to test the effectiveness of a brief intervention for weight management for obese adults in primary care

Obesity is an increasing problem in the UK, affecting 25% of the adult population but modest weight loss can reduce the incidence of chronic disease due to obesity. There are some effective weight loss treatments available, but there is no nationally available treatment service in the NHS and GPs rarely discuss weight management with patients or support behaviour change. Brief opportunistic advice by GPs prompts smokers to stop and problem drinkers to reduce but there is no evidence that brief interventions by GPs are effective for weight management. Two recent trials show that commercial weight management services, which most PCTs have 'on prescription', are more effective than primary care treatment. Thus, we propose a controlled trial in which patients will be randomised to receive either the offer of help by referral to a weight management service and follow up to assess progress or advice to lose weight on medical grounds. The primary outcome will be weight change at 12-month follow-up. Additional research questions to be addressed include: What actions do people take to manage their weight in response to the two types of GP intervention? How do obese patients feel about GPs discussing weight management when they have visited for reasons other than their weight and how does this vary by intervention type? How do GPs feel about raising the issue opportunistically and giving the two types of brief intervention? What is the cost per kg/m² lost of the two types of intervention?

The trial would take place in the West Midlands and involve 60 GP practices. Research assistants visiting the GP practices would objectively measure weight and height prior to GP consultations and randomise willing patients (BMI 30+, 18+ years) using sealed envelopes. Based on calculations, we anticipate that full recruitment (n=1824) can be achieved in 46 weeks, requiring no more than 6 sessions of advice-giving per GP. Following intervention, participants will be contacted at 3 months via telephone, to identify the actions they have taken to manage their weight. Further, we will book appointments for participants to be seen again at their own surgeries for a 12-month follow-up.

The trial results could make the case for brief interventions for obese people consulting their doctor and introduce widespread simple treatments akin to the NHS Stop Smoking Service.

Likewise, the intervention could be introduced in to the Quality and Outcomes Framework and influence practice worldwide.

Professor Sarah Lewis (University of Nottingham)

The effectiveness of mass media campaigns in reducing smoking, second-hand smoke exposure and smoking-related disease in England & Wales

There is international evidence that anti-smoking mass media campaigns can be effective in changing attitudes and smoking behaviour, but there is still little known of the relative influence of different types of campaign, or of their impact in specific population sub-groups. Moreover, there is very little evidence of the effectiveness, or cost-effectiveness, of campaigns in the UK. The lack of UK evidence has enabled the government to cease funding mass media campaigns, making work in this area an immediate priority. The aim of the proposed research is to evaluate the impact of mass media campaigns in the UK since 2002 and to determine what types of campaign are most effective and cost-effective using a comprehensive set of key indicators of their immediate and longer term impacts, including smokers' attitudes, knowledge and behaviour, smoking prevalence, smoking in the home, and smoking-related health outcomes. We will use a combination of observational approaches, time series analysis and longitudinal panel study analysis, taking data from existing national datasets including The Health Improvement Network primary care data (smoking prevalence, smoking cessation medication prescriptions, consultations for smoking-related disease), Omnibus survey (prevalence), NHS quitline calls, smoking cessation service attendees and 4 week quitters, Nicotine Replacement Therapy (NRT) sales, Hospital Episode Statistics (heart attacks), and Health Survey for England (children's cotinine measurements). Monthly aggregates for many of these are available in our Nottingham Tobacco Control Database, developed in previous NPRI-funded work. Time series analysis will be used to statistically model the population-level change in smoking behaviours and health outcomes in relation to specific campaigns, or month-to-month change in their advertising reach and spend, allowing for underlying trends, seasonality, and impacts of other tobacco control policies. Longitudinal analysis will use International Tobacco Control (ITC) survey data; panel studies of over 2000 adult daily smokers and recent ex-smokers, in each of the UK, US, Canada and Australia. ITC data will be used to assess awareness of mass media campaigns, and individual changes in smoking behaviour, knowledge and attitudes pre and post individual UK campaigns. The planned project will be carried out collaboratively between the Universities of Nottingham and Bath, both part of the UK Centre for Tobacco Control Studies, a UK Public Health Research Centre of Excellence. This provides an ideal context within which to carry out this work, and to ensure that our findings are used in driving effective policy development and implementation.

Dr Paul Norman (University of Sheffield)

Time to change! Using the transition from school to university to promote healthy lifestyle habits in young people

Eating healthily, exercising, drinking sensibly and not smoking are known to reduce the risk of developing serious diseases and conditions (e.g., cancer, heart disease, obesity diabetes). However, few young people engage in health behaviours to a level that reduces their risk of developing such health problems. Early adulthood is a time when many healthy, or unhealthy, lifestyle habits are established. The transition from school to university marks a significant life change for many young people as it typically involves living away from home for the first time and freedom from parental supervision. Young people's behaviour may be more open to change during this transition due to the natural disruption in the environmental context in which such behaviours are performed. The transition from school to university provides a unique opportunity to intervene with a large proportion of young people (up to 40% of school leavers attend university). The proposed intervention therefore seeks to promote healthy lifestyle habits through a multi-device digital intervention that targets several health behaviours during this transition. A randomised controlled trial is proposed with 2 arms: (i) multi-device digital intervention and (ii) control. Participants will be all incoming undergraduate students at a large city university in the UK (N = 4000). The intervention will comprise an interactive website which will be completed by students one month before they enter university, with three components: (i) a self-affirmation task (to reduce defensive processing of the subsequent health messages), (ii) messages and interactive tasks about the targeted health behaviours based on social cognitive models of

health behaviour, and (iii) an implementation intention task to form specific plans to engage in the targeted health behaviours at university. The intervention will continue during students' first month at university through the use of a range of new, digital, technologies that are part of the student's world: mobile phones, social networking sites, and internet enabled devices. Key health behaviours (i.e., diet, physical activity, alcohol consumption, smoking) will be assessed one month prior to university and at one and six months after entering university. Biochemical markers of health-risk behaviours (i.e., alcohol, smoking), health beliefs, health status and academic performance will also be assessed. In addition, an economic analysis will quantify the likely longer-term public health impacts of the intervention. If successful, the intervention could be readily implemented across the university sector and beyond to instigate healthy lifestyle habits during important life transitions.

Dr Christopher Owen (St George's University of London)

Will moving into social and affordable housing in the Athletes' Village increase family physical activity levels? Evaluation of a natural experiment

The built environment may influence levels of physical activity in people living locally. While such an effect is plausible, formal evidence is weak. Housing created by the Athletes' Village after the London 2012 Olympic Games offers state of the art high-quality accommodation designed to encourage healthy, active living. It offers a unique opportunity to use a natural experiment, to assess the impact of a major, focused change in the urban built environment on the physical activity patterns of the local population (adults and children), particularly those from less privileged backgrounds. We aim to establish whether physical activity levels in families who move into the Athletes Village increase in comparison with those living outside the Village and, if so, whether the increase is sustained. We will also examine whether increases in physical activity relate to use of the local environment and, if so, which components of the local environment are most important. We will also examine whether changes in physical activity patterns are modified by other factors, including socio-economic / employment status, perceived social cohesion and safety associated with the Village. We will invite 2800 local families applying to live in social and affordable homes in the Athletes' Village, to join a 3-year cohort study before a formal offer of housing is made (1 adult and 1 child from each family will be invited). Approximately half will then be offered accommodation in the Athletes' Village (intervention) while half will not (control). All participants will be measured in their current place of residence and then 1 and 2 years later. Changes in physical activity (measured objectively using Actigraph monitors) and body build (using bio-electrical impedance) occurring in families which move to the Athletes' Village will be compared with changes occurring in families which do not. Based on our earlier experience, we envisage that 1200 families will agree to participate, of which 840 (70%) will be followed up for 3 years. With approximately equal numbers of intervention and control families, the study is powered to detect even a modest (5%) increase in the number of daily steps (as well as other activity / adiposity outcomes). The study will provide an important test of the principle that the built environment can increase physical activity levels. The results will inform evidence-based urban planning in the future, and help us to understand how the built environment impacts on health inequalities.

Dr Michael John Rayner (University of Oxford)

FLICC (Front of pack food Labelling: Impact on Consumer Choice)

Background: Little is known about how consumers use front of pack (FOP) nutrition labelling in real-life shopping situations. This study will investigate the influence of FOP labelling in real-life food purchasing decisions, and whether that influence can be amplified by supermarket-level and individual-level interventions.

Methods: 1) Systematic reviews will be conducted to establish the current international knowledge of the following areas: consumer understanding and use of FOP labelling in experimental settings; consumer use of FOP labelling in food purchasing decisions; use of FOP labelling by other elements within the food chain (e.g. reformulation by manufacturers). 2) A qualitative study will be conducted to assess the role of FOP labelling in real-life food purchasing decisions. Shoppers will be asked to conduct a routine shopping trip wearing SenseCam – a wearable camera that takes time-stamped first-person photos at regular intervals. Participants will be interviewed immediately after the shop, and SenseCam images will be used to aid recall regarding food purchasing decisions, and to identify areas of the

shop where decisions took the most time. 3) A natural 'before and after' experiment will be conducted using sales data from a UK supermarket from 12 months prior to and after the introduction of FOP labelling. Time trend analysis and time series analysis will be used to assess the effect size of introduction of FOP labelling on food sales, after adjustment for price, weight and promotions. 4) A pilot study will be conducted to assess the feasibility of a randomised controlled trial (RCT) of two interventions aimed at increasing the influence of FOP labelling on food purchase decisions. The study will take place in two supermarkets. One supermarket will be randomised to having strategic signage reinforcing the FOP labelling message. Participants from both supermarkets will be randomised to receiving personalised feedback on the 'healthiness' of their food purchases. Two months of sales data will be collected for each participant, one month prior to and after the interventions. Analysis will assess whether the interventions increase purchases of 'healthy' foods. Expected outcomes: The systematic reviews will assess the current evidence of the impact of FOP labelling on diets. The qualitative study will develop a conceptual framework of the decision process involved in food purchasing. The natural experiment will assess the size of the influence of FOP labelling on food purchases. The pilot study will inform the development of an RCT to test interventions aimed at reinforcing FOP labelling.

Dr Clare Relton (University of Sheffield)

A randomised controlled trial of the 'Health in Early Feeding Scheme' to improve breastfeeding in neighbourhoods with low 6 week breastfeeding rates

Breastfeeding helps prevent disease and promote health in both babies and mothers. It is clear that breastfed babies suffer less tummy upsets, less ear and chest infections, less eczema, and are less likely to develop childhood cancers. It is also clear that mothers who breastfeed are less likely to get breast cancer. Breastfeeding may also reduce the risk of Type 2 diabetes, coeliac disease, obesity and cardiac disease for children. The World Health Organisation recommends that all babies are breastfed up to at least 6 months.

Despite many attempts by the government and the NHS, breastfeeding rates in the UK are among the lowest in the world. So in the UK many children and mothers have illnesses which would be prevented if more babies could be breastfed.

Lots of things have been (and are being) tried to encourage mothers to breastfeed at birth and at 6 weeks and at 6 months. But despite these efforts breastfeeding rates in the UK are still very low. Breastfeeding rates are particularly low in more deprived areas and lower income communities, and these are often areas where people are less healthy generally. One possible approach is the use of financial incentives such as cash and voucher schemes.

There is a long history of taxes being applied to products that are harmful e.g. alcohol and tobacco. More recently cash and vouchers etc. are being paid to encourage healthy behaviours. For example, researchers have studied what happens if you pay some people take their medication or to help pregnant women stop smoking. More recently the government helped pregnant women eat healthy food by paying vouchers to women on Income Support and Job Seekers Allowance (Healthy Start Scheme).

Researchers at the University of Sheffield (working with researchers at the University of York and the University of Brunel) are exploring a new approach to encourage women to breastfeed - a 'Health in Early Feeding Scheme'. Researchers are studying the effect of offering an incentive 'paying' women to breastfeed. The researchers are particularly interested in studying the effect of this Scheme on women who live in areas with very low breastfeeding rates (40% or less babies being breastfed at 6 weeks). These areas also tend to be areas which are very deprived and low income areas.

The researchers hope that by offering women in these areas a 'Health in Early Feeding Scheme', that more babies will be breastfed at 6 weeks. They also hope this Health in Early Feeding Scheme (HEFS) will mean more babies will be breastfed when they leave hospital, at 10 days, at 12 weeks and at 26 weeks. If more babies are breastfed then many diseases will be prevented in both babies and mothers.

This study has three stages:

In the first stage the researchers will select 15 out of 30 neighbourhoods with the lowest breastfeeding rates in Sheffield. The researchers will then finalise the HEFS with pregnant mothers and their families from these neighbourhoods, as well as midwives, health visitors, peer supporters, and doctors. Together they will investigate any barriers, work out the best size of incentive, how often it should be paid to women, who are the best people (e.g. health

visitors, peer supporters, midwives, GPs) to tell women about the scheme and to perform any checks that might be needed for this Health in Early Feeding Scheme. In the second stage, the researchers will then test the HEFS in two of these 15 neighbourhoods. They will find out if it is feasible to offer the HEFS. They will also get a rough idea of the number of extra women who decide to (and do) breastfeed because of the offer of the HEFS.

In the third stage, the researchers will offer the HEF Scheme to all pregnant women in 15 of the 30 study neighbourhoods from areas with very low breastfeeding rates in Sheffield for one year (about 1,250 out of 2,500 women). They will then look at all the information they have to see what effect the HEF Scheme has on breastfeeding rates.

Dr Kamran Siddiqi (University of Leeds)

Muslim Communities Learning About Second-hand Smoke - MCLASS pilot cluster randomised controlled trial

Smoking prevalence is significantly higher among Pakistani and Bangladeshi communities in the UK compared to the national average. In collaboration with Muslim leaders, we have developed a Smoke-Free Homes manual for mosques to encourage their congregation to implement smoking restrictions at home. We have already established its appropriateness in mosques and its feasibility in respective communities. We propose to conduct a pilot study to answer statistical uncertainties around sample size, recruitment and attrition rates. The study will assess feasibility of measuring the proposed outcomes and allows us to test and improve the trial protocol in advance of a large trial.

Dr Flako Frank Sniehotta (Newcastle University)

Development and stage 2 RCT with internal pilot of a weight loss maintenance intervention for obese adults after clinically significant weight loss

Prevalence and incidence of obesity in the UK remain high resulting in considerable morbidity, sickness absence, all-cause mortality and economic costs. Weight loss interventions targeting food intake and physical activity produce initial clinically significant weight loss but people usually regain this weight within 3-5 years. Preventing weight regain is vital in tackling the obesity epidemic. To date, no evidence-based interventions are available in the UK that specifically target weight maintenance. We will follow the MRC framework for the development and evaluation of complex interventions and develop an efficient, scalable intervention to support weight maintenance in initially obese adults who lost a clinically significant amount of weight. The intervention will consist of an initial module providing advice, support and resources on weight maintenance through physical activity and a healthy diet resulting in participants setting specific informed behavioural goals to support weight maintenance. The main intervention will be delivered via an automated digital monitoring system recording weighing and weight on provided scales. The intervention content (e.g. advice, reinforcement, feedback) will be sent to participants mobile phones and will be tailored to weight and regularity of weighing, which has been shown to be a key predictor of weight maintenance.

Both the technology and the intervention will be developed using state-of-the art methods including participatory design and open pilot studies to optimise acceptability and feasibility of the intervention. The team of applicants has excellent expertise in behaviour change, digital technology, nutrition science, health economics, evaluation and public health and a considerable track record of successful joint collaboration. The intervention development will be informed by a recent systematic review of RCTs of weight maintenance interventions after clinically significant weight loss and by qualitative interview studies with potential users. We will conduct a randomised feasibility and design optimisation trial testing the feasibility and acceptability of the intervention and trial procedures with initially obese adults who lost 10% body weight in the previous year. Moreover, we will randomly allocate participants to four variations of the new intervention representing different delivery costs and test the impact of these variations on treatment completion over 3 months, a measure that is highly predictive of success in weight management programmes. This will allow a better informed, simpler design for the definitive trial and a more refined economic assessment. This project will result in a protocol for a definitive RCT of the new intervention for which we will seek additional funding.

Professor Adrian Taylor (University of Exeter)
Integrating Behavioural Activation and Physical Activity promotion (BAcPAc): A pilot randomised controlled trial with depressed patients

Depression is experienced by approximately 10% of the population over a lifetime, contributing 12% of the total burden of non-fatal global disease. It results in low levels of physical activity which is associated with risk of poor physical health. Behavioural activation is a commonly used evidence-based psychological therapy for depression which raises mood by targeting the restoration of daily activities. However, it does not promote physical activity to levels in national guidelines for physical and psychological health benefits. There is considerable scope to develop BA therapy with a greater focus on physical activity promotion at the opportune moment when depression begins to improve. How best to achieve this is a question we will explore, using the behavioural activation clinical protocols, within the national Improving Access to Psychological Therapies training programme, as the basis for adaptation. Adopting the revised MRC framework for the development of complex interventions, this proposal will develop and test an integrated behavioural activation and physical activity protocol. The developmental phase will involve focus groups consisting of patients with depression, Psychological Well-being Practitioners and experts in physical activity promotion to address uncertainties surrounding combining behavioural activation with physical activity promotion. Key outcomes will include the identification of when and how best to add physical activity promotion into the behavioural activation protocol to inform the development of a training programme to support intervention delivery. The developed intervention will then form the basis of a phase II pilot pragmatic RCT. 80 adult patients, with mild to moderately severe depression, recruited from rural and urban GP practices, will be randomised to usual behavioural activation (BA) therapy or BA plus physical activity promotion. Outcomes will be measured at baseline with a two and six month follow-up and include accelerometer-measured and self-reported physical activity, depression (PHQ9), physical health outcomes (eg, BMI, blood pressure), and quality of life (SF36 and EQ-5D) for an exploratory cost-effectiveness analysis. The main study outcomes from phase II will address key uncertainties to inform a phase III RCT. These include feasibility of recruitment, level of study attrition and appropriateness of data collection methods, and information to inform sample size and estimation of the resources and costs needed to deliver the intervention and conduct the phase III RCT. Interviews will be conducted to examine acceptability of the intervention, processes involved in health behaviour change, and the need for additional adaptations, for both rural and urban patients.

Dr Dylan Thompson (University of Bath)
Personalised social marketing of multi-dimensional physical activity profiles in at risk men & women

Physical activity has the capacity to be an enormously positive force for health and a population increase in physical activity would be a major public health success. New cost-effective approaches that stimulate meaningful long-term changes in physical activity are required and this is especially important for those identified as at risk. Physical activity has traditionally been promoted and marketed in unidimensional terms, often encapsulated in a single message (e.g., five * 30min of moderate intensity activity per week). Physical activity is a much more complex behaviour than this and there are multiple possible ways to harness the preventative properties of physical activity. This is a marketing opportunity. We now have techniques to capture this information and we intend to work with the users (public and healthcare practitioners) to generate tools (physical activity profiles) that represent biologically important dimensions of physical activity behaviour. People need to understand the problem (their behaviour) and the options (physical activity choices/dimensions) in order for them to become engaged and self-determined (autonomous and competent). This information needs to be perceived as high-quality, relevant, readily understandable and trustworthy. Based on our preliminary work, there are a range of options from a simple traffic-light formulation through to more sophisticated iterative interrogations of physical activity to extract key attributes/dimensions. We take a transdisciplinary approach to translate the investment of resource in the NHS Health Check into a meaningful change in physical activity. We will use new social marketing techniques to offer personalised 'products' (physical activity options) tailored to an

individual's health-need and preferences. Once physical activity profile(s) have been refined (Phase 1), we will use this as the basis for an individual-level intervention (Phase 2). In this proof-of-concept trial, we will focus on middle-aged men and women identified as at risk according to the national NHS Health Check initiative. We will examine whether the provision, social marketing and feedback from personalised physical activity profiles leads to a meaningful and volitional change in physical activity. This is aligned with one-to-one marketing used successfully in business and healthcare, including the personalised approach adopted in the NHS Health Check.

This research represents a hybrid between method-development and proof-of-concept testing in an exploratory trial. We have developed novel physical activity profiles and the multidisciplinary team has a track-record of research in physical activity measurement and interventions, physical activity in public health, as well as the physiology, psychology and social marketing of physical activity.

Dr Jayne Woodside (Queen's University of Belfast)

Peer support to encourage adoption and maintenance of Mediterranean diet: a feasibility and pilot study

It has recently been shown that the Mediterranean Diet (MD) reduces risk of type 2 diabetes in people at high risk of cardiovascular disease (CVD), yet studies that have shown a benefit of MD have used very intensive methods of encouraging behaviour change. Peer support strategies may be an important, flexible, low-cost method of encouraging dietary change. This study will examine the feasibility of using peer support strategies to encourage adoption of the MD in people at high risk of CVD. Once the feasibility of using peer support has been established, and an appropriate peer support intervention developed, a randomised pilot intervention study over 12 months will examine the effects of peer support, in comparison with minimal intervention and a more intensive intervention already shown to increase adherence to MD, on dietary behaviour change in people at high risk of CVD (n=75). Our null hypothesis is that there will be no difference in adherence to MD diet in people at high risk of CVD using peer support strategies when compared to a more intensive method. Pilot study data will subsequently inform a larger scale intervention study.