

MRC SOCIAL AND PUBLIC HEALTH SCIENCES UNIT



Professor Sally Macintyre, Unit Director

This Report describes our work in 2006 and early 2007. We have recently designed a new website which we hope gives a comprehensive description of all our current and recent research as well as full details of other activities, our staff, and publications. We have therefore decided that this year's Annual Report will not attempt to cover all our research but selected highlights instead.

During the first half of 2006 we completed field work on a number of major large-scale projects, including two school-based studies, one in London ('DASH') and one in the Glasgow area ('PaLS'). 2007 sees the twentieth anniversary of the start of our "West of Scotland Twenty-07 Study: Health in the Community", so much of the last year has been spent gearing up for the last wave of fieldwork on this major longitudinal study.

The MRC Population Health Sciences Research Network really got under way in 2006 and Unit staff organised and/or participated in a number of workshops, including ones on Scientists as advocates of public health, Perceptions and presentations of MMR, Maximising return from cohort studies, and Evaluating complex interventions. This Network has given us valuable opportunities to collaborate with other MRC Units and Centres in the field of public health research, and to initiate new projects.

The last year has seen the publication of the Cooksey Report on the future of publicly-funded health research in the UK, a new Prime Minister, a new government in Scotland, and the departures of senior staff at both our funding organisations (the MRC and the Chief Scientist Office). We hope to rise to the challenges posed by these and other changes, and to contribute both to the development of social and public health sciences and to the design and implementation of social and public health policies.

I hope you enjoy reading this Report. For any further information please don't hesitate to contact us. (0141 357 3949 or enquiries@sphsu.mrc.ac.uk)

Sally Macintyre

Sally Macintyre

Director

The Unit's mission is to:
Promote human health by the study of social and environmental influences on health.

Our goals are:

- to study how people's social positions, and their social and physical environments, influence their physical and mental health and capacity to lead healthy lives;
- to design and evaluate interventions aiming to improve public health and reduce social inequalities in health; and
- to influence policy and practice by communicating the results and implications of research to policy, professional, and lay audiences.

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FUNDING

We are core-funded by the Medical Research Council (MRC) and the Chief Scientist Office (part of the Scottish Government Health Directorates). We also receive grant and fellowship support from a wide range of funders including the Big Lottery Fund, Cancer Research UK, Communities Scotland, DfID, the DH Policy Research Programme, European Men's Health Development Foundation, Glasgow Centre for Population Health, Glasgow Housing Association, and NHS Health Scotland, among others.

CURRENT STAFF, STUDENTS AND CO-WORKERS

DIRECTOR:

Sally Macintyre CBE OBE PhD FRSE FMedSci

ASSOCIATE DIRECTOR:

Mark Petticrew PhD (left 30/09/07)

RESEARCH STAFF:

David Batty PhD	Alastair Leyland PhD
Michaela Benzeval MSc	Laura Macdonald (nee McKay) MA
Cara Booker PhD (started 29/05/07)	Maria Maynard PhD
Denise Brown PhD	David Ogilvie MA MB BChir MPH DRCOG DFFP MRCP
Katie Buston PhD	MFPHM (left 30/09/07)
Carolyn Davies PhD	Alison Parkes PhD
Geoffrey Der MSc	Audrey Prost PhD
Ruth Dundas MSc	Pieter Remes PhD
Matt Egan PhD	Anne Scouler PhD MB ChB DRCOG DCH MRCP MRCP(UK)
Anne Ellaway PhD	DFFP FRCP MPH MSc DLSHTM (left 01/05/07)
Carol Emslie PhD	Helen Sweeting PhD
Marcia Gibson PhD	Alison Teyhan MSc
Lindsay Gray PhD	Sian Thomas BA (left 31/05/07)
Michael Green MA	Hilary Thomson MPH
Mary-Kate Hannah MSc	Patrick West PhD
Seeromanie Harding MSc	Melissa Whitrow PhD
Marion Henderson PhD	Daniel Wight PhD
Shona Hilton PhD	Lisa Williamson MPhil
Kate Hunt MA MSc	Robert Young BSc
Heather Lewars MSc	

GRADUATE STUDENTS:

Nicola Desmond MSc
 Pamali Goonetilleke MPhil
 Sarah Gurney BA
 Chloe Hughes BSc
 Kalonde Kasengele MPH
 Mairi Langan MPhil
 Douglas Lonie MA
 Emily Smith BSc
 Catherine Stewart BSc

HONORARY RESEARCH STAFF:

Michael van Beinum BSc MBChB MPhil, Lanarkshire Health Board
 Ian Deary BSc PhD MBChB MRC Psych F, Department of Psychology, University of Edinburgh
 Elisabeth Fenwick, MSc PhD, Public Health and Health Policy Section, Division of Community Based Sciences, University of Glasgow
 Dave Leon BA PhD, Department of Epidemiology and Population Health, London School of Hygiene & Tropical Medicine
 Nanette Mutrie DPE Med PhD, Department of Sport, Culture and the Arts, Strathclyde University
 Phil Wilson MA DPhil MB BChir MRCP FRCGP DCH, General Practice and Primary Care Section, Division of Community Based Sciences, University of Glasgow

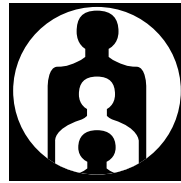
SUPPORT STAFF:

Kate Campbell, Survey Support Officer
 Thomas Crosbie, IT Support Officer (Maternity Cover)
 Catherine Ferrell MA, Survey Manager
 Patricia Fisher HNC, Research Support Officer
 John Gibbons BSc, ARCS, PGCE, Database Manager/Trainer
 John Gilchrist HNC, Computing Officer
 Naomi Hemy BA, Office Assistant (left 12/10/07)
 Elaine Hindle HNC, Survey Support Officer
 Barbara Jamieson MSc, Unit Business Manager
 John Kelly, Survey Room Admin Support
 Fiona McDonald, PA to Professor Macintyre
 Edna McIntyre, Secretarial Assistant (left 31/01/07)
 Jean Money, Secretarial Assistant/Accounts
 Crawford Neilson BSc, Computer Systems Manager
 Carol Nicol MSc, Programmer/Analyst
 Louise O'Neill, Receptionist
 Mary Robins HNC, Librarian
 Julie Watson, Clerical Assistant
 Susan Wilkie HND LicCIPD, HR Assistant

LEAVERS DURING 2006

Caroline Allen PhD (left 31/08/06)
 Stephanie Church (left 04/08/06)
 Nika Dorrer PhD (left 31/07/06)
 Dominique Harvey PhD (left 31/03/06)
 Margaret Keoghan MPhil (left 31/03/06)
 Alice McLean MA (left 30/09/06)
 Rosaleen O'Brien PhD (left 23/11/06)
 Margaret Reilly, Research Support Officer (left 15/03/06)
 Helena Tunstall (left 30/09/06)

THE WEST OF SCOTLAND TWENTY-07 STUDY



The Twenty-07 Study was established in 1987 to examine the social processes that produce or maintain differences in health by key social positions over time. The study is following three cohorts of people, living in and around Glasgow, for twenty years - initially aged 15, 35 and 55, they will be 35, 55 and 75 in 2007 the final year of the Study. As a result, the Twenty-07 Study provides researchers with unique opportunities to:

- examine the effect of people's circumstances on their health across 60 years of the life span
- compare the experiences of different generations of people at the same points in history, and
- explore the health of people of the same age at different points in time.

In addition to the general sample of people living in and around Glasgow, a more intensive sample was selected in two key areas in Glasgow (see map below) to facilitate the study of the interaction of people's environment and their circumstances on their health.

RESEARCH STAFF

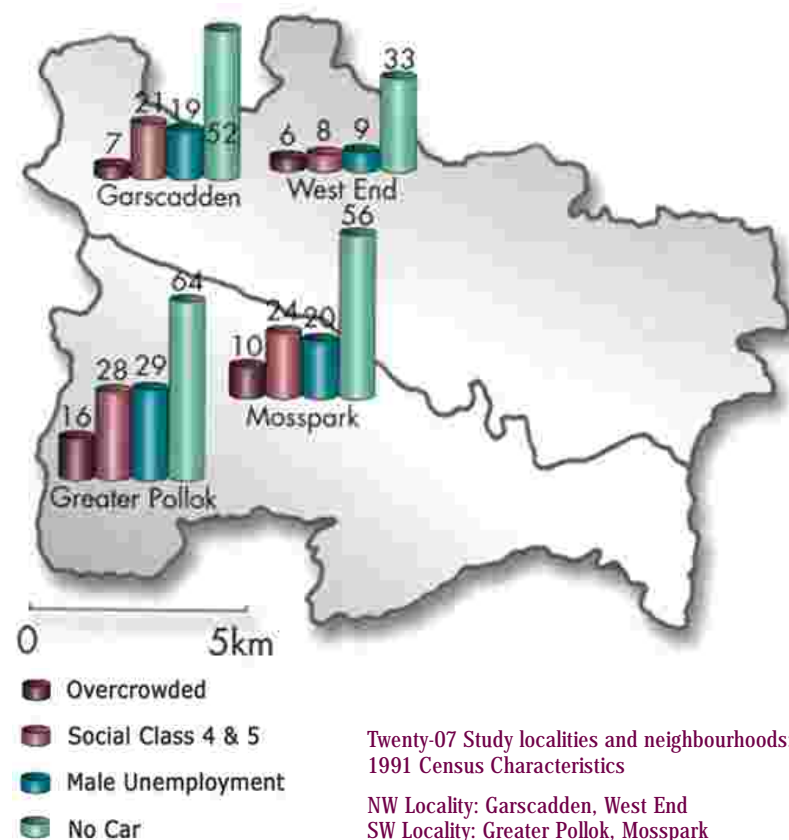
PROJECT DIRECTOR
Michaela Benzeval

STATISTICIAN
Geoff Der

SCIENTISTS
Anne Ellaway
Kate Hunt
Sally Macintyre
Helen Sweeting
Patrick West

DATA ANALYSTS
Mary-Kate Hannah
Michael Green

CLINICAL ADVISOR
Phil Wilson (General Practice and Primary Care Section of the Division of Community Based Sciences, University of Glasgow)



Twenty-07 Study localities and neighbourhoods:
1991 Census Characteristics

NW Locality: Garscadden, West End
SW Locality: Greater Pollok, Mosspark

THE PREVALENCE, EXPERIENCE AND OUTCOMES OF SYMPTOMS AND DISABILITY

Several of our studies in 2006 shed light on influences on aspects of disability. In one longitudinal analysis for example we found that obesity was associated with reported pain in the hips, knees, ankles and feet, the strongest relationship being with knee pain (odds ratio = 2.42, 95% confidence interval, 1.65 to 3.56). Joint pain was not, however, consistently associated with smoking or alcohol consumption.¹¹ (Superscript numbers refer to reference list, see page 33)



self-management policies, programmes and healthcare practitioners need to recognise the tensions that people experience as they negotiate symptoms, valued social roles, positive identities, and daily life.¹⁴¹

Symptoms are also important because it has been suggested that the number of symptoms people experience may be an important predictor of mortality. We were able to test this hypothesis using Twenty-07 symptom data collected in 1990/1. We found that, after adjustment for chronic conditions and self-assessed health, only an association between mental health symptoms and mortality remained significant. Similarly, after adjusting for gender, socio-economic status and smoking, mortality was elevated in individuals with many (≥ 6) symptoms but these relationships were no longer significant after additional adjustment for chronic conditions and self-assessed health. However a clear trend of increasing mortality as self-assessed health became poorer was observed. In this study, then, self-assessed health appeared to be a better predictor of mortality than the type or number of symptoms experienced.⁶³

A qualitative study has also examined the experiences of patients living with chronic illnesses, recruited from the Twenty-07 Study. The findings suggest that people use multiple 'self-management' techniques to manage symptoms, and maintain valued social roles, coherent identities and a 'normal life', and that these are sometimes prioritised over symptom containment. Our findings suggest that

Our other recent research has examined inequalities in disability, and in particular the role of psychosocial and material mechanisms in inequalities in disability among older people. Here, we examined socio-economic position across adulthood using three approaches. First, respondents reported perceptions of their own financial position (perceived financial hardship) across four decades of adult life. Second, data on possession of several indicators of material wealth (e.g., ownership of television and washing machine; material conditions) during the same periods were analysed. Finally, standard occupational classification was analysed, based on longest held occupation. The relationship between the measures of socio-economic position and disability were then assessed, adjusting for sex, morbidity and lifestyle factors. We found that material conditions were an independent risk factor for disability across four decades after adjustment for sex, morbidity, lifestyle factors and perceived financial hardship. Those in the most deprived material conditions group had 2.5 times the odds of reporting severe disability than those in the reference group. After adjustment, evidence for an association between perceived financial hardship and reported disability was not convincing. Overall these data support the "material" explanation for observed inequalities in reported disability among older people.¹²



Catherine Ferrell, Survey Manager and Michaela Benzeval, Project Director, Twenty-07 Study

SOCIAL PREDICTORS OF STRESS AND REACTIONS TO STRESS

There is now reasonably consistent evidence of a negative association between birth weight and adult blood pressure. However, the mechanisms underlying this relation remain unclear, though it has been suggested that individual differences in susceptibility to stress may play a part. One way of assessing this susceptibility is by measuring blood pressure reactions to acute psychological stress. We investigated this in a sample of Twenty-07 respondents, and found that it was likely that differences in growth trajectory predict variations in adult blood pressure, but that it was unlikely that individual differences in stress reactivity mediated this relationship.⁴¹

Another study has examined whether chronic stress was related to downregulation of secretory immunoglobulin A (S-IgA), which is important in the immune system's defence reaction. Participants in the study indicated how many major stressful life events they had experienced in the past 2 years, and rated how disruptive and stressful the events were. S-IgA secretion rate was then determined. There was a negative association between the stress load measures and the S-IgA secretion rate, which was still evident following adjustment for such variables as smoking, saliva volume, sex, cohort, and household occupational status. Although the associations are small, they nonetheless suggest that chronic stress either decreases IgA production by the local plasma cells or reduces the efficiency with which S-IgA is transported into saliva. Given the importance of S-IgA in immune defence, S-IgA downregulation could be a means by which chronic stress increases susceptibility to upper respiratory tract infection.¹²⁴

Finally, we examined the effects of the presence of supportive others on blood pressure and heart rate reactions to mental stress. We found that the presence of a spouse was associated with a reduction in cardiovascular reactivity in an everyday environment, and spouse/partner presence seemed to be especially effective for women.¹²³

ARE THERE SOCIAL DIFFERENCES IN IDEAS ABOUT THE CAUSES OF ILLNESS?

There is an extensive literature within anthropology, sociology and psychology about lay concepts of determinants of health and illness. Many of these studies have used single sex or social class samples, often in narrow age bands, and many are qualitative in approach. We asked Twenty-07 respondents to say how important (on a five-point scale) they thought seven potential influences on health (habits, self-care, the environment, family relationships, one's constitution, money and luck) were. The first three were regarded by respondents as very important, the second three as less important and luck as least important. These responses are consistent with current public health and epidemiological knowledge; these respondents endorsed prevailing views about personal responsibility for health and about the role of the physical and social environment in influencing health. There were no significant gender differences, social class differences and neighbourhood differences in three out of seven influences, and age differences in four out of seven influences. Thus, socio-demographic differences were less marked than might be inferred from studies of specific social groups.¹⁰⁴

For further information on the Twenty-07 Study contact Michaela Benzeval (Michaela@sphsu.mrc.ac.uk) or see the project website (www.sphsu.mrc.ac.uk/studies.php?ID=3). Also see pages 08 and 09 for descriptions of Twenty-07 analyses.

Kate Campbell,
Survey Support Officer.



SOCIAL AND SPATIAL PATTERNING OF HEALTH

Socio-economic and spatial variations in health have been observed for over 150 years in the UK. Poorer people, and people living in more deprived areas, tend to have poorer health and a shorter life expectancy than their more advantaged counterparts. Current government policy is to try to reduce these inequalities in health. In order to do so, we need to know more about the specific pathways which lead from socio-economic status, and the social and physical environment, to mental and physical health.

The aim of this programme is to study socio-economic and spatial inequalities in health across time and the lifecourse, using data about individuals, households and areas, and a range of geographical and historical scales.

The main programme themes include socio-economic inequalities across the lifecourse and over time, and geographical inequalities in health. Some of our current projects are described below.



THE LOCATION AND SOCIAL DISTRIBUTION OF AMENITIES AND SERVICES IN GLASGOW CITY

An important issue for urban planning, and for studying within-city differences in health and health related behaviours, is the extent to which amenities and facilities for everyday living are distributed equitably across different neighbourhoods, or whether they tend to be concentrated in more affluent or deprived neighbourhoods. We have been collecting information on housing, health services, leisure facilities, crime and policing, education, shops, local services such as post offices and banks, employment and unemployment, transport, political climate, civic engagement and social capital within Glasgow City using a wide variety of sources. We are mapping the location of these resources (e.g. bus stops, parks and playgrounds) in relation to the Scottish Index of Multiple Deprivation to see whether area deprivation is likely to compound individual disadvantage. We expected that many amenities would be scarcer in and

RESEARCH STAFF

PROGRAMME LEADER
Professor Sally Macintyre

RESEARCHERS
David Batty
Michaela Benzeval
Geoff Der
Anne Ellaway
Mary-Kate Hannah
Michael Green
Laura Macdonald

Honorary research staff include:
Ian Deary (University of Edinburgh)
Dave Leon (LSHTM)
Nanette Mutrie (University of Strathclyde)

PhD STUDENTS
Pamali Goonetilleke
Chloe Hughes
Kalonde Kasengele
Mairi Langan

further from poorer areas but this is not always the case; for example, childrens' outdoor playgrounds are more likely to be found in more deprived neighbourhoods.⁶¹ We are now checking, in a PhD project being conducted by Chloe Hughes, whether playgrounds in different types of area are of similar quality.

FAST FOOD IN POORER AREAS

Access to affordable, nutritious food may be an important determinant of a healthy diet. The team has been investigating the location of different types of retail food outlets (multiple chain supermarkets, and convenience, specialist and discount stores) in Glasgow, and the price and availability of a basket of everyday foodstuffs. We recently published a study examining the distribution of all 2,535 branches of McDonald's, Burger King, KFC and Pizza Hut restaurants in England and Scotland.¹⁰² (See Figure 1). In England all four chains were more likely to be found in the very poorest fifth of areas, while in Scotland they were more likely to be found in the second poorest fifth of areas. Dr Steve Cummins (a former PhD student from the Unit and post doc in the Unit, now an MRC Fellow at Queen Mary University London) points out that easy access to fast foods that may be lower in price than healthier options a bus ride away, could influence peoples' dietary choices. One of the implications of the research is that making unhealthy choices the easy choices in economically deprived areas may fuel the rise in obesity in those places – and the health problems that follow.^{133, 46}

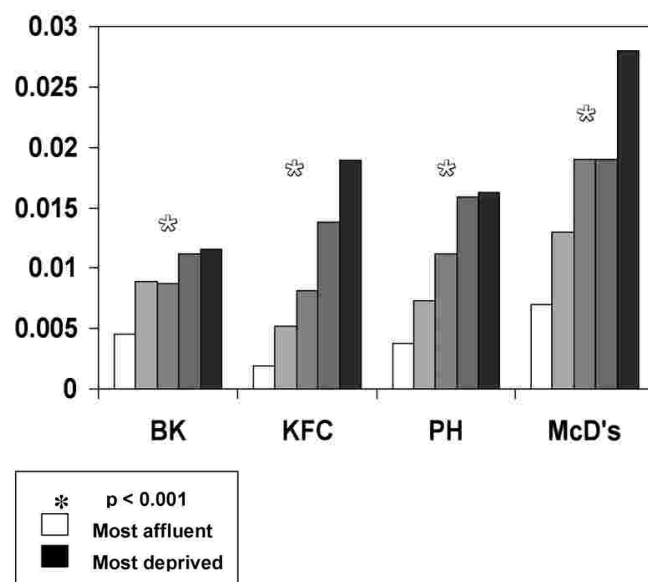


Figure 1: Mean number of Burger King (BK), KFC, Pizza Hut (PH) and McDonald's (McD's) outlets per 1000 people by deprivation quintile for England and Scotland (N = 2535)

COGNITION AND HEALTH

IQ (or mental or cognitive ability) tests have traditionally been used in educational and workplace settings. In the last few years, however, IQ has also been related to health and health behaviours.

Our work in this area has four broad objectives:

- to review the literature linking cognition with physical health in adult life
- to describe the link between cognition and cause-specific mortality/morbidity rates, and assess the potential role of socio-economic position as a confounding or interacting factor in these relationships
- to examine the relation of cognition to behavioural and physiological risk factors for disease, and
- to describe the early life determinants of cognition, including growth in the womb, gestational age, childhood nutrition, and parental social and educational background.

Our data come from a variety of studies in the UK and elsewhere, including:

- the West of Scotland Twenty-07 Study
- the Aberdeen Children of the 1950s Study
- the 1958 and 1970 British Cohort Study
- the National Longitudinal Study of Youth (USA), and
- the UK Health and Lifestyle Survey.

Patricia Fisher,
Research Support Officer



DOES IQ EXPLAIN SOCIO-ECONOMIC INEQUALITIES IN HEALTH?

It has been hypothesized that intelligence (denoted as IQ) might be a 'fundamental cause' of social class inequalities in health. This suggestion is based on observations that low IQ scores, whether measured in childhood, early adulthood, mid-life or older age, have all been found to be associated with elevated rates of death and disease in later life. IQ scores are also socially patterned, and a link exists between functional literacy (a correlate of IQ) and health-related behaviours, injuries, and self-management of illness. We used data from the Twenty-07 Study to examine the relationship between total mortality and coronary heart disease mortality (ascertained between 1987 and 2004); respiratory function, self-reported minor psychiatric morbidity, long term illness, and self-perceived health (all assessed in 1988).²⁷ IQ was assessed by means of the Alice Heim 4 test, with data collected from the oldest Twenty 07 age group by trained nurse interviewers in 1988 and followed up subsequently.

We found that indices of socioeconomic position (childhood and current social class, education, income and area deprivation) were significantly associated with each health outcome. Thus, as expected, the greatest risk of ill health and mortality was evident in the most socio-economically disadvantaged groups. After adjustment for IQ, a marked attenuation in risk occurred for poor mental health, long term illness, poor self-perceived health, respiratory function, and coronary heart disease mortality; however, IQ did not completely explain the socioeconomic gradients in health.

Thus, measured IQ does not completely account for observed socio-economic inequalities in health but, probably through a variety of processes, may contribute to them. This implies that efforts to reduce these differentials should continue to be based on a broad front, including educational opportunities and interventions particularly in early life.

IQ AND HEALTH BEHAVIOURS

One recent analysis has examined the relationship between IQ test scores and drinking habits.²³ Previous research has shown that children with high IQ scores are less likely to engage in unhealthy behaviours in adulthood, such as smoking. In this new study we analysed data from around five thousand 11-year-old children who had their IQ assessed using an 11-plus type test in the 1960s in Aberdeen, Scotland. Around 40 years after they originally sat the test, when they were in middle age, we mailed them a questionnaire about their drinking habits and other health issues. We found that both boys and girls with high IQ scores were much less likely to report hangovers in middle-age, suggesting that they were drinking less heavily. These results were not completely explained by poverty.

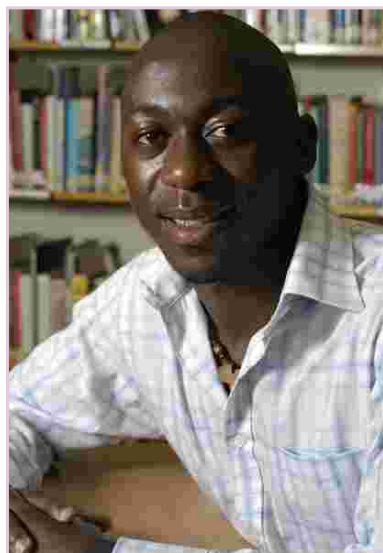
Another study, led by Dr Catharine Gale of the MRC Epidemiology Resource Centre (at the University of Southampton) examined why people with higher IQs appeared to be less likely to suffer from heart disease, and found that children with a high IQ are more likely to become vegetarian as adults.⁷⁷ Vegetarians were also more likely to be female, to be of higher occupational social class, and to have higher academic or vocational qualifications than non-vegetarians.

Finally, another study shed some light on a decades-old conundrum: does breastfeeding make babies smarter? The research found that mothers who breastfed tended to be more intelligent, more highly-educated, and to provide a more stimulating home environment.⁵⁷ When this fact was taken into account, most of the relationship between breastfeeding and the child's intelligence disappeared. The rest was accounted for by other aspects of the family background.

This research showed that intelligence is determined by factors other than breastfeeding, even though breastfeeding has many benefits for both mother and child.



In collaboration with colleagues at the University of Edinburgh, we have examined the effects of IQ on overall survival. In one recent study, slower and more variable reaction time on a simple reaction time task was related to higher mortality risk in younger as well as older participants. Among younger adults, higher memory ability was also associated with lower risk of dying. This cognition-mortality relationship may be explained in part by the brain's efficiency in information processing and memory performance.⁵⁶



Kalonde Kasengele,
PhD student in the Social
and Spatial Patterning
Programme

The picture below shows two young 'scientists' testing themselves using our reaction time measuring equipment at the Edinburgh Science Festival in 2007.



Children test their reaction times at the 2007 Edinburgh Science Festival. This equipment is used in one of SPHSU's studies to examine the relationship between IQ and health

Full details of these and other projects can be found at:
www.sphsu.mrc.ac.uk/programmes_home.php

COLLABORATORS

The Social and Spatial Patterning Programme collaborates with a number of local, national and international consortia and groups. These include:

- Glasgow Centre for Population Health
- The Department of Health-funded Public Health Research Consortium
- Scottish Physical Activity Research Collaboration
- The Scottish Longitudinal Study (SLS)
- International Collaboration on Complex Interventions, and
- MRC Population Health Sciences Research Network.

MEASURING HEALTH, VARIATIONS IN HEALTH AND THE DETERMINANTS OF HEALTH IN SCOTLAND

The health of individuals varies according to socio-economic characteristics reflecting, at least in part, different exposures to factors that influence health. Since populations comprise groups of individuals, and these groups tend not to be random, e.g. groups defined by geography or on the basis of occupation, there are differences between the health of different populations. As an example, the health of the Scottish population is poorer than that of the UK population as a whole.

Core-funded by the Chief Scientist Office of the Scottish Government, the principal focus of the programme is on the health of the Scottish population. It also seeks to improve the methods used to measure population health and its determinants. More specifically, the aims of the programme are:

- to improve our understanding of the health of the Scottish population, and of the variation in health between particular subgroups;
- to consider the importance of different contexts, e.g. school, workplace, area of residence, at different stages in life on subsequent adult health;
- to ensure that the statistical methods needed to address complex public health research problems are developed and disseminated; and
- to evaluate the effects of Sure Start Local Programmes, an area-based intervention for young children and their families.

The programme has a number of specific projects that capitalise on our expertise with the analysis of routinely collected data, such as death records, Census records and hospital discharge records or cancer registrations, and existing survey data. We also benefit from our location in Scotland which offers access to linked hospital and mortality records covering 25 years.

Some of our key findings over the past year are described below.

RESEARCH STAFF

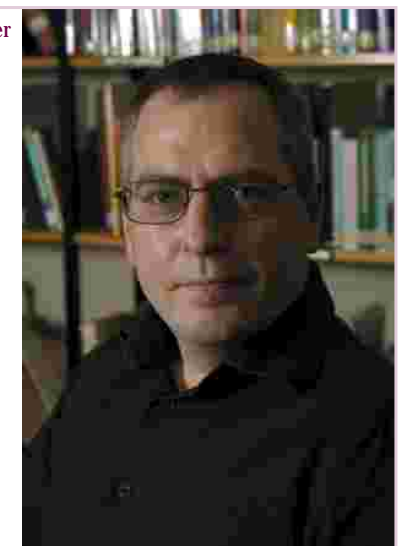
PROGRAMME LEADER
Professor Alastair Leyland

CURRENT RESEARCH STAFF

Denise Brown
Carolyn Davies
Ruth Dundas
Linsay Gray

PhD STUDENTS
Catherine Stewart

Alastair Leyland, programme leader



KNIFE CRIME IN SCOTLAND

One major new analysis showed that knife crime in Scotland is becoming a public health problem with knife-violence having more than doubled (increased by 164%) over the past 20 years. The study gathered information from 2,151 murders which took place in Scotland between 1981 and 2003 and looked for instances involving the use of a knife or similar object.¹⁰¹ In a 20 year period, the overall murder rate increased by 83% and murder with knives increased by 164%; during this time, 47% of all murders involved knives and more than half of male murders involved knives. The study also found that homicide is more common at weekends and a higher proportion of male murders at the weekend involved knives.

These findings were based on analysis of death records recording the incidence of murder due to knife injury in Scotland and had a focus on Glasgow, where the murder rate is nearly three times that of Scotland as a whole. However, the report dismissed the notion that Glasgow's high murder rate is simply due to the fact that it is a large city. In contrast Scotland's other main cities – Edinburgh, Dundee and Aberdeen – all have lower than average murder rates. We have concluded that the high murder rate in Glasgow is likely to be linked to deprivation in the city, and also that the Scottish Parliament's plan, to introduce legislation to restrict knife sales to under 18's, is unlikely to stem the high knife-related murder rate as kitchen knives are still widely available and are likely to continue to be used as weapons.

It is clear from this research that knife crime in Scotland is becoming a public health problem, and that the rise in murders in Scotland is due specifically to an increase in the use of knives and other sharp implements. This problem particularly affects young men between 15 and 34, and murders, along with suicide, now represent a serious threat to public health for this social group. Moreover, murder is now a significant contribution to social inequalities in mortality in this age group.

INEQUALITIES IN PERINATAL OUTCOMES

Parental occupational social class is associated with adverse perinatal outcomes. Social class is also related to other maternal factors such as marital status, age and height. The interactions between social class and other maternal factors, and the changing distributions of these risk factors, create problems for assessing social inequalities.

We investigated the relationships between social class and other maternal risk factors over time to identify those groups of women among whom inequalities in adverse perinatal outcomes were greatest and those groups that have contributed to the increase in inequality in these outcomes observed in the 1990s. We considered low birthweight, preterm births and small-for-gestational-age as outcomes. Our measure of inequality – the relative index of inequality (RII) – decreased during the 1980s for all outcomes and then increased between the early and late 1990s.

We found that inequalities were greatest in married mothers, mothers aged over 35, mothers taller than 164cm, and mothers with a parity of one or more. Inequalities were also greater by the end of the 1990s than at the start of the 1980s for women of parity one or more and for mothers who were not married. Despite decreasing during the 1980s, inequalities in adverse perinatal outcomes increased during the 1990s in all strata defined by maternal characteristics.⁶⁸

This project was originally led by Lesley Fairley, now at the Northern & Yorkshire Cancer Registry and Information Service (NYCRIS) in Leeds.

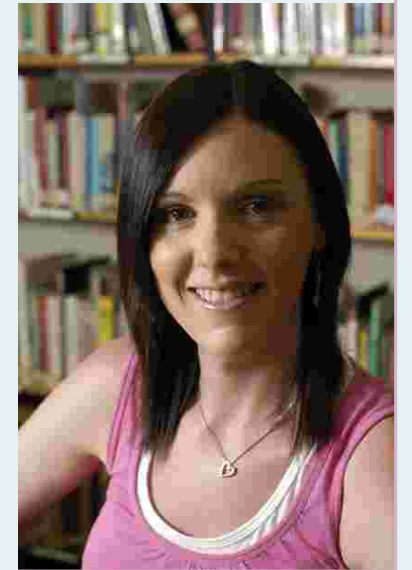
Lindsay Gray, researcher
on the Measuring
Health Programme



URBAN/RURAL INEQUALITIES IN HEALTH

Other research published in 2006 examined differences in health between urban and rural areas. Health inequalities between the deprived and affluent in Scotland have been rising over time. We have examined health inequalities between deprived and affluent areas for differing levels of rurality and how these have changed. Standardised all-cause death rates were found to be greater in urban areas than remote rural areas of Scotland for all levels of deprivation in 2001. The rise in inequalities between 1981 and 2001 was greatest in remote rural Scotland. In 2001 inequalities among those aged over 64 in remote rural Scotland were greater than those of the equivalent urban population at this time. This was primarily due to relatively large ratios for Ischaemic Heart Disease (IHD) and cancer amongst the remote rural elderly population. Socio-economic inequalities amongst the elderly rose over the 20 years studied and were highest in remote rural Scotland in 1998-2001. There is clearly a need to monitor the health of elderly populations.

We also examined urban/rural variation in IHD in Scotland which allowed us to explore the relationship between health, rurality and deprivation. Remote rural areas experienced similar IHD mortality to urban areas after adjusting for age, sex and deprivation. However, remote rural areas had significantly lower hospital discharge rates and higher mortality in hospital or following discharge. Low rates of mortality and hospitalisation in remote rural areas mask cause for concern regarding the health of rural populations.^{98, 99} This work was led by Katy Levin (now at the Child and Adolescent Health Research Unit at the University of Edinburgh).



Catherine Stewart,
PhD student, Measuring Health Programme

ETHNICITY AND HEALTH

Many diseases such as diabetes, high blood pressure, stroke, heart and kidney disease, and cancers are more common in some ethnic minority groups than in the indigenous White population. Very little is known about the causes of these differences, when and whether they emerge in childhood, or about the transmission of health risks across generations.

This research programme focuses on the health of UK-born minority groups, including Black Caribbeans, Black Africans and South Asians, to examine if and when differences in key health indicators develop in childhood, and how these are shaped by social conditions, such as deprivation, family life and school life.

Other aspects of the programme include:

- national and international comparisons of health patterns among migrants and their children to examine how people of the same racial ancestry fare in different environments, and
- tracking health over the lifecourse and over generations in ethnic groups in different contexts and places, which is necessary for an understanding of the evolution of ethnic disparities in health.

Below we describe some of our work from the past year.

RESEARCH STAFF

PROGRAMME LEADER

Seeromanie Harding

CURRENT RESEARCH STAFF

Cara Booker

Maria Maynard

Alison Teyhan

Melissa Whitrow



Seeromanie Harding,
programme leader

THE DASH (DETERMINANTS OF ADOLESCENT SOCIAL WELL-BEING AND HEALTH) STUDY



DASH is a study of a multiethnic adolescent cohort in London which investigates social and biological influences on ethnic differences in health and well-being in adolescence. It will provide important insights into

the long term impact of these exposures in adolescence and the patterning of ethnic differences in health in later life.⁸²

DASH contains over 6,500 pupils recruited from 51 schools across 10 inner London boroughs. Pupils were aged 11-13 years old at the start of the study in 2003, and were followed up at ages 14-16 years. DASH was designed to have a sizeable number of respondents from the major ethnic minority groups. Cultural differences within South Asian groups are well known but very little is known about these issues among those of African origin. In DASH, Black Caribbeans, Nigerians, Ghanaians and other Africans can be identified separately so that differences in health and well-being can be explored.

The study contains data on:

- socio-economic circumstances
- perception of neighbourhood
- quality of family life
- physical activity and other health behaviours, and
- psychological well-being.

It also contains physical measures such as anthropometry, bioelectrical impedance, blood pressure and lung function.

Current and planned projects use the data from the original wave of the study and focus on examining the influence of social, in particular family influences, and biological factors on ethnic differences in cardiovascular and respiratory health and psychological well-being. The longitudinal data allow us to examine what promotes good/poor health during this important transitional stage in the lifecourse.

Recent analyses of DASH data have examined overweight, obesity and high blood pressure, and psychological well-being.^{80, 84, 106}

OVERWEIGHT, OBESITY AND HIGH BLOOD PRESSURE IN THE DASH STUDY

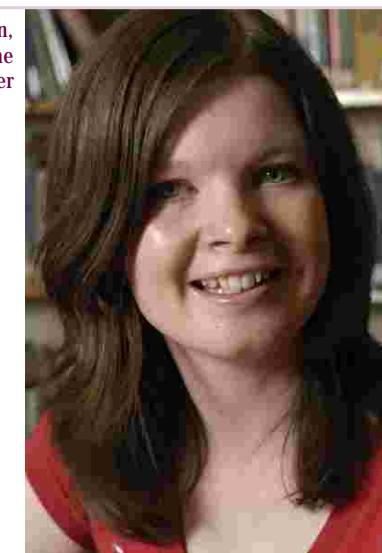
The increasing prevalence of obesity in childhood - which has almost tripled in England in the past two decades - signals the potential increase in the early onset of cardiovascular disease. In this study we used DASH data to examine the impact of overweight on mean, high normal and high blood pressure in early adolescence, and how this relates to ethnicity and socio-economic status. Based on the International Obesity Task Force age-specific thresholds, about a fifth (19%) of boys and nearly a quarter (23%) of girls were overweight, and 8% of each were obese. Overweight and obesity were associated with large increases in the prevalence of high normal and high blood pressures compared with those children who were not overweight. There were also significant increases observed in the prevalence of high systolic blood pressure associated with overweight: for boys, the odds ratio was 2.50 (95% confidence intervals 1.73-3.60) and for girls 3.39 (2.36-4.85). The corresponding figures for obesity were: boys 4.31 (2.82-6.61) and girls 5.68 (3.61-8.95). Compared with their White British peers, obesity was associated with larger effects on blood pressure measures

only among Indians, despite more overweight and obesity among Black Caribbean girls and more overweight among Black African girls. The effect of socio-economic status was inconsistent. The tendency to high blood pressure among adult Black African origin populations was not evident at these ages. Overall our findings suggest that the rise in obesity in adolescence portends a future rise in the early onset of cardiovascular disease across ethnic groups, with Indians appearing to be more vulnerable.⁸⁴

ANALYSES OF INTERNATIONAL DATASETS: ACCULTURATION AND CARDIOVASCULAR DISEASE (CVD)

We have also been conducting national and international comparisons of health patterns among migrants and their children to examine how people of the same racial ancestry fare in different environments. One of our recently published studies has examined how acculturation affects health in different societal settings, by analysing circulatory disease mortality in migrants to Australia, and how it varies with duration of residence. In these analyses data from death records from 1998-2002, and from 2001 Census data were extracted for seven migrant groups (New Zealand; United Kingdom (UK)/Ireland; Germany; Greece; Italy; China/Singapore/Malaysia/Vietnam (East Asia); and India/Sri Lanka (South Asia)) aged 45-64 years. We then estimated the duration of residence effect (categorized in 5-year bands and also as having arrived 2-16, 17-31 and 32 years ago or more), adjusted for sex, 5-year age group and year of death, then additionally for occupational class and marital status (SES) on relative risks (RR) of CVD mortality. Compared

Alison Teyhan,
Ethnicity Programme
researcher



with the Australia-born population, CVD mortality was generally lower in each migrant group. For example, decreasing mortality with increasing duration of residence was observed for migrants from New Zealand (RR 0.95, 95% Confidence Interval 0.92–0.98, $P < 0.01$, per 5-year increase), Greece (0.90, 0.86–0.94, $P < 0.01$), Italy (0.94, 0.91–0.97, $P < 0.01$) and South Asia (0.95, 0.91–0.99, $P < 0.01$), mainly in older age groups. These trends remained after adjustment for socio-economic status and also when broader categories of duration of residence were used. Overall, CVD mortality among migrants from the UK/Ireland appeared to converge towards those of the Australian-born, while there was evidence of divergence in CVD mortality compared with the Australian rate for New Zealanders, Greeks, Italians and South Asians. Sustained cardio-protective behavioural practices in the Australian setting is a potential explanation.⁷⁹

THE 'MAXIMISING RETURN FROM COHORTS' STUDY

Longitudinal cohort studies follow a group of individuals over a period of time, often many years. They can be used to study the incidence of disease and health behaviours, and the aetiology of many diseases. Studies of this type have played a vital role in increasing our understanding of the aetiological mechanisms underlying population and individual differences in the incidence of disease and health behaviours, as well as health inequalities.

It is important that the individuals in such cohorts are representative of the population that the results are to be generalised to. How well the cohort sample represents this target population plays an important part in the analyses and interpretation of results. Study participant recruitment and retention strategies are therefore a vital part of the

cohort study process. Poor strategies may lead to both selective recruitment and attrition. For example, participants who 'volunteer', or who are more easily recruited into studies, tend to be healthier, at lower risk of adverse exposures or outcomes, and less likely to come from an under-represented population (i.e. minority or immigrant population, lower socio-economic status, etc.). Attrition is also usually selective; those at greater risk of ill-health, or who are at high risk of adverse behaviours, are more likely to drop out of a study. These recruitment and retention issues can result in fairly homogenous study populations (largely White, English-speaking, middle class adults). This limits the generalisability of the findings, and can result in biased estimates of association, which can lead to inaccurate conclusions and over/underestimations of study effects.

It is therefore important to know how well retention strategies actually work, and we have started a project to evaluate retention strategies in MRC funded cohort studies. This project is funded by the MRC's Population Health Sciences Research Network (PHSRN) and is jointly run from the MRC Social and Public Health Sciences Unit (SPHSU) in Glasgow and the MRC Biostatistics Unit (BSU) in Cambridge.

We held a workshop to examine these issues in June 2006, funded by the PHSRN, entitled "Maximising Return from Cohort Studies: Prevention of Attrition and Efficient Analysis". A report on the workshop, along with several presentations, can be found at:

www.sphsu.mrc.ac.uk/sitepage.php?page=cohort_studies

The researchers involved in this study are Cara Booker, Seeromanie Harding and Alastair Leyland (MRC SPHSU), and Ian White, who is based at the BSU in Cambridge.

Cara Booker and Maria Maynard,
Ethnicity Programme researchers



YOUTH AND HEALTH

There is considerable concern about the physical and mental health of young people, and about their high levels of risk behaviours, such as smoking or drug use. There is the real possibility that things are getting worse for many reasons including poverty, increased stress, changes in family life and the pervasive effects of consumer culture.

Using three long term studies of young people in the West of Scotland, together with related in-depth research, this programme aims to increase our understanding of this important stage in life in order to promote young people's current and future health, and reduce later health inequalities.

The specific objectives of the programme are to describe and explain:

- health and health risk behaviours from childhood through adolescence to adulthood
- the role of the family in relation to health, lifestyles and life chances, and the extent to which family influences cut across class
- the influence of the school, peer group and youth culture on health, health behaviours and lifestyles, and the extent to which these are separate from class, gender and the family, and
- variation in levels of stress between social classes, schools and peer group positions.

Some of our key findings over last year are highlighted below.

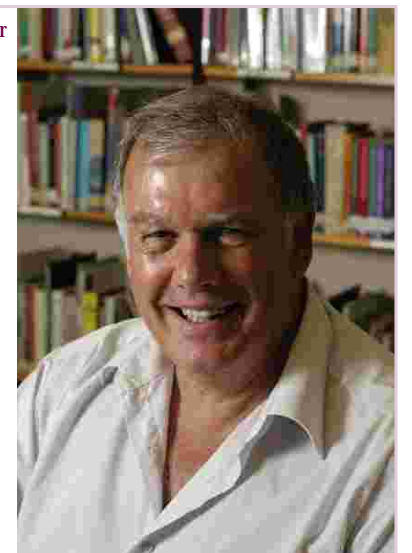
RESEARCH STAFF

PROGRAMME LEADER
Professor Patrick West

CURRENT RESEARCH STAFF
Helen Sweeting
Robert Young

PhD STUDENTS
Douglas Lonie
Emily Smith

Patrick West, programme leader



YOUNG PEOPLE AND SELF-HARM



Self-harm (deliberately injuring yourself by cutting, burning or similar means) is an often misunderstood behaviour, and recent evidence suggests it is

particularly high in the current generation of young people. Although it is now becoming clearer why young people self-harm, little is known about the reasons they give for stopping, or about links with socio-demographic factors and employment status.

Using data from 1,258 participants in the '11 to 16/16+ Study', we looked at the spectrum of self-harm behaviors.¹⁵³ By age 19, 7% reported self-harming at some point in their lives, although less than 2% were currently doing so. There were no differences by gender or social class of origin, but unemployed young people were much more likely to report both past and current self-harm and intention to kill themselves. This particularly vulnerable group contrasts with students who more often self-harmed for a brief time, typically to reduce anxiety. We also found there were broadly four main reasons that young people gave for stopping: realization of harm to self and family (37%); a transitory reaction to temporary stress (26%); improvement in coping strategies and circumstances (25%); and receiving help from mental health professionals, friends or family (12%).

We also investigated the relationship between self-harm and youth subcultural identity, focusing in particular on Goths.¹⁵² The results showed that even after adjusting for socio-demographic factors and other subcultural identification, affiliation to Goth subculture remained the single strongest predictor of self-harm and attempted suicide. Because much self-harm started before becoming involved in this subculture, it suggests that young people who self-harm are attracted to the subculture and may well find support there.

SCHOOL AND PEER GROUP INFLUENCES

Although several reviews demonstrate that specific health education packages have only a limited impact on pupils' health behaviours like smoking, there is still very little evidence about broader school influences on such behaviours. In the absence of trial data, some of the best evidence derives from 'school effects' research,^{145,146} including our own '11 to 16 Study' which found differences between secondary schools in level of smoking, drinking and drug use after taking account of pupil intake. The results were compatible with the health promoting school model, and particularly the emphasis on a positive school ethos.

Our more recent studies continue to explore these issues, in particular focusing on pupil peer groups and related influences which might in part be an explanation for 'school effects'.¹⁴³ Evidence from the 'Teenage Health in Schools (THIS) Study' has already shown how schools vary in peer group structures, and the position and popularity of smokers within them. Further work¹²⁰ showed variation in the relationship between pupils' peer group positions and health behaviours according to their gender and the socioeconomic status of the school. These results suggest a highly complex inter-relationship between schools and school peer groups, and that their influence on pupils is probably synergistic rather than separate.

In our new 'Peers and Levels of Stress (PaLS) Study', we are examining peer group structures in even greater detail, focusing on peer group hierarchies and their effects on pupils' health, health behaviours and stress (as measured by cortisol). If we demonstrate variations in these processes between the 22 secondary schools involved, our understanding of 'school effects' will be greatly increased.

YOUNG PEOPLE'S PERSONAL INCOME AND HEALTH

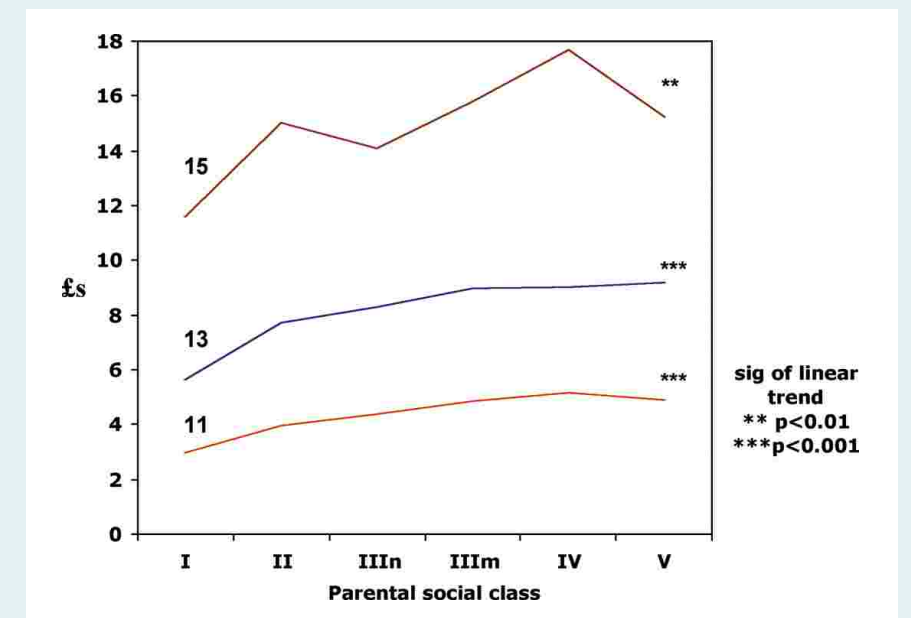
Despite year-on-year increases in young people's own income, through pocket money and other sources, there is remarkably little evidence about the social distribution of personal income, its relationship with consumer culture and implications for health. Drawing on data from the '11 to 16 Study', we found an inverse relationship between personal income and several measures of family socioeconomic status (SES) which demonstrated that, paradoxically, young people from poorer backgrounds had more, not less, money in their pockets.¹⁴⁶ Consistent with other studies, they were also more likely to have the latest consumer possessions, like TVs in their bedrooms, suggesting that young people from lower SES backgrounds are more exposed to and embedded in consumer culture.

Following on from this, we are now investigating the links between personal income and health and health behaviours, focusing first on smoking. Personal income is a well-documented predictor of smoking but little attention has been given as to whether it matters more for young people from different social backgrounds. Preliminary analysis suggests it does, raising interesting questions about differences in access to tobacco (See Figure 1). We are also examining whether personal income is associated with better health (as it is in adulthood) or whether, as anti-consumerists would predict, it has exactly the opposite effect.



Crawford Neilson,
Computer Systems Manager

Figure 1 - Personal income (mean [£/week]) by parental social class at ages 11, 13 and 15
Source: West of Scotland 11 to 16 study – reproduced by permission of Taylor & Francis



SEXUAL AND REPRODUCTIVE HEALTH

Sexual health is a major public health concern in the UK, due to high rates of sexually transmitted infections, unwanted pregnancies, and regretted early sexual experiences amongst teenagers. In the UK, young people, men who have sex with men, and Afro-Caribbean people are particularly vulnerable to poor sexual health. In east and southern Africa, sexual ill-health is extremely serious, with HIV prevalence between 5% - 40% amongst adults, made worse by underdevelopment.

The broad aims of this programme are to better understand the key social factors that shape sexual risk behaviour, to develop appropriate programmes to improve sexual health, and to evaluate such programmes.

Research in this programme includes:

- original studies being conducted in the UK and East Africa, primarily Tanzania, using both qualitative methods, e.g. in-depth interviews and participant observation, and quantitative methods, e.g. questionnaire surveys and an HIV prevalence survey using saliva samples
- bringing together existing research findings by systematically reviewing the published literature
- developing new programmes through research and consultation with vulnerable groups and service providers, followed by careful assessment of initial ideas, and
- evaluating programmes using a range of methods from randomised controlled trials to detailed qualitative research.

RESEARCH STAFF

PROGRAMME LEADER

Daniel Wight

CURRENT RESEARCH STAFF

Katie Buston

Marion Henderson

Alison Parkes

Audrey Prost

Pieter Remes

Lisa Williamson

PhD STUDENTS

Nicola Desmond

Daniel Wight,
programme leader



SHARE: SEXUAL HEALTH AND RELATIONSHIPS

(www.sphsu.mrc.ac.uk/studies/share)



SHARE is an enhanced, teacher-led, sex education programme devised by a team led from the MRC Medical Sociology Unit (now SPHSU) and funded by the Health Education Board for Scotland (now NHS Health Scotland). It was developed in response to concerns about the increasing teenage abortion rate; the increasing evidence that Chlamydia and other sexually transmitted infections are widespread; and the high number of coercive sexual encounters. This study rigorously evaluated whether SHARE could improve the quality of young people's sexual relationships and reduce sexual risks. It also looked into the main social influences on young people's sexual behaviour.¹⁴⁸

The main findings, published in 2002 (see *Br Med J* 2002 324:1430-33), showed that, compared with conventional sex education, SHARE had no impact (by the time participants reached age 16) on the age at which young people first have sex, on the number of sexual partners they have, or the use of contraceptives. By age 20, SHARE also had no impact on the number of pregnancies or abortions amongst young women in the study.⁸⁵ However, SHARE sex education led to less regret of early sexual experiences, improved practical sexual health knowledge, and both teachers and pupils preferred SHARE to conventional sex education.³⁹

Young people's sexual experiences are not uniform and vary considerably at any given age. Sexual health interventions may have to coincide with critical points in a young person's own sexual experiences for them to have much effect (Wight and Stephenson, 2007). That said, further improvement of school-based sex education is unlikely to have a substantial impact on sexual behaviour beyond that already achieved. Teenage pregnancies are particularly unaffected by school sex education, being influenced more by a young person's social situation, educational aspirations and local views towards childbirth.^{39, 40} Government and health policies need to tackle the broader social influences on sexual health.

EXPLAINING ASSOCIATIONS BETWEEN ADOLESCENT SUBSTANCE USE AND CONDOM USE

There are well-established associations between the use of substances such as alcohol or cannabis and risky sexual behaviour. Two possible explanations for this are: a) that the link is 'event-specific' and the effect of the substances changes behaviour, for example people who have sex when drunk or stoned are less likely to use condoms, and b) that there are underlying psychosocial factors common to a number of different risk behaviours.

Using data from the SHARE project we found associations between substance use (regular use of alcohol, cigarettes or cannabis) reported at ages 14 and 16, and lower condom use reported at age 16. Part of the explanation for substance users' lower condom use was attributable to reports of being 'drunk or stoned' at intercourse. This explanation was more important for those who reported regular use of alcohol only, and less important for those who reported regular use of cigarettes only. We do not know whether event-specific use of alcohol or drugs resulted in any cognitive damage, and so cannot establish a direct causal mechanism for its association with low condom use.¹¹⁸

Psychosocial factors – for example, attitudes to sexual risk-taking and peer sexual norms – were also an important part of the explanation for low condom use for all substance-use groups (alcohol-only, cigarette-only and combination users). We also found that the greater number of sexual partners amongst substance users helped to account for their lower condom use, although the reasons for this are unclear. Having more sexual partners could be a lifestyle indicator of general risk-taking propensity, and/or it might be more difficult to negotiate condom use with less familiar partners.

HIV PREVALENCE AND UNDIAGNOSED INFECTION AMONG A COMMUNITY SAMPLE OF GAY MEN IN SCOTLAND, UK

The triennial MRC Gay Men's Sexual Health Survey has been conducted in gay venues in Edinburgh and Glasgow since 1996, to examine the HIV-related sexual behaviour of gay men in Scotland.¹⁵¹ In 2005, we also collected oral fluid samples to be tested anonymously for HIV, to improve the estimate of HIV prevalence and undiagnosed infection in this population. 1,744 men completed detailed questionnaires about their sexual behaviour; HIV testing and test results; knowledge of partners' HIV status; and experiences of other sexually transmitted infections (STIs). 1,350 men also provided saliva samples for anonymous HIV testing.

The findings showed that 60 men were HIV positive (4.4%) and HIV prevalence increased with age from 2% among those aged 17-25 years to 5.4% among those aged 36-45 years. Most at risk were men who have anal sex with high numbers of partners: for men who had had more than 10 partners in the previous year, the infection rate rose to 12.8%.¹⁵⁰

Of the 60 men who were HIV positive, 41.7% were undiagnosed. 18 of the 25 men with undiagnosed HIV had previously tested HIV negative, and over half reported their most recent test was in 2004 or 2005. Most of these men had made an incorrect assumption about their HIV status – assuming they were HIV negative but were actually HIV positive – based on the negative HIV test in the past. Men who had not used a sexual health service in the past year were also less likely to be aware of their status: in the survey, only one-third knew that they were HIV positive compared with three-quarters of men who had used sexual health services.

Gay men in Scotland are at risk of HIV and these findings demonstrate there is a need to reinforce safer sex messages through national, targeted HIV prevention campaigns. An accurate knowledge of HIV status is absolutely vital, and six-monthly sexual health checks should be promoted using clinic and community-based HIV testing initiatives to increase uptake.

NEW STUDIES

The Sexual and Reproductive Health Team has recently started three innovative studies. Katie Buston is studying the sexual and reproductive health needs of young male offenders, in the context of broader public health goals, debates over fatherhood and recidivism policy. Audrey Prost is about to pilot a model for offering rapid HIV testing in London GP surgeries as a possible strategy to reduce the proportion of undiagnosed HIV infection and late diagnosis among vulnerable communities. In Tanzania, Pieter Remes is designing and piloting a community-based intervention intended to empower rural villages to address their sexual health problems and to support parents to influence their children's sexual behaviour in a positive way.

Naomi Hemy,
receptionist at SPHSU



GENDER AND HEALTH

Gender plays an important role in the opportunities and life chances presented to an individual. Recent decades have witnessed considerable changes in men's and women's attitudes, expectations and roles, especially in relation to employment, marriage and childcare. It has been assumed that health differences between men and women are inevitable and constant, but current research is beginning to take a far more critical view of the links between gender and health.

The overall aim of this programme is to examine whether, when and why various aspects of men's and women's health are different, so that we can identify possible ways to improve the health of both.

In particular, the programme aims to examine:

- gender differences in various dimensions of health, taking into account different historical and cultural contexts,
- the factors involved in men's and women's recognition, reporting and experience of ill health, and help seeking behaviour, and
- acquired risks of ill health and how these are distributed among and between men and women.

Our research includes evaluations, systematic reviews, and quantitative and qualitative research. Some examples of our ongoing work are described below.

RESEARCH STAFF

PROGRAMME LEADER
Professor Kate Hunt

CURRENT RESEARCH STAFF

Carol Emslie
Shona Hilton
Heather Lewars

PhD STUDENTS
Sarah Gurney

Kate Hunt,
programme leader



DECREASED RISK OF DEATH FROM CORONARY HEART DISEASE AMONGST MEN WITH HIGHER 'FEMININITY' SCORES: A GENERAL POPULATION COHORT STUDY

Men are affected by coronary heart disease (CHD) at younger ages than women, although similar proportions of men and women eventually die from the disease. Although both biological and social factors are known to affect the risk of CHD, the reasons for gender differences in CHD have not been fully explained. In recent years, attention has focused on whether certain behaviours linked to traditional masculine identities, men's roles and gendered patterns of socialization may help to explain men's excess mortality. We undertook the first large scale exploration of whether measures of 'masculinity' and 'femininity' are related to death from CHD. To examine this, we looked at the relationship between gender and heart disease over a period of 17 years in people living in Glasgow. 1,551 people (704 men and 847 women) aged 55 years began the study in 1988. All undertook a detailed interview in 1988 in which they were asked about their health, their personal and social circumstances, and their attitudes. Their answers were used to create scores of masculinity or femininity. By 2005, 88 of the men and 41 of the women had died from CHD.

We found that higher 'femininity' scores (i.e. calculated from people's ratings of how affectionate, sympathetic, warm, tender, gentle etc. they were) in men were associated with a lower risk of CHD death, even after controlling for some other factors that increase the chance of getting heart disease (smoking, binge drinking, blood pressure, household income, body mass index and psychological well-being). There was no relationship between 'femininity' and CHD death among women, or between 'masculinity' and CHD death in either men or women. Our results suggest that men who are less able to identify themselves with characteristics that are still often seen as being 'feminine' or expressive (and thus perhaps subscribe to a more limited and stereotypically 'masculine' range of behaviours) are at an increased risk of dying of heart disease. This result prompts further research into the link between health and social constructions of gender.⁹²

MEN AND HEART DISEASE: A SYSTEMATIC REVIEW OF THE QUALITATIVE LITERATURE

Coronary heart disease (CHD) is widely and inaccurately regarded as a 'male' disease, yet men's experiences of CHD in terms of their gender, i.e., how dominant ideas about masculinity influence health and health behaviour, are seldom examined. We aimed to explore the extent to which previous studies focused on this topic. Through searches in electronic databases we identified qualitative, interview-based studies published before January 2007 and used thematic analysis on these primary studies.

We found 136 studies which collected data on men's experiences of CHD. Although 27 included a 'gendered' approach, only two studies explicitly aimed to investigate men's gendered experiences of CHD. Our analysis found that many men displayed culturally dominant forms of masculinity when talking about the implications of the disease for their identity, social relationships and paid work. However, other men did not. We argue that the interview context, like all social contexts, may influence what is said, and that some men will use this context to 'do' gender by giving the impression of 'not doing' health (e.g. by talking about being strong or silent in the face of illness).⁶⁶

Carol Emslie, researcher on the Gender Programme



RANDOMISED CONTROLLED TRIAL OF A SUPERVISED GROUP EXERCISE PROGRAMME FOR WOMEN WITH BREAST CANCER

In spite of evidence which shows that exercise improves physical and psycho-social aspects of quality of life for cancer patients, levels of physical activity decrease in many women who have been diagnosed with breast cancer. We undertook the first UK randomised controlled trial (RCT) of a group exercise programme being run as a rehabilitation treatment for cancer. 203 women undergoing treatment for early-stage breast cancer were randomly assigned to normal care (the control group) or to a 12 week supervised group exercise programme (the intervention group). We used qualitative methods, including focus groups, to collect data about how the women perceived exercise and the trial.

Although we did not find any improvement in general quality of life in the intervention group, we did find advantages in physical and psychological functioning in both the short and long term for women in this group. Qualitative data revealed that setting up exercise classes, led by an expert instructor, solely for women with breast cancer was an important part of the success of the trial, as this helped to dismantle gender-related barriers to exercise. Clinicians should encourage activity for patients with cancer, and policy makers should consider including opportunities for exercise in cancer rehabilitation services.^{65, 110, 111}

Warm-up exercises at the feedback session where participants and their families learned the results of the study



EVALUATING THE HEALTH EFFECTS OF SOCIAL INTERVENTIONS

Policy makers, such as politicians and civil servants, make decisions on a daily basis which affect our lives and possibly our health. These include decisions about whether and where to build new roads, how much to spend on building new housing, and how best to improve the public's health. To help with this decision-making process they need continual access to good quality research.

The overall aim of this programme is to ensure that policy decisions which may affect our health are based on the most reliable research evidence available, rather than on poor evidence, anecdote or conventional wisdom. The programme contributes to this by carrying out new studies, and bringing together existing research and publishing it in summary form.

The objectives of the programme are:

- to undertake systematic reviews of the effectiveness of social or health interventions – policies, programmes and projects – in improving health
- to carry out primary studies evaluating the health impacts of social and health policies and interventions
- to examine the effect on health and health inequalities of housing and regeneration, and transport policies, and
- to carry out primary and secondary research on tobacco control interventions.

RESEARCH STAFF

PROGRAMME LEADER
Professor Mark Petticrew

RESEARCHERS

Matt Egan
Marcia Gibson
David Ogilvie (to end of August 2007)
Anne Scoular (to end of May 2007)
Hilary Thomson

Mark Petticrew,
Evaluation Programme leader



THE GOWELL STUDY

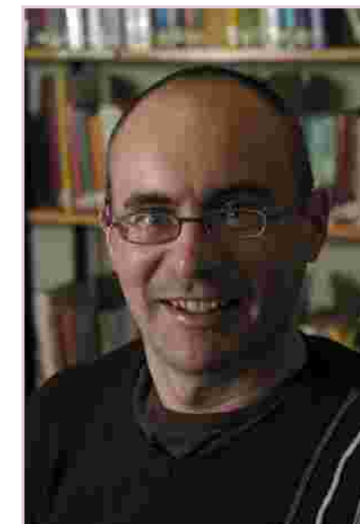


One of the major events in 2006 was the completion of the baseline survey for the GoWell study, which is currently evaluating the effects on health of neighbourhood in Glasgow. Glasgow is a city of unique extremes undergoing a unique transition. It has higher concentrations of deprivation, inequalities, ill health and early preventable deaths than anywhere else in the country. Following the largest stock transfer of social housing in UK history (from Glasgow City Council to Glasgow Housing Association), it is also experiencing a mammoth programme of multi-faceted community regeneration.

The GoWell Programme captures the nature of this transformation and provides regular evaluations of its impact on residents' health and well being. It involves repeat cross-sectional studies sampling 7,000 residents in neighbourhoods across Glasgow; a longitudinal study of residents who relocate; and qualitative research, routine data analysis and neighbourhood audits.

GoWell is being undertaken by a partnership of research organisations within and related to the University of Glasgow, combining expertise in the fields of health, housing and neighbourhood change. The study is funded by Glasgow Housing Association, the Glasgow Centre for Population Health, Communities Scotland, NHS Health Scotland, NHS Greater Glasgow, and the University of Glasgow. Matt Egan is currently funded by GCPH to work on the project full-time. So far the baseline survey has been completed

Matt Egan,
GoWell study researcher



involving interviews with 7,000 residents in neighbourhoods across the city, and the first follow-up survey is currently being planned. See: www.gowellonline.com for more information.

THE M74 STUDY: INVESTIGATING THE HEALTH EFFECTS OF A NEW URBAN MOTORWAY

The M74 study builds on our previous systematic reviews and primary studies by attempting to assess the health effects of a major "natural experiment" – in this case, the proposed construction of a new stretch of urban motorway in Glasgow – focusing on the effects of the motorway on local people's perceptions of the local environment, travel behaviour and physical activity. The study aims to contribute to our understanding of the cross-sectional relationships between transport, the urban environment, physical activity and health and, eventually, to provide a baseline for the longitudinal analysis of the effects of the new motorway.





Mary Robins, Unit Librarian

The long term aims of the study will be to:

- Compare regional and national trends in the socio-spatial patterning of travel behaviour and accidents using sources of routine data
- Compare changes in travel behaviour, perceptions of the local environment, and general health and well-being in the motorway corridor with those in control areas elsewhere in Glasgow, examining how these changes are related to people's socio-economic position and level of physical activity
- Interview a sub-sample of respondents in more detail to explore the reasons and mechanisms for any observed effects, and
- Conduct interviews with residents in specific neighbourhoods to obtain a qualitative understanding of the effects on local communities.

Current work is focused on analysis of a postal household survey in three specially defined areas of the city with similar overall socio-economic profiles. The survey itself includes items on personal and household circumstances; general health and well-being; perceptions of the local environment; a travel diary; and the short form of the International Physical Activity Questionnaire (IPAQ).

We have also conducted qualitative interviews with survey respondents living in neighbourhoods where the motorway is predicted to have particular positive or negative effects on local people and their environment, and examining the socio-spatial patterning of travel behaviour across the west of Scotland using data from the Scottish Household Survey. The methods and some of the challenges in evaluating this type of intervention are described in a recent paper.¹¹⁶ The M74 study is a collaboration between David Ogilvie and Mark Petticrew (both MRC SPHSU), Richard Mitchell and Steve Platt (both at the Research Unit in Health, Behaviour and Change, University of Edinburgh) and Nanette Mutrie (University of Strathclyde and visiting professor at MRC SPHSU).

SYSTEMATIC REVIEWS

We also have an ongoing programme of systematic reviews, and this includes reviews on a range of topics including employment and health, physical activity and housing, and urban regeneration. One of our reviews published last year examined the health effects of UK-based urban regeneration programmes.^{17,138} This review synthesised data on the impact on health and key socio-economic determinants of health and health inequalities which had been reported in evaluations of national UK regeneration programmes. We identified nineteen evaluations which had reported impacts on health or socio-economic determinants of health; ten of these were able to supply data on their health and related impacts. We found that there is little evidence of the impact of national urban regeneration investment on socio-economic or health outcomes. Where impacts have been assessed, these are often small and positive, but it is clear that adverse impacts have also sometimes occurred.

A full list of our ongoing and completed reviews can be found at www.sphsu.mrc.ac.uk/research_programs.php?progID=EV

Marcia Gibson (below) and Hilary Thomson (right), Evaluation Programme researchers



RESEARCH ON PUBLIC ENGAGEMENT WITH SCIENCE

Citizens are exposed via the written and broadcast mass media (including the internet) to a vast array of findings from medical research. Much of this material stems from epidemiological research and deals with everyday risks (e.g. smoking, diet, where you live), while some deals with novel risks or theories about risks (e.g. BSE, GM foods, MMR vaccination). The aim of our work is to investigate lay and professional understandings of how such research is produced and what it means for them.

RESEARCH ON PARENTS' PERCEPTIONS OF MMR

Some of our recent work (carried out by Shona Hilton, pictured) has concerned parental perceptions of MMR, and one qualitative study in particular attracted much interest.^{86,89} This found that the MMR controversy has caused parents of children with autism feelings of stress, guilt and frustration. Until now, no research had looked at the impact of the MMR controversy on the parents of children with autism.

The research found that many parents of children with autism have come under great stress and pressure as a result of the scare, and some have experienced "agonising uncertainty" as to whether the MMR vaccine may have provoked their child's or children's autism. Many have wondered whether they are to blame for their child's condition or felt they had "let their children down" by deciding to vaccinate. Even those who felt that their child's autism was not linked to the MMR vaccine, either because of family history or because they had avoided vaccination, had suffered as a result of the ambiguous advice they felt that they had received. The discussions also showed that most parents found it extremely difficult to make subsequent decisions about further vaccination for their children with autism and other children. Many parents felt let down by health professionals and health visitors as well as GPs. This appeared to be a result of the lack of clarity and consistency in what they were told. It may also have been a result of the perceived lack of empathy with and understanding of the realities of caring for a child with autism.

These findings were presented at an MRC-funded workshop on parental perceptions of MMR in 2006, which involved participants from a range of disciplines and professional backgrounds, some primarily involved in research, some in policy-making and practice, and some in communicating to professionals and the public.

RESEARCH STAFF

RESEARCHERS

Kate Hunt
Sally Macintyre
Shona Hilton
Mark Petticrew
Rosey Davidson

PHD STUDENTS

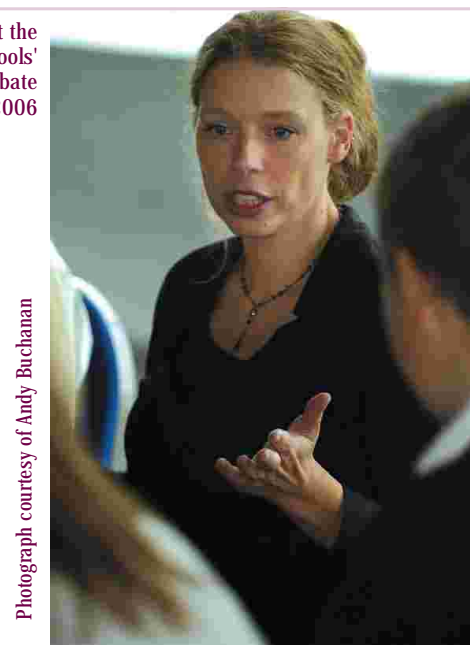
Mairi Langan

COLLABORATORS

Jenny Kitzinger (Cardiff University)
Marguerite Dupree (University of Glasgow)

Shona is now planning further research with funding from the MRC's Population Health Sciences Research Network (www.populationhealthsciences.org). This will examine whether health professionals feel that they are well enough equipped to deal with parents during such health controversies, and how they can be better supported.

Shona Hilton at the Glasgow Schools' Vaccination Debate in 2006



Photograph courtesy of Andy Buchanan

KNOWLEDGE SYNTHESIS AND TRANSFER INTO POLICY

There has been much debate in recent years about how research evidence can be made more useful to public health policymakers, for example by providing syntheses of research (such as systematic reviews or other summaries). We have carried out a number of projects which both produce syntheses of research on the health effects of social policies, and which explore how policymakers both nationally and internationally perceive and use research evidence to inform decision making. A recent MRC-funded project has also been exploring how MRC Units approach the dissemination of their research, and this involves a survey of MRC Units, with follow-up interviews and case studies.

Other work in this area in recent years has explored the implementation of the findings of the SHARE sex-education trial, as well as ESRC-funded work on academic and policymakers' perceptions of the value of public health research (see www.sphsu.mrc.ac.uk/Evidence/Evidence.html).

Researchers involved: Helen Harper, Mark Petticrew, Matt Egan, Sally Macintyre, Daniel Wight and Hilary Thomson, with external collaborators Paul Wilson (University of York), Margaret Whitehead (University of Liverpool), Hilary Graham (University of York), Mike Calnan (University of Kent, Canterbury), and Irwin Nazareth (MRC General Practice Research Framework).



Jean Money, Secretarial Assistant/Accounts

LAY PERCEPTIONS OF DETERMINANTS OF HEALTH & HEALTH INEQUALITIES

Epidemiologists have known for a long time that health is socially patterned - but what do lay people think about the social patterning of health? In the West of Scotland Twenty-07 Study we asked respondents their views on what influences health (habits, self-care, the environment, family relationships, one's constitution, money and luck). Personal health behaviours and the environment were seen as very important determinants, whereas luck was regarded as relatively unimportant. Older people and those in lower social classes were more likely to view money and family relationships as being important for health.¹⁰⁴

Some research has suggested that it is not just absolute levels of socio-economic deprivation that affect people's health, but also relative deprivation - in other words where we see ourselves in relation to others. In another study we conducted focus group discussions in Scotland and the north of England to explore the ways in which people discuss inequalities in health and their sense of 'relative deprivation' and how it might affect health. We also wanted to see if and how people compared themselves to others. We used headlines and photographs from British newspaper coverage of the New Labour Government's initiatives to tackle inequalities in health to help stimulate discussion. These discussion groups showed widespread acceptance of the evidence for social inequalities in health and a clear consciousness of how people are placed in social hierarchies and might be seen by others. The discussions amongst people living in poorer circumstances and more deprived areas showed that they were very aware of the effect of their relative poverty on health. Many of them expressed anger and frustration when talking about their experiences of living in an unequal society.^{49,50}

CURRENT PROFESSIONAL ACTIVITIES BY UNIT MEMBERS

EDITORSHIPS AND EDITORIAL BOARDS

BMC Public Health
 Ethnicity and Health
 European Journal of Public Health
 Evidence and Policy
 Journal of Health & Place
 Medical Decision Making
 Pharmacoeconomics
 Sociology of Health and Illness

NATIONAL AND INTERNATIONAL SCIENTIFIC COMMITTEES (INCLUDING STEERING GROUPS, EXPERT PANELS, AND POLICY AND FUNDING COMMITTEES)

Caledonia Youth Board of Trustees
 Children 1st and Glasgow Centre for Child & Society, Young Fathers Research Advisory Group
 Cochrane Health Promotion/Public Health Field Advisory Board
 Cochrane/Campbell Equity Group
 Communities Scotland, Scotland's Housing & Regeneration Project (SHARP)
 CRUK, Population and Behavioural Sciences Committee
 ESRC, Realcom (Developing multilevel models for REAListically COMplex social science data)
 European Public Health Association Governing Council
 European Public Health Association, Section on Public Health Epidemiology
 European Public Health Association, Section on Public Health Epidemiology (Joint President)
 EUROTHINE (European Network on Tackling Inequalities in Health)
 Glasgow Centre for Population Health, Observatory Function Group
 Glasgow Centre for Population Health, Psychological, Social, and Biological Determinants of Health study (pSoBid I)
 Health Protection Scotland, Review of Public Health Implications of New Gonococcal Diagnostics Working Group
 Institute of Advanced Study, University of Durham, Advisory Council
 MRC College of Experts
 MRC Equalities Project Steering Group (Science and Funding Sub-committee)
 MRC Health Services and Public Health Research Board
 MRC Public Health Research Oversight Group (PHROG)
 MRC Population Health Sciences Research Network (Chair)
 MRC Training Review Group
 NHS Greater Glasgow and Clyde, Glasgow Gay Men's Sexual Health Strategic Framework Group
 NHS Greater Glasgow and Clyde, Implementation of Antenatal Chlamydia Testing Planning Group (Chair)
 NHS Greater Glasgow and Clyde, New STI Diagnostics Working Group (Chair)
 NHS Greater Glasgow and Clyde, Review of Specialist Public Health Workforce Working Group
 NHS Greater Glasgow and Clyde Subgroup, Chronic Disease Management Services for Housebound Patients
 NHS Health Scotland Reference Group for Commentary on NICE Obesity Guidelines
 NHS Health Scotland Reference Group for Commentary on NICE Public Health Intervention Guidance on one-to-one interventions to reduce STIs, including HIV, and to reduce the rate of under-18 conceptions
 NHS Scotland Communicating Risk Group
 NHS Scotland Scottish Health Impact Assessment Network Committee on Transport
 NICE Assessment of Community Engagement and Community Development Approaches, Programme Development Group
 NICE Physical Activity and the Environment, Programme Development Group.
 NIHR Biomedical Research Centres Selection Panel

Nuffield Council on Bioethics, Working Party on Ethics of Public Health
 Parkhead Youth Crime Prevention Partnership
 Public Health Research Consortium management committee
 Royal Statistical Society, Local (Glasgow) Organising Group
 Scottish Executive Health Department, Chief Scientist Office, Public Health Research Portfolio Steering Group
 Scottish Executive Health Department, Expert Reference Group for Measuring Health Inequalities in Scotland
 Scottish Executive Health Department, National Sexual Health Advisory Committee
 Scottish Executive Health Department, Scottish Physical Activity Research Collaboration (SPARColl), Advisory Group
 Scottish Executive Health Department, Tobacco Control Division Smoking Prevention Working Group
 Scottish Executive, National Sexual Health Advisory Committee Action 13 Survey Subgroup
 Scottish Executive, National Sexual Health Advisory Committee HIV MSM Project Subgroup
 Scottish Longitudinal Study Management Committee
 Scottish Longitudinal Study Research Board
 SIGN (Scottish Intercollegiate Guidelines Network): Update of SIGN Guideline 42: Management of Genital Chlamydia
 Trachomatis Infection
 Society for Social Medicine Committee
 UKCRC Call for Centres of Excellence in Public Health, Scientific Advisory Panel (Chair)
 UK Drug Policy Commission
 UK Health Equity Network Advisory Board
 University of Glasgow, Faculty of Law, Business and Social Sciences Ethics Committee
 University of Glasgow, Faculty of Public Health, Littlejohn Gairdner Prize, Adjudication Panel
 Wellcome Trust Populations and Public Health Strategy Committee
 WHO Environmental Burden of Disease Attributable to Housing
 WHO Housing & Health International Expert Group

ORGANISATION OF CONFERENCES

Changing the Focus: A National Conference for Scotland on Gay and Bisexual Men
 Scottish Executive Health Department, Chief Scientist Office: Evidence, Policy & Practice Conference



CBE FOR PROFESSOR SALLY MACINTYRE, SPHSU DIRECTOR

Finally, we are proud to report that MRC SPSU's Director, Professor Sally Macintyre, received a CBE in the Queen's eightieth birthday honours list in June 2006. She attended an investiture at Buckingham Palace in December last year to receive the award for services to social science. The Prince of Wales officiated at the investiture and was interested in Sally's work on the impact of local neighbourhoods on people's health and well-being.

UNIT PUBLICATIONS

BOOK

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BOOK CHAPTERS

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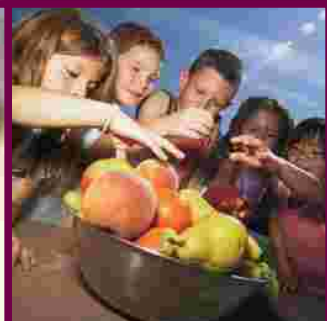
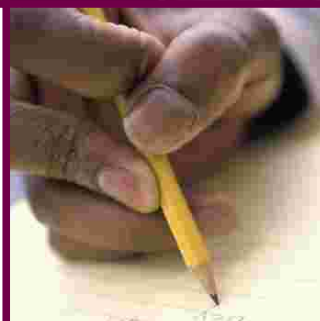
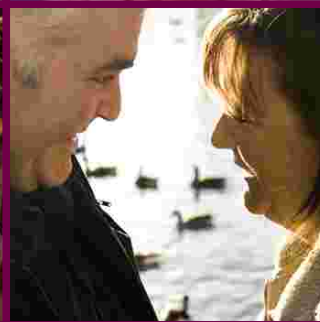
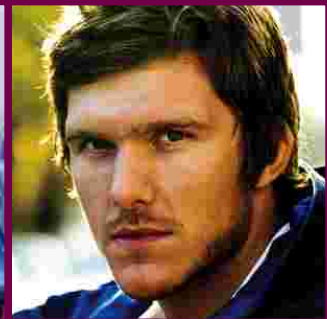
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MRC | Social and Public Health Sciences Unit
Medical Research Council

4 Lilybank Gardens
Glasgow G12 8RZ
T: 0141 357 3949
F: 0141 337 2389
www.sphsu.mrc.ac.uk