Health behaviour change: do we know what works and is this being implemented in Scotland?

[1]JK Bray, [2]G McCartney, [3]JK Dunbar, [4]J Thoulass
[1]*Specialist Registrar in Public Health, NHS Lothian;* [2]*Specialist Registrar in Public Health, MRC Social and Public Health Sciences Unit;* [3]*Specialty Registrar in Public Health Medicine, University of Dundee;* [4]*Specialty Registrar in Public Health, University of Aberdeen, UK*

ABSTRACT In Scotland in recent years smoking, poor diet and excess alcohol have caused major public health problems. Knowledge of what is effective in the field of health behaviour change is therefore essential in achieving improvements in health. This excellent symposium was convened with the purpose of ensuring that public health policy is informed by the best available evidence on effective interventions. As behaviour is complex, achieving change can be difficult and it is essential that interventions are properly planned, implemented and evaluated. A variety of recommendations for progress were advocated in areas including research, knowledge transfer, health inequalities and policy. The take-home message for the public health community was that action in these areas must be prioritised if health improvement for the population is to be realised. Given the importance of this topic it is no surprise that the symposium received substantial media attention. Coverage focused on Professor Anne Ludbrook's work on minimum pricing for alcohol. This is an excellent example of an intervention with considerable potential to improve public health. Crucially, in terms of acceptability, this measure would not reduce alcohol industry revenue, even though it should significantly reduce alcohol consumption – a win-win situation for all.

KEYWORDS Alcohol drinking, health behaviour, health inequalities, health policy, knowledge transfer, obesity, smoking, smoking cessation

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Correspondence to ***JK Bray, NHS Lothian, Deaconess House, 148 Pleasance, Edinburgh EH8 9RS, UK***

tel. ***+44 (0)131 536 9000***
e-mail ***jbray2@nhs.net***

Health behaviour change is of key importance for public health because it has the potential to produce significant reductions in morbidity and mortality. This symposium reviewed interventions to change health behaviour at individual, community and population level and highlighted key areas for intervention including smoking, lack of physical activity and excess alcohol consumption.

SESSION 1 INDIVIDUAL AND POPULATION LEVEL INTERVENTIONS: SMOKING, PHYSICAL ACTIVITY

Professor Robert West (Professor of Health Psychology, University College London) opened the day with an overview of the lessons for Scotland from international experience in smoking control strategies.[1] Compared with other countries, Scotland is doing well in reducing tobacco consumption, although there is no room for complacency. One important point is that most smokers are only mildly concerned about their smoking.[2] Similarly, an awareness of many health risks from smoking remains poor in smokers. For example, most are unaware of the association between smoking and dementia, or the link between smoking in pregnancy and subsequent childhood behavioural problems.

Priority areas for action include raising health concerns about smoking among smokers, making smoking less acceptable and increasing the rate of smoking cessation.[3] The use of financial inducements is showing some success in smoking cessation. Keeping cessation salient in people's minds, through promotional campaigns, is also critical.[4] Further regulation was also recommended including banning smoking in cars with children and further reducing advertising of tobacco. To conclude, Professor West highlighted the recent debate on smoking cessation services in the *Lancet*.[5] He argued passionately against Simon Chapman's opinion that smoking cessation services should be abandoned, as there is good evidence that they are a very cost-effective solution to reducing smoking and require further promotion.

The success of the smoking ban in Scotland is familiar to all, with compliance rates of more than 95%, a reduction in the amount smoked by around 30% and health benefits due to reductions in exposure to secondhand smoke.[6] Mary Cuthbert (Head of Tobacco Policy Branch, Scottish Government) used her talk to highlight some key lessons from the implementation process applicable to future similar challenges. These included recognition of the time required to build public and political support, the importance of having a sound public health evidence base, the need for widespread consultation and the importance of effective partnership working.[6]

Increasing physical activity levels in the UK population is a particular challenge and Dr David Ogilvie (MRC

Epidemiology Unit, Cambridge) succinctly presented the current evidence for effective interventions. The current Scottish Government target is to achieve 30 minutes of physical activity most days.[7] This target is unmet and indeed few members of the general public know that in order to reduce cancer incidence or achieve weight loss it is actually 60 minutes activity that is required most days. Most research focuses on individual lifestyle modification, for example prescribed exercise or multicomponent interventions involving the family, school and community for adolescents.[8–10] These interventions have been effective in trial settings, but they need replication, particularly across socio-economic groups. However, it is wider environmental factors that are likely to be most important in determining ability to change;[8,9] for example, altering the physical environment or implementing policies to promote walking, cycling and the use of public transport rather than car use. The challenge ahead is to create environments supportive of physical activity, in sufficient numbers, to achieve widespread increases in physical activity.

SESSION 2 INDIVIDUAL AND POPULATION LEVEL INTERVENTIONS: OBESITY, BEHAVIOUR CHANGE IN HARDER TO REACH AND DISADVANTAGED GROUPS

Dr Fergus Millan (Health Improvement Strategy Division, Public Health and Health Improvement Directorate, Scottish Government) began by describing the Scottish Government's actions to tackle obesity. This work is based on the plan set out in Let's Make Scotland More Active and the Scottish Diet Action Plan.[11,12] To date several programmes have been instituted which involve targeting individuals and communities using mass media such as television, radio and billboards. Social marketing was highlighted as a means of improving the clarity of the message delivered to the public; contrasting with previous approaches which gave a variety of messages, allowing recipients to pick and choose. The current programme uses co-ordinated branding and themes to deliver a consistent message of simple and achievable goals, such as taking the stairs instead of the lift, which can change health 'one step at a time'.

Dr Susan Jebb (Head of Nutrition and Health Research, MRC Human Nutrition Research, Cambridge) described the Obesity Foresight Project, which had the aim of identifying long term strategies to tackle obesity.[13] If the present rate of increasing obesity continues, by 2050 the annual cost to the UK will be approximately £50 billion per year at current prices.[13] Driving this increase is a complex system of biological, psychological, environmental and social factors that is reinforcing behaviours leading to weight gain. The project mapped this system revealing previously hidden layers and evidence gaps, such as the impact of individual psychology and stress on obesity, and identified promising targets for intervention while considering possible unintended consequences of interventions.

A range of future scenarios were analysed and the most promising policy options were found to be: early life intervention; control of obesogenic food and drink; improving environments to allow physical exercise; increasing employer responsibility for health; and targeting high-risk groups (for example, encouraging breast feeding, banning food advertising to children, building and maintaining cycle paths, employer-sponsored exercise programmes and encouraging physical activity in teenaged girls). Dr Jebb concluded by presenting the framework developed by the Foresight Project, which forms the foundation of the Healthy Weight, Healthy Lives strategy for England.[14] This is recommended for use in local policy development.

Health inequalities are a major issue for public health and have continued to widen over the past 20 years. Professor Graham Watt (Professor of General Practice, University of Glasgow) ended the session with a vibrant talk where he described research indicating how primary care could be used to engage with 'hard-to-reach' groups in community settings. With regard to policy to address health inequalities: Equally Well (the Scottish Government's health inequalities policy framework) recommends interventions such as Keep Well (a free health check for people aged 45–64 which looks for reversible risk factors of common conditions, such as diabetes and ischaemic heart disease, and recommends appropriate management). However, this is facing major challenges of coverage, continuity, co-ordination and sustainability; despite having screened large numbers of people.[15,16] Professor Watt highlighted that primary care was ideally placed to address these issues, but there is difficulty in engaging all general practices in health improving activities. Public health will benefit if the strengths of health improvement and general practice can be combined. However, achieving this will require new thinking on how to engage with general practitioners and hard-to-reach practices in particular.

SYDNEY WATSON SMITH LECTURE BY JOHN FRANK

Knowledge transfer is currently a hot topic, particularly for health research funding agencies and Professor John Frank (Director, Scottish Collaboration for Public health Research and Policy) provided an excellent introduction to the topic. Knowledge transfer, in the simplest terms, is 'getting knowledge into action'; that is turning research findings into usable and used policy and programmes.[17] Using examples from his career to date, Professor Frank conveyed his recommendations for best practice in relation to knowledge transfer.

Firstly, research findings must be implemented. For this to occur they must be disseminated in an accessible way. For example, short evidence-based summaries are likely to be most useful for policy makers, rather than

publications or presentations. Secondly, the culture of both the research community and the recipients must be designed for the purpose of knowledge transfer.[18] Thirdly, those performing research must be considered completely independent before their results will be taken up with confidence, and organisations must have a system accustomed to using research findings.[19] Finally, everything must be supported from above with funding that prioritises collaboration. It is with these aims in mind that the new Scottish Collaboration for Public Health Research and Policy is being directed.

SESSION 3 INDIVIDUAL AND POPULATION LEVEL INTERVENTIONS: RESEARCH THEORY, ALCOHOL, ECOLOGICAL PUBLIC HEALTH

The theories of behaviour change and motivation are crucial to developing effective public health interventions and Professor Marie Johnston (Professor of Psychology, University of Aberdeen) gave an overview of this field. Though there are many psychological theories regarding 'who doesn't change' and 'why they don't change' there are far fewer that explain how to change behaviour.[20–22] Forming an intention to undertake a behaviour doesn't always correlate with actually performing it.[23] Significant numbers of individuals fall into the 'inclined abstainer' group, those that intend to adopt health behaviours but do not.[24] This feature is inversely correlated with the individual ability to plan.[25] The evidence base for effective behaviour change techniques is currently limited. In order to expand the evidence base methodologically sound studies, using replicable and effective techniques, underpinned by theory, are required. The recent development of a common taxonomy for behaviour change techniques supports this.[26]

Excessive alcohol consumption is a major public health problem and its significant social and economic impacts have ensured the high profile of this issue within the Scottish Government.[27,28] Professor Anne Ludbrook (Theme Leader, Health Behaviours, Health Economics Research Unit, University of Aberdeen) detailed the evidence for, and cost-effectiveness of, interventions aimed at reducing alcohol related harm that have been incorporated in the Scottish Government's Framework for Action.[28] Strong evidence supports increasing the price of alcohol with progressive falls in consumption as price rises; brief interventions (advice or motivational interviewing) for hazardous drinkers by primary care providers; and providing treatment and relapse prevention.[29,30] However, although increasing alcohol taxation should be an effective strategy for lowering overall levels of consumption, current retail practices mean that alcohol products can be sold at prices below the tax duties levied on them. As an alternative a minimum price per unit policy is proposed.[29] This triggers a more targeted reduction in availability of the cheapest alcohol. Critically, although a minimum price strategy is likely to lead to public health gain from decreased consumption, it is not likely to decrease revenue for the alcohol industry and retailers and may do the reverse. It is therefore a win-win situation.

Linking to the actions on alcohol, Dr Laurence Gruer (Director of Public Health Science, NHS Health Scotland, Glasgow) described the evaluation framework for the Scottish Government's new Alcohol Action Plan and the Licensing (Scotland) Act 2005, that comes fully into force in September 2009.[28] Most data will come from existing sources, such as the Scottish Health Survey, although specifically designed studies will provide additional information where required. One of the difficulties the group anticipates will be in distinguishing the impact of policy from that of the recession.

It is an aspiration that all government policy should consider public health issues. Professor Tim Lang (Professor of Food Policy, City University, London) addressed the challenging topic of linking policy and ecological public health. Following an audience vote he abandoned his power point slides and gave a stimulating ad-lib presentation of his key points, before opening up the floor for discussion. Professor Lang highlighted that evidence, policy and practice are often not consistent and may be directly contradictory.[31] Health is dependent on the environment and although ecological considerations negative to health, such as excessive consumption, should be central to public health, they are not reflected in current health policy.[32] Public health and ecological issues should be addressed in tandem, for example merging nutritional advice with environmental sustainability, particularly since the greatest public health successes have always been ecological. However, the government, the food industry and society have many competing interests against potential public health policies, especially those that reduce freedom or choice. Professor Lang highlighted the need for coherent public health and ecological policy at international level, but suggested that the challenge is in generating public support for change. To conclude he stated that priority should be given to the 'bigger picture' – of working towards an ecological economy – as this is the most effective means of achieving the largest public health gains.

SESSION 4 KEY MESSAGES FOR POLICY IN SCOTLAND: HEALTH BEHAVIOUR, RESEARCH AGENDA

Professor Mike Kelly (Director, Centre of Public Health Excellence, National Institute for Health and Clinical Excellence) built on previous presentations regarding health behaviour change interventions. He highlighted that interventions often rely on long causal chains before the outcome is reached, whether they are targeted at individual, community or societal level.[32] In addition, the lack of an explicit and appropriate application of a model

has limited the quality of the evidence base. This has made it difficult to learn about what works, for which populations, in what circumstances. A plea was made to ensure that future evaluations of behaviour change overcome these limitations. Finally Professor Kelly cautioned against advocating holistic behaviour change interventions because they ask individuals to change 'who they are'; they can easily be misused; and they are likely to exacerbate inequalities.

Professor Sally Macintyre (Honorary Director, MRC Social and Public Health Sciences Unit, University of Glasgow) opened a discussion on the ethical and political implications of behaviour change interventions in the context of the 2007 Nuffield Council of Bioethics report.[33] Using Tim Lang's idea of reducing meat consumption as a desired behavioural outcome, she took the audience up the 'intervention ladder': from doing nothing and providing information, all the way up to restricting choice and an outright ban. In demonstrating this it became clear that as one ascends the ladder, individual freedoms are restricted, an absence of evidence becomes more common, and a stronger evidence base is required to justify intervention.[34] However, it is frequently the case that interventions at the top of the ladder have the biggest overall impact as well as the ability to narrow health inequalities. She therefore urged the assembled public health community to be bolder in the scope of their interventions if health inequalities are to be reduced.

The last speaker of the day was Dr Harry Burns (Chief Medical Officer, Scotland). In humorous mode, he declined to offer guidance on his stated topic of 'the research agenda and investment priorities of the Government', and instead took the opportunity to respond to Professor Watt's earlier critique of Equally Well. In response he quoted the World Health Organization description of the Scottish Government policy as 'the best policy response in the world'. He then used complexity theory to describe the 'wicked' health and social challenges for the Government, cautioning against simple solutions and urging the development of more sophisticated evaluation techniques. His take-home message was that public health did not need to work out how to influence policy-makers: it instead needs to learn how to influence the public, as that is what drives policy.

CONCLUSION

This symposium provided a lively and informative overview of current thinking and controversies in health behaviour change. The high quality of the speakers, their clear dissection of the evidence base and their enthusiastic lobbying for future action were inspiring to all. This was confirmed by the positive feedback received from the nearly 200 attending delegates. The public health community must consider what changes it needs to make if it is to be successful in tackling the problems of obesity, alcohol-related harm, smoking and inequalities in the twenty-first century.

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