

Getting the inactive implications for public health policy

Epidemiological data have established that a sedentary lifestyle increases the incidence of at least 17 medical conditions.¹ The evidence is strongest for coronary heart disease. A sedentary lifestyle is now the normal lifestyle for the majority of the populations in developed countries and relapse from regular physical activity is also high.^{2,3} Thus there is clear need for public policy aimed at increasing the physical activity levels in the population. Policy makers have begun to respond to this need and recently Scottish⁴ and English³ plans for increasing physical activity levels in the populations have been published.

PHYSICAL ACTIVITY IS THE BEST BUY IN PUBLIC HEALTH

In 1994 Morris⁵ made a convincing argument that physical activity was the best buy in public health. This argument was based on the high prevalence of inactivity (for example, twice as many people are inactive compared to the numbers who smoke) and a relative risk for CHD, for those who are inactive, that is similar in magnitude to that of smoking, high levels of cholesterol or hypertension.⁶ However, policy makers have been challenged by not knowing exactly what to buy. While there has been a strong evidence base about the health benefits of regular activity,² very little evidence exists about how best to increase physical activity for the population. The search for interventions has resulted in the proliferation of initiatives such as GP referral schemes that currently have limited evidence of effectiveness.⁷

WHAT SHOULD WE BUY TO INCREASE PHYSICAL ACTIVITY AND ENHANCE PUBLIC HEALTH?

More recently, agencies responsible for health improvement have reviewed evidence in relation to how best to increase physical activity behaviour.^{8,9} Whilst these reviews are welcome and they identify some interventions that

show promise for changing physical activity behaviour (such as using prompts to encourage stair use) there are still gaps in this evidence.¹⁰ One aspect of what is missing from the evidence is knowledge of how interventions that have been shown to be efficacious can be generalised to wider populations (such as those who are socio-economically deprived) and settings (e.g. workplaces). This limited knowledge impacts on our ability to achieve population level physical activity changes and subsequent health gain. So even when we have a guide about what to buy we may not be sure that it will work well in new locations.

CAN WE GET VALUE FOR MONEY?

A further gap relates to value for money. We know very little about the economic effectiveness of physical activity interventions but the limited evidence available shows considerable potential cost benefit to companies and potentially to nations. For example in Scotland a conservative and illustrative estimate⁴ of the benefit of increasing by five per cent the number of people who are regularly active suggests that this would result in a saving of £85.2 million in terms of life years saved and a saving to the health service of £3.5 million. The limited evidence on economic benefit also suggests that lifestyle approaches are more cost effective than structured approaches to increasing activity levels.¹¹

BUILDING THE EVIDENCE BASE

There has been an historical lack of an evaluation culture³ (p44) within the key service providers (such as local authorities, health boards or private sector agencies) and thus the vast majority of physical activity service provision has gone unmeasured in terms of behaviour change and health impact. Where evaluations have been conducted, they have tended to be poor in quality and used to test out innovative programmes such as the numerous (but

often poorly designed) evaluations of exercise referral programmes.⁷ This means that we have not always spent money wisely nor have we been able to learn from the practice that has occurred. We recommend that to improve this situation an evaluation culture, supported by adequate budgets and skills for the task, must be encouraged within our public sector agencies.

WHAT NEEDS TO CHANGE TO PROVIDE EFFECTIVE PUBLIC HEALTH POLICY?

Public health policy that aims to promote physical activity must use the existing limited evidence about individually focused interventions within a broader evaluation and practice framework. Such a framework should attempt to create the optimum legislative, policy and environmental changes that are necessary to make the adoption, adherence and maintenance of regular physical activity easier for all social groups.¹² Such policies must draw on wider sociological/ecological models of health and include interventions that make general (such as streets) and specific environments (such as workplaces) conducive to being physically active. This means focusing on transportation and changes to built environments that make activity feasible and safe. It means addressing policy issues such as the provision of physical education in schools and flexible working patterns that address barriers to activity such as time. Thus the topic of physical activity must not be located solely in health policy, but must also be integrated into education, transport and environmental policies.

The possible health benefits of regular activity for individuals, communities and populations remain unrealised. Hardman has summarised this serious situation for public health as follows: 'Physical inactivity is a waste of human potential for health and well-being...'.¹³ In order to avoid such waste, researchers need to

focus on how to achieve population level behaviour change, practitioners need to develop a more evaluative culture that can increase the current evidence base and policy makers need to reinforce the promotion of physical activity across all relevant government agendas.

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References

1. Booth F, Gordon S, Carlson C, Hamilton M (2000) Waging war on modern chronic diseases: primary prevention through exercise biology. *J Applied Physiol* 88:774-787
2. U.S. Department of Health and Human Services (1996) Physical Activity and health: a report of the Surgeon General. Atlanta: U S Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion
3. Department of Culture Media and Sport (2002). Game Plan: a strategy for delivering Government's sport and physical activity objectives. London: Cabinet Office
4. Scottish Executive (2002) Let's make Scotland more active. Edinburgh
5. Morris JN (1994) Exercise in the prevention of coronary heart disease: today's best buy in public health. *Medi Sci Sports & Exerc* 26:807-814
6. Pate RR, Pratt M, Blair SN, Haskel WL, Macera CA, Bouchard C, et al (1995) Physical activity and public health: A recommendation from the Centres for Disease Control and Prevention and the American College of Sports Medicine. *J Am Med Assoc* 273:402-407.
7. Riddoch C, Puig-Ribera A and Cooper A (1998) Effectiveness of physical activity promotion schemes in primary care: A review. London: Health Education Authority
8. Kahn EB, Ramsey LT, Brownson RC, Heath GW, Howze EH, Powell KE, et al (2002) The effectiveness of interventions to increase physical activity - A systematic review. *Am J Prev Med* 22(4):73-108
9. Hillsdon M, Foster C, Naidoo B and Crombie HA (2003) review of the evidence on the effectiveness of public health interventions for increasing physical activity amongst adults: A review of reviews. London: Health Development Agency
10. Blamey A and Mutrie N. Changing the individual to promote health enhancing physical activity: the difficulties of producing evidence and translating it into practice. *J Sports Sci* in press
11. Sevick MA, Dunn AL, Morrow MS, Marcus BH, Chen GJ and Blair SN (2000) Cost-effectiveness of lifestyle and structured exercise interventions in sedentary adults - Results of project ACTIVE. *American Journal of Preventive Medicine* 19(1):1-8
12. Buchner D and Miles R (2002) Seeking a contemporary understanding of factors that influence physical activity. *Am J Prev Med* 23(2s):3-4
13. Hardman AE (2001) Physical activity and health: current issues and research needs. *Int J Epidemiol* 30(5):1193-1197.