“The PAT 10 report Arts and Sport (Department for Culture, Media and Sport, 1999) includes health as an area in which sport can contribute to neighbourhood renewal. The Value of Sport (Sport England, 1999) suggests that sport can make a contribution to “the new policy agenda” by assisting in the improvement of fitness and health - the reduction of risk of coronary heart disease, obesity and osteoporosis; psychological benefits (eg reduction of depression) and a range of more specific health benefits.

Much of the research evidence relates to the health benefits of physical activity, rather than sports per se. Among many of the least active and least healthy groups, the promotion of an ‘active lifestyle’ may be a more useful strategy than the promotion of sports (although much depends on the definitions used). There is a need to focus on behaviour change rather than formal activity, promoting facility use and uptake of classes and sessions. Among sports participants, the frequency of activity is often less than that required to achieve and sustain health benefits.

Qualitative evidence suggests that the greatest gains from involvement in activity relate to psychological health and increased feelings of well-being. It is important that such experiences are complemented by a recognition of the unique physiological benefits of exercise.

Factors underpinning the success of activity provision have included appropriate and convenient local facilities; recognising the importance of participants’ friendship groups in getting involved and staying involved; providing reassurance that ‘people just like us’ are able to participate; acknowledging, particularly to older people, that some physical activity will be better than none; and recognising that if the activity has some intrinsic value (good fun, enjoyable, a change of environment etc), it may be more appealing and ensure adherence.
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There is a widespread absence of robust monitoring information on the health benefits of participation and little long-term monitoring of adherence to activity programmes. This reflects the short-term nature of many initiatives, the lack of funding for such monitoring and the lack of expertise to undertake such work.” (LGA, 2001)

Rationale for physical activity

Physical activity may or may not involve sport as traditionally defined (i.e., organised, competitive activity), but the benefits to the individual from taking part in the various forms of physical activity are overwhelming. Increased physical activity is associated with reduced risk of premature death, adverse cardiovascular outcomes (e.g., cerebral and cardiac events), hypertension, diabetes, obesity, cancer types (e.g., bowel and breast), and improved mental and physical wellbeing.

For a review of the evidence to support some of these associations, see Pearson et al (2002); and for further information about the type of study that explores these associations, see Paffenbarger et al (1993).

Equally important is the evidence that provides explanations for such associations; for example, studies have prospectively demonstrated the required increase in the daily volume of physical activity to result in a reduction in blood pressure (Fagaard et al 2001).

For a summary of the key ongoing areas of investigation, and challenges for future investigations, see
Increasing physical activity levels?

Given the context that physical activity is beneficial to everyone providing a sensible progressive approach is adopted, a key challenge in public health is the need to increase levels of physical activity in the population. Although not solely a UK phenomenon, it has been estimated that the cost of obesity alone in the UK will rise to £50 billion per annum by 2050, and it is well acknowledged that physical inactivity is a key component of the trend in overweight and obesity (Jebb et al., 2007). When the levels (prevalence) of physical inactivity are combined with the consequence (risk) of physical inactivity, it is well acknowledged that physical inactivity presents a public health problem on a par with smoking (Macera & Powell, 2001).

Recent estimates suggest that 72% of females and 60% of males are insufficiently active, and certain key groups (e.g., young females) are particularly inactive (Department of Health, 2009) mall increases in physical activity levels for the majority who are insufficiently active confers major benefits, so it is not surprising that a great emphasis is now placed on understanding how to increase physical activity levels in the population at large.

It is also recognised that physical activity behaviour is not isolated from other unhealthy behaviour (e.g., food choices), and that the factors influencing health behaviour are extremely
complex (Department of Health, 2008). For example, recent initiatives recognise the importance of the family and the built environment as wider determinants of health behaviour (Change4Life). A great effort is also targeted at addressing the striking inequalities in health and wellbeing, and physical activity behaviour is a key component.

For example, deprived groups are less likely to access health or leisure services, so health initiatives must pay particular attention to such groups.

A useful UK text that attempts to summarise some of the key issues around increasing physical activity, and the rationale for investment in this area, is Dugdill, Crone & Murphy (2009).

It would be short-sighted in this rough guide not to mention the related area of investigation of sedentary behaviour. Although one might make the assumption that those who are least physically active are the most sedentary, that may not be the case (e.g., Charriere et al., 2010). In addition, the consequences of sedentary behaviour are less well established compared with the large physical activity evidence base (e.g., Biddle et al., 2004).

In an environment where the need to move becomes less and less, the research effort applied to the determinants and consequences of sedentary behaviour is set to grow.
Recent initiatives

Change for Life (http://www.dh.gov.uk/en/MediaCentre/Currentcampaigns/Change4Life/index.htm) – a national social marketing initiative that is one response to the Foresight report (http://www.ingentaconnect.com/content/bsc/obr/2007/0000008/a00101s1). Social marketing is a key tool identified in the Healthy Weight, Healthy Lives paper (http://www.dh.gov.uk/en/Publichealth/Healthimprovement/Obesity/HealthyWeight/index.htm), and allows specific initiatives to be branded (e.g., dance for life).

Social marketing is known to be effective in changing attitudes and behaviour (Evans & McCormack, 2008) (http://mdm.sagepub.com/cgi/content/short/28/5/781), and in that regard forms a key part of the strategy to get more people more active.

A large focus of the social marketing in the Change4Life initiative is the ‘family’, and the importance of the family in behaviour choices is described in another rough guide (see TK RG).

Healthy Community Fund – a national initiative to provide funding for nine ‘pilot’ Healthy Towns (http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_085328). The healthy community initiative is another key tool identified in the Healthy Weight, Healthy Lives paper.

Whilst healthy cities are not a new phenomenon (see http://www.euro.who.int/InformationSources/Publications/Catalogue/20081103_1), their specific use in tackling unhealthy behaviour leading to overweight and obesity is fairly novel in the UK.

In particular, the healthy community initiative concentrates funding on those nine towns and cities that have demonstrated a clear strategy to tackle obesity through environmental change.

Examples include an initiative to provide reward points for healthy choices, an initiative to change location of fast food outlets, and an initiative to increase cycling as a mode of transport.
One particularly interesting Healthy Town example is Tewkesbury in Gloucestershire (Count me in! – see: http://www.tewkesbury.gov.uk/index.cfm?articleid=3807), where the initiative follows in the wake of serious flooding in 2007.

Tewkesbury is tackling transport, food and activity choices with a range of initiatives focusing on provision of new opportunities for target groups and changes to the physical environment.

Let’s Get Moving (http://www.dh.gov.uk/en/PublicHealth/HealthImprovement/PhysicalActivity/DH_099438) – a national initiative to provide a physical activity care pathway, where patients in primary care are encouraged to do more physical activity.

The Let’s Get Moving initiative is a direct response to the National Institute for Health & Clinical Excellence (NICE) guidance that brief interventions, based on the principles of motivational interviewing, are effective in sustainably increasing physical activity levels (NICE 2006) (http://www.nice.org.uk/PH2).


Further pilot studies are now underway, including a pilot study in the Lichfield District of South Staffordshire, where Health Trainers are undertaking the brief intervention (http://www.glos.ac.uk/research/shsc/projects/Pages/pacpe.aspx).

Evaluation of physical activity initiatives
Although the effort continues to further investigate the explanations for why physical activity has an impact on certain health outcomes, a parallel effort is underway to establish what works in getting more people more active.

Whilst investigations to determine mechanisms linking physical activity to health indices & outcomes requires an experimental approach, an alternative array of approaches is required to explore the effectiveness of physical activity initiatives.

The success of physical activity initiatives cannot be ‘experimentally’ separated from other potential influencing attributes and behaviours, and therefore the evaluation of physical activity initiatives is complex and requires approaches that recognise the context in which physical activity takes place.

Whilst it may be tempting to avoid such complex evaluation issues, the future funding of initiatives is heavily dependent on high quality evaluation evidence.

For example, as the £35 million Healthy Communities fund was established, an opportunity to tender for a £1.0 million process evaluation was established through the National Institute of Health Research (NIHR) Policy Research Programme (http://www.geog.qmul.ac.uk/newsevents/news/16138.html).

Setting aside a significant portion of initiative funding for evaluation of effectiveness is now a common approach, and has been advocated for many years (for e.g., see: http://www.nwph.net/phys/Publications/Measuring%20PA%20Final%20version.pdf).

It would be inappropriate to conclude the section on evaluation without acknowledging the big issue of how to measure individual physical activity levels. This question is in itself a large area of investigation, and provides a great example of the dilemmas that researchers face in exploring this interesting area. Briefly, self-report methods (e.g., retrospective questionnaires; see IPAQ - http://www.ncbi.nlm.nih.gov/pubmed/12900694).
and proxy measures for physical activity (e.g., fitness) are used in large scale studies, but both methods have inherent limitations.

Interestingly, fitness is independently (from physical activity level) associated with health outcomes (see Blair et al., 2001) (http://journals.lww.com/acsm-msse/Abstract/2001/06001/ls_physical_activity_or_physical_fitnesss_more.7.aspx), so its use as a proxy measure is questionable.

Smaller scale studies that still manage to retain an ecologically valid approach have employed expensive accelerometers (for e.g., Troiano et al., 2008) (http://journals.lww.com/acsm-msse/Abstract/2008/01000/Physical_Activity_in_the_United_States_Measured_by.25.aspx), and less expensive pedometers (for e.g., Sequira et al., 1995) (http://aje.oxfordjournals.org/cgi/content/abstract/142/9/989).

More recently Global Positioning System (GPS) technology has been employed in concert with spacial systems to map physical activity (for e.g., see Duncan & Mummery 2007) (http://www.ajpm-online.net/article/S0749-3797(07)00166-3/abstract).

Alternate methods such as direct observation and physiological monitoring (e.g., heart rate, labelled water and gas exchange) have understandably been the preserve of smaller scale controlled studies (e.g., see Sirard & Pate 2001) (http://www.ingentaconnect.com/content/adis/smd/2001/00000031/00000006/art00004).

Building a solid evidence base, given the range of approaches in different types of study, has remained an issue in physical activity research for some time (see LaPorte et al., 1985) (http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1424723/).

Measurement of sedentary behaviour is no less challenging, and researchers in that area tend to use proxy measures for the behaviour (e.g., daily television viewing duration).
Conclusions

Getting more people more active remains one of the great challenges of the 21st century, alongside challenges of living within the world's resources (sustainability) and providing security for democracies to flourish.

Human beings have evolved having to hunt and gather food, but the complete absence of such activity in developed societies presents an enormous problem.

Human beings have also evolved to store calories as fat in preparation for times of food shortage so, ironically in an environment of plenty of freely available food, a poor ability to choose not to consume excessive calories has become a significant threat to health.

Physical activity is now firmly embedded in public health policy due to the economic and social benefits of increased activity and the dramatic estimated costs associated with increased inactivity.

With the rising economic costs of health care, physical activity and other health-related behaviours are a key focus, and therefore an excellent area for study.

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We are grateful to David James; Associate Dean (Research) University of Gloucestershire for the provision of this Ruff Guide.