Is the adult population in England active enough? Initial results

A survey carried out on behalf of the Health and Social Care Information Centre

Joint Health Surveys Unit

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Is the adult population in England active enough? Initial results from the Health Survey for England 2012

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1 Background

1.1 Introduction

In 2011, the Chief Medical Officers of the four UK countries introduced revised guidelines for physical activity that reflect current evidence on what is needed to benefit health and the incremental benefits from undertaking physical activity. These included guidelines on aerobic activity, muscle-strengthening activities, and activities to improve balance and coordination.

This brief report presents the proportion of adults aged 19 years and over who met the new guideline for aerobic activity in 2012, based on their self-reported leisure and occupational physical activity. It also provides a comparison with data from the Health Survey for England 2008.

These results from the Health Survey for England (HSE) 2012 are being published now as the first opportunity to assess population physical activity levels (including all domains of activity) in England in 2012.

1.2 Public health importance of physical activity

Lack of physical activity is the fourth most important risk factor worldwide for chronic, non-communicable diseases, after tobacco use, raised blood pressure, and hyperglycaemia (raised blood sugar). Worldwide, it accounts for 6% of the burden of disease from coronary heart disease, 7% of type 2 diabetes, and 10% of breast and colon cancers. It is estimated to have caused more than 5.3 million premature deaths worldwide in 2008 (9% of all premature deaths). In the UK, inactivity has been estimated to cause 3% of disability-adjusted years of life lost in 2002; this represents a direct cost to the NHS of £1.06billion, with indirect costs to society bringing this cost to a total of £8.2billion. Inactivity is particularly important in some groups. For example, inactivity was estimated in 2011 to account for at least 20% of the excess heart disease deaths seen in the South Asian community in Britain.

Physical inactivity contributes to: cardiovascular disease (CVD), particularly ischaemic heart disease (IHD), and stroke; cancer of the colon and breast; psychological distress and depression; and dementia, as well as being a major cause of obesity and diabetes. Regular physical activity reduces all-cause and cardiovascular mortality, even among those with an otherwise high cardiovascular risk profile or with established cardiovascular disease, reduces the incidence of ischaemic heart disease and stroke, reduces long-term blood pressure in both those with raised and with normal blood pressure, improves cognitive function in older people with and without existing impairment, reduces anxiety, and improves mental wellbeing. One of the planned legacies from hosting the London 2012 Olympics and Paralympics was an increase in sports and exercise participation, including active travel (walking and cycling), by the general public across the country.
1.3 Guidelines for physical activity

As evidence accrues about the amount, type, and pattern of physical activity that is beneficial for health, the guidelines from expert groups and governments have been modified to take account of new knowledge.29 The original physical activity guideline for adults in the UK was to undertake vigorous activity for at least 20 minutes at least three times per week. Vigorous activity includes for example aerobics, football, hockey or wheelchair basketball; or activities such as cycling, dancing or swimming if they make the individual breathless or sweaty.30 In 1994, it was acknowledged that although some studies found vigorous activity was necessary for health benefits,31 other studies found a graded effect, without a threshold. This was important because many adults were unable or unwilling to exercise at that intensity, and the greatest population health benefit is found by moving from minimal to some activity, rather than from moderate to vigorous. The recommendation for adults thus became at least 30 minutes of activity that was of at least moderate intensity (for example brisk walking, athletics, cricket, or netball; or activities such as cycling, dancing or swimming, regardless of whether they make the individual breathless or sweaty30) on at least five days each week.30 This was modified subsequently to allow the 30 minutes within a day to be accrued in bouts of at least 10 minutes’ duration, which was also the guideline of a major English government report on the health benefits of physical activity in 2004.33

A 2007 review of the evidence by the British Association of Sport and Exercise Sciences (BASES) was the basis for work by expert working groups, which recommended that the guidance be amended to incorporate moderate or vigorous activity counted separately but complementing each other. Adults should be encouraged to undertake each week at least 150 minutes of moderate activity, in bouts of 10 minutes or longer, or 75 minutes of vigorous activity, or a combination of the two. This should preferably be spread over the week, for example by being moderately active for 30 minutes on at least five days a week.34 This became the official Department of Health guideline for England for adults aged 19-64 in 2011, recognising that the overall volume of physical activity is more important than the specific type of activity or frequency of sessions.2 It is also the guideline for older adults, but those who are relatively inactive should increase their activity levels gradually towards this target.2 The report also made it clear that there is no sharp threshold for health benefit: increasing the volume of activity is beneficial, for individuals who are sedentary, relatively inactive, or more active.34

1.4 Value of Health Survey data

The periodic measurement of adult physical activity through the Health Survey for England provides valuable evidence for the prevalence of physical activity in the context of wider public health. In particular, the survey includes occupational activity, as well as housework and DIY in the overall measure of physical activity - aspects of ‘everyday’ activity unlikely to be promoted through any community-based intervention but necessary for our understanding of overall volumes of activity. The survey also provides data on each of the elements of the current UK physical activity guidelines,2 including sedentary behaviour, muscle-strengthening activity for adults and older adults, and balance / co-ordination for older adults. Therefore, this dataset complements the local measurement of aerobic physical activity and sport through Sport England’s Active People Survey.35

2 Methods

The Health Survey for England (HSE) is an annual health examination survey of a random sample of the general population living in their own homes.36,37,38 It has been running since 1991: the HSE 2012 is the 22nd survey in the series. A letter is sent to a random sample of addresses in England; interviewers visit the addresses to recruit household members to participate in the survey, interview them, and measure their height and weight. Those who
agree are then visited by a nurse, who takes further measurements and collects biological samples. The aim for HSE 2012 was to recruit about 8,000 adults and 2,000 children; the survey takes place throughout the year.

The Health Survey for England defines adults as those aged 16 and over. However, the adult recommendations for physical activity are aimed at those aged 19 and over. Thus Table 1 published here shows the headline results for men and women aged 19 and over. It should be noted that the results in the HSE 2008 report were, and in the full HSE 2012 report will be, for adults aged 16 and over.

3 Meeting physical activity guidelines

Table 1 shows the proportion of adults aged 19 and over (the target age for the new guidelines for adults) meeting the new guidelines in 2008 and 2012. Additional questions on occupational activity were introduced in HSE 2012 that were not asked in HSE 2008, so the 2012 data have been analysed in two ways. The first uses the additional information, to provide a ‘best estimate’, and the second uses only information that was also collected in HSE 2008, to enable a comparison across the two survey years. The inclusion criteria for walking among older people also differs between the two estimates (see footnotes e and g to Table 1).

<table>
<thead>
<tr>
<th>Meets MVPA guidelines</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012 best estimate</td>
<td>66</td>
<td>56</td>
<td>61</td>
</tr>
<tr>
<td>2012 comparable with 2008</td>
<td>65</td>
<td>54</td>
<td>59</td>
</tr>
<tr>
<td>2008</td>
<td>65</td>
<td>53</td>
<td>59</td>
</tr>
</tbody>
</table>

a MVPA guidelines: At least 150 minutes moderately intense physical activity (MPA) or 75 minutes vigorous activity (VPA) per week or an equivalent combination of these (in bouts of at least 10 minutes).

b Includes both leisure and occupational activity.

c This table includes moderate or vigorous occupational physical activity derived from the extended questionnaire, introduced in 2008. It includes relevant activities only if reported to have lasted for at least 10 minutes per day, and assumes that all activity above light intensity was of moderate intensity, i.e. there was no sustained vigorous occupational activity.

d The HSE 2012 questionnaire asked about occupational activity on a typical workday and on the number of days the participant had worked in the previous four weeks but assumed that each activity mentioned occurred on every day worked. These two rows have been included to enable comparison between 2008 and 2012. They are likely to overestimate the contribution of occupational activity.

e Walking was included for participants aged 19 and over who reported walking at a fairly brisk or fast pace, and for those aged 65 and over for whom the pace of walking was slow or average but for whom the effort of walking for 10 minutes or more was usually enough to make them breathe faster, feel warmer or sweat.

f The HSE 2008 questionnaire asked about occupational activity on a typical workday and on the number of days the participant had worked in the previous four weeks but assumed that each activity mentioned occurred on every day worked. These two rows have been included to enable comparison between 2008 and 2012. They are likely to overestimate the contribution of occupational activity.

g Walking was included only for adults who reported walking at a fairly brisk or fast pace, regardless of age.

In 2012, the best estimate is that 61% of adults (66% of men and 56% of women) met the new guidelines for moderate/vigorous physical activity (first row of Table 1). The second row of Table 1 shows the HSE 2012 data re-analysed to enable a direct comparison with data from HSE 2008. The results using the older set of questions produces a slightly lower estimate, which was similar across the two years: according to these, 65% of men met the
new guidelines in each year, while the proportion of women meeting the new guidelines was 53% in 2008 and 54% in 2012.

In the HSE 2008, the proportion of adults meeting the previous guidelines was reported: 39% of men and 29% of women aged 16 and over met these previous guidelines. The proportion of HSE 2008 participants aged 19 and over who would have met the new guidelines - 65% of men and 53% of women - is substantially higher. There are two reasons for this, one related to limitations of the survey and one to the guidelines themselves.

HSE results have underestimated adherence to the previous guidelines, because it is not possible to know from the HSE data whether bouts of at least 10 minutes have been undertaken on the same day to accrue the 30 minute daily minimum that the previous guidelines required. Thus only activity that was undertaken for at least 30 minutes in a single episode could be included in the analyses to estimate adherence to the previous guidance.

Secondly, undertaking at least 30 minutes per day of moderate activity on at least five days a week is now recognised as only one way of achieving 150 minutes spread throughout the week; other combinations of duration and frequency – and an allowance for shorter amounts of vigorous-intensity activity – are likely to be easier to accomplish over a seven day period.

4 Conclusions

Approximately three in five adults aged 19 and over met the new guideline for moderate/vigorous physical activity in 2012. The data suggest this figure has remained stable since 2008, with no Olympic legacy yet visible. It should be noted that the figures presented in this report were collected throughout 2012 – before, during, and after the Games.

Compliance is higher for the new guideline, reflecting its more flexible definition. The new guidelines introduce greater flexibility in the ways that an individual can accumulate physical activity across the week, recognise activity that would have been discounted under the previous guidelines, and reflect the extra value of vigorous intensity activity.

The main HSE 2012 report will include full chapters reporting on physical activity by both adults and children. This will include summary activity by socio-economic position; participation in different types of activity; time spent being sedentary; occupational activity and participation in muscle-strengthening activity by adults, and in activities to improve balance and co-ordination by older adults; and active travel to school by children.

5 References and notes

1 We thank Emmanouil Stamatakis for his comments.
8 IHD is also called coronary heart disease (CHD) or coronary artery disease (CAD).
33 www.ucl.ac.uk/hssrg/studies/hse
34 www.natcen.ac.uk/series/health-survey-for-england
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The Research Department of Epidemiology and Public Health, chaired by Professor Richard Watt, is a leading centre for research into the social determinants of health. The department has a strong interdisciplinary structure. The Department houses 180 staff in 11 main research groups, including the Joint Health Surveys Unit, part of the Health and Social Surveys Research Group. Collaborative research is conducted through the Institute of Health Equity and across UCL. The Department’s research programme is concerned particularly with social factors in health and illness and inequalities in these, including national cross-sectional surveys of health and behaviour (such as diet), longitudinal studies of cardiovascular disease (Whitehall studies) and the English Longitudinal Study of Ageing (ELSA); international studies of cardiovascular disease and diabetes; socio-dental indicators of need; and the socio-economic and policy implications of an ageing population.