Tackling obesity, physical activity levels and dietary intake: the extent of the problem

The Health and Social Care Information Centre has collated recently available data that suggest measures to tackle the problems of obesity, physical activity levels and diet are not yet gaining ground.

However, as Steve Chaplin here reports, the data do shed some light on the reasons for this and on areas of inequality requiring further input.

It is a sobering thought that obesity in England is so frequent that it surpasses the threshold required for the label ‘very common’ and morbid obesity can now be said to be ‘common’. But we are not unusual in this respect: with an overall prevalence of obesity of 25%, we do not match the figure reported in the United States (35%) and, though we rank third after Hungary and Lithuania among European countries, Finland, Germany and Ireland are not far behind us (Figure 1). The latest national statistics provide an overview of recently published data from various sources, shedding some light on why we have reached this state of affairs. They also show that the burden is distributed unequally in our society.

Where do these data come from?
The Health and Social Care Information Centre (HSCIC) draws on seven sources of published data for its report. The Active People Survey is carried out annually by Sport England to assess the frequency, intensity and durations of sports participation in England. Family Food is an annual statistical evaluation of spending on food, drink and nutrient intake derived from both household and eating out in the UK. Health at a Glance, published by the Organisation for Economic Co-operation and Development, is a biennial record of health status and its determinants in 35 European countries, using European Community Health Indicators. Information about health and secondary care is derived from the Health Survey for England and Hospital Episode Statistics, and data on prescribing come from the Prescription Pricing Division. Finally, data on child development are derived from the National Child Measurement Programme for England, which records the height and weight of children in state-maintained schools in Reception year (4–5 year-olds) and Year 6 (10–11 year-olds).

The report lists many other authoritative sources of data relevant to obesity and activity that focus on the home nations, government policy and public health.

**Adult overweight and obesity**

In adults, overweight is defined as a BMI of 25.0–29.9 kg/m² and obesity as BMI ≥30 kg/m². The health risk is adjusted for lean body mass by incorporating waist circumference (Table 1).

Overall, 58% of women and 65% of men were overweight or obese in 2014. Prevalence increases with age, reaching a plateau by 55–64 years, and is slightly higher among older women compared with men – with the result that more than three-quarters of women aged ≥45 were overweight or obese. The prevalence of overweight has been falling slowly since the early 1990s but obesity is becoming more common, rising from 15% in 1993 to 26% in 2014. The prevalence of morbid obesity tripled during this period to 2% of men and 4% of women.

The prevalence of obesity in women is 50% greater in the most deprived areas (33%) than in the least deprived (22%); (Figure 2). However, the proportion of older people in a community is also important: obesity prevalence is greater in the South West than in the North West, though the former is a more prosperous region.

In England, it is now normal to be overweight: mean BMI is 27.2 kg/m². Among men, the average is highest in the white population (27.4) and lowest among Asians (26.0); it is highest among black women (29.5) and lowest among Asian women (26.2).
Taking into account the lower risk thresholds for ethnic and minority groups, people of black ethnic origin have the highest risk of diabetes (60% for women, 40% for men). (There is a more detailed analysis in the Health Survey for England.) More women than men had an increased health risk: 25% of women and 22% of men were at very high risk and 18% and 13%, respectively, were at high risk.

Childhood obesity

Overall, the statistics for children at age 4–5 and 10–11 were no worse in 2014/15 than they were in 2006/07. Figures from the earlier period are believed to be underestimates so the picture may actually be improving. It is not a pretty picture though. In the younger age group, 9% of children were obese and 22% obese or overweight. And more children get fat as they get older; by age 10–11, 19% were obese and 33% obese or overweight. Once again, the burden falls disproportionately on people living in deprived areas and the difference is even greater than among the population overall, with rates of obesity doubling between the least and most deprived sectors (from 6% to 12% at age 4–5 and from 12% to 25% at age 10–11). Worse still, eight years of investment—or perhaps underinvestment—in education, sports and health care have been associated with a widening gap between rich and poor. The difference in prevalence between least and most deprived areas increased from 4.6% to 5.5% in younger children and from 8.9% to 12% in older children.

The prevalence of obesity and overweight increases with age in children of all ethnic groups. In young children, obesity prevalence is highest among black/black British children (15%) and lowest among Chinese children (8%); by age 10–11, the figure for black/black British children has risen to 29% and for Chinese children to 18% (Figure 3). The problem is particularly serious among black/black British children, of whom 29% are obese or overweight at school Reception age and 44% by Year 6.

The impact of deprivation and ethnic mix is reflected in the geographical distribution of obesity in children. London, Cumbria, some areas of Lancashire and Yorkshire, Teeside and parts of the Midlands have obesity rates of 10–14% among 4–5 year-olds. Prevalence is lowest in Richmond-upon-Thames (4%) and highest in Newham (14%). By age 10–11, the highest rates (22–28%) are in parts of the larger cities in the North and London and also in smaller urban centres such as Luton, Hull, Copeland in Cumbria, and Hartlepool. More children in Richmond became obese by age 10–11 (11%) but not as many as in Southwark (28%).

It is sometimes suggested that children, influenced by media messages, are unduly concerned about their body image. These statistics suggest there may be some basis for their worries, though insight (or anxiety) is not equally shared by boys and girls. Among 15 year-olds, 46% of girls and 23% of boys believed they were too fat. Of those who believed they were about the right size, 6% said other people made fun of them because of their weight; of those who said they were too fat, the figure was 34%.

Health care

Data on hospital admissions and surgery come with a health warning: more interventions are now carried out in primary care (so recent figures may underestimate prevalence), but data quality from secondary care has improved (correcting an historical underestimate).

Bearing this in mind, there were about 9000 hospital admissions in 2014/15 – 22% lower than the peak in 2011/12 but still four times higher than in 2004/05. Two-thirds of patients were aged 35–64 years and three-quarters were women.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Body mass index (kg/m²)</th>
<th>Waist circumference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low (&lt;94cm)</td>
<td>High (94–102cm)</td>
</tr>
<tr>
<td>Overweight</td>
<td>25.0–29.9</td>
<td>No increased risk</td>
</tr>
<tr>
<td>Obese I</td>
<td>30 to &lt;35</td>
<td>Increased risk</td>
</tr>
<tr>
<td>Obese II</td>
<td>35 to &lt;40</td>
<td></td>
</tr>
<tr>
<td>Obese III (morbid)</td>
<td>≥40</td>
<td></td>
</tr>
</tbody>
</table>

Note that different thresholds for intervention to prevent ill health are recommended for adults from Asian, black and other ethnic minority groups (increased risk of chronic conditions ≥23 kg/m²; high risk of chronic conditions ≥27.5 kg/m²) but the definitions of obesity do not change.
There were about 6000 bariatric procedures, 31% below the peak year but eight times higher than in 2004/05. Hospital activity is highest in the North East, notably Sunderland. Prescribing for obesity is relatively low, with 519 000 prescriptions for orlistat dispensed in 2014 at a cost of £15 million. Prescribing rates for orlistat were highest in the North East and parts of Lancashire and Yorkshire.

Physical activity
Public health education has long promoted the health benefits of physical activity and participation in sports, and it should have received a boost from the 2012 Olympics, but the wider picture remains disappointing and shows that the message is failing to reach the people at greatest risk.

There have been statistically significant increases in weekly sports participation in five of nine health regions between 2005/06 and 2014/15, with rates highest in London (38%) and lowest in the North East (33%). Although 36% of adults aged 16+ played sport at least once a week, 57% did nothing in the 28 days before they were surveyed. Sports participation is greater in higher socioeconomic groups (39% in groups 1–4 vs 26% in groups 5–8) and this difference has increased in the past 10 years. Over 60% of 16–25 year-olds play sport at least three times a week but participation decreases with age until about 70% of 55–64 year-olds and 80% of older people play no sport at all.

Physical activity levels among children fell by 25% between 2008 and 2012, with only 21% of boys and 16% of girls meeting recommended activity levels.

Diet
Ninety percent of people in the UK eat fruit and vegetables daily – a figure that compares very well with other developed countries – but they’re not eating enough of them. The proportion eating at least five portions a day was 26% for England, 20% for Scotland and 32% for Wales. Adults aged 16–24 were not supporting their high activity levels with proper nutrition, because they were the age group least likely to meet the 5-a-day target (18% vs 23–33% in older people). Diet is similarly poor in high- and low-income households.

Young people do better, with 52% of 15 year-olds consuming at least 5-a-day but deprivation and ethnicity have an impact. Of those living in the most deprived areas, 48% say they eat five or more portions of fruit and vegetables daily compared with 58% in the least deprived areas. And 60% of Asian young people meet the 5-a-day target compared with 49% of white children and 50% of those of black ethnic origin.

Summary
It is now more widely understood that obesity is a medical issue, as well as one consequence of individual choice. It is associated with major risk factors for cardiovascular disease and cardiovascular-related mortality (type 2 diabetes, hypertension, hyperlipidaemia), cancer, disability, reduced quality of life and premature death. It is, after hypertension, smoking and hyperlipidaemia, the fourth largest risk factor contributing to deaths in England.

This report shows that if measures have been taken to tackle the nutrition, activity and obesity problems of the 21st century, they are failing. NHS England, already struggling to meet current needs, faces a future of overwhelming demand.

Steve Chaplin, BPharm, MSc, Medical Correspondent

References