

Impact case study (REF3b)

Institution: University College London
Unit of Assessment: 2 - Public Health, Health Services and Primary Care
Title of case study: Health Survey for England informs public policy on obesity
1. Summary of the impact <p>UCL research, from the Department of Epidemiology & Public Health, has underpinned the Health Survey for England's (HSE) role in informing obesity policy in England. HSE data quantified the extent and escalation of obesity within the population as a whole as well as specific sub-groups, resulting in this issue being given significant attention in government. HSE data has underpinned strategy development, the modelling of future scenarios, the identification of inequalities, and the creation of clinical guidance. HSE data has showed early indications that the focus on childhood obesity is paying off, with wider evaluation shifting further strategy work to adults. HSE data has also played a role in this area, defining the adult target group for the <i>Change4Life</i> programme. Furthermore, HSE data are underpinning new agreements with the food industry through the <i>Responsibility Deal</i>.</p>
2. Underpinning research <p>The Health Survey for England (HSE) is an annual, cross-sectional health examination survey of the general population in England. It combines self-reported data (including demographic, socio-economic, health, and lifestyle data) with objective measures of health (such as measured height, weight, and waist circumference) [1]. It has been run by the Joint Health Surveys Unit of UCL and NatCen Social Research since 1994; the 23rd survey is currently in the field. HSE provides data from nationally representative samples to monitor trends in the nation's health; identifies the prevalence of specified health conditions in the general population; measures the rates of certain risk factors and combinations of risk factors; examines differences between subgroups of the population; and monitors progress towards selected health targets. The UCL contribution to the HSE falls into three categories: providing the clinical and methodological expertise for the survey; jointly writing and editing the annual HSE reports; and leading the work on secondary data analysis and policy evaluation. The fieldwork and operational side of the HSE are conducted by NatCen, with UCL providing clinical oversight.</p> <p>UCL has developed internationally acclaimed expertise in survey methodology. For example, we have compared the effect of mode and context of survey on response rates, non-response bias, and responses; and of demographic and socio-economic variation in survey participants by time and day interviewed [2].</p> <p>HSE is one of the few health surveys in Europe to obtain objectively measured anthropometric data, rather than relying on self-reporting which consistently under-reports obesity. HSE provides objective, national, general population data on prevalence of general and abdominal obesity [3, 4]. Extensive demographic and socio-economic data also permit assessment of inequalities in obesity by age, sex, geography, and several markers of socio-economic position.</p> <p>The HSE team at UCL have conducted a considerable amount of secondary analysis work using the HSE data. In 2009, for example, we used HSE data to analyse trends in obesity, and to make projections into the future [5]. In 2011 we conducted the analyses and wrote the commentary for the section of the Chief Medical Officer's 2011 report on co-occurrence of multiple risk factors, which could be determined in the general population only through use of HSE data. We identified obesity as one of the main risk factors behind the differences in prevalence of multiple lifestyle risk factors by age and by socio-economic position, and for which the trend was upwards, unlike most other lifestyle risk factors [6]. Our 2012 paper used HSE data to demonstrate that waist circumference (a marker for central/abdominal obesity) had increased in adolescents at a greater rate than generalised obesity (as shown by measuring BMI) [7].</p>

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Since 2005, the UCL team has been led by Dr Jennifer Mindell in the Health and Social Surveys Research Group of the Research Department of Epidemiology & Public Health, with substantial contributions from Dr Nicola Shelton and a number of post-doctoral and junior researchers.

3. References to the research

- [1] Details about each report can be found here: <http://www.natcen.ac.uk/series/health-survey-for-england>
- [2] Mindell J, Becares L, Aresu M, Tolonen H. The right time for a survey? Socio-demographic variation in survey responses by time of day and day of week. Eur J Public Health. <http://dx.doi.org/10.1093/eurpub/ckr093>
- [3] Stamatakis E, Zaninotto P, Falaschetti E, Mindell J, Head J. Time trends in childhood and adolescent obesity in England from 1995 to 2007 and projections of prevalence to 2015. J Epidemiol Community Health. 2010;64:167-74. <http://dx.doi.org/10.1136/jech.2009.098723>
- [4] HSE annual report chapters on obesity, e.g.: Tabassum F. 'Adult anthropometric measures, overweight and obesity.' Chapter 7 in Craig R, Hirani V (eds). The Health Survey for England 2009. Leeds: NHS Information Centre, 2010. (Copy available on request.)
- [5] Zaninotto P, Head J, Stamatakis E, Wardle H, Mindell J. Trends in obesity among adults in England from 1993 to 2004 by age and social class and projections of prevalence to 2012. J Epidemiol Community Health. 2009;63:140-6. <http://dx.doi.org/10.1136/jech.2008.077305>
- [6] Annual report of the Chief Medical Officer 2011. London: Department of Health, 2012. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/142164/CMO_Annual_Report_Vol_1.pdf
- [7] Mindell JS, Dinsdale H, Ridler C, Rutter HR. Changes in waist circumference among adolescents in England from 1977-1987 to 2005-2007. Public Health. 2012 Aug;126(8):695-701. <http://dx.doi.org/10.1016/j.puhe.2012.05.004>

4. Details of the impact

Worldwide, obesity represents one of the most challenging health problems, with the UK having among the highest rates in Europe. The associations between obesity and health problems such as type 2 diabetes are set to add substantially to health service costs in the future.

Measurements taken as part of the Health Survey for England (HSE) have been used extensively at every stage of obesity policy making and monitoring. Public Health England describes HSE as "*currently the most robust data source to monitor trends in adult obesity in England*" [a]. HSE data are used extensively by the Department of Health, NHS and local authority staff, the media, and the public. In one year alone (1 April 2012-1 April 2013) there were 36,803 page views (26,928 unique) of HSE pages on the Health and Social Care Information Centre (HSCIC)'s website. The three months April-June 2013 saw 7,796 downloads [b]. The UK Data Service reported that the HSE was the second most frequently downloaded dataset in the UK in 2011 [c]. Here we present key evidence for how, during the period 2008-13, HSE has informed the quantification of the obesity problem, the development of Government policy and strategy, the development of clinical guidelines, and the monitoring of progress.

Measuring the obesity problem

HSE data have enabled the extent and escalation of obesity within the population to be quantified, drawing the attention of Government and policymakers to the issue. Importantly, HSE data enabled the quantification of the obesity problem within sub-groups of the population, highlighting the high rates in children and among adults from lower socioeconomic positions. The Foresight Report, funded by the Government Office for Science, used HSE 1994-2004 data to project population

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trends to 2050 and examine future impacts on life expectancy and economic costs of overweight and obesity [d]. The 2010 adult update [e] used HSE data from 1993 to 2007. The adult obesity projections varied little: future health problems were predicted to soar, with obesity-related diabetes rising by 98%, strokes by 23%, and heart disease by 44% by 2050.

Influencing Government policy and strategy

HSE measurement data are used by Government to produce evidence-based strategies to combat obesity. The Chief Medical Officer (CMO), the Government's most senior medical advisor, publishes an annual report to identify priorities in health and recommend action to improve public health. The CMO's 2011 report used a range of HSE data, including on obesity [f]. The UCL team were responsible for the analyses which identified obesity as one of the main risk factors behind the differences in prevalence of multiple lifestyle risk factors by age and by socio-economic position.

The research on the HSE that was cited in the Foresight report was used to justify investment of money and Government focus on obesity. For example, in the 2008 *Healthy Weight, Healthy Lives: A Cross-Government Strategy for England*, a range of commitments for reducing obesity were identified [g]. It states: "the Government will make available an additional £372 million for promoting the achievement and maintenance of healthy weight over the period 2008–11." The 2011 document *Healthy Lives, Healthy People: A call to action on obesity in England* set out specific plans for dealing with the obesity problem [h]. One specific area in which our data influenced this report was in relation to the *Change4Life* campaign, an extensive public health programme run by the Department of Health which started in 2009. HSE data were used to choose the appropriate adult age group to target for a new phase of the health promotion campaign entitled *Change4Life: One Year On* [i]. In addition, a calorie reduction target set out in this document was derived from HSE weight gain data, to estimate that a mean reduction in daily energy intake of 100 calories (kcal) per person would correct the energy imbalance nationally. This was also set out within in *Responsibility Deal* – a series of pledges that food manufacturers, retailers, caterers, suppliers and service organisations such as restaurants signed up to with the goal of providing "a mechanism for the food and drink industry to make and record its contribution to helping the population meet the calorie reduction challenge" [j].

Informing clinical guidance

The National Institute of Health and Care Excellence (NICE) clinical guidelines on the prevention, identification, assessment and management of overweight and obesity in adults and children, currently being reviewed and updated, used HSE data to justify the document's creation, quantifying the issue of obesity, attaching economic costs to this, and assessing cost-effectiveness of clinical treatments. NICE 2012 guidance *Obesity: working with local communities* also used HSE obesity data to quantify the extent of the problem [k]. Mean measured height by age and sex from the Health Survey for England were used by the Standing Advisory Committee on Nutrition (SACN) in the SACN Dietary Recommendations for Energy to calculate energy requirements [l].

Monitoring and evaluating the success of obesity strategies.

HSE data have been used to monitor targets and evaluate the success of obesity strategies. HSE data showed early indications that the focus on childhood obesity was paying off, with wider evaluation shifting further strategy work to adults. One area of particular importance has been the monitoring of equality considerations. For example, equality impact assessments for the two Government reports *Healthy Weight, Healthy Lives* and *Healthy Lives, Healthy People* used HSE BMI data related to age, sex and ethnicity to show that the strategies met their legal requirements and could be implemented [m, n]. HSE is one of the Department of Health's main data sources for Parliamentary Questions on obesity (for example, PQ48492 in 2011) and Parliamentary debates (for example, House of Lords, 7 Jan 2010).

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5. Sources to corroborate the impact

- [a] http://www.noo.org.uk/data_sources/adult
- [b] HSE Web Analytics, 1 April 2012 to 1 April 2013 and April to June 2013. Provided the Health and Social Care Information Centre, 12 August 2013. Copies of the email and the Excel sheets available on request.
- [c] Economic and Social Data Service webpage 'ESDS facts and figures: Most used data for 2011' <http://www.esds.ac.uk/about/facts.asp>
- [d] Foresight, Tackling Obesities: Future Choices – Project Report, 2nd Edition, Government Office for Science <http://www.bis.gov.uk/assets/foresight/docs/obesity/17.pdf>
- [e] Brown M, Byatt T, Marsh T, McPherson K (2010) Obesity Trends for Adults. Analysis from the Health Survey for England 1993 – 2007. London: National Heart Forum. http://nhfshare.heartforum.org.uk/RMAssets/NHFreports/NHF_adultobese_long_170210.pdf
- [f] Annual report of the Chief Medical Officer 2011. London: Department of Health, 2012. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/142164/CMO_Annual_Report_Vol_1.pdf See chapter 3 for obesity, and p222-3 for the section on risk factors.
- [g] Cross-Government Obesity Unit (2008) Healthy Weight, Healthy Lives: A Cross-Government Strategy for England. Equality Impact Assessment http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_082408.pdf
- [h] Healthy Lives, Healthy People: A call to action on obesity in England. See page 18 for reference to the foresight report, and HSE annual report; see page 6 and 8 for initiatives quoted. www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_130487.pdf
- [i] Department of Health (2010) *Change for Life: One Year On*. See p78 and ref 39 to HSE 2007. http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_115511.pdf
- [j] Department of Health (2012) *Calorie Reduction*. <https://responsibilitydeal.dh.gov.uk/f4-factsheet/>
- [k] National Institute for Health and Clinical Excellence (2012) Obesity: working with local communities. NICE public health guidance 42. <http://guidance.nice.org.uk/ph42/>
- [l] Scientific Advisory Committee on Nutrition (2011) *Dietary Reference Values for Energy*. www.sacn.gov.uk/pdfs/sacn_dietary_reference_values_for_energy.pdf
- [m] Cross-Government Obesity Unit (2008) Healthy Weight, Healthy Lives: A Cross-Government Strategy for England. Equality Impact Assessment http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_082408.pdf
- [n] Department of Health (2011) A call to action on obesity in England Equality Analysis. www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_130511.pdf