Methodological Changes to Health Survey for England (HSE) 2013 [NS]

Background

The Health Survey for England (HSE) is an annual survey, monitoring the health of the population. NatCen Social Research (NatCen) and the Research Department of Epidemiology and Public Health at University College London (UCL) are commissioned by the Health and Social Care Information Centre (HSCIC) to carry out the survey. Each survey consists of core questions and measurements, plus modules of questions on specific topics that vary from year to year.

The main focus of the HSE in 2013 is Social Care. Additional modules of questions are also included covering general health and well-being, eye care, end of life care, fruit and vegetable consumption, alcohol consumption, smoking and obesity.

Trend tables are published each year updating key trends on a number of health areas. These include estimates of the number, as well as the proportion, of people with a range of health related problems and lifestyle behaviours.

Sample Design

Users are informed that the design of the survey sample has been slightly modified in-line with NHS structural reforms being implemented in 2013. The sample design for 2012 (and previous surveys) was based on Strategic Health Authorities (SHAs), as SHAs will cease to exist from April 2013; the sampling frame has been reviewed in light of this change.

The sample design and analyses for reporting of 2013 has been slightly modified so it is now based on both SHA and on regional boundaries, which are based on the former Government Office Regions (GORs). All of the GORs except one have the same boundaries as the SHA it relates to. The only exception is one GOR which has the same boundaries produced when combing two of the SHAs together. The underlying dataset will contain both SHA and GOR variables, to enable users to continue with trend analysis on either basis.

The impact of this change in methodology on national level figures is estimated to have a negligible effect, as time series data are comparable and therefore unaffected.

A detailed description of the sample design of the 2012 (and previous surveys) is available in Appendix A of each respective report.

Please see annex 1 for a comparison of existing SHA sample sizes and the new region sample sizes.

[NS] denotes that the publication has National Statistics status

Annex 1

HSE Sample Design

The sample for each survey each year is distributed broadly according to the total population of each SHA area, but adjusted so that every SHA area has a sufficient sample to allow reporting.

Based on this approach the HSE sample design has ensured a minimum sample size for each SHA while retaining a broadly proportionate distribution. This approach is described below;

With a sample of 8,000 adults, under a proportionate allocation model it is estimated that the achieved sample numbers for adults in each SHA each year would be as shown in the first column of Table 1 below. Note that only one SHA has a much lower sample size than others, namely the North East with just 436 adult interviews. Two other areas (South East Coast and South Central) have sample sizes of under 700.

With 10 SHAs and a sample of 8,000 adults, an equal distribution across the areas would be 800, and one option would simply be to distribute the sample so as to achieve just that, i.e. approximately 800 per SHA. This would cause some loss of precision to 'all England' statistics from the survey (the effective sample size would decrease from 8,000 to around 7,600, and standard errors would increase by about 2.5%), but this is a reasonably small loss and could be tolerated if tracking changes at SHA level was a primary goal of the survey.

The option adopted set a minimum sample size per SHA of around 700 and allocates the rest of the sample proportionately. This gives the approximate allocation shown in the final column of the table. Under this model, the loss of precision for all-England estimates is smaller, the effective sample size being almost 7,900, and the average increase in standard errors being only about 0.6%.

Change for 2013

The proposal to use regions, which were formerly the Government Office Regions has the advantage that there is considerable comparability over time – apart from the South East region (which was split into South Central and South East Coast SHAs) these regions are the same as the SHAs.

The implication for the sample design is a slight simplification, it would continue to ensure a minimum sample size of 700 for the North East region. However, since the South East region (combining South Central and South East Coast) would be well above this minimum size, there would be no need for oversampling there. Therefore, the sample design would be as shown in Table 2 below. (Note that Table 2 uses the most recent population estimates, so the figures in the first column differ slightly from Table 1.)

Table 1: Sample size by SHA

	Expected sample size of adults under proportionate allocation	Equal allocation per SHA	Minimum sample size of 700 per SHA
North East	436	800	700
North West	1,187	800	1,122
Yorkshire & The Humber	833	800	787
East Midlands	788	800	745
West Midlands	866	800	818
East of England	894	800	845
London	887	800	838
South West	782	800	739
South East Coast	675	800	700
South Central	653	800	700
TOTAL	8,000	8,000	8,000
Effective sample size for 'all England' estimates	8,000	7,592	7,870

Table 2: Sample size by region (formerly Government Office Region)

	Expected sample size of adults under proportionate allocation	Equal allocation per region	Minimum sample size of 700 per region
North East	415	800	700
North West	1098	800	1,052
Yorkshire & The Humber	815	800	781
East Midlands	697	800	700
West Midlands	835	800	801
East of England	893	800	856
London	1120	800	1,074
South West	834	800	799
South East	1,291	800	1,237
TOTAL	8,000	8,000	8,000
Effective sample size for 'all England' estimates	8,000	7,592	7,874