

Health & Care Experience Survey 2019/20

Weighting Methodology

1. Introduction

When conducting a survey, it is important to have a representative sample of the population you are interested in to reduce bias in the estimates produced. Applying weighting methods reduces the potential bias by making the results more representative of the population, but also increases the variation in the estimates.

Survey weights are numbers associated with the responses that specify the influence the various observations should have in the analysis. The final survey weight associated with a particular response can be thought of as a measure of the number of population units represented by that response.

2. Weighting Review

Feedback from a UK Statistics Authority¹ (UKSA) review of the Health & Care Experience Survey publications prompted a review of the weighting methodology employed by this survey in advance of the 2017 survey.

Details of the weighting review that was carried out for this survey, including initial recommendations, can be found at www.gov.scot/Resource/0052/00527651.pdf.

3. Methodology Applied

From 2017 onwards, one weight is calculated for each section of the questionnaire. This is done on the following basis in 2019/20:

Population	Relevant Questions in 2019/20
Has used GP Practice in last 12 months	2-14
Have used an Out of Hours service in the last 12 months	17-21
Has used help and care services for everyday living in the last 12 months	24-27
Has regular caring responsibilities	30-32
Population total	1,16, 23, 29, 34

The weight for each section is calculated in two steps:

1. **Weight for unequal probability of selection** by weighting respondents up to the total population in each GP practice.
2. **Weight for non-response** by weighting up to the entire population **using** the service based on **age** and **sex**.

¹ <https://www.statisticsauthority.gov.uk/>

- a) The number of people in the population using their GP Practice will be estimated using the number of people consulting their GP or practice nurse from the 2012/13 Practice Team Information (PTI) Statistics².
- b) The 'population total' is calculated as the whole sampling frame used for the survey.
- c) The estimated population totals for all other sections is based on the proportions of the relevant 2019/20 survey responses at a national level, applied at all levels of reporting.
- d) Respondents are assigned to one of 6 age groups (17-24; 25-34; 35- 44; 45-54; 55-64; 65+) based on their age in the CHI database. This will be used for the weighting calculations and analysis of responses by age.
- e) The sex of each respondent is taken from the CHI database, rather than gender as reported in the survey (Q37), to ensure the weighting calculations are not impacted by missing data. Sex is only be used for weighting calculations; gender as reported in the survey will be used for any analysis of responses.

Survey results are published at National, Health Board, Health & Social Care Partnership, Locality, GP Cluster and GP Practice levels. The weighting methodology is applied to all reporting levels with the following adjustments:

- **HB/HSCP Level** – As described, but with three age categories (rather than the six used at national level): 17-44; 45-64 and 65+.
- **GP Cluster/Practice Level** – As described, but with two age categories (rather than the six used at national level): 17-54 and 55+.

Trimming is applied such that the maximum weight is calculated as:

$$\text{Mean} + (x * \text{Standard Deviation})$$

where x is an integer such that less than 5% of respondents have their weight trimmed for each reporting level.

² www.isdscotland.org/Health-Topics/General-Practice/GP-Consultations/

4. Application of Methodology

The methodology ensures that the relevant population is better represented. For example, analysis has shown that, generally, older people are more likely to report a positive experience and we know that older people are also more likely to respond to the survey – the weighting helps to redress this balance.

Results from the 2019/20 HACE Survey will be published in October 2020 via a national report and an interactive dashboard, available at www.gov.scot/HACE. These results will have the weighting methodology described in Section 3 applied to figures for all years, where time series figures are available.

The results in the ‘About the respondents’ dashboard are presented unweighted to provide information about the people who responded to the survey.

**Health and Social Care Analysis
October 2020**