

Compendium

# Chapter 1 - Introduction

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# 1 . Introduction

## Introduction

This report presents further results based on the longitudinal findings from Wave One and Two of the Life Opportunities Survey (LOS). Initial findings were published in the [Part I Report](#).

## 2 . Background of the Life Opportunities Survey

The Life Opportunities Survey (LOS) is a large-scale longitudinal survey<sup>1</sup> of disability in Great Britain and it is the first major national social survey which explores disability in terms of the barriers to participation that people experience. Prior to the development of the LOS, the last major survey on disability conducted in Great Britain had been the Family Resources Survey disability follow-up in 1996/97, and before that was the Office of Population Censuses and Surveys (OPCS) national surveys of disability carried out during 1985-88. In 2005, the [Department for Work and Pensions](#) (DWP) carried out a feasibility study<sup>2</sup> which recommended a new survey dedicated to meet the evidence needs of the policy for disabled people in Great Britain. Subsequently, the [Office for Disability Issues](#) (ODI) (part of the DWP) commissioned the Office for National Statistics (ONS) to develop the LOS.

The survey is wholly funded by the DWP and is carried out by the ONS. Each wave of the survey spans two years and respondents in Wave Two have been followed up approximately one year after their initial interview. Wave One of the LOS took place between June 2009 and March 2011; Wave Two began in June 2010 and finished in March 2012.

## 3 . Social model of disability

According to the social model, disability is viewed as the disadvantage or restriction of activity and participation caused by aspects of society which take little or no account of the needs of people with impairment. Therefore, in line with the social model, the LOS assesses the level of participation of people with impairment and the barriers to participation they face.

Impairments relate to the loss of physiological and psychological functions of the body such as loss of sight, hearing, mobility or learning capacity and should be distinguished from medical conditions or loss of bodily structure. For example, glaucoma is a medical condition whereas loss of vision is the impairment it causes. Activity limitations are restrictions an individual may have in executing physical or mental tasks or actions as a result of their impairment, for example, being unable to read newsprint at arm's length without glasses or other aids and adaptations.

The LOS collects self-reported data on impairment; this is dependent upon the respondent's perception of the limitations and severity of the impairment.

In this report, an adult is defined as having an impairment if they indicated that:

- they experience either moderate, severe or complete difficulty within at least one area of physical or mental functioning, and
- certain activities are limited in any way as a result. 'Activities' refer to different areas of physical or mental functioning, such as walking, climbing stairs or reading a newspaper.

The LOS collects information about all impairments that a respondent may have (it is possible for a respondent to report more than one impairment) and respondents are asked to self-classify their impairment according to a list of 14 impairment types (sight, hearing, speaking, mobility, dexterity, long-term pain, chronic health condition, breathing, learning, intellectual impairment, behavioural, memory, mental health condition, and 'other'). At Waves One and Two of the survey respondents were not asked to specify the underlying condition for each impairment type, however respondents who reported a particular impairment were asked the level and frequency of the limitation caused by the impairment. Questions about long-term health conditions were also included.

This method of classifying impairment status is compatible with the International Classification of Functioning, Disability and Health (ICF) developed by the [World Health Organisation](#) (WHO).

The survey also collects information on:

- participation in different life areas,
- the barriers that people face to participating in these life areas, and
- how levels of participation and barriers to participation change over time.

Respondents are asked questions on a broad range of topics including employment, education and training, transport, leisure, social and cultural activities, the accessibility of buildings and use of public services. They are also asked questions about social care, experiences of discrimination and crime and the financial situation of the household.

The LOS asks questions about people's experience of barriers in the following eight life areas:

- education and training,
- work,
- economic life (the household's ability to make ends meet),
- transport,
- leisure activities,
- accessibility in the home,
- accessibility outside the home, and
- social contact.

An adult has a participation restriction if they experience at least one barrier to taking part in at least one of the eight life areas.

Examples of barriers include: discrimination, the attitudes of other people, inaccessible buildings, public transport and information, lack of money, not having anyone to meet or speak to, as well as lack of support, equipment and adjustments.

Further information on the development of the survey, including details on the consultation with a reference group of disabled people and qualitative testing of the survey, can be found in the Wave One Interim Report <sup>3</sup>.

## Notes for background of the Life Opportunities Survey

1. A survey where respondents are regularly re-interviewed after a set interval (e.g. one year)
2. [Purdon et al](#) (2005) Meeting DWP's long-term information needs on disability: A feasibility study
3. [Wave One Interim Report](#)

## 4 . Brief outline of the LOS methodology

The following section of the report contains a brief summary of how respondents are followed up from Wave One to Wave Two, and how they are classified into groups for the purpose of longitudinal analysis.

### Follow-up of respondents from Wave One to Wave Two

Each respondent's impairment status at Wave One was used to assign them to one of three different groups which determined how they were followed up at Wave Two:

#### 1. Adults with at least one impairment

This group included all adults who reported at least one impairment at Wave One (29%<sup>1</sup>). These adults, as well as all adult members of their households, were interviewed in person at Wave Two.

#### 2. Control

Of the 71% of adults who did not report having an impairment at Wave One, a subset was selected to form a 'control' group. The adults in this group were chosen to provide a comparison group that is similar to the adults with at least one impairment on several key characteristics associated with impairment – sex, age, region of residence, and the urban/rural classification of residence. The size of the control group was designed to be half that of the group of adults with at least one impairment, that is for the Wave Two sample there were two adults with impairment for every one person in the control group. All of the adults in the control group, as well as all adult members of their households, were interviewed in person at Wave Two.

#### 3. Onset-screening

All of the remaining adults who did not have an impairment at Wave One and who were not selected for the control group were assigned to the 'onset screening group'. These adults were not interviewed in person at Wave Two, unless they or an adult member of their household had acquired an impairment between Wave One and Wave Two. A brief telephone interview was conducted with the onset-screening group between Wave One and Wave Two in order to establish if anyone in their household had acquired an impairment.

For more information on the composition of the three follow-up groups, see the Wave Two Interim Technical Report<sup>2</sup>.

## Development of the control group for analysis

Although sub-sampling to identify adults for follow up at Wave Two was carried out at the individual level, interviews were conducted at the household level to simplify fieldwork procedures. Therefore, household members living with a respondent selected for follow up at Wave Two were also given a face to face interview. To utilise all the data collected and to make the control group represent the population of people who are not impaired, the co-residents were included in the control group for analysis purposes. This group is referred to as 'adults without impairment at both waves' in this report, and comprises of all adults who:

- were chosen to be in the 'control' group and did not have an impairment at Wave Two,
- did not have an impairment at Wave One and Wave Two but were living in the same household as an adult chosen to be in the 'control' group, or
- did not have an impairment at Wave One and Wave Two but were living in the same household as an adult who had at least one impairment at Wave One, or in the same household as an adult who was identified as onset-acquired from the screener exercise.

For more information on the development of the use of the 'control' group, see [Annex 1 \(136.9 Kb Pdf\)](#) which provides a summary of the development of the Wave Two weights.

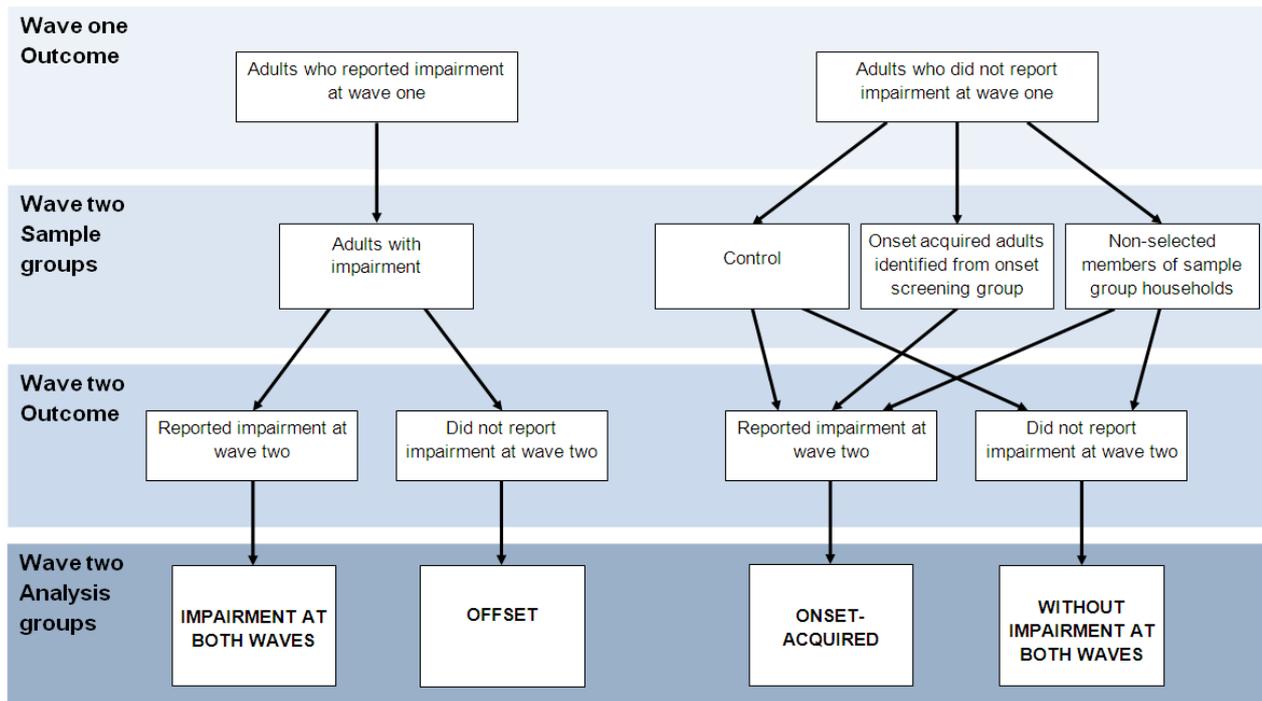
## Classification of individuals for Wave Two longitudinal analysis

Diagram 1 shows how adults have been classified for the longitudinal analysis. The classification takes into account impairment status at both Wave One and Wave Two. Figure 1 also illustrates how adults who did not report any impairment at either Wave One or Wave Two flow through the survey.

The following four groups are featured in the longitudinal analyses of this report:

1. adults who had at least one impairment at Wave One and at Wave Two are 'adults with impairment at both waves',
2. adults who had at least one impairment at Wave One but no impairments at Wave Two are 'offset adults',
3. adults who did not have any impairment at Wave One but had at least one impairment at Wave Two are 'onset-acquired adults', and
4. adults who did not have any impairment at Wave One or at Wave Two are 'adults without impairment at both waves'.

**Diagram 1.1, Classification of adults for LOS wave two longitudinal analysis**



**Notes for brief outline of the LOS methodology**

1. [Life Opportunities Survey Wave one results, 2009/11](#) (pp. 44)
2. [Figure 1 of the Wave Two Interim Technical Report](#)

## 5 . Wave Two Part II analyses

### Outline of chapters

The main focus of this report is to explore how adults are restricted in taking part in different areas of their life and the specific barriers they encounter. The data analysed for the report came from respondents who were interviewed in both Wave One and Wave Two of the LOS and focuses on the longitudinal aspect of the data. Chapter 2 explores whether adults<sup>1</sup> are restricted in each of the eight LOS life areas. Chapters 3 to 5 describe specific barriers reported for the life areas of work, education and training, and transport for adults of working age, respectively<sup>2</sup>. Change in adults' experience of participation restriction and barriers between Wave One and Wave Two is considered. Finally, Chapter 6 gives a summary of the general findings of the report.

As identified above, analysis of barriers focuses on three of the eight LOS life areas- work, education and training, and transport. The topics were chosen to focus on the policy priority to understand more about barriers adults experience to work, and topics related to work. Therefore the analysis in Chapters 3 to 5 focuses on adults of working age (aged 16 to 64).

The data have been weighted to provide estimates for the general population (see [Annex 1 \(136.9 Kb Pdf\)](#) which provides a summary of the development of the Wave Two weights).

## Longitudinal analysis groups

Throughout the report comparisons are made between the four groups of adults as described in section 1.2 - adults with impairment at both waves, offset adults, onset-acquired adults, and adults without impairment at both waves. The four groups reflect the diversity of impairment status, in that impairment status may be stable, or may change over time. A person may have impairments at both waves or no impairment at both waves, or they may no longer have impairments or they may acquire an impairment at Wave Two.

## Participation restriction and barriers

An adult has a participation restriction in a life area if they experience at least one barrier in that area. For example, in education and training, respondents were asked if they had access to all the learning opportunities that they wanted<sup>3</sup>. If they answered 'no', they were then asked to specify the barrier(s) experienced. For education and training, these included:

- 'financial reasons (lack of money/can't afford to)',
- 'too busy/not enough time'
- 'lack of information'
- 'no learning opportunities available'
- 'a health condition, illness or impairment'

For another life area, the barriers reported may be different. For example, 'lack of job opportunities' is a barrier applicable to work, whereas 'difficulty getting to stop or station' is a barrier applicable to the use of public transport such as local buses and long distance trains.

The barriers reported by adults may change over time. For each life area it is possible to see if a particular barrier was:

1. reported at both waves
2. reported at Wave One only
3. reported at Wave Two only
4. not reported at either wave

The analysis of barriers in Chapters 3 to 5 includes working age adults, who experienced a participation restriction to the specific life area being analysed at any point in the survey. For these adults the types of barriers that were reported at both waves or at either wave (groups i, ii, and iii above) will be examined by group.

Analysis of barriers in Chapters 3 to 5 is presented in tables showing the top four barriers that were reported by each group; broken down by whether the specific barriers were reported at both waves or at one wave of the survey<sup>4</sup>. The analysis has been approached in this way in order to explore the types of barriers that are reported at both waves (i.e. those that are persistent), compared to those that are reported at one wave only (i.e. those that are transient).

The top four barriers form the focus of our analysis given the small number of respondents selecting other barrier types. The full range of barrier types reported in the life areas of work, education and training, and transport, can be seen in the [reference tables](#) provided.

The commentary provides descriptive comparisons of the top four barriers, drawing high level conclusions about the relationships between impairment status, participation restriction, and how this changes over time. Direct comparisons are not made of the percentage of adults experiencing specific types of barriers. This approach was taken because of the small sample sizes that result when splitting the dataset into the subsets as described above (i.e. longitudinal analysis group, and barriers experienced across waves of the survey within the three topic areas).

## Enablers

In the life area of work, LOS respondents were also asked to report 'enablers' - measures that helped them at work, or would help them to be able to work. Chapter 3 includes the types of enablers that were reported by employed and economically inactive adults for each of the longitudinal analysis groups. Due to insufficient sample size, it is not possible to analyse adults who were unemployed at both waves<sup>5</sup>.

Within the LOS questionnaire employed adults were asked to select from a list of enablers, anything that helped them at work. Enablers included 'Modified hours or days or reduced hours', 'modified duties', and 'equipment to help with a health condition or disability'<sup>6</sup>. From the same list, economically inactive adults were asked if they needed any of the enablers to be able to work.

## Notes for Wave Two Part II analyses

1. All adults aged 16 and over are included in the analysis of participation restriction
2. Adults aged 16 to 64 are included in the barriers analysis
3. [LOS questionnaire](#) questions 126 and 127
4. The rankings are calculated based on the percentage of adults who reported each particular barrier at both waves, at Wave One only, or at Wave Two only, out of those adults from that particular group who had a participation restriction at either or both waves. For barrier tables 'other reasons' and suppressed values have been excluded from the ranking
5. [Chapter 2](#) provides some details on the effect of change in economic activity status on barriers reported
6. [Question 143 which was administered to employed adults, and question 167 for economically inactive adults in the LOS questionnaire](#)

## 6 . Why is it important to study barriers to participation to understand disability?

The results from the longitudinal analysis of the LOS will be used to inform a new understanding of the dynamic nature of the disabled population and of the barriers faced by people with impairment. As identified in external research, it is important to understand more about the dynamic nature of disability and the barriers people with impairments face<sup>1</sup>, this will be used to inform policy development in particular on the support people need during onset of impairment.

As well as looking at barriers, wave 3 of the LOS will also collect information on the key enablers to removing barriers. This will inform the development of the approach the Government will take in helping disabled people to fulfil their potential and have the opportunity to play a full role in society.

The LOS Wave Three questionnaire will include questions designed to collect information about onset and offset of impairment. In particular additional questions will be asked to provide understanding of any enablers that may have resulted in the removal of barriers to participation in particular life areas. It is hoped the additional information will also allow further understanding of survey error, in particular the extent of mis-reporting of changes in experience of participation restriction.

## **Notes for why is it important to study barriers to participation to understand disability?**

1. [The Center on Human Policy, Law, and Disability Studies](#)  
[Journal of Accessibility and Design for All](#)

## **7 . Interpreting survey results**

### **Units, presentation and accuracy**

Detailed definitions of the terms and categories used in this report are provided in the [Glossary](#) at the end of the report.

All estimates presented in the tables and charts have been analysed using longitudinal weights so that they have been adjusted for non-response, differential sampling probabilities of selection at Wave One, and loss to follow-up at Wave Two (more information on weighting can be found in [Annex 1 \(136.9 Kb Pdf\)](#)).

### **Calculating percentages**

Percentages reported throughout the document have been calculated using population estimates rounded to integers. When calculating percentages, the values of residual categories such as 'no answer' or 'don't know' have been excluded from the denominator.

### **Sample attrition, household and individual response rates**

The response rate for LOS Wave Two can be calculated at both household and individual level. The LOS Wave Two achieved a household level response rate of 77%. In this case responding households were those in which information was collected in person or by proxy for all adults. The survey achieved an individual response rate of 74%, among adults who were eligible for a face-to-face interview.

For longitudinal surveys, the sample is subject to attrition moving from one wave to the next. For the LOS, a subset of the original sample at Wave One were not contactable, did not respond, or refused further participation at Wave Two. More information on sample attrition and the household and individual response rates can be found in [Annex 3 of the Part I report \(136.9 Kb Pdf\)](#).

## Statistical significance

In Chapter 2, unless otherwise stated, changes and differences mentioned in the text have been found to be statistically significant at the 95% confidence level.

The analysis of the types of barriers adults experienced (presented in Chapters 3 to 5) are presented as a qualitative description comparing the top four barriers. Given direct comparisons of the percentage of adults experiencing specific types of barriers are not made, no significance testing has been carried out on the findings reported in these chapters.

## 8 . Strengths and weaknesses

### Specific strengths of using the LOS

- LOS is a longitudinal survey that has been designed to follow respondents over time to provide an insight and understanding into the transient nature of impairment. A key component of the survey design is the ability to compare the experience of barriers to participation between people with impairment and those without impairment over time to assess the equality in access in different life areas. The formation, at Wave Two, of a control group from within the respondents who did not have any impairments at Wave One, will allow experiences to be compared between the two groups over time
- As the first longitudinal survey of its kind, the data collected provides a unique and rich source of data for use by analysts. Both to understanding more about the transitions into and out of impairment, as well as different types and severity of impairment experienced by adults in Great Britain
- Survey design. The LOS uses an unclustered sample designed to produce efficient estimates for the sample size and Great Britain. The unclustered sample allows greater precision to be achieved in LOS outputs because it helps to make the sample more representative of all groups in society<sup>1</sup>
- The size of the Wave One sample was sufficient to accommodate for attrition over time. As a result, at Wave Two, the sample remains of a sufficient size to allow for comparisons and analysis to be conducted among subgroups of the sample

### Specific weaknesses of using the LOS

- Potential under or over reporting of impairment. The LOS collects self-reported impairment data which is dependent upon the respondent's perception of the limitations and severity of the impairment at the time of the interview. A self-reporting measure of this kind is prone to both over and under reporting as the perception of the existence and effect of impairment is dependent upon each respondent's own personal opinion on the day they are interviewed
- One consequence of this is that respondent's perception of the impairment may differ over time causing transitions to be recorded that may or may not be real. For example, the LOS definition of impairment is dependent upon the respondent reporting more than 'mild' difficulty. If at Wave One they report 'moderate' difficulty they will be classed as having an impairment according to the LOS definition. However, if at Wave Two we assume that there has been no change in the impairment and the respondent reports 'mild' difficulty, LOS will no longer class them as having an impairment. Using this example, the respondent will be treated as having offset from impairment at Wave Two
- Cross-sectional weights are not available on the LOS Wave Two dataset and therefore estimates of impairment prevalence cannot be calculated. Overall estimates of disability prevalence are available from the Family Resources Survey<sup>2</sup>

The LOS is a sample survey and so is subject to weaknesses which also exist for other surveys, including:

- Non-sampling error. Estimates from all sample surveys, including those derived from the LOS data, will contain a degree of uncertainty due to non-sampling and sampling error. Non-sampling error generally arises from errors in the collection, measurement and processing of the data<sup>3</sup>. To minimise non-sampling error the LOS questionnaire was administered using computer assisted interviewing (CAI), which ensured that the questionnaire routing was followed correctly during the interview and inconsistencies and potential collection errors were able to be queried, and where appropriate, corrected during the interview<sup>4</sup>. Again, to minimise non-sampling error, as a result of errors arising from data collection, all ONS interviewers received both generic interviewer training and specific LOS training prior to working on the LOS. The LOS Wave One Technical Report provides further information about the data collection and processing of the data<sup>5</sup>
- Sampling error. This relates to the fact that the sample chosen is only one of a large number of samples which could have been chosen. It follows then that any estimate derived from the sample is only one of a large number of estimates which could have been made. For users of survey data, the precision of the estimate is of interest, that is, how much the estimate would vary when different samples are drawn<sup>6</sup>. In general, the larger the sample size from which the estimate is derived, the more precise, or robust, is the estimate
- Non-response and missing information. The information from a household which co-operates in the survey may be incomplete. This can be due to one of the following reasons: i) a partial refusal (e.g. to income); ii) because information was collected by proxy, therefore certain questions were omitted from the interview; or iii) a particular item was missed because of a lack of understanding or an error
- Survey coverage. The LOS Wave One sample was designed to cover private households in Great Britain. Therefore individuals in care or retirement homes, for example, will not be included. This means that figures relating to the severely disabled and the most elderly individuals may not be representative of the Great Britain population, as many will have moved into homes where they can receive more frequent help
- The survey at Wave Two follows individuals, and their households, and remains a private household survey. This means that any respondents who have moved into institutions (care or retirement homes, prison, etc) between Waves One and Two were not followed at Wave Two and were recorded as not eligible to participate in the survey
- The LOS Wave Two set sample comprised only of households of individuals who had participated at Wave One and did not include any new households. This approach does not allow the sample to be refreshed to include any new population sub-groups that may have entered the country since the sample was drawn for Wave One. However, any adult or child who had entered a LOS household since the Wave One interview are included as new survey entrants at Wave Two
- Survey bias. Although work has been undertaken to try to ensure that the figures that have been collected are valid and that adjustments are made for attrition, survey bias may still remain. This may be partly due to misreporting of certain data items and sampling error, but also may reflect non-response biases not controlled for in the weighting factors. Efforts are continually being made to minimise these problems, for example through greater reliance on documentary evidence at the interview and maintaining response rates

## Notes for Strengths and weaknesses

1. [LOS Wave One Technical Report 2009/11](#) p.5 Sampling Methodology
2. [Chapter four of the Family Resources Survey 2011/12 report](#)
3. Information on [non-sampling errors](#) (p.200)
4. [Wave One Technical Report 2009-11 \(2.54 Mb Pdf\)](#) (p.13)
5. [Wave One Technical Report 2009-11 \(2.54 Mb Pdf\)](#) (p.13)
6. The precision of the estimate can be gauged by its confidence interval – the range of values within which the population parameter is estimated to lie. The narrower the interval, the more precise is the estimate.

## 9 . Availability of detailed and unpublished data

A summary of this report is available in alternative formats such as Large Print, Braille, Audio or Easy Read. The [Easy Read version \(0.99 Mb Pdf\)](#) is available via the ONS website. Large Print and Braille copies are available from the ONS LOS team. The Audio version is available via the DWP website<sup>1</sup>. Contact the LOS team by email [LOS@ons.gsi.gov.uk](mailto:LOS@ons.gsi.gov.uk) or by telephoning +44 (0) 1633 455296.

The LOS Wave Two datasets will be made publicly available in 2014, via the UK Data Archive<sup>2</sup>.

### Notes for availability of detailed and unpublished data

1. [Audio version of the report summary](#)
2. [UK Data Archive](#)

## 10 . List of contributors

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Joanna Littlechild Riaz Ali Roger Morgan

## 11 . Reporting conventions

### General conventions

- Row, column or table percentages may not sum to 100 due to rounding
- All reported sample sizes are rounded independently to the nearest ten. For this reason, sample sizes for totals may not equal the sum of sample sizes for components

### Symbols used in tables

.. Figure suppressed due to small cell count.

n/a Not applicable.

0 Less than 0.5%, including none.

[] Figures should be used with extra caution because they are based on fewer than 30 reporting individuals.

## 12. Background notes

1. All tables contain figures based on sample estimates that have been weighted so that they apply to the overall population. This involves the use of a set of adjustment (or grossing) factors that attempt to correct for differential attrition between Wave One and Wave Two. The unweighted sample counts, shown in the tables as 'sample size=100%', therefore can help users to judge the robustness of the information (the larger the sample size the more robust the relevant estimate). Note that the unweighted sample counts have been rounded to the nearest 10. All figures in this report have been rounded independently. Therefore, the sum of component items will not necessarily equal the totals shown.
2. Households who did not co-operate at both Wave One and Wave Two are omitted from all analyses. Those who omitted whole sections because they were partial refusals or interviewed by proxy are not included in the analyses of that section. The 'no answers' arising from omission of particular items have been excluded from the base numbers shown in the tables and from the bases used when calculating percentages.
3. Missing answers are excluded from the tables and in some cases this is reflected in the sample bases, i.e. these numbers vary between tables. For this reason, the weighted bases are excluded from tables as they are not recommended as a source for population estimates. Recommended data sources for population estimates for most socio-demographic groups are: ONS mid-year estimates, the Labour Force Survey, or Housing Statistics from the Department for Communities and Local Government.
4. Details of the policy governing the release of new data are available by visiting [www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html](http://www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html) or from the Media Relations Office email: [media.relations@ons.gsi.gov.uk](mailto:media.relations@ons.gsi.gov.uk)