

NHS Patient Survey Programme

# 2017 Community Mental Health Survey: Quality and Methodology Report

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# 1 Introduction

This report provides detailed information on key quality and methodological issues relating to the 2017 Community Mental Health Survey. It covers the development, implementation and analysis of the survey. This document also describes the quality of the data and statistics and details any points that should be noted when using the outputs. More detail on development of the survey and errors made during the sampling process can also be found here:

<http://www.nhssurveys.org/surveys/1014>

An overview of our approach to quality within the NHS Patient Survey Programme (NPSP) is available in the 'NHS Patient Survey Programme: Quality Statement' document, available here:

[http://www.cqc.org.uk/sites/default/files/20151125\\_nhspatientsurveys\\_quality\\_statement.pdf](http://www.cqc.org.uk/sites/default/files/20151125_nhspatientsurveys_quality_statement.pdf)

## 2 Survey development

### 2.1 Survey design and implementation

The NHS Patient Survey Programme implements general principles of good survey practice. The programme has put in place a number of measures to help maximise response rates, including:

- Survey questions that are relevant to all or most people in the sample.
- Questionnaires written using simple and clear language.
- Use of cognitive interviewing to rigorously test the questions and response options with people who have used services, in order to ensure that they are easily understood and are relevant.
- Reassurances of anonymity and confidentiality.
- Up to two reminders sent to non-responders.
- Long fieldwork period to encourage lesser heard groups, such as minority ethnic groups, to respond
- A Freephone language line providing translation services.
- Contact details for MENCAP offering support for people with learning difficulties.
- A Quality Assurance Framework ensuring all survey materials and results are reliable and accurate.

Like most surveys in the NHS Patient Survey Programme, the Community Mental Health Survey uses a postal survey approach: a questionnaire is sent to people's home addresses. This helps to reduce the effects of social desirability bias, which may happen when people give feedback either directly to staff, or whilst on trust premises.

In terms of the survey design and implementation, a number of steps are taken to ensure its robustness. As with all surveys in the patient survey programme, as well as consulting with relevant policy stakeholders (e.g. NHS England, NHS Trusts), the involvement of people who use services is fundamental to the design and development of a new questionnaire, or new questions. This helps to ensure that questionnaire content reflects not only the requirements of stakeholders, but what is important and meaningful to people using the services. Consultation took place for the 2017 questionnaire development though there was no strong contenders for question inclusion and therefore it remained as per the 2016 version to ensuring comparability.

There were two minor methodology changes in 2017, to the sample declaration form and the process by which sample files were submitted to contractors: i) in order to streamline the process by which samples are signed off, the sample declaration form was redesigned in Excel. This meant that rather than having to print out the form to get it approved by the Caldicott Guardian, it instead included several checks for the sample drawer to follow with flags that would appear if something was incorrect. The form enabled sign-off by insertion of the approver's name and contact details before then being emailed to the contractor; ii) In line with the protocol adopted across the other surveys in the programme, trusts were required to submit both sample and mailing data as one file to their contractors. More details of these changes can be found in the 'Survey Development Report': <http://nhssurveys.org/surveys/1024>

All surveys follow a strict methodology, as specified in the survey instruction manual which all trusts (or the contractors they appoint to run the survey on their behalf) must follow. Any deviation from the survey instructions, depending on severity, may result in data being excluded from published results. Any decision to exclude data is made by the Surveys Team at the Care Quality Commission in conjunction with the Patient Surveys Coordination Centre based on discussion with, and evidence provided by, the trust(s). The contractor and in-house versions of the sample declaration forms can be found here: <http://www.nhssurveys.org/surveys/1032>

## 3 Sampling and fieldwork

### 3.1 Sampling

Service users aged 18 and over were eligible for the survey if they received specialist care or treatment for a mental health condition, including those who received care under the 'Care Programme Approach', had been seen by the trust between 1 September and 30 November 2016 and who met certain other eligibility criteria. Trusts drew a random sample of 850 service users who had been seen at the trust during the sampling period. The sample size was sufficient to allow analysis of results at individual trust level. For more information please see the 'Sampling handbooks' available here: <http://www.nhssurveys.org/surveys/1033>

All trusts providing community mental health services were eligible to take part in the survey. No trusts were excluded as a consequence of sample checking or analysis of the final data. Fieldwork for the survey (the time during which questionnaires were sent out and returned) took place between February and June 2017.

### 3.2 Sampling error

The sample for the community mental health survey is a random sample of 850 people who had been seen by services during the sampling period (September to November 2016). Trusts are required to compile a list of service users according to strict eligibility criteria and from this eligible population a random sample is drawn.

Because sampling is used, the results obtained will not reproduce exactly the results for the relevant population. Greater confidence in results is associated with larger samples, as these provide data subject to less sampling error than for smaller samples. Over 12,000 people responded to the 2017 Community Mental Health Survey, ensuring that sampling error is sufficiently small.

Bias in the achieved sample may arise because some population subgroups are less likely to respond than others and if those groups also differ in how they answer the survey questions. Weighting has been applied to the results to reduce the impact of non-response bias. Sampling bias could occur if the sample drawn systematically excludes groups leading the sample to be unrepresentative of the target population. This could arise if the sampling period was not typical for a particular trust. The results apply to the population during the sampled period and may not necessarily generalise to other periods. However the size of the samples and length of the sampling period should serve to reduce bias from atypical periods.

### 3.3 Trust Mergers

The results for England are based on an average of the results from all participating trusts pooled. Changes in the number of participating trusts can have a very small effect on the results for England.

There was one trust merger in 2017<sup>1</sup> and one trust that was excluded<sup>2</sup>. In all, 56 trusts participated in the 2017 survey.

### 3.4 Mistakes in drawing samples

The chances of sampling mistakes being made by trusts (for example, accidentally excluding certain people) are minimised by multi-stage sample checks. Trusts are provided with a checklist to review their drawn sample. Those trusts that appoint an 'approved contractor'<sup>3</sup> to undertake the survey on their behalf will have their sample reviewed by this organisation. Finally, all anonymised samples are checked by the Survey Coordination Centre at Pickering who look for extraordinary errors that are more noticeable when pooling data together (for example, unusual or skewed age distributions).

Several items are checked against the previous year's submission to help ascertain whether a trust has followed the guidelines correctly. These include comparisons of population size, and demographics such as age, ethnicity and CPA status. Should there be any discrepancies that merit investigating, queries will be raised with the contractor working on behalf of the trust or, in the case of in-house trusts, the trust directly.

Errors identified from these checks are classified as either minor or major.

A minor error is defined as an error that will not affect the usage or quality of the survey response data, but is still classed as a mistake. For example, a minor sampling error would be if the service user record numbers (SURNs) used by a trust were applied in an incorrect format. In this case, the trust could amend the sample's SURNs and it would not undermine the quality of the sample. This type of error would be rectified by the trust or contractor, or by the Coordination Centre if possible.

A major error is defined as an error that will affect the usage or quality of the survey response data: these are errors that are non-rectifiable. For example, a major sampling error would be if the eligible service user population drawn by the trust for the survey excluded outpatients, potentially creating bias in the sample. If the error was spotted during checking the sample, the trust would be required to re-draw the sample in line with the guidance. Major errors within the survey response data submissions would result if there was an error in the wording of a question (where the questionnaire had been set up for use on different data capture software).

A report is produced each year of these errors and is published on the NHS surveys website (available for the 2017 survey here: <http://www.nhssurveys.org/surveys/1034>). Trusts and approved contractors are encouraged to review this report to minimise the recurrence of previously detected errors. In the 2017 survey there were no major errors but two minor errors (one trust included scheduled attendance dates under the 'last date of attendance' field rather than actual attended appointments; another trust included dissenters in their eligible population, one of whom was randomly selected in the 850 sample).

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<sup>1</sup> TAE Manchester Mental Health and Social Care Trust merged with RXV Greater Manchester West Mental Health Foundation Trust to form RXV Greater Manchester Mental Health Foundation Trust.

<sup>2</sup> TAJ Black Country Partnership NHS Foundation Trust was excluded from taking part due to their high number of dissenters.

<sup>3</sup> These are companies that have been approved by the Care Quality Commission during a competitive tendering process to carry out surveys in the NPSP on behalf of trusts. For more information please see: <http://www.nhssurveys.org/approvedcontractors>

We have explored the way in which trusts input data for service users before it is used to create survey samples, to identify the level of risk for error at that stage, and this is outlined in the Statement of Administrative Sources, available on the surveys section of the CQC website ([here](#)).

We conclude that there may be potential for incorrect addresses or inaccurate coding of cases – however this is unlikely due to the requirements placed on NHS trusts and their interests in maintaining accurate records. The effects of this on trust results would therefore be small due to the scale of likely error, and this would have an even smaller impact on England level statistics due to aggregation of trust results to the England average.

A sample declaration form which incorporates a sample checklist must be completed prior to submitting the sample. As well as helping to ensure that trusts have followed the sampling methodology as specified in the survey instructions, the sample declaration form also helps confirm trusts have maintained confidentiality by taking the required steps as specified in the manual, such as only sharing the required variables. Having this sample declaration form approved before sending samples fulfils NHS trusts' own requirements under the Data Protection Act and helps to reduce the potential for breaches to the support received under section 251 of the NHS Act 2006 (which provides a legal basis for the transfer of data to a survey contractor).



### 3.5 Historical sampling errors and excluded trusts

During the sample-checking investigations for the 2017 survey, it was found that three trusts had made major errors in drawing their sample from the previous year (2016). These had gone undiscovered at the time because the errors only became apparent when compared with the 2017 sample<sup>4</sup>. These trusts were excluded from any trust-level historical comparisons produced for the 2017 survey (i.e. comparing 2017 data against 2016 data) and their 2016 results were removed from the NHS Surveys website. Their 2017 results were unaffected.

The three trusts were:

- RKL West London Mental Health NHS Trust
- R1C Solent NHS Trust
- RYK Dudley and Walsall Mental Health Partnership NHS Trust

For more information on the sampling errors investigated in the 2017 survey please see the sampling errors report located here: <http://nhssurveys.org/surveys/1034>.

Southern Health NHS Foundation Trust (RW1) also had a high proportion of dissenters in 2017 though no dissenters were declared in the previous year. Examination of the trust's dissenter and sample service user populations highlighted key demographic differences. As such it would be impossible to understand if any differences in their 2017 and 2016 results were real or down to their changing demographic profile. As such the trust was not provided with historical data in their report.

East London NHS Foundation Trust (RWK) had taken over additional services from another provider which had an impact in terms of the trust's demographic profile. As such, historical comparisons were not provided.

Outlined earlier, Black Country Partnership NHS Foundation Trust (TAJ) was excluded from taking part in the survey due to having an extremely high proportion of dissenters (57%):

Also highlighted earlier, 2017 saw a merger between two trusts (Manchester Mental Health and Social Care Trust (TAE) and Greater Manchester West Mental Health Foundation Trust (RXV)). In these instances it is not generally appropriate to provide any historical comparisons:

- RXV Greater Manchester Mental Health Foundation Trust.

Tavistock and Portman NHS Foundation Trust (RNK) was unable to take part due to the make-up of the services it provides and the population it serves:

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<sup>4</sup> Whilst the Patient Survey Coordination Centre undertake robust checks on the sample, it is not always possible to identify all sampling errors from the sample declaration form and anonymised sample file. Therefore some errors are identified retrospectively when checking the subsequent year's data. It remains the responsibility of the trust to ensure that the sample is drawn correctly and all inclusion and exclusion criteria correctly applied.

## 4 Data analysis and reporting

### 4.1 Data cleaning and editing

Survey data from each participating trust - whether conducting the survey themselves 'in-house' or using an approved contractor (all trusts other than North Staffordshire Combined Healthcare NHS Trust (RLY) and South Staffordshire and Shropshire Healthcare NHS Foundation Trust (RRE) chose to appoint a contractor) - are submitted to the Coordination Centre for cleaning. During fieldwork, a data cleaning guidance manual covering the checks that the Coordination Centre undertakes is published: <http://www.nhssurveys.org/surveys/1038>. This document allows participating trusts and contractors to understand the processes that the Coordination Centre will undertake and which common errors they will be looking for. This enables contractors and in-house trusts to replicate the cleaning undertaken for the benchmark reports. The data are submitted to the Coordination Centre in Excel although the final dataset for the survey that is used by secondary data users and deposited with the UK Data Service (UKDS) is in SPSS.

For each survey, there are a number of standard checks undertaken on the data.

These include:

- Checks of the hard copies of questionnaires from contractors and in-house trusts to verify that questions, response options, routing and instructions are as they should be
- Check that number of rows of data is as expected, i.e.: the number of service users in the data file is as expected
- Variable, question and response options wording checks, i.e. that the data matches the questionnaire
- Out of range checks (both on sample and response data, such as age)
- Incorrect filtering: where respondents have answered a question that does not apply to them
- Coding: where the answer given is outside the expected range of response options for a question
- Data validation: using the response date to confirm whether the sample data submitted by the trust is valid for certain demographics
- Eligibility: using the response data to check that only eligible service users were included in the survey

The data are also checked for a number of other, more in depth, errors. These include looking at questionnaire item non response: high levels of missing data on suites of questions that are positioned next to each other in the survey can indicate that there is an issue with page turnover. This can also indicate if a question is not necessarily being understood in the way that it is designed.

When data are suppressed for a question - where there are fewer than 30 responses for a trust - this is cross referenced against the raw excel data submitted by a trust to confirm that the suppression was correct. Where a trust has a low response rate, the data are also checked for representativeness, with regards to demographics, against the sample to determine whether the

data should be included. There were no exclusions made for the 2017 data due to representativeness concerns.

Where errors are found trusts or contractors are asked to re-submit the data with corrections made. No re-submissions were necessary for the 2017 survey.

## 4.2 Statistical Release

A statistical release has been published which provides full England level results for the 2017 survey, comparing results against the 2014, 2015 and 2016 surveys and a multi-level analysis of subgroups. This is published on the CQC website here: [www.cqc.org.uk/cmhsurvey](http://www.cqc.org.uk/cmhsurvey).

In order to control for the influence individual trusts' response rates have on the England-level average, the data are weighted<sup>5</sup>. Comparisons to previous iterations of the survey are made possible by conducting significance testing, using a z-test applied to the weighted proportions to see whether the difference is statistically significant. The 2017 questionnaire was identical to the 2016 questionnaire (though there are some small question or response differences between these and the 2015 and 2014 questionnaires). Where questions have had minor redevelopments over the years (e.g. wording changes), which may affect their comparability, their inclusion / exclusion for historical comparisons were assessed by the Patient Survey Co-ordination Centre and agreed by CQC.

The multi-level analysis of subgroups highlights the experiences of different demographic sub-populations. Results for each demographic subgroup are generated as adjusted means (also known as estimated marginal means or population marginal means) using a linear mixed effects model. These means are compared within themes, derived from composites of results from specific questions. This model takes into account trust clustering, as trusts are likely to have a big impact on reported patient experience at a national level.

For this survey, each question was centred by subtracting its overall mean from each respondent's score before the questions were combined into themed composites. This was a development of the approach used in previous surveys and is intended to remove any difference in composite scores that might potentially arise through different patterns of item non-response.

To assess whether experiences differ by demographic factors, F tests are performed on each factor (fixed effect) as a predictor of the target variable. P-values are generated to show the likelihood of the observed differences between groups arising from a population where no actual differences occur. They relate to the demographic factor as a whole rather than to comparisons between specific categories within the factor. Predictor variables are checked for multicollinearity to ensure coefficients can be accurately estimated.

Differences of at least 0.1 standard deviations from the overall mean of the target variable are treated as being noteworthy.

For the 2017 survey the following demographic factors were analysed:

- Age
- Sex
- Ethnicity

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<sup>5</sup> More information on the weighting approach applied to the data can be found in Section 6.5 'Adjustments made to the survey results'.

- Religion
- Sexual orientation
- CPA Status
- Care cluster
- Long-term / short-term users (Q2)

The themes of patient-centred care against which these demographic factors were compared are as follows:

- Overall: Q40
- Respect & dignity: Q41
- Involvement: Q7, Q37
- Respect for patient-centred values: Q6, Q39
- Access: Q3
- Access to crisis care: Q21
- Communication: Q4, Q5.

### 4.3 Trust results

Detailed information on the analysis method applied to the trust level data is available in the technical document published on the CQC website here: [www.cqc.org.uk/cmhsurvey](http://www.cqc.org.uk/cmhsurvey)

Benchmark reports are produced for each trust illustrating their performance on particular questions compared with all other trusts involved in the survey. These reports are published here: <http://www.nhssurveys.org/surveys/1047>

For applicable questions, each response option is assigned a score (0-10) and composite section scores are produced, by grouping similar questions together. Demographic questions, non-specific responses, some routing questions and other questions that do not evaluate a trust's performance are not scored.

A trust's question score is calculated by taking the weighted average<sup>6</sup> of responses for the trust, for the given question. For each scored question and each section of the questionnaire, a chart is produced.

This chart shows the overall range of trusts' scores for the question, broken down into three parts:

- If a trust score lies in the red section of the graph, the trust result is 'worse' than expected when compared with most other trusts in the survey.
- If a score lies in the green section of the graph, the trust result is 'better' than expected when compared with most other trusts in the survey
- If a trust score lies in the orange section of the graph, the trust result is 'about the same' when compared with most other trusts in the survey

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<sup>6</sup> Weighting the responses adjusts for variation between trusts in age and sex.

A black diamond indicates the score of the specific trust. If a trust has fewer than 30 responses to a question, a chart will not be produced<sup>7</sup>.

Tables are also produced, giving the trust's score and the range of scores for each section and question, and the number of responses to each question. An additional table gives the number of respondents, response rate and demographic information, at trust level and for all respondents across England<sup>8</sup>.

Historical comparisons are made, where possible, against the 2016 survey using a t-test. Arrows next to these questions indicate where the 2017 score is significantly higher or lower than the 2016 score. No arrow reflects no statistically significant change. Benchmark data will be available on the CQC website: [www.cqc.org.uk/cmhsurvey](http://www.cqc.org.uk/cmhsurvey)

As detailed in Section 3.5 'Historical sampling errors and excluded trusts' in this document, we were unable to include comparisons to 2016 data for six trusts due to sampling errors or other issues in the 2016 survey.

#### 4.4 NHS England National Statistics

Fifteen questions within the 2017 survey contribute to Overall Patient Experience Scores as outlined by NHS England (Appendix 1). These cover four domains of patient experience: Access and waiting; Safe, high quality, co-ordinated care; Better information, more choice; and, Building closer relationships. More information is available here:

<http://www.england.nhs.uk/statistics/statistical-work-areas/pat-exp/>

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<sup>7</sup> If a question has fewer than 30 responses for a given trust, the confidence interval around the trust's question score is considered too large to be meaningful and results are not reported. Additionally, for any such question, the trust is excluded from national averages and the trust is not given a section score.

<sup>8</sup> 'National' figures are calculated using survey data from all trusts - these figures refer to the sampled population, which may have different characteristics to the population of England.

## 5 Quality assurance

### 5.1 Approved contractor / in house trust checks

Each contractor and in-house trust undertakes a series of checks for different stages of the survey. These checks are focussed on the key stages of the survey - especially the sample preparation and data cleaning stages. Contractors and in-house trusts will undertake a series of set checks on the sample file. These checks are to identify any obvious errors in the sampling phase such as including ineligible service users. As contractors are able to receive mailing information, contractors also do validation checks on mailing information by determining whether the address is complete enough for a survey to be sent.

Survey progress is monitored weekly during fieldwork at trust level. Should any potential problems be identified during fieldwork, such as a high number of unreturned questionnaires, the Coordination Centre will investigate to explore the reasons for this.

### 5.2 Coordination Centre checks

There are a number of quality assurance (QA) checks undertaken by the Coordination Centre at various stages of the survey lifecycle.

The first QA checks undertaken are on the sample files submitted by either contractors or in-house trusts. The checks are to determine whether there are any errors in the sample file that is used for mailing. These checks help to minimise any exclusions of data at the analysis stage of the survey, due to eligibility issues.

The Coordination Centre also check hard copies of the covering letters and questionnaire used by in-house trusts and contractors in the survey. This can help to identify where errors have been introduced when the survey documents are reproduced by either contractors or in-house trusts. These errors are typographical, such as words being misspelt, words missing from questions, improper use of boldening (which is normally used to highlight key words for cognition reasons), or response options missing or misworded. If an error is identified that would compromise the data collected (i.e.: the data could not be used due to the error), either the data for that particular question would be excluded from the final dataset and outputs for the affected trusts; or if the mistakes can be rectified before the mailing commences, this is the most favourable option. There have been no exclusions made on this basis for the 2017 survey.

During fieldwork, the Coordination Centre monitor the progress of the mailings and response rates both at national and trust level. This monitoring is not a QA check in the strictest definition, but does allow for the Coordination Centre to flag where there are concerns with how the survey is progressing, which could impact on the data collected. When response rates are low, this can affect the representativeness of the data which potentially limits the usability of that data. In addition, the survey is to be administered in a standardised approach with a set number of mailings during fieldwork, and with a particular final mailing date. This is to allow groups that tend to respond late in surveys to have sufficient time to respond.

The final set of QA checks undertaken by the Coordination Centre focus on the response data and the analysis. In addition to the specific checks undertaken on the survey data, as outlined in the previous section, each stage of the data cleaning is second checked internally.

All analysis outputs based on the data (such as the trust level results and England level reporting) go through a two stage quality assurance process, checked by both the Coordination Centre and CQC.

## 6 Data limitations

### 6.1 Context

All surveys are subject to measurement error, in its various forms, the CMH survey is no different and when interpreting the data collected it is important to recognise this will be different from the population's true value. While there are a number of potential sources of error, these are carefully controlled through rigorous development work behind the questionnaire design and sampling strategy, and extensive quality assurance at every stage.

These statistics relate to people who used community mental health services at a particular point in time and the results are an indication of the average or typical quality of experience for that population. Each participating NHS Trust selected people who had been seen by community mental health services during September, October or November 2016.

### 6.2 Seasonal effects

In determining the sample period for the survey, seasonal effects were considered. The sampling period (1 September to 30 November) has remained the same since the Community Mental Health Survey was redeveloped in 2014.

Due to the sampling approach, seasonal effects are unlikely to be an issue. The Community Mental Health survey does not take a flow of patients, for example, whereby a consecutive sample is taken according to discharge dates (as in the inpatient survey). Instead, the sample is based on people who have had at least one face to face appointment with mental health services during the sample period and at least one other appointment before, during or after the sampling period. Those individuals are likely to have maintained contact with services during a longer time period than the sample period itself and are therefore less likely to be affected by any variation in the time of year. In addition, respondents are directed to think about events over the previous 12 months, which negates any effect that there may be in service provision across a given year.

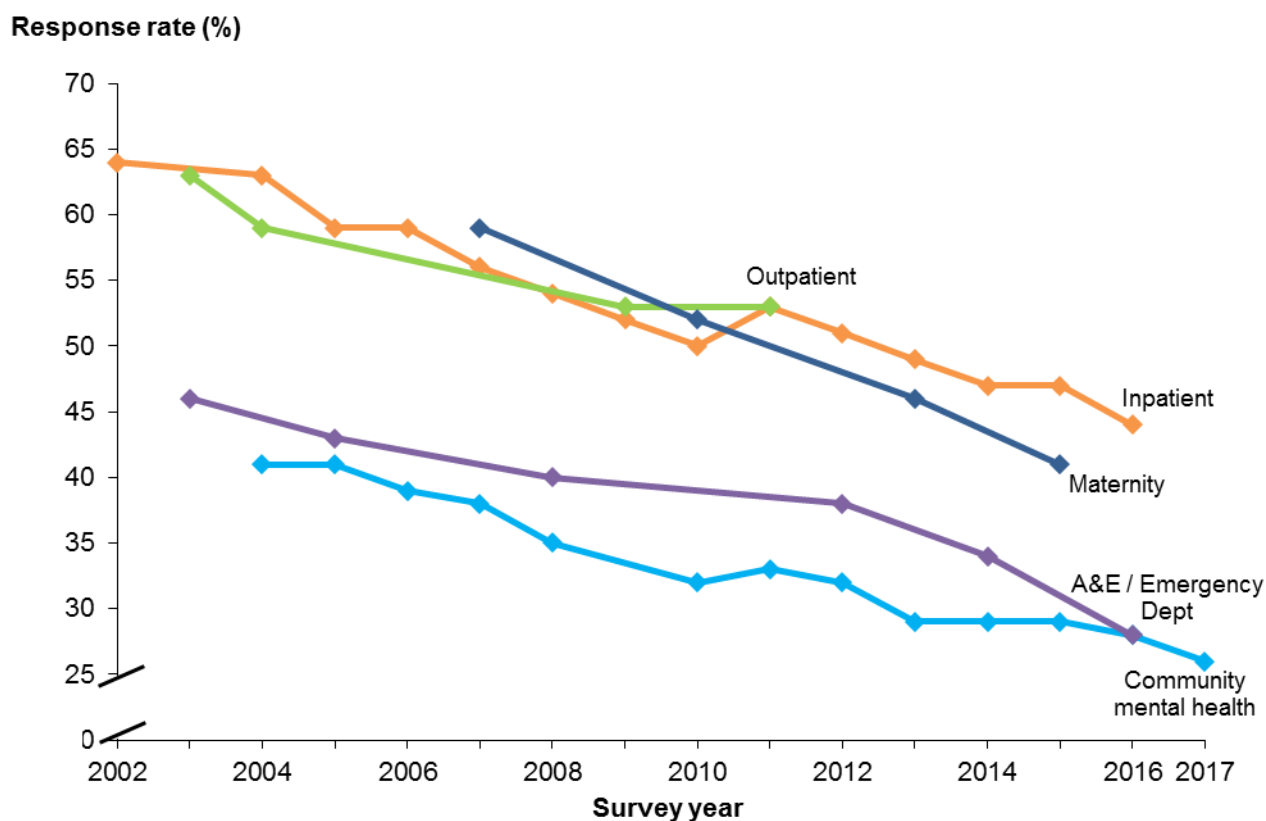
### 6.3 Response rates

Response rates for the survey have dropped since it was first launched. This is consistent with other surveys in the NHS Patient Survey Programme and with industry-wide trends in social and market research.

Figure 1 below illustrates response rate trends for the more established surveys in the NHS Patient Survey Programme. Please note that not all surveys have been carried out annually. There is a clear downwards trend across all surveys. The acute inpatient survey generally has the highest response rates and the community mental health and A&E surveys the lowest. From a response rate of 28% in 2016, the community mental health survey has seen a further dip to 26% in 2017. There are no appropriate surveys to compare the response rate with, due to differences in the sampled populations and the year of implementation of the surveys.



**Figure 1: response rates for established surveys in the NHS Patient Survey Programme**



We have previously made changes across the survey programme as a whole, based on pilot work; for example in 2007, the survey fieldwork was extended to 18 weeks to maximise responses from minority groups - which pilot work<sup>9</sup> had shown can take longer to respond.

To further improve the survey, CQC reviewed the response rates for the Community Mental Health survey prior to the start of the 2016 survey. A paper was published on the Coordination Centre website outlining the issues relating to response, and identifying potential measures for future piloting: <http://www.nhssurveys.org/survey/1704>.

The development of the 2017 Community Mental Health survey included a more in-depth review of feasible interventions or measures that might further boost response, and those selected were piloted alongside the 2017 survey. Following consultation with stakeholders and literature reviews, four interventions were highlighted for piloting: a new pre-approach mailer, redesigned questionnaire, redesigned covering letters and redesigned CQC flyers (two versions of the flyer were produced to appeal to different age groups). Results of the pilot showed that the covering letters were the most effective approach in increasing response rates overall and among those aged 36+, while for the younger age group the combination of these and the redesigned questionnaire proved the by far most appealing approach. Importantly, the pilot work demonstrated an increase in response from the 18-35 year olds who are significantly under-represented in the survey. The full pilot results can be found here: <http://www.nhssurveys.org/surveys/1106>.

<sup>9</sup> <http://www.nhssurveys.org/survey/513>

## 6.4 Non response bias

One of the main issues that can affect the survey results is non-response bias.

As the response rates for surveys decline, the risk of non-response bias increases. Non response bias is caused when sampled individuals are unwilling to take part in a survey causing the risk that those who chose to respond are different from those who chose not to respond. This type of bias might arise, for example, if older service users are more likely to respond and report different experiences than younger service users.

However, whether we do have non-response bias is difficult to assess, as we do not have any way of knowing how those people who did not respond would have answered.

A further factor is that we do not always know the split between those who did not receive a questionnaire, and hence could not respond, versus those who chose not to respond. The number of questionnaires that were 'returned undelivered' was logged during the course of the survey. However, there may be another group of individuals who, for example, had changed address but not informed the trust, and therefore did not receive the questionnaire. When logging the outcome of sending a questionnaire, those individuals are placed in the group 'outcome unknown', alongside others who have chosen not to return the questionnaire nor notify us of their decision not to.

As NHS trusts hold the names and address details, we are limited in terms of assessing the data quality of the samples that were drawn, as patient confidentiality prevents us from accessing those details.

Research, including work carried out as part of the NHS Patient Survey Programme, has shown that certain groups are consistently less likely to respond, and these are: young people, males, black and minority ethnic groups (BME), people from London, people from deprived areas, people with poor literacy and people with a mental health condition.<sup>10 11 12</sup> Tables 1 and 2 below show that age, gender, ethnic group and care cluster response bias exists in the Community Mental Health survey. However, it is worth noting that these are known biases and there may be other types of bias influencing results which cannot be established due to their implicit nature.

Table 1 shows respondents and non-responders. Table 2 shows the demographic profile for the sample as a whole (everyone selected for inclusion on the survey) and respondents. It can be seen that people aged between 51 and 65 years are more likely to respond compared with other age groups and are twice as likely to respond than those aged 18-35, while people from the White ethnic group are more likely to respond compared with those from other ethnic groups. In interpreting these tables it should be borne in mind that it is very likely that there are also inter-relationships between these groups.

Please note that tables 1 and 2 are based on information from trust sample files<sup>13</sup> only so will differ from response rates published elsewhere which are a combination of responses to the demographics questions or sample file information if the response is missing. We cannot use

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<sup>10</sup> [http://www.nhssurveys.org/Filestore/documents/Increasing\\_response\\_rates\\_literature\\_review.pdf](http://www.nhssurveys.org/Filestore/documents/Increasing_response_rates_literature_review.pdf)

<sup>11</sup> [http://www.nhssurveys.org/Filestore/documents/Review\\_BMEcoverage\\_HCC\\_surveys.pdf](http://www.nhssurveys.org/Filestore/documents/Review_BMEcoverage_HCC_surveys.pdf)

<sup>12</sup>

[http://www.nhssurveys.org/Filestore/documents/Increasing\\_response\\_rates\\_stakeholder\\_consultation\\_v6.pdf](http://www.nhssurveys.org/Filestore/documents/Increasing_response_rates_stakeholder_consultation_v6.pdf)

<sup>13</sup> Trust sample files contain all people selected to take part in the survey and includes information such as age, gender and ethnicity

respondent provided information to calculate response rates, as we do not have this for non-responders. The response rate is based on the adjusted response rate which means we have removed anyone who had since died, or anyone for whom the questionnaire was undeliverable, from the base.

**Table 1 Respondents and non-responders to the 2017 community mental health survey by key demographics**

Demographics	Responded (%)	
	Yes	No
<b>Gender</b>		
Male	26%	74%
Female	27%	73%
<b>Age</b>		
18-35	17%	83%
36-50	24%	76%
51-65	34%	66%
66+	30%	70%
<b>Ethnicity</b>		
White	27%	73%
Mixed	20%	80%
Asian or Asian British	22%	78%
Black or Black British	22%	78%
Chinese or other	25%	75%
Not stated or missing	25%	75%
<b>Supercluster</b>		
Variance	19%	81%
Non-psychotic	28%	72%
Psychosis	26%	74%
Organic	27%	73%
Missing	22%	78%

**Table 2 Sample and demographic profile for the 2017 community mental health survey**

Demographics	Profile (%)	
	Sample	Respondent
<b>Gender</b>		
Male	44%	43%
Female	56%	57%
<b>Age</b>		
18-35	23%	14%
36-50	23%	21%
51-65	20%	25%
66+	35%	40%
<b>Ethnicity</b>		
White	79%	81%
Mixed	2%	1%
Asian or Asian British	4%	4%
Black or Black British	4%	3%
Chinese or other	2%	2%
Not stated or missing	9%	8%
<b>Supercluster</b>		
Variance	1%	1%
Non-psychotic	37%	35%
Psychosis	28%	28%
Organic	22%	22%
Missing	12%	14%

*Note: Figures are rounded to the nearest % so group totals may add up to more than 100%*

## 6.5 Adjustments made to the survey results

We have considered the application of non-response weighting to the survey results for both the England data and the trust level results. However, in the consideration of whether to weight for non-response and whether this should be according to either the sample or population data, we need to factor in the primary aim of why the survey data are being collected.

For the majority of social research studies, in particular those that are cross sectional or general population, non-response is weighted for against the target population demographics. This is normally achieved by weighting for key characteristics such as age, gender, marital status, socio-economic status, if this auxiliary data exists on the sampling frame. Reweighting is used to eliminate, or at least reduce, total nonresponse bias. In a nonresponse model approach, a model is developed to estimate unknown response probabilities with weights adjusted to the estimated response probabilities. Units with the same characteristics and the same propensity to respond are

grouped together to protect against model insufficiency<sup>14</sup>. Alternatively, if a national dataset exists for these key characteristics, such as the Census for national population estimates, then this can be used in deriving the weighting approach. The reason why weighting back to the population is key for these studies is that they are looking to make generalisations about a population as a whole rather than individual cases or sampling units within it.

### **Trust-level benchmark analysis**

For the NHS Patient Survey Programme, the data collected is used for measuring and comparing the performance of individual NHS trusts. Therefore it is important that we are able to distinguish between the characteristics of different trusts (i.e. the variation between them) to identify those trusts that are doing better or worse than the 'average' trust. As demographic characteristics such as age and gender are known to be related to responses, we therefore standardise different organisations to a common average case-mix when calculating organisational results; this removes demographic differences as a source of variation and provides a 'level playing field' for comparing providers. Weighting for non-response to either a national population dataset or back to the sample data for a trust would not achieve this.

Differences between trust populations are partly addressed via standardising by age and gender in the trust level results<sup>15</sup>. Standardising by ethnicity would in theory also improve comparability, however whether to do this is subject to a number of considerations detailed below.

- The more variables that are included in the standardisation, the more complex the analysis becomes. It also greatly increases the risk of very small groups with large weights.
- In order to standardise data by age and by gender, and therefore include it in the trust data, we need to have information on age and gender. To additionally standardise by ethnicity, we would need to have age, gender, and ethnicity information for each respondent. In order to maximise the amount of available data, if a respondent has not answered the question asking this, we use information provided to us by trusts in their sample file. While data for age and gender is of a very good quality with only very few, if any, missing cases once this has been done, ethnicity is much poorer: if we were to additionally standardise by ethnicity, we would have to remove 450 people from the analysis, which is not desirable, particularly in a survey with already low response rates.
- An additional difficulty would be that some trusts have very low proportions of people in some ethnic groups. As weights are capped, this would lead to many respondents having capped weights, which should be avoided as far as possible when standardising data, as it limits the comparisons that can be made fairly.
- We would also risk standardising out genuine differences in the experiences across the subgroups.

### **National Statistics**

Concern over falling response rates and the potential for this to bias national results has led to the need to consider weighting the survey for non-response. It is important to note that direct assessment of non-response bias is difficult because of the lack of opportunity to measure the views of non-responders. Previously, we have not been able to successfully secure ethical

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<sup>14</sup> <http://www.statcan.gc.ca/pub/12-539-x/2009001/response-reponse-eng.htm>

<sup>15</sup> For more information on the methodology for the trust level results, please see the technical document which is referenced in the Section 8 'Further Information' at the end of this document.

approval to carry out non-response surveys on the basis that it is further contacting people who have already declined to be involved in surveys.

For the 2017 survey, non-response weights were introduced with the aim of reducing non-response bias. Weights were created to adjust the respondent sample profile to the profile of the sample originally drawn to represent the trust population. Weighting is applied to age groups and gender so that the weighted proportions in each age x gender group in the respondent sample are the same as the proportions of those groups in the original sample. Increased weight is therefore given to groups that had lower propensity to respond. A single non-response weight was computed for each respondent.

The effect of non-response bias is also reduced by the survey methodology. The NHS Patient Survey Programme follows best practice methodologies to maximise response rates and this is discussed in the Section 2.1 'Survey design and implementation' of this document.

The England level results for the survey are additionally weighted to the average trust. Some trusts have a higher response rate than others and would therefore have a greater influence over the England average if a simple mean was 'calculated' across all respondents – another manifestation of non-response bias. To avoid this, weights are applied to the data question by question. By applying these weights, the responses from each trust have an equal influence over the England average for each question regardless of differences in response rates between trusts.

As the 2017 England level results present trend comparisons across surveys from 2014 to 2017, it is also necessary to weight the historic data. Non-response weights and trust weights for each question were calculated in the same way as for the current year. Non-response weights and trust weights are multiplied together to produce a single, combined weight for each question and this is applied in generating the national tables. As such, the weighting strategy was different from that used in previous survey iterations<sup>16</sup>.

Assuming that responses were missing at random, weighting each trust's results to their eligible population in this way theoretically makes the trust's results more representative of their population, thus potentially yielding a more accurate experience of the average trust. It is not possible to check the extent to which this 'missing at random' assumption is satisfied.

The introduction of non-response weights results in a 'design effect' that reduces the precision of statistics from the survey. This has been taken into account in year-to-year comparisons. The design effect due to weighting can be estimated as:

$$DEFF = \frac{n_{total} * [\sum_i w_i^2]}{[\sum_i w_i]^2}$$

where  $w_i$  is the weight for respondent  $i$ . This is then used to adjust the alpha value for the tests of column proportions in national tables, using  $\alpha_{new} = 2$ -tailed probability for a result at least as extreme as  $|1.95996398454 \times \sqrt{DEFF}|$ .

This weighting has been applied to the results for all except the demographic questions. The demographic questions are presented without weights applied, as it is more appropriate to present the real percentages of respondents to describe the profile of respondents, rather than average figures.

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<sup>16</sup> Please note, due to the approach taken to standardise the data, England level results in the 2015 and 2014 Community Mental Health Surveys will differ slightly from the 2014-to-2017 trend comparison results in the 2017 survey's England level results.

## 7 Data revisions

CQC publishes a [Revisions and Corrections Policy](#) relating to these statistics. The NHS Patient Survey data are not subject to any scheduled revision as the surveys capture the views of patients about their experiences of care at a specific point in time. All new survey results are therefore published on CQC's website and NHS Surveys, as appropriate, and previously published results for the same survey are not revised.

This policy sets out how CQC will respond if an error is identified within this and it becomes necessary to correct published data and/or reports.

## 8 Further information

The report outlining the England and trust level results can be found on the CQC website. You can also find a 'technical document' here which describes the methodology for analysing trust level results:

[www.cqc.org.uk/cmhsurvey](http://www.cqc.org.uk/cmhsurvey)

The **trust results** from previous community mental health surveys that took place between 2004 and 2008, and from 2010 to 2014<sup>17</sup> are available at the below link. Please note that due to redevelopment work, results from the 2017 survey are only comparable with 2014, 2015 and 2016<sup>18</sup>:

<http://www.nhssurveys.org/surveys/290>

The results for **England** from previous community mental health surveys that took place between 2004 and 2008, and from 2010 to 2014, are available at the link below:

<http://www.nhssurveys.org/surveys/872>

Full details of the methodology for the survey, including questionnaires, letters sent to people who use services, instructions on how to carry out the survey and the survey development report, are available at:

<http://www.nhssurveys.org/surveys/1014>

More information on the NHS Patient Survey Programme, including results from other surveys and a programme of current and forthcoming surveys, can be found at:

<http://www.cqc.org.uk/content/surveys>

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<sup>17</sup> In 2009 a survey of mental health inpatient services took place

<sup>18</sup> Please note that the survey was also substantially redeveloped in 2010. This means that results from the 2010 - 2013 surveys are comparable with each other but not comparable with those from 2004 to 2008.



## 9 Feedback

We welcome all feedback on the survey findings and the approach we have used to reporting the results, particularly from people using services, their representatives, and those providing services. If you have any views, comments or suggestions on how this publication could be improved, please contact Paul Williamson, User Voice Development Manager, [Patient.Survey@cqc.org.uk](mailto:Patient.Survey@cqc.org.uk)

The information you provide will be reviewed by CQC and used, as appropriate, to improve the statistics that we publish across the NHS Patient Survey Programme.

## 10 Appendix 1: NHSE Overall Patient Experience Questions

Q no	Questions and domain
<b>ACCESS &amp; WAITING</b>	
Q9	Do you know how to contact this person [the person in charge of organising the respondents care and services] if you have a concern about your care?
Q21	Do you know who to contact out of hours if you have a crisis?
<b>SAFE, HIGH-QUALITY, CO-ORDINATED CARE</b>	
Q10	How well does this person [in charge of organising care & services] organise the care and services you need?
Q14	In the last 12 months, have you had a formal meeting with someone from NHS mental health services to discuss how your care is working?
Q29	In the last 12 months, has an NHS mental health worker checked with you about how you are getting on with your medicines? (That is, have your medicines been reviewed?)
Q33	In the last 12 months, did NHS mental health services give you any help or advice with finding support for physical health needs (this might be an injury, a disability, or a condition such as diabetes, epilepsy, etc.)?
<b>BETTER INFORMATION, MORE CHOICE</b>	
Q11	Have you agreed with someone from NHS mental health services what care you will receive?
Q12	Were you involved as much as you wanted to be in agreeing what care you will receive?
Q13	Does this agreement on what care you will receive take your personal circumstances into account?
Q25	Were you involved as much as you wanted to be in decisions about which medicines you receive?
Q32	Were you involved as much as you wanted to be in deciding what treatments or therapies to use?
<b>BUILDING CLOSER RELATIONSHIPS</b>	
Q5	Were you given enough time to discuss your needs and treatment?
Q6	Did the person or people you saw understand how your mental health needs affect other areas of your life?

Q7	Have you been told who is in charge of organising your care and services? [This person can be anyone providing your care, and maybe called a 'care coordinator' or 'lead professional']
Q41	Overall, in the last 12 months, did you feel that you were treated with respect and dignity by NHS mental health services?