

Community Mental Health Survey 2017: Sampling Errors Report

1. Introduction

Survey contractors and in-house trusts were required to submit samples to the Coordination Centre for final quality control checks before the mailing out of survey packs could begin. All trusts were required to submit care cluster files directly to the Coordination Centre, separate from their sample file as part of the requirement of the Section 251 approval for the survey. Neither file included patient identifiable data such as names or addresses but sample files included both demographic and clinical information while care cluster files included only clinical information (care cluster codes) for each service user:

Demographic information:

- Gender;
- Year of birth;
- Ethnic category.

Clinical information:

- Date of last contact;
- CPA status;
- CCG code.
- Care cluster codes

The sample declaration form was revised for 2017. New this year was an Excel form intended to simplify the process and reduce error; it included a checklist of each eligibility criterion requiring a check mark for the form to be complete. Sample data was drawn by one person who electronically signed the declaration form along with the Caldicott Guardian. As with last year's survey, trusts were required to provide the total number of service users aged 18 years and older at their trust, the number of these who indicated dissent, the total number of their eligible population along with a breakdown of their Care Programme Approach (CPA) status ('on CPA', 'not on CPA', and 'CPA not known'). A written definition of CPA status as used by the trust was also provided. The declaration tab of the form provided confirmation that trusts had submitted their sample through Demographic Batch Service (to check for deceased service users), that the sample had been drawn as per the instructions, any service users indicating dissent had been excluded and care cluster data had been removed. The sample declaration forms for in-house trusts and trusts using a contractor can be found here: <http://www.nhssurveys.org/surveys/1032>

This document outlines the types of errors made in sample files submitted to the Coordination Centre for checking. Sample errors are divided into major (*those requiring the sample to be redrawn*) and minor errors (*those that could be corrected using the same sample*). It is important to note that these are only the errors caught by the Coordination Centre; many samples would have had errors

which were identified during contractors' checks. The types of errors found in sample declaration forms, care cluster files and any Section 251 breaches are also discussed in this report.

This document should be used by trusts and contractors to familiarise themselves with past errors and to prevent these from happening in future surveys. If further assistance is required, please contact the Coordination Centre on 01865 208127.

2. Major Sampling Errors

Mistakes in sample data that require the sample to be redrawn are classed as major errors. If not corrected, such errors can invalidate a trust's participation in the survey, meaning that trust's survey data cannot be used by the Care Quality Commission in its assessment of mental health trusts in England. There were no such errors in sample submissions this year, though some historical errors were identified (see below).

3. Minor Sampling Errors

These types of errors do not require the sample to be re-drawn but must be corrected. Trusts are asked to provide data for the service users' date of last contact. One trust included dates that went up to October 2017 and so was asked to update this information to include only appointments that had been attended by the date the sample was drawn.

One trust noticed an error following queries raised by the Coordination Centre during the checking of their declaration form regarding the removal of dissenters. The check for removing dissenters was marked NA in which the trust responded as follows:

"It appears we may have a few that should have been excluded, so may need to resupply a handful"

The contractor followed up with the trust and it became apparent that there were eleven people in the full eligible population that had indicated dissent and of these one had been randomly selected in drawing the 850 sample.

The trust therefore replaced the ineligible record in their sample before it was then submitted to the Coordination Centre and approved.

4. Errors in 2016 sampling

In checking the samples for this year's survey, it became apparent that the sample of two trusts submitted for the 2016 survey had been incorrectly drawn. If this is determined to be a major error in that year, comparisons with the 2016 data are not possible. The historical data may also be excluded from all other uses, such as in CQC's intelligence model, as well as by other organisations such as NHS England for use in their national statistics.

- One trust identified that they had excluded service users whose other contact was before the sampling period therefore only including service users who were seen during the sampling period with their other attendance being during or after this period. Further work

was done to determine comparability and it was decided not to provide historical comparisons due to large differences seen between 2017 and 2016 key demographics.

A further historical error was identified at one trust following queries from the Coordination Centre regarding their care cluster data (for more information on care cluster data see *Section 7 – Care cluster data and Section 251 breaches*):

- One trust had 12% of service users with an unknown care cluster code (code '99') in 2017, compared to no users being assigned this code in 2016. Further investigation resulted in the trust noticing an error from the previous year's survey in which anyone without a care cluster code assigned was excluded when compiling the sample. Investigations concluded there were differences in the profile of service users when comparing the 2017 and 2016 samples and therefore it was decided to not provide historical comparisons for the trust.

5. Dissent

The Community Mental Health Survey employs an opt-out consent model, in which service users are assumed to consent to being contacted unless they explicitly opt out¹. This procedure has received full support from the Confidentiality Advisory Group under section 251 of the NHS Act 2006. A number of trusts however used opt-in or robust consent models leading to a large proportion of dissenters which have been shown to lead to lower overall response rates² and introduce biases in respondent demographics that are not reflected in response / non-response patterns for trusts with low dissent proportions³.

With this in mind, additional demographic and clinical information was received from three trusts who had a high proportion of dissenters in which a particularly high degree of scrutiny had to be employed to make decisions regarding participation and historical comparisons. It is recommended that these trusts should develop and implement a more appropriate consent system to reduce their dissenting proportion:

- One trust reported a large number of dissenters (19%) in their overall population, compared to 0% in the previous year. Further investigation found that a new consent mechanism had been introduced consisting of all service users being verbally asked about participating in general research. In previous years, this was not asked to service users and only those who had specifically dissented to participating in the survey were excluded which had previously resulted in a 0% dissent proportion. Following further investigation, it was decided that the differences in this year's dissenter profile compared to the eligible population and sample data were too large to provide historical comparisons but the trust would be able to participate in this year's survey.

¹ Participating trusts must display posters, during the sample period, drawing service users attention to the national survey and how they can indicate dissent should they not wish for their details to be used for anything other than clinical care

² See, for instance, Angus, V.C. et al. (2003) The requirement for prior consent to participate on survey response rates: a population-based survey in Grampian. *BMC Health Services Research*; 3: 21.

³ See, for instance, Al-Shahi, R. et al. (2005) Bias from requiring explicit consent from all participants in observational research: prospective, population based study. *BMJ*, 331, 942-5.

- Another trust reported a 10% lower dissent proportion than in 2016 though the figure was still high (19%). At the time of submitting their declaration form, the trust explained that this was due to changes in their consent mechanism. The large dissent proportion in 2016 led to discussions with CQC on how to improve their consent methods which resulted in the trust including service users who had dissented to general research for this year's survey. Though following these discussions the trust also introduced an enhancement to their consent process, excluding service users who had specifically dissented to having any mailings sent to their home address. Consequently, their dissent population was reduced yet remained high. After investigating the demographic and clinical profiles of their eligible population, their sample was considered sufficiently comparable where the exclusion of dissenting service users would introduce minimal bias in the sample. Results would therefore be largely representative of eligible service users at their trust. It was decided that the trust would participate in this year's survey and historical comparisons would be made.
- The third trust had a very high proportion of dissenters (57%) which resulted from changes to their consent process. In 2016 it was discovered that the trust had employed an opt-out consent mechanism at one site and an opt-in system at the other. This led to the decision for the trust to draw a weighted sample, with recommendations to adopt a consistent approach in readiness for the 2017 survey. However, in merging the two systems, service users from one of the sites were automatically opted out and instead of adopting an opt-out system, the trust used an opt-in system for all other service users. The differences in sample and dissenting population profiles and in their eligible population numbers were determined too large for sufficient representativeness and comparability therefore it was decided the trust would not participate in this year's survey. It is recommended that the trust should undertake work before the commencement of the 2018 survey to improve their current consent mechanism.

6. Technical problems

Technical problems, though not an error in the sampling process, can result in delays which then potentially impact on the quality and completeness of the sample data being submitted. If not corrected in due time, comparability can be negatively affected due to an incomplete list of service users and inaccurate demographic and clinical information. It was discovered that two trusts had drawn an incomplete sample in 2016 as a result of migrating from one patient record system to another. It was found that incomplete/out-of-date service user records and poor data quality had arisen as a consequence of the migration process leading to a large proportion of eligible service users being excluded from the sampling process. Although both trusts eventually began fieldwork, extensive work had to be undertaken by the Coordination Centre, CQC and trusts alike to ensure the representativeness of the trust-compiled eligible service user populations:

- One trust had reported a 55% increase in their eligible population in 2017 leading to queries from the Coordination Centre. The trust explained this was due to drawing their 2016 sample during a time of system downtime and system merge. Investigations of the data revealed large differences in the eligible population numbers and demographic profile when comparing the 2017 and 2016 figures. Due to these differences it was decided not to provide historical comparisons.

- In addition, one trust also experienced issues with data completion in 2016 due to a system merge. Taking over additional services in 2015, the trust migrated service users from a neighbouring trust on to their system though this was explained to be an extensive process as these new records were paper based and had to be entered manually. At the time of drawing their 2016 sample, all information was not fully entered onto their system leaving significant data quality issues for their eligible population. The Chief Information Officer of the trust explained that the decision to exclude these service users was made internally. Neither CQC nor the Coordination Centre were aware of this decision in 2016, however given the information provided this year, we agreed that it was not reasonable to expect the trust to have had all records on one system given the sheer size of the task. This year's sample however was drawn from a completed patient system with accurate information from service users across all sites. Though due to the large addition of service users to this trust it was decided that historical comparisons would not be provided.

7. Care cluster data and Section 251 breaches

As in 2016, trusts were once again asked to submit data relating to their sampled service users' care clusters separately from their sample data. The process for compiling and submitting care cluster data was outlined in the main instruction manual, with more detailed instructions specific to sampling the care cluster data published and emailed separately.

Only three columns of data were required: the three-digit trust code, service user record number (SURN) and the corresponding care cluster code. In the care cluster column, we would only expect to see numeric codes 0-8, 10-21 and 99 (with 0 indicating variance, 1-8 representing non-psychotic codes, 10-17 representing psychosis codes, 18-21 representing organic codes and 99 as any unknown care cluster codes).

In several cases, trusts submitted files with invalid, incorrect or missing codes. In these cases, depending on the magnitude of the mistake, trusts were either required to submit a new file with updated and valid codes or confirm the correct codes via email. Trusts with a large proportion of missing codes were required to provide a new file with updated codes for these users. In addition, some files have SURNs that do not match the SURNs in their sample file or have an incorrect number of service users listed.

In summary, 20 trusts made care cluster file errors (some accounting for more than one):

- Thirteen trusts were required to resubmit due to having a large number of invalid or incorrect codes in the care cluster column.
- Seven trusts had to resubmit due to incorrect SURNs, SURNs not matching their sample file or not having the expected number of records in the file. It is important that if replacements are made to the sample file that the same records are replaced in the care cluster file.
- Four trusts were not required to resubmit but had to confirm the correct information regarding a small number of codes and / or SURNs.

As part of the Section 251 approval, it was mandatory for trusts to submit their care cluster data directly to the Coordination Centre's secure ftp server. In submitting their care cluster data, one

trust incurred a major and minor breach of Section 251 by submitting a file with patient identifiable information and not password protecting the file:

- Immediate action was taken by shredding the file, filing an internal report and notifying CQC of the breach. Further action was taken by CQC and CAG in contacting the trust's information governance lead to request appropriate investigations to be made.

8. Errors in Sample Declarations

Some trusts made straightforward errors on their sample declarations, such as declaring incorrect figures or neglecting to provide a detailed definition for each CPA status. In instances where only a small change has been made, for example if a record has had to be replaced after the declaration had been signed off, then it is acceptable to explain these differences in a covering note or email that accompanies the declaration. Furthermore, due to clarifications made for Section A this year and queries regarding discrepancies between figures in the declaration forms from this year and last year, it was discovered that some figures provided in 2016 were incorrect for some trusts; if possible an updated figure was provided from trusts and our records were updated.

In summary:

- Ten trusts submitted incorrect or missing figures in the sample declaration form.
- Four trusts did not provide sufficient information regarding their definition of each CPA status. Where the sample declaration asks for a definition of service users 'on CPA / not on CPA' it requires the trust to insert their own definition.
- Seven trusts provided incorrect figures on their declaration forms in 2016.

A comprehensive breakdown of each of these errors is located in *Appendix 1 – Sampling declaration errors*.

Appendices

Appendix 1 - Sample declaration errors

- One trust declared the sum of the figures by CPA breakdown as different to their eligible population. The trust provided the correct figure for their eligible population via email and confirmed that this was simply a typing error and there was no effect on the numbers reported for the sample itself. The same trust failed to provide appropriate CPA definitions and were asked to further explain in which they responded by sending a separate document with complete definitions.
- Similarly, three trusts supplied a sample declaration where the definitions of CPA status were deemed too vague. In all cases, the Coordination Centre requested more information and all trusts responded with a detailed explanation on how they define each status.
- The total population for one trust was calculated incorrectly as they had inadvertently included some historical data instead of only current data. The trust recalculated this figure and resubmitted their amended declaration form.
- Another trust did not provide the number of records sent for DBS checks. This figure was provided via email and resubmission of the form was not necessary.
- It was discovered that one trust had provided an incorrect figure for their total population when it was noticed that figures in box C matched box D where box C is meant to be the total population minus the number of dissenters and box D is the number of eligible service users. The trust confirmed they had used their eligible population instead of their total population to calculate box C. The trust resubmitted their declaration form with the corrected figures though did not update the number of dissenters which resulted in a second resubmission of the form.
- One trust submitted a sample declaration form with an eligible population that had increased from the previous year though the total population had decreased. The trust confirmed that the discrepancy was due to an incorrect total population for which they recalculated and resubmitted their form.
- Another trust failed to provide the number of records submitted for DBS checks in which they emailed us the correct figure. It was later discovered during their sample checks that the date they drew the sample was incorrect on the declaration form and the correct date was confirmed via email in which the Coordination Centre corrected their form.
- The number of records sent for DBS checks was provided for one trust but it was incorrect. They admitted to mistakenly entering the number of service users in the sample (850) instead. The correct figure was provided via email and a resubmission was not necessary.
- Similarly, one trust put the number of service users in the sample for the number of records that could not be matched by DBS. The trust responded with the correct figure via email and their form was corrected by the Coordination Centre.

- One trust had submitted incorrect figures for their total population and dissenters in their declaration form. They provided the correct figures and subsequently their declaration form was approved.
- The Coordination Centre queried the total population figure on the declaration form submitted by one trust due to the differences from 2016. It was discovered that the figure from 2016 was incorrect instead of the figure for 2017; the trust was able to re-calculate and send the correct figure for 2016 via email to the Coordination Centre.
- The contractor noted for one trust that the eligible population figures provided in the declaration form from 2016 were incorrect due to errors in the extraction codes. It was explained that the eligible population listed included a sampling period of one year instead of the expected 3 months. The trust confirmed they later applied the eligibility criteria as per instructions and therefore the sample was not affected though they did not update this on the form. The corrected figures were calculated and sent via email to the Coordination Centre.
- Two trusts misinterpreted the instructions for Section A of the declaration form submitting incorrect figures for their total population in 2016. Previously provided was the total service users within the eligible services instead of all mental health services the trusts provide.
- Another trust misinterpreted the instructions for Section A of the declaration form in 2016. The figure they provided was the total population seen in the sampling period instead of the total population at the time they drew the sample.
- Similarly, two trusts misinterpreted Section A instructions and provided an incorrect figure for the total population in their declaration form in 2016 to include service users of all ages whereas the figure is meant to reflect those age 18+. For both trusts, this figure was calculated correctly this year and they provided the corrected 2016 figure via email to the Coordination Centre.