Inpatient Survey 2015: Sampling Errors Report

# Introduction

For the 2015 Adult Inpatient Survey all trusts were required to submit their samples to the Co-ordination Centre for final quality control checks before they were able to mail out any questionnaires. Final sampling inspection by the Co-ordination Centre was introduced for the 2006 inpatient survey and was found to be useful for identifying errors made when drawing samples, thereby helping trusts to avoid the common mistakes that can result in delays to the survey process and problems with poor-quality samples.

This document describes the errors that have been made when samples have been drawn and the recommendations made by the Co-ordination Centre to correct these. Errors are divided into major (those requiring the sample to be re-drawn, patients to be replaced, or that breach the Section 251 approval for the survey) or minor (those that could be corrected before final data submission).

This document should be used by trusts and contractors to become familiar with past errors and to prevent these from recurring. If further assistance is required, please contact the Co-ordination Centre on 01865 208127.

# Frequency of errors

All samples from the 150 trusts taking part in the 2015 Adult Inpatient Survey were checked by the Co-ordination Centre. In 2011, an exception was made where only in-house trust samples were checked, hence the fewer number of errors found for 2011, as shown in Table 1 below. This means that the number of errors in 2011 cannot be directly compared with other years.

In 2015 there were 17 major errors noted in the sample checking phase and the Co-ordination Centre advised nine trusts to re-draw their sample. In addition to the major errors, 18 minor errors were also identified.

### Table 1 – Frequency of major and minor errors by survey year

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **2015** | **2014** | **2013** | **2012** | **2011†** | **2010** | **2009** | **2008** | **2007** | **2006** |
| **Major errors** | 17 | 9 | 16 | 21 | 16 | 9 | 19 | 24 | 28 | 38 |
| **Minor errors** | 18 | 25 | 53 | 38 | 11 | 41 | 39 | 70 | 70 | 141 |

**†**Note that in 2011 only in-house trust samples were checked.

# Types of major error

Seventeen major errors were identified during sample checking in 2015, spread across sixteen trusts (see Table 2 below). Errors are classified as major if they:

1. Required the trust to re-draw their sample.
2. Required the trust to replace patients from the sample.
3. Resulted in a breach of the Section 251 approval granted to the survey.

If major errors are not corrected, the trust’s survey data cannot be used in the Care Quality Commission’s Intelligent Monitoring of NHS trusts, and the trust will be reported as not submitting data for the national survey. Table 2 below outlines the frequency of major errors by the type of error that was made. More detail about each of these errors is provided below.

### Table 2 – Frequency of major errors by type of major error and survey year

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Major errors** | **2015** | **2014** | **2013** | **2012** | **2011†** | **2010** | **2009** | **2008** | **2007** | **2006** |
| **Did not sample consecutive discharges** | | | | | | | | | | |
| Sampled by consecutive admission | 0 | 0 | 1 | 0 | 2 | 2 | 3 | 4 | 2 | 3 |
| Random samples | 1 | 0 | 0 | 0 | 0 | 1 | 4 | 5 | 9 | 10 |
| **Inclusion of ineligible patients** | | | | | | | | | | |
| Inclusion of ineligible patients (based on route of admission information) | 0 | 3 | 3 | 6 | 6 | 6 | 5 | n/a | n/a | n/a |
| Zero overnight stay patients included | 0 | 1 | 0 | 3 | 2 | 0 | 1 | 0 | 2 | 2 |
| Inclusion of private patients | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 3 | 0 | 1 |
| Inclusion of maternity/termination of pregnancy patients | 5 | 1 | 0 | 1 | 2 | 0 | 0 | 2 | 8 | 8 |
| Inclusion of psychiatry patients | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Inclusion of overseas patients | 0 | 0 | 0 | 1 | - | - | - | - | - | - |
| Inclusion of patients both admitted and discharged from a community hospital | 0 | 0 | 1 | 1 | - | - | - | - | - | - |
| Inclusion of deceased patients | 1 | - | - | - | - | - | - | - | - | - |
| **Exclusion of eligible patients** | | | | | | | | | | |
| Incorrectly excluded by specialty code | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 2 | 4 |
| Screened single night stays | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 0 | 1 | 1 |
| Incorrectly excluded by age | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 4 | 0 | 1 |
| Exclusion of some hospital sites | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| Exclusion of eligible patients due to mistake in query used to extract patient list | 2 | 0 | 0 | 2 | - | - | - | - | - | - |
| Exclusion of particular CCG codes | 0 | 0 | 0 | 1 | - | - | - | - | - | - |
| Exclusion of day case patients that stayed overnight | 0 | 0 | 0 | 1 | - | - | - | - | - | - |
| **Section 251 breaches** | | | | | | | | | | |
| Released patient identifiable information | 7 | - | - | - | - | - | - | - | - | - |
| Began mailing without co-ordination centre approval | 1 | - | - | - | - | - | - | - | - | - |
| **Other** | | | | | | | | | | |
| Sampled incorrect period | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 3 | 3 | 1 |
| Misaligned sample fields | 0 | 3 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Mismatching of names and addresses in the mailing list | 0 | 0 | 0 | 1 | - | - | - | - | - | - |
| Other - Unspecified\* | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 7 |
| **Total** | **17** | **9** | **16** | **21** | **16** | **9** | **19** | **24** | **28** | **38** |

**†**Note that in 2011 only in-house trust samples were checked.

\*Before the 2012 report, the contents of the ‘other’ category were not specified.

## Random samples

One trust submitted a sample that had a discharge date range of 31st July 2015 to 1st July 2015. This was queried and the trust informed the co-ordination centre that they had drawn a random sample of eligible July inpatients, instead of using consecutive eligible discharges. The trust was informed they would need to re-draw their sample following the correct sampling methodology (sampling consecutive eligible discharges from 31st July backwards).

## Inclusion of maternity/termination of pregnancy patients

This year, the co-ordination centre requested that trusts and contractors complete additional checks to confirm that any patients with a 502 (gynaecology) main speciality code were not maternity patients. This explains the jump in the number of errors in this category compared to the previous few years; a number of trusts found that some of their patients labelled under a 502 speciality code had received treatment related to a pregnancy.

Five trusts submitted samples containing patients who had been admitted for treatment relating to a pregnancy. Of these five, three samples contained patients with a main speciality code of 502 who had been identified as receiving treatment relating to a pregnancy. One sample included a maternity patient with a main speciality code of 500 (obstetrics and gynaecology) and one sample included patients with main speciality code of 501 (obstetrics). All of these trusts were asked to replace these patients and re-submit their amended sample.

## Inclusion of deceased patients

One trust included a deceased patient in their sample. This did not become apparent until after the trust had mailed out questionnaires and the patient’s family informed the trust that the questionnaire had been received. The patient in question had died in hospital in July 2015 but, due to a problem with the trust’s IT system, was not correctly listed as deceased and was included in the sample. The trust ran a DBS check before the sample was sent to the co-ordination centre and this patient was not identified as deceased during this check. This seems to be an isolated incident and is very unlikely to re-occur. The trust removed this patient from all future mailings.

## Exclusion of eligible patients due to mistake in query used to extract patient list

One trust submitted a sample that did not contain eligible patients who were missing ICD-10 chapter code data due to a misunderstanding by the trust contact who was drawing the sample. This contact believed that patients without such information present should be excluded, thus wrote an incorrect query to draw the trust’s sample.

Another trust had an issue with the extraction of their sample, which meant that some eligible inpatients who visited the trust in June and July were incorrectly excluded.

Both of these trusts were required to re-draw their samples using the correct sampling methodology.

## Section 251 breaches

Eight separate trusts breached the section 251 approval for the survey during the sample period. Seven of these breaches occurred due to trusts sharing patient identifiable data with un-authorised recipients (in all but one case, this was the co-ordination centre). One breach was due to a contractor accidentally beginning a mailing without gaining approval from the co-ordination centre.

Two of these breaches occurred when a trust sent the co-ordination centre a sample file containing patients’ full date of birth, not just their year of birth. These two trusts were requested to re-submit a sample file with just the year of birth information. One trust was required to draw a new sample with completely different patients as the breach had compromised their original sample. The other five breaches did not require any changes to the trusts’ sample files.

# Types of minor error

Eighteen minor errors were identified during sample checking in 2015, spread across sixteen trusts. Errors are considered to be minor if they can be corrected without the need for the sample to be re-drawn, for patients to be replaced or are not in breach of the Section 251 approval granted to the survey. Trusts that have made minor errors are advised to make the necessary corrections to the sample information prior to submitting the final data set to the Co-ordination Centre at the close of the survey.

Table 3 (below) details the frequency of minor errors by type of minor error and survey year. More details are provided about the errors made in 2015.

### Table 3 – Frequency of minor errors by type of minor error and survey year

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Minor errors** | **2015** | **2014** | **2013** | **2012** | **2011†** | **2010** | **2009** | **2008** | **2007** | **2006** |
| Incorrect CCG coding | 4 | 2 | 16 | 2 | 3 | 15 | 9 | 26 | 19 | 30 |
| Missing or incorrect route of admission data | 0 | 0 | 1 | 1 | 1 | 8 | 10 | 8 | n/a | n/a |
| Incorrect ethnic or gender coding | 2 | 2 | 9 | 6 | 1 | 5 | 7 | 18 | 12 | 19 |
| Missing or incorrect treatment centre data | 3 | 1 | 1 | 2 | 2 | 4 | 5 | 1 | 6 | 12 |
| Main specialty miscoding | 3 | 0 | 7 | 0 | 0 | 3 | 1 | 4 | 6 | 0 |
| Date format used | 0 | 0 | 0 | 2 | 1 | 3 | 0 | 3 | 6 | 22 |
| Incorrectly calculated ‘Length of Stay’ (LOS) | 0 | 0 | 3 | 6 | 0 | 3 | 5 | 9 | 11 | 15 |
| Treatment coding used instead of main specialty | 0 | 7 | 5 | 0 | 0 | 0 | 0 | 1 | 7 | 16 |
| Missing or incorrect ICD-10 chapter code data | 3 | - | - | - | - | - | - | - | - | - |
| *Sub-total of named minor errors* | *15* | *12* | *42* | *19* | *8* | *41* | *37* | *70* | *67* | *114* |
| Other (broken down for 2012 onwards): |  |  |  |  |  |  |  |  |  |  |
| Incorrect month of admission | 1 | - | - | - | - | - | - | - | - | - |
| Incorrect DoH trust code | 0 | 0 | 2 | - | - | - | - | - | - | - |
| Record number formatted incorrectly | 0 | 10 | 1 | 5 | - | - | - | - | - | - |
| Incorrect site of admission/discharge codes | 0 | 3 | 8 | 4 | - | - | - | - | - | - |
| Incorrect GMPC coding | 0 | 0 | - | 10 | - | - | - | - | - | - |
| Insufficient sample size | 2 | - | - | - | - | - | - | - | - | - |
| *Sub-total of ‘other’ minor errors* | *3* | *13* | *11* | *19* | *3* | *0* | *2* | *0* | *3* | *27* |
| **Grand total** | **18** | **25** | **53** | **38** | **11** | **41** | **39** | **70** | **70** | **141** |

**†**Note that in 2011 only in-house trust samples were checked.

## Incorrect CCG coding

Incorrect coding of the CCG billed for the patient’s care was found in 4 samples submitted in 2015. Three of these samples contained invalid CCG codes and one of the samples was missing a CCG code for a single patient. The affected sample files were amended and re-submitted to the co-ordination centre.

## Incorrect ethnic or gender coding

Incorrect ethnicity coding was found in 2 samples submitted in 2015. Both of these samples contained invalid ethnicity codes that had been used to denote missing ethnicity data. The samples were amended to include valid ethnicity codes and were re-submitted to the co-ordination centre.

## Missing or incorrect treatment centre data

Incorrect treatment centre data was provided in 3 samples submitted in 2015. Two trusts accidentally coded all 1250 of the patients in their sample with a ‘1’, instead of a ‘0’ (a ‘1’ code denotes that the patient had been admitted via a treatment centre – usually a fairly uncommon occurrence). One trust incorrectly marked their treatment centre admissions with a route of admission code of ‘99’ (an invalid route of admission code) and left these patients’ treatment centre admission code as ‘0’. This has been classed as one minor error as the invalid route of admission codes stemmed from the trust providing incorrect treatment centre data. In all three cases the sample files were amended to contain the correct information and re-submitted to the co-ordination centre.

## Main speciality miscoding

Three samples in 2015 contained incorrect main speciality coding. Two trusts had submitted samples that contained invalid main speciality codes. These invalid codes were 108 (amended to 110) and 307 (amended to 300). The other sample contained 70 records that had inaccurate coding (67 patients coded as 300 and 3 coded as 110 were amended to 430). These sample files were re-submitted to the co-ordination centre after amendments were made.

## Missing or incorrect ICD-10 chapter code data

For the first time, ICD-10 chapter code data was included in the 2015 survey. If this data was available, trusts were required to submit it for all of the patients in their sample. In total, three trusts submitted samples that contained minor errors relating to their ICD-10 chapter code data. One trust submitted a sample that was missing this data for some of the patients. Two trusts provided some ICD-10 chapter codes in an incorrect format (e.g. V11 instead of VII). The first trust re-submitted a file that contained ICD-10 chapter codes for all of the patients in their sample. The two trusts with the data in an incorrect format were required to amend their sample accordingly and re-submit their sample file to the co-ordination centre.

## Incorrect month of admission

One trust participating in the 2015 survey submitted a sample that contained an incorrect month of admission for one of the patients. This error led to the patient having a negative length of stay. The trust was required to amend their sample file to fix this issue and re-submit the sample file to the co-ordination centre.

## Insufficient sample size

Two trusts submitted samples that did not contain 1250 records, despite them being able to produce a large enough sample. One trust submitted a sample that only contained 1236 records and another submitted a sample of 1247 records. Both of these trusts had actually drawn a full sample of 1250, but had forgotten to include a small number of records by accident. These samples were amended to include the missing records and were re-submitted to the co-ordination centre.