

DATA CLEANING INSTRUCTION MANUAL FOR THE NHS ADULT INPATIENT SURVEY 2016

THE CO-ORDINATION CENTRE FOR THE
NHS PATIENT SURVEY PROGRAMME

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Updates

Before using this document, please check that you have the latest version, as small amendments are made from time to time (the date of the last update is on the front page). In the very unlikely event that there are any major changes, we will e-mail all trust contacts and contractors directly to inform them of the change.

This document is available from the Co-ordination Centre website at:

<http://www.nhssurveys.org/surveys/952>

Questions and comments

If you have any questions or concerns regarding this document, or if you have any specific queries regarding the submission of data, please contact the Co-ordination Centre using the details provided at the top of this page.

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1 Introduction

At the end of fieldwork for the NHS Adult Inpatient Survey 2016, participating trusts and contractors will be required to submit data to the Co-ordination Centre in a raw ('uncleaned') format. Once the Co-ordination Centre has received data from all participating trusts, the data must be cleaned. To ensure that the cleaning process is comparable across NHS trusts, data for all trusts in the survey are collated and cleaning is carried out on the full collated dataset.

This document provides a description and specification of the processes that will be used by the Co-ordination Centre to clean and standardise data submitted by contractors and trusts as part of the NHS Adult Inpatient Survey 2016. By following the instructions in this document, it should be possible to recreate this cleaning process.

If you have any comments or queries regarding this document please contact the Co-ordination Centre on 01865 208127, or e-mail us at ip.cc@pickereurope.ac.uk.

1.1 Scope of this cleaning guide

For the 2016 inpatient survey, all trusts have to submit the full 84 questions to the Co-ordination Centre; all cleaning undertaken by ourselves will include only this data.

1.2 Definition of key terms

Definitions of terms commonly used in this document, as they apply to the 2016 inpatient survey, are as follows:

Raw/uncleaned data: 'Raw' or 'uncleaned' data is data that has been entered verbatim from completed questionnaires without any editing taking place to remove contradictory or inappropriate responses; thus, all response boxes crossed on the questionnaire should be included in the data entry spreadsheet¹ (see Section 11 in the contractor instruction manual or Section 14 in the in-house trust instruction manual for details on data entry²). The requirement for raw/uncleaned data does not, however, preclude the checking of data for errors resulting from problems with data entry or similar. Ensuring high data quality is paramount and errors resulting from data entry problems can and should be corrected by checking against the appropriate completed questionnaire.

Data cleaning: The Co-ordination Centre uses the term 'data cleaning' to refer to all editing processes undertaken upon survey data once the survey has been completed and the data has been entered and collated.

Routing questions: These are items on the questionnaire which instruct respondents to either continue on to the next question or to skip past irrelevant questions depending on their response to

¹ Except where: a) multiple responses have been crossed - set these to missing (The exception to this is for any questions which ask respondents to 'Cross ALL boxes that apply', such as Q78 and Q79 where respondents may select more than one response option) b) year of birth has been entered in an incorrect format - if the patient's *intended* response is unambiguous from the questionnaire, then enter this. See Section 2 for more details on how data should be entered and coded.

² The contractor instruction manual is sent directly to all approved contractors by the Survey Co-ordination Centre. The in-house instruction manual can be found here: <http://www.nhssurveys.org/surveys/952>

the routing question. For the 2016 inpatient survey, the routing questions in the questionnaire are Q1, Q2, Q12, Q42, Q45, Q50, Q55, Q58, Q62, and Q78.

Filtered questions: Items on the questionnaire that are not intended to be answered by all respondents are referred to as filtered questions. Whether individual respondents are expected to answer filtered questions depends on their responses to preceding routing questions. For the 2016 inpatient survey, the filtered questions in the core questionnaire are Q2 – Q4¹, Q5 – Q8, Q13, Q43, Q46 – Q52², Q56 – Q57, Q59, Q63 – Q65 and Q79.

Non-filtered questions: These are items in the questionnaire which are not subject to any filtering and which should therefore be answered by all respondents. For the 2016 national inpatient survey, the non-filtered questions are Q1, Q9 – Q12, Q14 – Q42, Q44 – Q45, Q53 – Q55, Q58, Q60 – Q62, Q66 – Q78 and Q80 – Q84.

Out-of-range data: This refers to instances where data within a variable have values that are not permissible. For categorical data – as in the case of the majority of variables in this survey – this could be, for example, a value of ‘3’ being entered for a variable that has only two response options (1 or 2). For scalar data – e.g. year of birth – data are considered to be out-of-range if they specify a value that is not possible (for instance, year of birth as 983 or 2983). Out-of-range responses entered into the dataset should not be automatically (e.g. algorithmically) removed prior to submitting the data to the Co-ordination Centre (see [Section 2](#)).

Non-specific responses: This is a loose term for response options that can be considered as not being applicable to the respondent in terms of directly answering the specific question to which they are linked. Most commonly, these are responses such as “Don’t know / can’t remember”, which indicate a failure to recall the issue in question. Likewise, responses that indicate the question is not applicable to the respondent are considered ‘non-specific’ – for example, responses such as “I did not have any food” or “I did not use any bathrooms”. A full list of such responses for the 2016 inpatient survey can be found in Appendix B.

¹ The range Q2-Q4 includes an additional filter question within it – Q2.

² The range Q46-Q52 includes an additional filter question within it – Q50.

2 Entering and coding data prior to submission

For the 2016 inpatient survey, trusts and contractors are required to submit raw ('uncleaned') data to the Co-ordination Centre. For clarification, raw data is created as follows:

- i) All responses should be entered into the dataset, regardless of whether or not the respondent was meant to respond to the question (e.g. where patients answer questions that they have been directed to skip past, these responses should still be entered).
- ii) Where a respondent has selected more than one response category on a question, this question should be set to 'missing' for that person in the data (i.e. left blank, or coded as a full stop (.)). The exception to this is for the 'multiple response' questions (e.g. Q78 and Q79), where respondents may select more than one response option (see [Section 3.3](#) below for details about how to enter responses to these types of questions).
- iii) Where a respondent has crossed out a response, this should not be entered in the data (the response should be left blank, or coded as a full stop (.)). Where a respondent has crossed out a response and instead selected a second response option, the second choice should be entered into the data.
- iv) Where a respondent has given their response inconsistently with the formatting of the questionnaire but where their intended response is nonetheless unambiguous on inspection of the completed questionnaire, then the respondent's *intended* response should be entered. For example, where a patient has written their *date* of birth in the boxes for Q81 (What was your year of birth), but written their *year* of birth in at the side of this, then the respondent's year of birth should be entered.
- v) For the year of birth question (Q81), unrealistic responses should still be entered *except* following rule iv) above. For example, if a respondent enters '2016' in the year of birth box, this should still be entered unless the respondent has unambiguously indicated their actual year of birth to the side.
- vi) Once the data has been entered, no responses should be removed or changed in any way *except* where responses are known to have been entered incorrectly or where inspection of the questionnaire indicates that the patient's intended response has not been captured. This includes 'out-of-range' responses, which must not be *automatically* removed from the dataset. Responses in the dataset should only be changed before submission to the Co-ordination Centre where they are found to have been entered inconsistently with the respondent's intended response.

3 Editing/cleaning data after submission

3.1 Approach and rationale

The aim of the Co-ordination Centre in cleaning the data submitted to us is to ensure an optimal balance between data quality and completeness. Thus, we seek to remove responses that are known to be erroneous or inappropriate, but do this in a relatively permissive way so as to enable as many responses as possible to contribute to the overall survey results.

3.2 Dealing with filtered questions

Some of the questions included in the survey are only relevant to a subset of respondents; in these cases filter instructions are included in the questionnaire to route respondents past questions that are not applicable to them. For example, people who select “No” to Q55 (“On the day you left hospital, was your discharge delayed for any reason?”) are instructed to skip all further questions on delayed discharge (e.g. Q56 and Q57).

It is necessary to clean the data to remove responses where filter instructions have been incorrectly followed. In such cases, participants’ responses to questions that were not relevant to them are deleted from the dataset. Responses are only deleted where respondents have answered filtered questions despite selecting an earlier response on a routing question instructing them to skip these questions. For example, if a respondent selects “No” to Q55 (i.e. their discharge was not delayed), but then answers the two subsequent questions about delayed discharge.

Responses to filtered questions are not removed, however, where the response to the routing question is missing. For example, Q46-Q52 are applicable to those who had an operation or procedure and are filtered by their response to Q45 (e.g. they are answered if Q45=1 – the respondent did have an operation or procedure). If a respondent does not answer Q45, or if the response to Q45 is missing for any reason, then responses to Q46-Q52 should not be removed.

Figure 1, below, shows a summary of all routing questions, and the filtered questions they relate to, that are included in the 2016 inpatient survey. Please note that these instructions should be followed sequentially in order to be consistent with the procedures applied by the Co-ordination Centre.

Figure 1 – Cleaning instructions for filtered questions

ROUTING QUESTION	RESPONSE VALUES	FILTERED QUESTIONS
<i>if</i> Q1 = 2	<i>then delete responses to:</i>	Q2 – Q4
<i>if</i> Q2 = 1	<i>then delete responses to:</i>	Q5 – Q8
<i>if</i> Q2 = 2	<i>then delete responses to:</i>	Q3 – Q4
<i>if</i> Q12 = 1 OR 4	<i>then delete responses to:</i>	Q13
<i>if</i> Q42 = 2	<i>then delete responses to:</i>	Q43
<i>if</i> Q45 = 2	<i>then delete responses to:</i>	Q46 – Q52
<i>if</i> Q50 = 2	<i>then delete responses to:</i>	Q51
<i>if</i> Q55 = 2	<i>then delete responses to:</i>	Q56 – Q57
<i>if</i> Q58 = 3, 4 OR 5	<i>then delete responses to:</i>	Q59
<i>if</i> Q62 = 5	<i>then delete responses to:</i>	Q63 – Q65
	<i>see specific instructions</i>	
<i>if</i> Q78 = 7	<i>below</i>	

Please note that the instructions in the above table should be followed sequentially in the order shown above.

Please note that Q1 (which asks respondents whether their hospital stay was planned in advance or an emergency) should not be considered a routing question in the traditional sense. For example, responses to Q5-Q8 (the questions on planned admissions) must not be automatically removed if Q1=1 (i.e. the respondent indicates their hospital stay was an emergency or urgent). This is due to the fact that although patients responding “emergency or urgent” to Q1 are identifying themselves as emergency admissions, they may subsequently report *not* going to an Emergency Department as part of their admission (i.e. Q2=2) and in such cases will be instructed in the questionnaire to go to Q5. Thus not all respondents selecting 1 (‘Emergency or urgent’) for Q1 will be expected to skip Q5-Q8.

A worked example of the cleaning process for removing unexpected responses to filtered questions is included in Appendix A.

3.3 Dealing with multiple response questions

For most questions, each column corresponds to one survey question. However, there are some exceptions to this rule. For multiple response questions (Q78 and Q79) that give the instruction 'Cross all that apply', each response option is treated as a separate question.

The following section explains how the Co-ordination Centre will clean the multiple response data. **Please note that uncleaned data must be submitted to the Co-ordination Centre** (i.e. as the data are presented in the "BEFORE CLEANING" examples on pages 8-10).

Please note the cleaning process for these questions has been updated for the inpatient 2016 survey and is not the same as for previous patient surveys.

Example

Q78. Do you have any of the following long-standing conditions? (**Cross ALL boxes that apply**)

- 1 Deafness or severe hearing impairment
- 2 Blindness or partially sighted
- 3 A long-standing physical condition
- 4 A learning disability
- 5 A mental health condition
- 6 A long-standing illness, such as cancer, HIV, diabetes, chronic heart disease or epilepsy
- 7 No, I do not have a long-standing condition

Responses to each part of this question are coded: **1 if the box is crossed**
0 if the box is not crossed¹

Q78 takes up seven columns in the data file, labelled as follows:

Column headings	Q78_1	Q78_2	Q78_3	Q78_4	Q78_5	Q78_6	Q78_7
Codings for this example	1	0	0	0	1	0	0

However, the last response to each of these questions is an exclusive option – respondents should not have selected Q78_7 ('I do not have a long-standing condition') as well as any of Q78_1-6. If this is the case, the cleaning of Q78 takes into account the response to Q79 when deciding which options to retain, as detailed below.

- When a respondent has crossed **any of options Q78_1-6 as well as Q78_7**:
 - o If they **have also crossed any of Q79_1-7 and have crossed Q79_8** then Q78_1-7 and Q79_1-8 (i.e. all responses to Q78 & Q79) are removed (set to blank or full stop), because it is unclear which options are most likely to be correct for the respondent.
 - o If they **have also crossed any of Q79_1-7** then Q78_7 is recoded to 0 (and options question Q78_1-6 remain as selected by the respondent), because their response to question Q79 suggests they do in fact have a long-standing condition.
 - o If they **have not crossed any of Q79_1-7 and have not crossed Q79_8** then Q78_1-6 are recoded to 0 (and option 78_7 remains crossed), because their lack of response to question 79 suggests that they have correctly followed the routing from Q78_7, and therefore do not have a long-standing condition.
 - o If they **have not crossed any of Q79_1-7 and have crossed Q79_8** then Q78_1-7 and Q79_1-8 (i.e. all responses to Q78 & Q79) are removed (set to blank or full stop), because it is unclear which options are most likely to be correct for the respondent.

Similarly, a respondent should not have selected Q79_8 (*'No difficulty with any of these'*) as well as any of Q79_1-7, and in these cases the cleaning of Q79 takes into account responses to Q78, as detailed below.

- When a respondent has crossed any of options **Q79_1-7 as well as Q79_8**:
 - o If they **have also crossed any of Q78_1-6** then Q79_8 is recoded to 0 (and options Q78_1-6 remain as selected by the respondent), because their response to question Q78 indicates that they do have a long-standing condition and therefore their question Q79 responses of difficulties caused are likely to be correct.
 - o If they **have not crossed any of Q78_1-6** then all responses to Q79_1-8 are removed (set to blank or full stop), as the respondent should not have completed this filtered question.

After the above cleaning has taken place:

- If only Q78_7 is selected, any responses to Q79_1-8 are removed (set to blank or full stop), as respondents who do not have a long-standing condition should not have answered Q78.
- If any of Q78_1-6 are selected and no response has been given to Q79, then Q79_1-8 are set to missing (blank or a full stop), as Q79 should have been answered by all respondents who selected at least one of Q78_1-6.
- If no responses have been given to Q78, Q78_1-7 are set to missing and Q79_1-8 are removed (set to blank or full stop), as Q79 is a filtered question which should only have been answered by respondents selecting at least one of Q78_1-6.

Several examples of the cleaning undertaken for questions 78 and 79 are provided below.

Example 1

Q78. Do you have any of the following long-standing conditions? (**Cross ALL boxes that apply**)

- 1 Deafness or severe hearing impairment
- 2 Blindness or partially sighted
- 3 A long-standing physical condition
- 4 A learning disability
- 5 A mental health condition
- 6 A long-standing illness, such as cancer, HIV, diabetes, chronic heart disease, or epilepsy
- 7 No, I do not have a long-standing condition

Q79. Does this condition(s) cause you difficulty with any of the following? (**Cross ALL boxes that apply**)

- 1 Everyday activities that people your age can usually do
- 2 At work, in education or training
- 3 Access to buildings, streets or vehicles
- 4 Reading or writing
- 5 People's attitudes to you because of your condition
- 6 Communicating, mixing with others, or socialising
- 7 Any other activity
- 8 No difficulty with any of these

BEFORE CLEANING:

Q78 is coded as follows:

Column headings	Q78_1	Q78_2	Q78_3	Q78_4	Q78_5	Q78_6	Q78_7
Coding for this example	1	0	0	0	1	0	1

Q79 is coded as follows:

Column headings	Q79_1	Q79_2	Q79_3	Q79_4	Q79_5	Q79_6	Q79_7	Q79_8
Coding for this example	0	1	0	0	0	1	0	0

AFTER CLEANING:

Q78 is coded as follows:

Column headings	Q78_1	Q78_2	Q78_3	Q78_4	Q78_5	Q78_6	Q78_7
Coding for this example	1	0	0	0	1	0	0

Q79 is coded as follows:

Column headings	Q79_1	Q79_2	Q79_3	Q79_4	Q79_5	Q79_6	Q79_7	Q79_8
Coding for this example	0	1	0	0	0	1	0	0

When the data are cleaned, the response to Q78_7 is removed (set to blank or full stop), because their response to question Q79 suggests they do in fact have a long-standing condition.

Example 2

Q78. Do you have any of the following long-standing conditions? (**Cross ALL boxes that apply**)

- 1 Deafness or severe hearing impairment
- 2 Blindness or partially sighted
- 3 A long-standing physical condition
- 4 A learning disability
- 5 A mental health condition
- 6 A long-standing illness, such as cancer, HIV, diabetes, chronic heart disease, or epilepsy
- 7 No, I do not have a long-standing condition

Q79. Does this condition(s) cause you difficulty with any of the following? (**Cross ALL boxes that apply**)

- 1 Everyday activities that people your age can usually do
- 2 At work, in education or training
- 3 Access to buildings, streets or vehicles
- 4 Reading or writing
- 5 People's attitudes to you because of your condition
- 6 Communicating, mixing with others, or socialising
- 7 Any other activity
- 8 No difficulty with any of these

BEFORE CLEANING:

Q78 is coded as follows:

Column headings	Q78_1	Q78_2	Q78_3	Q78_4	Q78_5	Q78_6	Q78_7
Coding for this example	1	0	0	0	1	0	1

Q79 is coded as follows:

Column headings	Q79_1	Q79_2	Q79_3	Q79_4	Q79_5	Q79_6	Q79_7	Q79_8
Coding for this example	0	0	0	0	0	0	0	1

AFTER CLEANING:

Q78 is coded as follows:

Column headings	Q78_1	Q78_2	Q78_3	Q78_4	Q78_5	Q78_6	Q78_7
Coding for this example

Q79 is coded as follows:

Column headings	Q79_1	Q79_2	Q79_3	Q79_4	Q79_5	Q79_6	Q79_7	Q79_8
Coding for this example

When the data are cleaned, the responses to Q78_1-7 and Q79_1-8 (i.e. all responses to Q78 & Q79) are removed (set to blank or full stop), as the respondent selected some of Q78_1-6, as well as Q78_7, and the only option selected in Q79 was Q79_8, which means it is unclear which response options are most likely to be correct for the respondent.

Example 3

Q78. Do you have any of the following long-standing conditions? (**Cross ALL boxes that apply**)

- 1 Deafness or severe hearing impairment
- 2 Blindness or partially sighted
- 3 A long-standing physical condition
- 4 A learning disability
- 5 A mental health condition
- 6 A long-standing illness, such as cancer, HIV, diabetes, chronic heart disease, or epilepsy
- 7 No, I do not have a long-standing condition

Q79. Does this condition(s) cause you difficulty with any of the following? (**Cross ALL boxes that apply**)

- 1 Everyday activities that people your age can usually do
- 2 At work, in education or training
- 3 Access to buildings, streets or vehicles
- 4 Reading or writing
- 5 People's attitudes to you because of your condition
- 6 Communicating, mixing with others, or socialising
- 7 Any other activity
- 8 No difficulty with any of these

BEFORE CLEANING:

Q78 is coded as follows:

Column headings	Q78_1	Q78_2	Q78_3	Q78_4	Q78_5	Q78_6	Q78_7
Coding for this example	0	0	0	0	0	0	1

Q79 is coded as follows:

Column headings	Q79_1	Q79_2	Q79_3	Q79_4	Q79_5	Q79_6	Q79_7	Q79_8
Coding for this example	0	1	0	0	1	0	0	1

AFTER CLEANING:

Q78 is coded as follows:

Column headings	Q78_1	Q78_2	Q78_3	Q78_4	Q78_5	Q78_6	Q78_7
Coding for this example	0	0	0	0	0	0	1

Q79 is coded as follows:

Column headings	Q79_1	Q79_2	Q79_3	Q79_4	Q79_5	Q79_6	Q79_7	Q79_8
Coding for this example

When the data are cleaned, the responses to Q79 are removed (set to blank or full stop) as the respondent indicated they do not have a long-standing condition and therefore should not have completed Q79.

3.4 Dealing with demographics

Basic demographic information, including age, sex, and ethnicity of patients is included in the sample section of the data, but the 'About You' section at the end of the questionnaire also asks respondents to provide this information. In a minority of cases, the information provided from the sample frame does not correspond with that provided by the respondent themselves – for example, the sample data may identify an individual as male only for them to report being female (e.g. Q80=2).

Because of this, and because questions about demographics tend to produce relatively high item non-response rates, it is not appropriate to rely on either source of data alone for any kind of sub-group analyses (for example, if you wanted to examine the response to particular question by age, or ethnic group). Where responses to demographic questions are present, it is assumed these are more likely to be accurate than sample frame information (since it is assumed that respondents are best placed to know their own sex, age, and ethnic group). Where responses to demographic questions are missing, however, sample data are used in their place¹. To do this, we first copy all valid responses to survey demographic questions into a new variable. Where responses are missing we then copy in the relevant sample information (note that for a very small number of patients demographic information may be missing in both the sample and response sections; in such cases data must necessarily be left missing in the new variable).

Certain demographic variables require special consideration during data cleaning:

Age (Q81)

A common error when completing the year of birth question is for respondents to accidentally write in the current year. Such responses will be set to missing during cleaning. Out-of-range responses will also be set to missing². For the 2016 national inpatient survey, out-of range responses are defined as $Q81 \leq 1896$ or $Q81 \geq 2016$.

3.5 Usability and eligibility

Sometimes questionnaires are returned with only a very small number of questions completed. For the 2016 inpatient survey, questionnaires where fewer than five questions have been answered are considered 'unusable'. In such cases, the responses to the few questions that have been answered will be deleted and the outcome codes will be changed from a code of 1 ('returned usable questionnaire') to a code of 6 ('questionnaire not returned'). Please note that the number of responses per questionnaire is counted after all other cleaning³. This process should only affect a very limited number of cases and so should not have a significant impact on response rates.

¹ The exception to this is when response rates are calculated. Because response rates vary between demographic groups (for instance young males are less likely to respond to the survey than other individuals), using response and sample data to calculate response rates would create a systematic source of bias in that we are only able to amend information for the *respondents*. Therefore, only the sample information should be used to calculate response rates by demographic groups.

² The majority of out-of range responses present in data relating to year of birth questions result from errors in data entry (for example, not keying one of the digits – so '1985' may become 985, 185, 195, or 198). In such cases it is important that the responses be checked against the completed questionnaire forms, and data corrected if necessary, **prior** to submission of data to the Co-ordination Centre.

³ Please note that the multiple choice questions, Q78 and Q79 are each counted only once. So for example, even if Q78_1 and Q78_4 are crossed, this would count as only one response for the purpose of determining if a questionnaire is usable.

Outcome codes for respondents will also be changed if respondents are believed to be under the age of sixteen and therefore ineligible for participation. Since the sample files for the survey are checked by the Co-ordination Centre prior to mailing, this is unlikely to affect more than a handful of cases throughout the survey, as patients coded as being aged under 16 will be identified and removed from the sample before the start of the survey. However, in situations where sample information on a respondent's year of birth is missing in the final data file and their response to Q81 indicates that they are under 16 (specifically, if Q81>2000) then the outcome code for that patient should be recoded from 1 ('returned completed questionnaire') to 5 ('ineligible for participation in the survey'). If data on an individual's year of birth is missing from the sampling frame, but their response to Q81 indicates the respondent is over 16, outcome codes should remain as 1. If sample information indicates a patient is aged 16 or over, but this is contradicted by the patient's response, then the patient's survey outcome should also remain as 1. This is to avoid removing legitimate responses because of an overly conservative approach to assessing eligibility; in other words, where the patient's age is uncertain (because sample and response information contradict each other, and in different instances either of these may be accurate or inaccurate) the benefit of the doubt is given in any assessment of eligibility.

3.6 Missing responses

It is useful to be able to see the number of respondents who have missed each question for whatever reason. Responses are considered to be missing when a respondent is expected to answer a question but no response is present. For non-filtered questions, responses are expected from all respondents – thus any instance of missing data constitutes a missing response. For filtered questions, only respondents who have answered a previous routing question instructing them to go on to that filtered question or set of filtered questions are expected to give answers. Where respondents to the survey have missed a routing question, they are not expected to answer subsequent 'filtered' questions; thus only where respondents were explicitly instructed to answer filtered questions should such blank cells be coded as missing responses.

The Co-ordination Centre codes missing responses in the data with the value 999¹. For results to be consistent with those produced by the Co-ordination Centre, missing responses should be presented, but should not be included in the base number of respondents for percentages.

The Co-ordination Centre will suppress results at both national and trust level for questions that have fewer than 30 respondents.

3.7 Non-specific responses

As well as excluding missing responses from results, the Co-ordination Centre also removes non-specific responses from base numbers for percentages. The rationale for this is to facilitate easy comparison between institutions by presenting only results from those patients who felt able to give an evaluative response to questions. For Q74, when multiple numbers have been selected (i.e. multicode) or selected a non-integer (i.e. circled between two numbers) this should be coded as 98. For a full listing of 'non-specific' responses in the 2016 national inpatient survey, please see Appendix B.

¹ This is an arbitrary value chosen because it is 'out-of-range' for all other questions on the survey.

Appendix A: Example of cleaning

Incorrectly followed routing

Figure 2, below, shows hypothetical raw/uncleaned data for eight sample members, five of whom have responded to the survey (Outcome = 1).

Figure 2 – Example ‘raw’/‘uncleaned’ data

Record	Outcome	Q1	Q2	Q3	Q4
Patient Record Number	Outcome of sending questionnaire (N)	Was your most recent hospital stay planned in advance or an emergency?	When you arrived at the hospital, did you go to the A&E Department (the Emergency Department / Casualty / Medical or Surgical Admissions Unit)?	While you were in the A&E Department, how much information about your condition or treatment was given to you?	Were you given enough privacy when being examined or treated in the A&E Department?
IP16...0001	6				
IP16...0002	1	2	.	.	.
IP16...0003	1	1	1	1	2
IP16...0004	4				
IP16...0005	1	2	2	.	.
IP16...0006	6				
IP16...0007	1	2	1	2	1
IP16...0008	1	3	2	1	1

It can be seen from the data shown in Figure 2 that some of the respondents have followed filter instructions from routing questions incorrectly:

Respondents ‘IP16...0005’ and ‘IP16...0007’ have reported that their admission to hospital was planned or from a waiting list (Q1=2), but have both responded to subsequent filtered questions which are only applicable to emergency patients (respondent 5 has answered the first filtered question (Q2) before skipping the remaining questions, whilst respondent 7 has answered Q2, Q3, and Q4).

By following the cleaning instructions detailed above in Section 3.2, these inappropriate responses will be removed. Firstly, the filter instructions listed in Figure 1 specify that:

<i>if</i>	Q1 = 2	<i>then delete responses to:</i>	Q2 – Q4
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In accordance with this, all responses for Q2, Q3, and Q4 must be removed in cases where the respondent has crossed Q1=2 (‘waiting list or planned in advance’). Looking in column Q1 of Figure 2 we can see that three respondents, ‘IP16...0002’, ‘IP16...0005’ and ‘IP16...0007’, have responded Q1=2, so any responses they gave to Q2, Q3 and Q4 need to be removed. This will lead to one response being removed for respondent 5 (Q2) and three responses being removed for respondent ‘7’ (Q2, Q3, and Q4).

Figure 3 (below) shows how the data would look following cleaning by the Co-ordination Centre to remove responses to filtered questions that should have been skipped (shaded cells represent cases where responses have been removed).

Figure 3 – Example cleaned data

Record	Outcome	Q1	Q2	Q3	Q4
Patient Record Number	Outcome of sending questionnaire (N)	Was your most recent hospital stay planned in advance or an emergency?	When you arrived at the hospital, did you go to the A&E Department (the Emergency Department / Casualty / Medical or Surgical Admissions Unit)?	While you were in the A&E Department, how much information about your condition or treatment was given to you?	Were you given enough privacy when being examined or treated in the A&E Department?
IP16...0001	6				
IP16...0002	1	2	.	.	.
IP16...0003	1	1	1	1	2
IP16...0004	4				
IP16...0005	1	2	.	.	.
IP16...0006	6				
IP16...0007	1	2	.	.	.
IP16...0008	1	3	2	1	1

Appendix B: Non-specific responses

The following table lists all 'non-specific responses' included in the 2016 inpatient survey. Numbers in the final column indicate the response options that should be considered non-specific. Where the 'non-specific responses' column contains only a dash, the relevant question has no such response options.

CORE	Question	Non-specific responses
Q1	Was your most recent hospital stay planned in advance or an emergency?	-
Q2	When you arrived at the hospital, did you go to the A&E Department (the Emergency Department / Casualty / Medical or Surgical Admissions unit)?	-
Q3	While you were in the A&E Department, how much information about your condition or treatment was given to you?	5
Q4	Were you given enough privacy when being examined or treated in the A&E Department?	4
Q5	When you were referred to see a specialist, were you offered a choice of hospital for your first hospital appointment ?	4
Q6	How do you feel about the length of time you were on the waiting list before your admission to hospital?	-
Q7	Was your admission date changed by the hospital?	-
Q8	In your opinion, had the specialist you saw in hospital been given all of the necessary information about your condition or illness from the person who referred you?	4
Q9	From the time you arrived at the hospital, did you feel that you had to wait a long time to get to a bed on a ward?	-
Q10	While in hospital, did you ever stay in a critical care area (Intensive Care Unit, High Dependency Unit or Coronary Care Unit)?	3
Q11	When you were first admitted to a bed on a ward, did you share a sleeping area, for example a room or bay, with patients of the opposite sex?	-
Q12	During your stay in hospital, how many wards did you stay in?	4
Q13	After you moved to another ward (or wards), did you ever share a sleeping area, for example a room or bay, with patients of the opposite sex?	-
Q14	While staying in the hospital, did you ever use the same bathroom or shower area as patients of the opposite sex?	4, 5
Q15	Were you ever bothered by noise at night from other patients ?	-
Q16	Were you ever bothered by noise at night from hospital staff ?	-
Q17	In your opinion, how clean was the hospital room or ward that you were in?	-
Q18	How clean were the toilets and bathrooms that you used in hospital?	5
Q19	Did you feel threatened during your stay in hospital by other patients or visitors?	-
Q20	Did you get enough help from staff to wash or keep yourself clean?	4
Q21	If you brought your own medication with you to hospital, were you able to take it when you needed to?	4, 5
Q22	How would you rate the hospital food?	5
Q23	Were you offered a choice of food?	-
Q24	Did you get enough help from staff to eat your meals?	4

CORE	Question	Non-specific responses
Q25	When you had important questions to ask a doctor, did you get answers that you could understand?	4
Q26	Did you have confidence and trust in the doctors treating you?	-
Q27	Did doctors talk in front of you as if you weren't there?	-
Q28	When you had important questions to ask a nurse, did you get answers that you could understand?	4
Q29	Did you have confidence and trust in the nurses treating you?	-
Q30	Did nurses talk in front of you as if you weren't there?	-
Q31	In your opinion, were there enough nurses on duty to care for you in hospital?	-
Q32	Did you know which nurse was in charge of looking after you? (this would have been a different person after each shift change)	-
Q33	In your opinion, did the members of staff caring for you work well together?	4
Q34	Sometimes in a hospital, a member of staff will say one thing and another will say something quite different. Did this happen to you?	-
Q35	Were you involved as much as you wanted to be in decisions about your care and treatment?	-
Q36	Did you have confidence in the decisions made about your condition or treatment?	-
Q37	How much information about your condition or treatment was given to you ?	-
Q38	Did you find someone on the hospital staff to talk to about your worries and fears?	4
Q39	Do you feel you got enough emotional support from hospital staff during your stay?	4
Q40	Were you given enough privacy when discussing your condition or treatment?	-
Q41	Were you given enough privacy when being examined or treated?	-
Q42	Were you ever in any pain?	-
Q43	Do you think the hospital staff did everything they could to help control your pain?	-
Q44	How many minutes after you used the call button did it usually take before you got the help you needed?	6
Q45	During your stay in hospital, did you have an operation or procedure?	-
Q46	Beforehand, did a member of staff explain the risks and benefits of the operation or procedure in a way you could understand?	4
Q47	Beforehand, did a member of staff explain what would be done during the operation or procedure?	4
Q48	Beforehand, did a member of staff answer your questions about the operation or procedure in a way you could understand?	4
Q49	Beforehand, were you told how you could expect to feel after you had the operation or procedure?	-
Q50	Before the operation or procedure, were you given an anaesthetic or medication to put you to sleep or control your pain?	-
Q51	Before the operation or procedure, did the anaesthetist or another member of staff explain how he or she would put you to sleep or control your pain in a way you could understand?	-
Q52	After the operation or procedure, did a member of staff explain how the operation or procedure had gone in a way you could understand?	-

CORE	Question	Non-specific responses
Q53	Did you feel you were involved in decisions about your discharge from hospital?	4
Q54	Were you given enough notice about when you were going to be discharged?	-
Q55	On the day you left hospital, was your discharge delayed for any reason?	-
Q56	What was the MAIN reason for the delay?	-
Q57	How long was the delay?	-
Q58	Where did you go after leaving hospital?	-
Q59	After leaving hospital, did you get enough support from health or social care professionals to help you recover and manage your condition?	4
Q60	When you left hospital, did you know what would happen next with your care?	4
Q61	Before you left hospital, were you given any written or printed information about what you should or should not do after leaving hospital?	-
Q62	Did a member of staff explain the purpose of the medicines you were to take at home in a way you could understand?	4,5
Q63	Did a member of staff tell you about medication side effects to watch for when you went home?	4
Q64	Were you told how to take your medication in a way you could understand?	4
Q65	Were you given clear written or printed information about your medicines?	4, 5
Q66	Did a member of staff tell you about any danger signals you should watch for after you went home?	4
Q67	Did hospital staff take your family or home situation into account when planning your discharge?	4, 5
Q68	Did the doctors or nurses give your family or someone close to you all the information they needed to help care for you?	4, 5
Q69	Did hospital staff tell you who to contact if you were worried about your condition or treatment after you left hospital?	3
Q70	Did hospital staff discuss with you whether you would need any additional equipment in your home, or any adaptations made to your home, after leaving hospital?	3
Q71	Did hospital staff discuss with you whether you may need any further health or social care services after leaving hospital? (e.g. services from a GP, physiotherapist or community nurse, or assistance from social services or the voluntary sector)	3
Q72	Overall, did you feel you were treated with respect and dignity while you were in the hospital?	-
Q73	During your time in hospital did you feel well looked after by hospital staff?	-
Q74	Overall...	98
Q75	During your hospital stay, were you ever asked to give your views on the quality of your care?	3
Q76	Did you see, or were you given, any information explaining how to complain to the hospital about the care you received?	3
Q77	Who was the main person or people that filled in this questionnaire?	-
Q78_1	I have a long-standing condition involving deafness or severe hearing impairment	-

CORE	Question	Non-specific responses
Q78_2	I have a long-standing condition involving blindness or partial sight	-
Q78_3	I have a long-standing physical condition	-
Q78_4	I have a long-standing condition involving a learning disability	-
Q78_5	I have a long-standing mental health condition	-
Q78_6	I have a long-standing condition involving an illness such as cancer, HIV, diabetes, CHD, or epilepsy	-
Q78_7	I do not have a long-standing condition	-
Q79_1	This condition causes me difficulty with everyday activities that people of my age can usually do	-
Q79_2	This condition causes me difficulty at work, in education, or training	-
Q79_3	This condition causes me difficulty with access to buildings, streets, or vehicles	-
Q79_4	This condition causes me difficulty with reading or writing	-
Q79_5	This condition causes me difficulty with people's attitudes to me because of my condition	-
Q79_6	This condition causes me difficulty with communicating, mixing with others, or socialising	-
Q79_7	This condition causes me difficulty with other activities	-
Q79_8	This condition does not cause me difficulty with any of these	-
Q80	Are you male or female?	-
Q81	What was your year of birth?	-
Q82	What is your religion?	-
Q83	Which of the following best describes how you think of yourself?	-
Q84	What is your ethnic group?	-