

# GUIDANCE ON DATA CLEANING FOR THE 2014 NATIONAL HEAR AND TREAT AMBULANCE SURVEY

THE CO-ORDINATION CENTRE FOR THE  
NHS SURVEYS PROGRAMME



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## Updates

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

[www.NHSSurveys.org/surveys/773](http://www.NHSSurveys.org/surveys/773)

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# 1 The 2012 Hear and Treat Survey – data cleaning

## 1.1 Introduction

Once fieldwork for the national 2014 Hear and Treat Ambulance Survey was completed, the fieldwork agency, TNS-BMRB, was required to submit data to the Co-ordination Centre in a **raw ('uncleaned')** format. Following this, data for all trusts were cleaned together to ensure that data pertaining to different trusts are comparable.

This document provides a description and specification of the processes that the Co-ordination Centre used to clean and standardise data.

If you have any comments or queries regarding this document, please contact the Co-ordination Centre on **01865 208 127** or e-mail us at [ambulance.data@pickereurope.ac.uk](mailto:ambulance.data@pickereurope.ac.uk).

## 1.2 Definitions

Definitions of terms commonly used in this document, as they apply to the national 2014 Hear and Treat survey, are as follows:

**Raw/uncleaned data:** Raw or 'uncleaned' data is data that has been entered verbatim from completed telephone interviews without any editing to remove contradictory or inappropriate responses. This survey received very few of these inappropriate or contradictory responses, as the survey was conducted as a computer assisted telephone interview (CATI) with strict programming to ensure only correct response data could be entered into the computer.

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

**Routing questions:** These are items in the interview which the interviewer will either prompt the interviewer to continue on to the next question or to skip past irrelevant questions, depending on their response to the routing question. For the national 2014 Hear and Treat survey, the routing questions in the core questionnaire are **NumbAmb, InfoGivenCT, CallbackTA, AwareCallbackTA, KnowledgeTA, Outcome, AgreeAdv, FollowAdv, Contact** and **LTConc**.

**Filtered questions:** Items on the questionnaire that are not intended to be answered by all respondents are referred to as 'filtered' questions. Whether or not individual respondents are expected to answer filtered questions depends on their responses to preceding routing questions. For the national 2014 Hear and Treat survey, the filtered questions in the core questionnaire are **InfoGivenCT, InforFollowCT, AwareCallbackTA, WaitCallbackTA, ExplainTA, TimeCallback, MindRepeatTA, UnderstandAdv, AgreeAdv, ExplainAdv, FollowAdv, WhyNotFollow, ContCT, WhoCont, WhichRef, ContactRef, ExplainAmb, OverDignity**. It is also important to know that all questions in the **Second Person** section are filtered by how people respond to **NumberAmb**.

**Out-of-range data:** This refers to instances where data within a variable has a value that is not permissible. For categorical data, this would mean a value not allowed in the data for example, a value of '3' being entered in a variable with only two response categories (1 or 2). For scalar data such as year of birth, data is considered to be out-of-range if it specifies a value that is not possible (for instance, year of birth as 983 or 2983). **Again, these data did not appear in this survey**

**because it was impossible for the interviewers to enter out of range data into the computer during the interview.**

**Non-specific response:** This is a loose term for response options that do not directly answer 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 need advice*' or '*I did not want discuss this*'. A full list of such responses for the 2014 Hear and Treat survey can be found in

### 3 [Appendix B: Non-specific responses](#)'.

## 2 Editing/cleaning data by the Co-ordination Centre

### 2.1 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, to enable as many responses as possible to contribute to the overall survey results.

### 2.2 Cleaning conducted by TNS-BMRB

This survey did not require data cleaning around routing questions or filter questions. When TNS-BMRB programmed the questionnaire they made sure that data could not be entered inappropriately. For instance only certain questions would even appear to the interviewer depending on the routing questions, meaning it was impossible for them to ask a question that should not have been asked.

Similarly there was no cleaning needed for out of range data because TNS-BMRB had programmed the CATI such that only in-range data could be entered into the computer. It is important to note that this applies to all questions, not just routing and filter questions.

TNS-BMRB also made sure that no interviews were conducted with service users under age 18.

## Example

### 2.3 Dealing with demographics

Basic demographic information, including age and sex of service users are 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 this survey the only demographic information used was from response data. It is assumed this is more likely to be accurate than sample frame information (since it is assumed that respondents are best placed to know their own sex and age)<sup>1</sup>. Sample data was not thought to be robust enough to stand in where there was a lack of response data.

### 2.4 Usability and eligibility

Sometimes respondents only answer a very few number of questions during the interview. For the 2014 Hear and Treat survey, data for service users who responded to five or fewer questions cleaned out, meaning we deleted all responses pertaining to such cases. Please note that the number of responses per questionnaire will be counted after all other cleaning, and that all responses remaining at this stage will be counted (including responses to the demographic questions<sup>2</sup>). This should only affect a very limited number of cases and so should not have a significant impact on response rates.

### 2.5 Missing responses

It is useful to be able to see the numbers of missing responses to each question. 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 999<sup>3</sup>.

### 2.6 Non-specific responses

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<sup>1</sup> Please note that respondents were asked their age at the beginning of the interview. If the respondent said that they were under the age of eighteen, they could not participate in the survey further and the interview was terminated.

<sup>3</sup> This is an arbitrary value chosen because it is out-of-range for all questions on the survey.

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 services by presenting only results from those patients who felt able to give an evaluative response to questions. For a full listing of non-specific responses in the national 2014 Hear and Treat survey, please see

### 3 Appendix B: Non-specific responses.



### 3 Appendix B: Non-specific responses

The following table lists all 'non-specific responses' included in the national 2014 Hear and Treat survey. Where the 'non-specific responses' column contains only a dash, the relevant question has no such response options.

Number	Question Name	Question	Non-Specific Response codes
Q1	Dispatch	Did an operator ask which emergency service you required?	3
Q2	NumberAmb	How many people in total did you speak to at the ambulance service? Remember, this does not include the operator who put your call through to the ambulance service.	4
Q3	Patient_TP	Did you call '999' for yourself?	4
	Advise	Who advised you to call '999'?	-
Q5_1		My local doctor's surgery	-

Number	Question Name	Question	Non-Specific Response codes
Q5_2		An out of hours GP service	-
Q5_3		NHS Direct/ NHS 111	-
Q5_4		A walk in centre	-
Q5_5		A hospital or hospital department	-
Q5_6		Another health professional or service	-
Q5_7		No one advised you	-
Q5_8		Don't know	2
Q6	SvceTime	How long before you called '999' did you contact [NAME OF SERVICE CONTACTED]?	7
Q7	NoPersCheck	At the start of the survey, you said you spoke to [1/2/more than 2 person/people] not including the operator who put you through to the ambulance service. Is that correct?	-
Q8	ListenCT	Did they listen to what you had to say?	4
Q12	FearsCT	Did you have the opportunity to discuss any fears or anxieties with the [first] person you spoke with?	4, 5
Q13	ReassureCT	Was the [first] person you spoke with reassuring?	4
Q14	ConfCT	Did you have confidence in the first person you spoke with?	4
Q15	DignityCT	Were you treated with dignity and respect by the first person you spoke with?	4
Q16	ApprQnsCT	In your opinion do you think the [first] person asked an appropriate number of questions?	4
Q17	QnRelevant	Did you feel that the questions the [first] person asked were relevant to your situation?	4
Q19	UnderstandingCT	Did you feel that the first person you spoke to understood what you were telling them?	4
Q20	InfoGivenCT	Did the first person tell you what to do if the situation changed?	3
Q21	InfoFollowCT	Were you able to understand the instructions given?	4, 5
Q22	CallBackTA	Thinking about the second person you spoke to, did they .....	3
Q23	AwareCallBackTA	Were you told you would receive a call back?	4
Q24	WaitCallBackTA	Were you told what to do while you waited for the call back?	4
Q25	ExplianTimeCallBack	Were you told when you would be called back?	4
Q26	TimeCallBackTA	After you finished your initial 999 call, approximately how long did you have to wait before you received a call back from the second person?	6
Q27	FeelCallBackTA	Which of the following best describes how you feel about the length of time you waited before someone called you back?	5
Q28	ExplainTA	Did the ambulance service explain why an ambulance would not be sent on this occasion?	4
Q29	AgreeTA	Did you agree with the decision not to send an ambulance?	4
Q30	KnowledgeTA	Did you need to repeat your reason for calling '999' to the second person you spoke to?	4
Q31	MindRepeatTA	Did you mind having to repeat yourself?	4
Q32	ListenTA	Did the second person you spoke to at the ambulance service listen to what you had to say?	4

Number	Question Name	Question	Non-Specific Response codes
Q36	FearsTA	Did you have the opportunity to discuss any fears or anxieties with the second person you spoke with?	4, 5
Q38	ReassureTA	Was the second person you spoke with reassuring?	4
Q37	ConfTA	Did you have confidence in the second person you spoke with?	4
Q39	DignityTA	Were you treated with dignity and respect by the second person you spoke with?	4
	Outcome	What happened at the end of your call with the ambulance service? (MULTIPLE RESPONSE SET)	
Q40_1		An ambulance crew or paramedic came	-
Q40_2		The ambulance service arranged an appointment with another health professional	-
Q40_3		You were advised to see another health professional/ organisation	-
Q40_4		You were given advice on how to care for yourself/ the person you were calling for	-
Q40_5		You were reassured the concern was not life threatening	-
Q40_6		Other	-
		Don't know	2
Q41	UnderstandAdvice	Did you understand the advice given at the end of your call with the ambulance service?	4
Q42	AgreeAdvice	Did you agree with the advice given?	4
Q43	ExplainAdv	Did the ambulance service explain the reason for this advice?	4
Q44	FollowAdvice	Was it possible to follow the advice given?	4, 5, 6
Q45_1	WhyNotFollow	Why was it not possible to follow the advice [completely]?	-
Q46	Contact	Was another health professional contacted within 48 hours about the same condition?	3, 4
	WhoCont	Which health professional was contacted? (INTERVIEWER: Whom else?)	
Q47_1		Ambulance service via 999	-
Q47_2		A GP at your local surgery	-
Q47_3		An out of hours GP or other out of hours service	-
Q47_4		NHS 111/ NHS Direct	-
Q47_5		Hospital including accident & emergency services	-
Q47_6		Community care services	-
Q47_7		Some other health professional	-
Q47_8		Don't know	2
	WhichRef	Which service did the ambulance service advise seeing/arrange an appointment with?	
Q48_1		A GP at your local doctor's surgery	-
Q48_2		An out of hours service e.g. GP	-
Q48_3		Hospital including accident & emergency services	-
Q48_4		Community care services	-
Q48_5		Another health professional	-
Q48_6		Some other service	-
Q48_7		Don't know	2
Q48_8		A GP at your local doctor's surgery	-
Q49	ContactRef	Did the ambulance service make contact with this service?	4

Number	Question Name	Question	Non-Specific Response codes
Q50	ExplainAmb	Did the ambulance service explain why an ambulance would not be sent on this occasion?	4
Q51	Agree	Did you agree with the decision not to send an ambulance?	4
Q52	ContactAS	How many times, if at all, did you re-contact the ambulance service regarding this specific condition in the seven days following your call?	5
Q53	OverDignity	Overall, did you feel you were treated with respect and dignity by the ambulance service?	4
Q53A	Overall	If you had questions to ask ambulance staff did you have the opportunity to ask them	3, 4
Q54	OverKind	Overall, were you treated with kindness and understanding by the ambulance service?	4
Q55	OverallExp	On a scale of 0 to 10 where 0 is 'I had a very poor experience' and 10 is 'I had a very good experience', how was your overall experience with the ambulance service?	12
Q56	Sex	INTERVIEWER CODE SEX OF RESPONDENT	-
Q57	Birth	What is your year of birth?	-
	LTCond	Do you have any of the following long-standing conditions?	
Q58_1		Deafness or severe hearing impairment	-
Q58_2		Blindness or partially sighted	-
Q58_3		A long-standing physical condition	-
Q58_4		A learning disability	-
Q58_5		A mental health condition	-
Q58_6		A long-standing illness, such as cancer, HIV, diabetes, chronic heart disease, or epilepsy	-
Q58_7		None, you do not have a long-standing condition	-
	DiffCond	Does this condition cause you difficulty with any of the following?	-
Q59_1		Everyday activities that people your age can usually do	-
Q59_2		At work, in education or training	-
Q59_3		Access to buildings, streets or vehicles	-
Q59_4		Reading or writing	-
Q59_5		People's attitudes to you because of your condition	-
Q59_6		Communicating, mixing with others or socialising	-
Q59_7		Any other activity	-
Q59_8		No difficulty with any of these	-
Q59_9		Don't know	2