

# How good is HES ethnic coding and where do the problems lie?

**Revised for the  
2009-2010 HES Data Year**

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## How good is HES ethnic coding and where do the problems lie?

The collection of ethnic data in Hospital Episodes Statistics (HES) is seen as an important duty by both the Department of Health (DH) and the Care Quality Commission (CQC). The mandatory collection of ethnic category data has been part of the Admitted Patient Care Commissioning Dataset (APCDS) and Hospital Episode Statistics (HES) central returns since 1995. The collection of ethnic category within the A&E and Outpatients CDS types is now mandatory from the 2010-11 data year when submitting patient data into the Secondary Uses Service (SUS).

The national standard for collecting ethnic category is already in existence, based on the 2001 Office for National Statistics (ONS) census categories. This became the national mandatory standard for the central submission of Ethnic Category in April 2001, replacing the previous classification of Ethnic Group.

The standard is included in the NHS Data Dictionary and is defined as 'the ethnicity of a person, as specified by the person'. Its purpose is to enable analysis of patient activity by Ethnic Category.

All NHS organisations are expected to collect and then use good quality data for ethnic monitoring. This monitoring should include all inpatient, outpatient and A&E activity.

This is required to enable them to:

- Demonstrate that they are compliant with the Race Relations (Amendment) Act 2000 which places a statutory duty on NHS organisations to promote race equality;
- Support the allocation of resources and develop policies relating to equality issues;
- Meet the needs of DH standards through a systematic programme of health equity audit and equality impact assessment;
- Highlight possible inequalities; investigate the underlying causes; and remove any unfairness or disadvantage;
- Identify risk factors - some groups are more at risk of specific diseases and some group have specific care needs so ethnic group data can help treat patients and support service users by alerting staff to high-risk groups;
- Improve public health by making sure that services are reaching local communities and are delivering services fairly to everyone who needs them;
- Ensure under-represented groups receive services that are relevant to their needs and that are provided fairly; and,
- Implement the recommendations made in the Final Report of the Equalities Review published in February 2007.

The CQC previously emphasised that service planning and delivery must be appropriate for the needs of local communities to reduce barriers to healthcare. Data should be used to monitor if there are unequal outcomes between different ethnic groups and public authorities have a statutory obligation to promote greater equality and to prevent direct and indirect discrimination. In addition to providing crucial information to support individualised patient care which takes account of the different risks of disease and the cultural appropriateness of services, good quality data on patient ethnicity are essential at a population level for service planning and to monitor progress on health inequalities across ethnic groups.

On 8<sup>th</sup> July 2010, The Coalition Government told the CQC to halt its annual review of health service organisations. The regulator had planned to publish results of an updated version of the annual health check, covering 2009-10 performance, in autumn 2010 – which would have included an analysis of trusts' recording of ethnic category. However, the CQC will instead just issue trusts' scores on a range of performance measures for 2009-10. This is part of the move from process measures to outcomes.

As a result of this change in legislation, the CQC is moving from publishing inspection reports and quality ratings to a system of continuous assessment of compliance with the essential standards. The CQC are no longer assessing against the 85% ethnic coding target.

However, as ethnic category remains a mandatory item that must be recorded and submitted by trusts (as per requirements in the NHS Data Dictionary) the quality of completion of the data field is still of high importance. Several NHS trusts are using a target of 90% to assist them in improving the quality of the recording of patient ethnicity codes.

This report, which analyses HES admitted patient care (APC) England statistics for the years 2004-05 to 2009-10, aims to provide an insight into the progress being made within the NHS and Independent Healthcare Providers (IHP) to correctly capture this valuable patient information of ethnic category.

## Ethnic Codes

Ethnic Codes were first introduced from the 1995-1996 data year; they contain details of which ethnic group a patient belongs to. From April 2001, the codes were amended to conform to the 2001 census classification. However, HES continued to accept the old codes as well as the new codes for the 2001-2002 and 2002-2003 data years.

Table 1: Ethnic codes used in HES records

From 1995-96 to 2000-01	From: 2001-02 onwards
0 = White	A = British (White)
1 = Black – Caribbean	B = Irish (White)
2 = Black – African	C = Any other White background
3 = Black – Other	D = White and Black Caribbean (Mixed)
4 = Indian	E = White and Black African (Mixed)
5 = Pakistani	F = White and Asian (Mixed)
6 = Bangladeshi	G = Any other Mixed background
7 = Chinese	H = Indian (Asian or Asian British)
8 = Any other ethnic group	J = Pakistani (Asian or Asian British)
9 = Not given	K = Bangladeshi (Asian or Asian British)
X = Not known	L = Any other Asian background
	M = Caribbean (Black or Black British)
	N = African (Black or Black British)
	P = Any other Black background
	R = Chinese (other ethnic group)
	S = Any other ethnic group
	Z = Not stated
	X = Not known

## Ethnic Coding in HES: 2004-05 to 2009-10

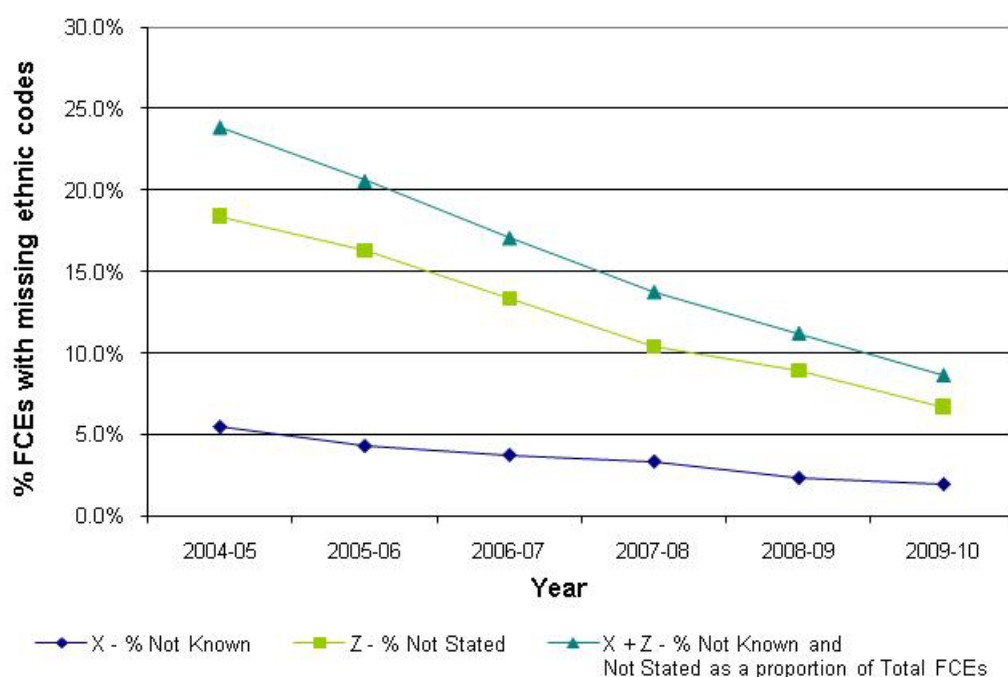
The overall percentage of Finished Consultant Episodes (FCEs) with ethnic category recorded as 'Not known' or 'Not stated' has been declining steadily between the 2004-05 data year and the 2009-10 data year. This is illustrated in Figure 1 (below):

The latest APC statistics available from HES for the 2009-10<sup>1</sup> data year show that there has been a continuing sharp decline in the number of FCEs where the ethnic code of patients has not been recorded. In 2009-10, a total of 323,508 records were 'Not known' while a total of 1,129,575 were 'Not stated' by patients. This compares to the 2004-05 data year when 752,648 records were 'Not known' while a total of 2,521,587 records were 'Not stated' by patients.

This demonstrates that NHS trusts' and primary care trusts' (PCTs) compliance with the ethnic code requirement is continuing to improve and it is hoped that this encouraging trend will continue in the 2010-11, 2011-12 data years and beyond.

The 'Not known' (X) field is derived from invalid or blank ethnic code values. It makes up a small proportion of missing cases (between 1.9% and 5.5%). While the 'Not stated' category (Z) makes up a far larger, though slowly declining proportion. In the 2004-05 data year, 18.4% of FCEs did not have the ethnic code stated, but by 2009-10 this proportion had fallen to just 6.7%.

**Figure 1: Missing ethnic codes across data years (excluding births)**



<sup>1</sup> The analysis has been derived using the following fields from HES: Provider Code, Ethnic Category and Ethnic Description, Finished Consultant Episode's flag, and the Ungrossed Total Number of Finished Consultant Episodes. The FCE was given the condition of 'Y' (Finished). Both birth episodes and other birth events have been excluded from this analysis. Episode status has been set as Finished before the end of the HES Data Year.

Notes: The 2009-10 data year is the last one for which finalised HES data is available (Source - Hospital Episode Statistics, Published 28/10/2010).

The national code of Z "Not stated" means that the person had been asked and had declined either refusing to provide this information, or a genuine inability to choose. 'Not known' is used where the patient had not been asked or the patient was not in a condition to be asked, e.g. unconscious.

The total proportion of FCEs where the ethnic code is recorded as 'Not known' or 'Not stated' declined from 23.9% in the 2004-05 data year to 8.6% in the 2009-10 data year. This means that for the 2009-10 data year, ethnicity data is being populated with a valid value in 91.4% of cases.

Overall, trusts' compliance with the requirement to complete the ethnic code has improved markedly, even as the number of FCEs has risen from 13.7 million in 2004-05 to 16.8 million in 2009-10. This demonstrates that NHS trusts and Primary Care Trusts (PCTs) are striving to complete the ethnic code in far greater numbers of cases and therefore meet the previous requirements of both the Department of Health and the Care Quality Commission.

## **Analysis of the 2009-10 data year**

Analyses have been performed to determine any trends in the percentages of missing ethnic codes by Trust/PCT and by age groups, admission method, patient classification and main specialty groupings at a national level. The analyses involved examining 16.8 million FCEs of care for the 2009-10 data year.

For the purpose of these analyses birth episodes (epitype = 3 and epitype = 6) were excluded because the mandatory requirement to collect and record ethnic category does not currently extend to newborn babies, i.e. birth episodes.

## **Trusts, PCTs, Independent Healthcare Providers, Care Trusts and Hospices**

For the 2009-10 data year there were 219 Trusts, 78 PCTs, 15 Independent Healthcare Providers, 8 Care Trusts and hospices supplying HES data:

- For the 78 PCTs 12.0% of FCEs have missing ethnic codes, made up of 3.6% 'Not known' and 8.3% 'Not stated'
- For the 219 Trusts 8.4% of FCEs have missing ethnic codes, consisting of 1.9% 'Not known' and 6.5% 'Not stated'
- For the 15 Independent Healthcare Providers 23.6% of FCEs have missing ethnic codes, consisting of 1.2% 'Not known' and 22.4% 'Not stated'
- For the Care Trusts and Hospices 3.2% of FCEs had the ethnic code recorded as 'Not known' (1.7%) or 'Not stated' (1.5%)

Figure 2 below illustrates the distribution of Organisations by the percentage of FCEs with missing ethnic codes, in the 2009-10 data year:

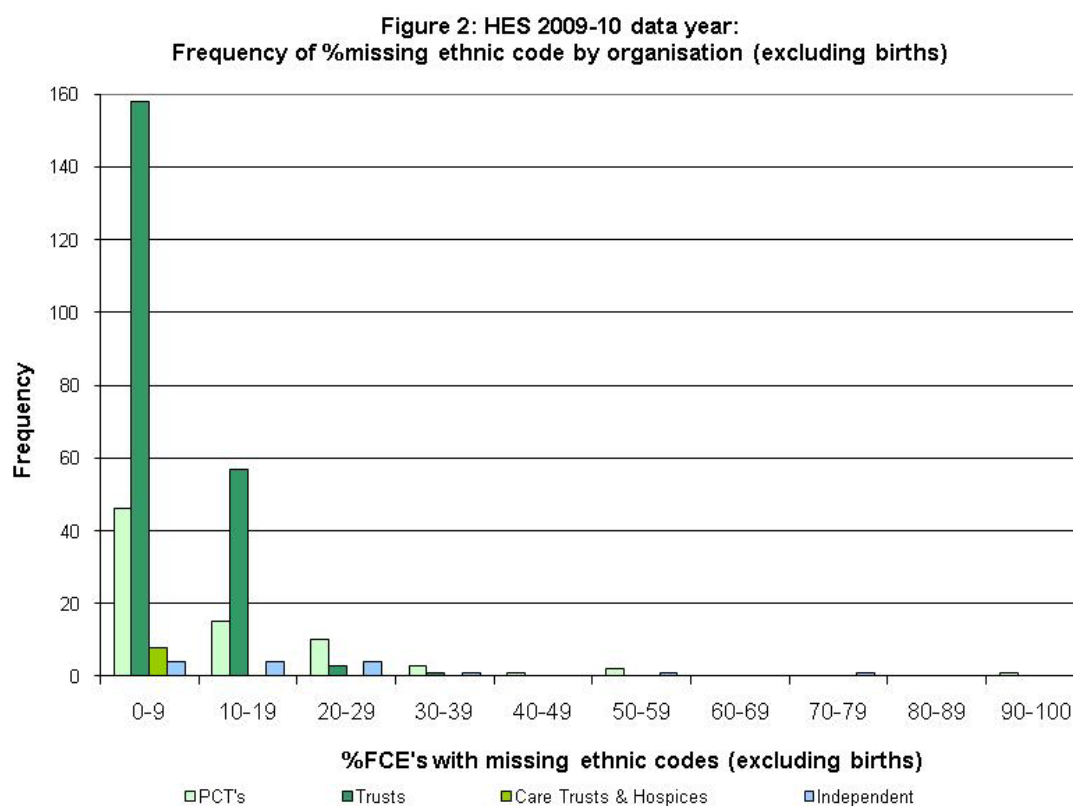


Table 2 – 2009-10 Data Year – Analysis of Missing Ethnic Codes by Trust/PCT/Independent Providers and Care Trusts						
Type of Organisation	Total FCEs	Not Known	Not Known %	Not Stated	Not Stated %	Total Not Known or Not Stated
NHS Trusts	16,347,807	312,089	1.9%	1,060,877	6.5%	8.4%
Primary Care Trusts (PCTs)	237,269	8,636	3.6%	19,719	8.3%	12.0%
Independent Providers	217,746	2,588	1.2%	48,809	22.4%	23.6%
Care Trusts and Hospices	11,565	195	1.7%	170	1.5%	3.2%
<b>Total – All Organisations</b>	<b>16,814,387</b>	<b>323,508</b>	<b>1.9%</b>	<b>1,129,575</b>	<b>6.7%</b>	<b>8.6%</b>

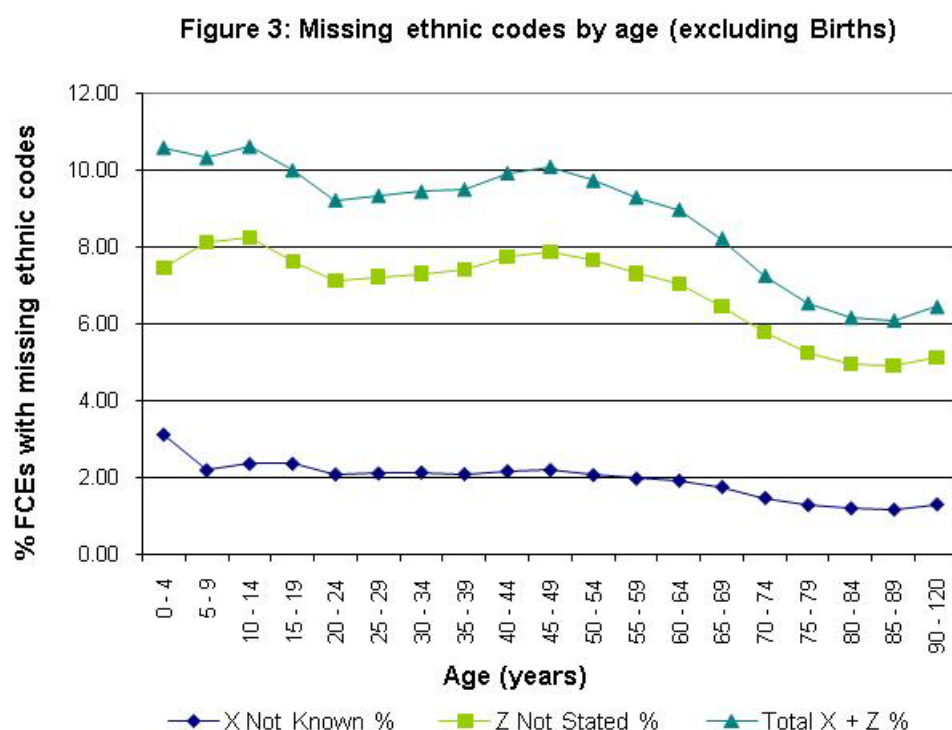
## Analysis

- A total of 219 NHS Trusts in England submitted data into HES in the 2009-10 data year and a total of 8.4% of all FCEs (1.3 million) had the ethnic code missing
- The figures show a substantial improvement compared to the 2002-03 data year - the base year of the previous analysis of ethnicity codes, where 29% of PCTs and 15% of NHS Trusts had ethnic codes missing from less than 10% of their FCEs

Source: Hospital Episode Statistics, 2009-10 England, Published 28<sup>th</sup> October 2010

## Age group

Figure 3 (below) shows an analysis of missing ethnic codes by age (excluding births)



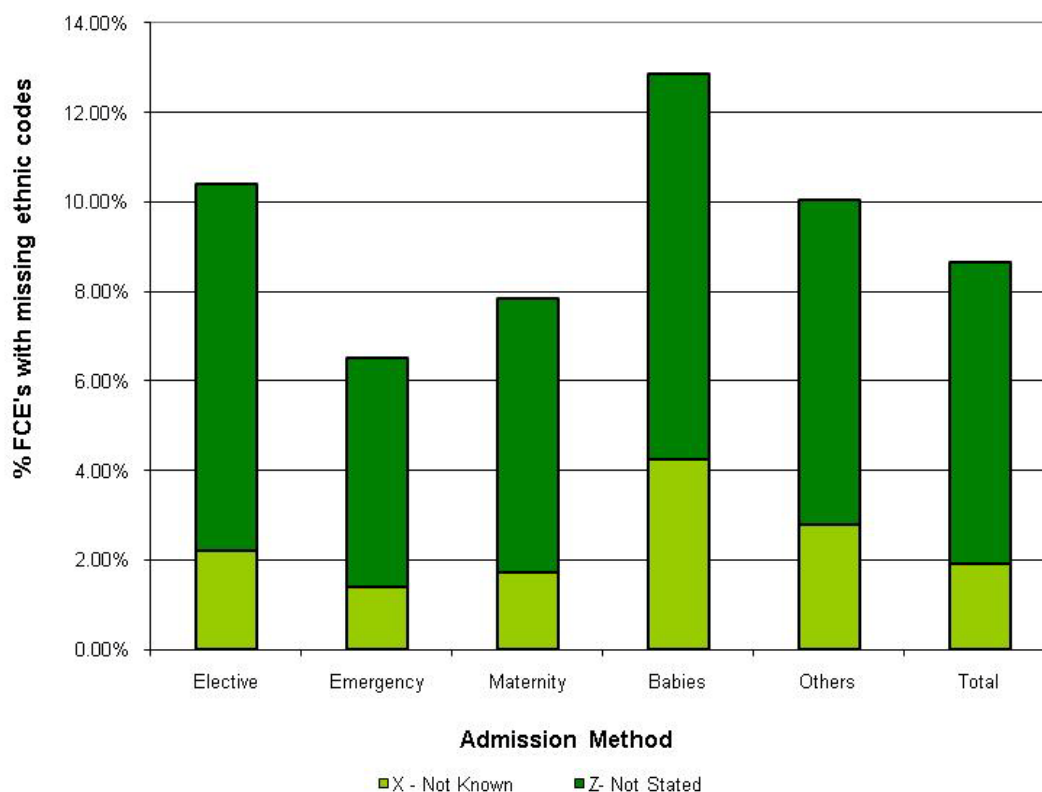
Looking at different age groups in the national 2009-10 data:

- The age group '0-19' has the largest number of FCEs where the ethnic code is either 'Not known' or 'Not stated'. The average is 10.4% of all FCEs for these age categories
- This falls to 9.2% in the '20-24' age group
- The percentage of FCEs with missing ethnic codes remain within the range 9.0% to 10.1% for the eight age groups covering '24-64' year olds
- The age group with the lowest percentage of missing ethnic codes (6.1%) is the '85-89' year old category; this then increases to 6.4% for the '90+' age group



## Admission Method

Figure 4: Missing ethnic codes by admission method (excluding babies)



## Analysis of 2009-10 Admission Method

The admission methods for 'Babies'<sup>2</sup> have the highest proportion of FCEs with missing ethnic codes; this amounts to 12.9% (4.3% are 'Not known' and 8.6% are 'Not stated').

Birth episodes and other birth events have both been excluded from the analysis.

Elective admissions have 10.4% of FCEs where the ethnic code is recorded as either 'Not stated' or 'Not known'.

Maternity has 7.9% of ethnic codes 'Not known' or 'Not stated' and emergency admissions have 6.5% of ethnic codes either 'Not known' or 'Not stated'.

The percentage of FCEs with ethnic codes recorded as 'Not known' (X) was between 1.4% and 4.3% for all admission methods. The percentage of FCEs where ethnicity was 'Not stated' (Z) was between 5.1% and 8.6%.

<sup>2</sup> The admission method 'Babies' is classified in HES as "Admimeth":

82 = Other: babies born in health care provider

83 = Other: babies born outside the health care provider, except when born at home as intended

Source: <http://www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=571&dirID=110591>

## Patient Classification

Figure 5: Missing Ethnic Codes by Patient Classification in the 2009-10 data year

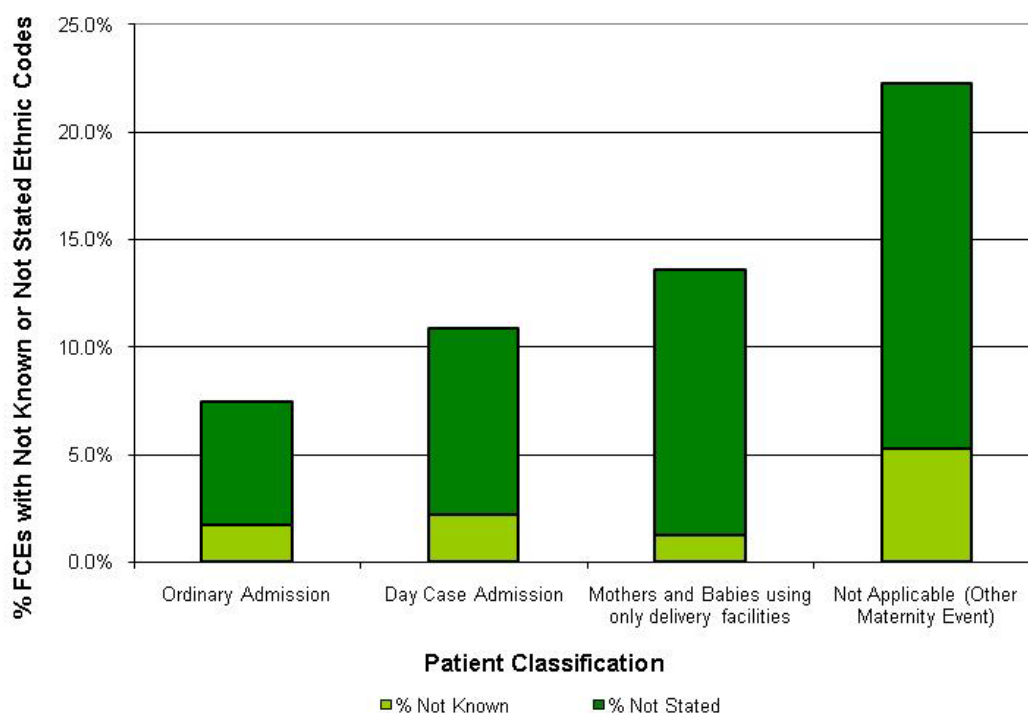


Figure 5 (above) shows that day case admissions have a higher percentage of FCEs with missing ethnic codes (10.9%) than ordinary admissions (7.5%). Mothers and babies using only delivery facilities had the second highest percentage of FCEs with missing ethnic codes (13.6%).

Patient classification 'Not applicable (Other Maternity event)' has the highest percentage of FCEs with missing ethnic codes (22.3%); for this category 1,389 (17.0%) FCEs were 'Not stated' (Z).

Table 3. – 'Not Known' or 'Not Stated' Ethnic Codes by Patient Classification

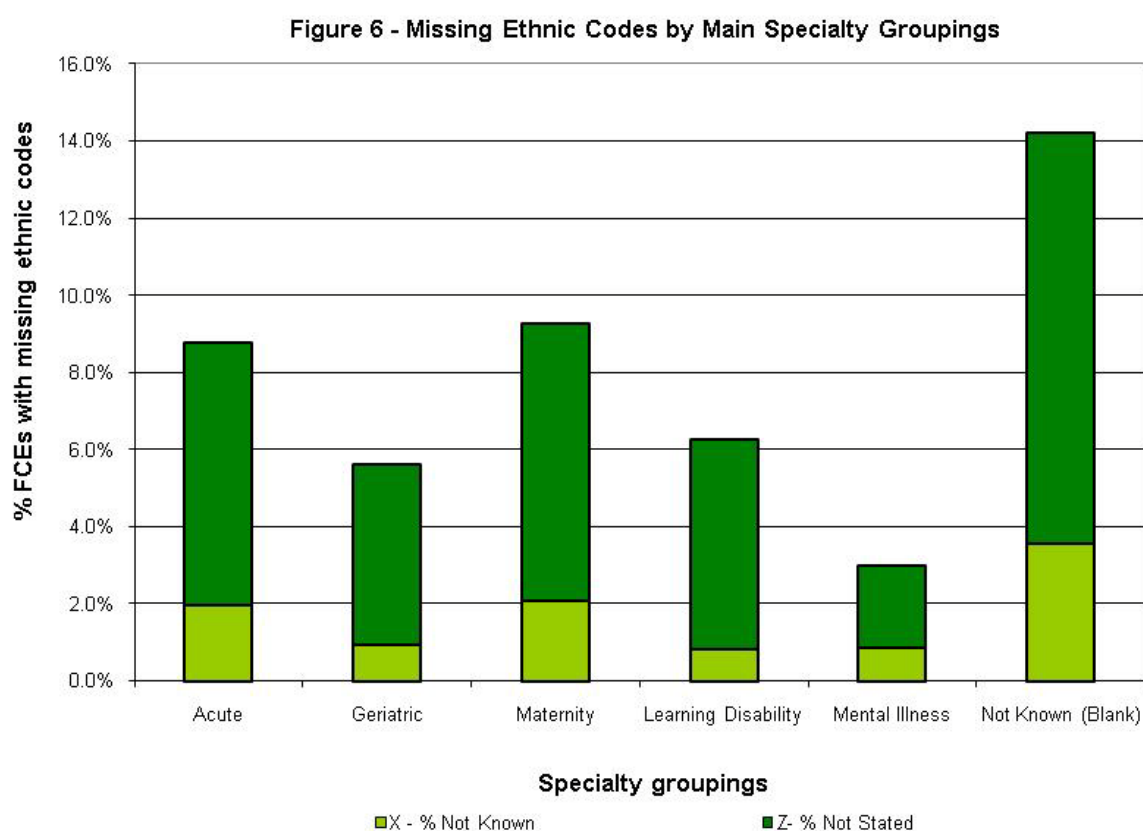
Patient Classification	% Not Known	% Not Stated
Ordinary Admission	1.8	5.7
Day Case Admission	2.3	8.6
Mothers and Babies using only delivery facilities	1.3	12.3
Not Applicable (Other Maternity Event)	5.3	17.0

## Main Specialty groupings (excluding births)

Figure 6 (below) shows that those FCEs with a 'Not known' specialty code are the most likely to have poor ethnic coding; over 14.2% of this category have missing ethnic codes.

Maternity specialties have the second highest proportion of missing ethnic codes (9.4%) followed by the Acute specialty (8.8%). A total of 1.29 million FCEs in the Acute Specialty grouping had the ethnic category recorded as 'Not known' or 'Not stated'. This compares to the Maternity Specialty which although it has the second highest proportion, only 102,206 FCEs had missing ethnic codes. The specialty grouping with the lowest proportion of missing ethnic codes is Mental Illness (3.0%).

The figures for Acute and Maternity demonstrate that there is still substantial scope for improvement in the recording of ethnic category.



The 10 individual specialties (not grouped) with the highest national proportion of missing ethnic codes is given in Table 4 (below):

Table 4: Top 10 Missing ethnic codes by main specialty	
Ranking	Main specialty and % of records missing codes
1	Clinical Neuro-physiology (28.6%)
2	Allied Health Professional Episode (27.0%)
3	Restorative Dentistry (24.5%)
4	Medical Ophthalmology (23.2%)
5	Dental Medicine Specialties (21.4%)
6	Prosthodontics (21.1%)
7	Orthodontics (17.2%)
8	Oral & Maxillo Facial Surgery (16.6%)
9	Tropical Medicine (16.5%)
10	Paediatric Cardiology (15.6%)

### **Analysis of Highest 30 NHS Trusts and Independent Organisations vs. Lowest 30 NHS Trusts and Independent Organisations – 2009-10 data year**

The 30 NHS Trusts and Independent organisations with the highest and lowest percentage of FCEs with missing ethnic data, in the 2009-10 data year, were analysed further. Overall, there are wide variations in the percentage of ethnic codes recorded, for FCEs, between the top and bottom 30 NHS trusts and independent organisations in England.

The top 30 organisations had between 0.0% and 0.5% ethnic codes either 'Not stated' or 'Not known'. In comparison the bottom 30 organisations had between 19.9% and 100.0% ethnic codes either 'Not stated' or 'Not known', with an average of 25.2%. However this is a significant improvement on an equivalent analysis completed on the 2007-08 data year; then the average was 52.9% and in the 2002-03 data year the average was 90.0%.

In line with the previous 2007-08 analysis and the 2002-03 analyses (the years that previous Ethnic Coding reports have been completed) there continues to be difficulties in collecting ethnic codes for children. For the 0-14 year old age group, a total of 148,361 FCEs had ethnic codes 'Not stated' and there were 56,398 FCEs where ethnic codes were 'Not known' for the same age group.

Several organisations were successful in recording all ethnic group of '0-4' year olds, while a small number of other NHS Trusts failed to record any ethnic codes in this category. Therefore there remains the potential to further improve the completeness of the ethnic code field.

## Future Developments

In April 2009, the Department of Health mandated the collection and central submission of ethnic category information for patients attending NHS accident and emergency (A&E) departments and outpatient departments.

For A&E, Ethnic Category is now required to be completed (from Commissioning Data Set version 6.1 onwards). See the following link for further details:

[http://www.datadictionary.nhs.uk/data\\_dictionary/messages/cds\\_v6/data\\_sets/cds\\_v6\\_type\\_010\\_details\\_fr.asp?shownav=1](http://www.datadictionary.nhs.uk/data_dictionary/messages/cds_v6/data_sets/cds_v6_type_010_details_fr.asp?shownav=1)

For Outpatients, Ethnic Category is now required to be completed (from Commissioning Data Set version 6.1 onwards). See the following link for further details:

[http://www.datadictionary.nhs.uk/data\\_dictionary/messages/cds\\_v6/data\\_sets/cds\\_v6\\_type\\_020\\_details\\_fr.asp?shownav=1](http://www.datadictionary.nhs.uk/data_dictionary/messages/cds_v6/data_sets/cds_v6_type_020_details_fr.asp?shownav=1)

These changes will require ethnic category information to be added to the 'Outpatient Commissioning Data Set (CDS) Type' and 'Accident and Emergency CDS Type'. It is anticipated that Ethnic Category will be collected or validated at the first contact in Outpatients and the value submitted on future CDS records for follow-up attendances.

Ethnic category has been changed to a mandatory item in '010 – Accident and Emergency Attendance CDS Type' and '020 – Outpatient Attendance CDS Type'. It is expected that any outpatient activity for which a CDS record is provided, whether consultant-led or provided by allied health professionals, will report the patient's ethnic category.

From November 2010, ethnic category is displayed in HES for A&E and Outpatient records.

## Further Information on Ethnic Category

1. Department of Health Guidance on the collection of Ethnic Category data:

[http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/Browsable/DH\\_4116839](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/Browsable/DH_4116839)

2. Details of the ethnic codes can be found on page 12 of the following document:

[http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/Browsable/DH\\_4005955](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/Browsable/DH_4005955)

3. The full constructions of the previous ethnic code indicator, for each trust type, can be found on the Care Quality Commissions website

<http://www.cqc.org.uk/guidanceforprofessionals/healthcare/nhsstaff/annualhealthcheck2008/09/qualityofservices/existingcommitmentsandnationalpriorities.cfm>

**Rationale** - In order to monitor the reduction of health inequalities related to ethnic diversity, it is essential that data sources used for this purpose include adequate information on ethnic group.

<http://www.cqc.org.uk/periodicreview/nationalcommitmentsandpriorities2009/10/primarycaretrusts/nationalcommitments/ethniccodingdataquality.cfm>

The indicator excludes birth episodes and other birth events (episode types 3 and 6). For further details on the ethnic categories please see the data set change notice (DSCN) 21/2004:

<http://www.isb.nhs.uk/documents/dscn/dscn2004/212004.pdf>

4. Previous ethnic code monitoring: Thresholds shall be applied to the ethnic code data to determine trusts' level of performance. The thresholds for the data quality on ethnic group performance indicator have been published and are available on the following Care Quality Commission website

<http://www.cqc.org.uk/guidanceforprofessionals/healthcare/nhsstaff/annualhealthcheck2008/09/qualityofservices/existingcommitmentsandnationalpriorities.cfm>

5. In June 2008, Data Set Change Notice 11 (DSCN 11) – on the collection of Ethnic Category Data - was published. The document is available for download from the Information Standards Board (ISB) website

<http://www.isb.nhs.uk/documents/dscn/dscn2008/dataset/112008.pdf>

6. NHS Data Dictionary, Accident & Emergency Commissioning Data Set:

[http://www.datadictionary.nhs.uk/data\\_dictionary/messages/cds\\_v6/data\\_sets/cds\\_v6\\_type\\_010\\_fr.asp?shownav=1](http://www.datadictionary.nhs.uk/data_dictionary/messages/cds_v6/data_sets/cds_v6_type_010_fr.asp?shownav=1)

7. NHS Data Dictionary, Outpatient Commissioning Data Set

[http://www.datadictionary.nhs.uk/data\\_dictionary/messages/cds\\_v6/data\\_sets/cds\\_v6\\_type\\_020\\_fr.asp?shownav=1](http://www.datadictionary.nhs.uk/data_dictionary/messages/cds_v6/data_sets/cds_v6_type_020_fr.asp?shownav=1)

8. NHS Data Dictionary, APC Commissioning Data Set

[http://www.datadictionary.nhs.uk/data\\_dictionary/messages/cds\\_v6/data\\_sets/cds\\_v6\\_type\\_130\\_fr.asp?shownav=1](http://www.datadictionary.nhs.uk/data_dictionary/messages/cds_v6/data_sets/cds_v6_type_130_fr.asp?shownav=1)

9. CQC Press Release:

[http://www.cqc.org.uk/newsandevents/newstories.cfm?FaArea1=customwidgets.content\\_view\\_1&cid=36599](http://www.cqc.org.uk/newsandevents/newstories.cfm?FaArea1=customwidgets.content_view_1&cid=36599)

Source: Hospital Episode Statistics HES (Admitted Patient Care) England 2009-10

<http://www.ic.nhs.uk/pubs/hes0910>