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HOSPITAL EPISODE STATISTICS

NHS
The Information Centre
for health and social care

Accident and Emergency Attendances in England (Experimental Statistics) 2009-10

19 January 2011

Contents

Executive summary

This is the third publication of the accident and emergency (A&E) attendance data within Hospital Episode Statistics (HES). It covers the period from April 2009 to March 2010 and draws on nearly 15.6 million detailed records of attendances at major A&E departments, single specialty A&E departments, walk-in centres and minor injury units in England.

These records provide a much wider variety of statistics about patterns of service use in A&E than is available from any other national data source. During the period covered by this report, not all A&E providers have completed data submissions and in some instances where it has been submitted, data quality is considered poor. However, there have been improvements from last year and we hope this will continue.

Publishing 2009-10 A&E HES data, as experimental statistics, enables:

- comparisons to be made with last year (2008-09)
- conclusions to be presented for discussion
- the uses of this potentially rich dataset to be promoted and highlighted
- information on data coverage and quality to be made available at a local level to encourage the continual coverage improvements in these areas, supported by engagement between The NHS Information Centre (The NHS IC) and NHS organisations
- the comparison of the dataset against other data sources, such as the Quarterly Monitoring of Accident and Emergency (QMAE) return, the official source of A&E information, to highlight areas for further investigation.

Key messages

- A&E HES data contains almost 15.6 million accident and emergency attendances from April 2009 to March 2010 at major A&E departments, single specialty A&E departments, walk-in centres and minor injury units in England.
- Data is incomplete; there are 15.1 million attendances reported in A&E HES (excluding planned follow-up appointments), compared to 20.5 million reported in Quarterly Monitoring of Accident and Emergency (QMAE) aggregate data for the equivalent period.
- There are 172 providers with attendances in A&E HES compared to 263 providers that have submitted A&E attendances via QMAE.
- Of the 91 providers that have no attendances showing under A&E HES data, 88 are primary care trusts (PCTs) and 3 are trusts.

Target audience

This document has been written primarily for those working in the NHS, to inform and support strategic and policy led processes for the benefit of patient care.

Background

A&E departments

The role of major accident and emergency (A&E) departments is to assess and treat patients who have serious and unforeseen injuries or illnesses. Major A&E departments are consultant led, open 24 hours a day and 365 days a year with full resuscitation facilities. Not all hospitals have an A&E department.

Once a patient arrives at an A&E department a doctor or nurse will assess their condition and decide on further action. A patient may have to wait on arrival at an A&E department before they are seen by either a doctor or nurse.

In addition to major A&E departments, single specialty A&E departments, walk-in centres and minor injury units are also covered by the A&E HES data. People can attend these services without an appointment. They deal with a range of minor injuries and illnesses.

Reporting of A&E data

A&E HES

A&E HES data consists of individual records of patient care that are held within the HES database. These have been submitted from local NHS providers' patient administration systems (PAS), via the Secondary Uses Service (SUS). SUS is a national data warehouse that has been delivered as part of the National Programme for IT.

Quarterly Monitoring of Accident and Emergency (QMAE)

The collection process used for A&E HES data is very different from the process used for collecting the other nationally published source of information on A&E activity, the Quarterly Monitoring of Accident and Emergency (QMAE) return. QMAE is based on counts made in local NHS organisations and submitted to the Department of Health in aggregate form.

Comparison between sources

These two different sources of A&E data complement each other. When information can be captured directly from NHS organisations' PAS it has the following advantages:

- There is a far wider set of data items available that can be aggregated in a variety of ways and so can be used to answer a much greater number of questions.
- Data can be linked, in a secure environment and with appropriate permissions, to other datasets, such as the admitted patient care (APC) HES dataset and the Office for National Statistics (ONS) mortality dataset. This enables much richer analysis and the potential to measure health outcomes. This linkage work is currently being carried out by The NHS IC. Chapter 5 of this report includes some initial findings from the A&E and APC linked data set.
- There is the potential to analyse tariff values using other data from SUS.
- NHS organisations capture this information in their own local systems and most use it for internal hospital management. In these cases, there is no additional burden on them in submitting A&E data, once their IT infrastructure is in place.

To realise these advantages fully, the quality and coverage of A&E HES data needs to be improved, with the support of providers throughout England.

Consequently, the QMAE aggregate data is still the official source of A&E information and should be used in preference to A&E HES for information that is held in both datasets.

Publishing the 2009-10 A&E HES data is a continuation from the last two years (2008-09 and 2007-08). Through presenting the data available from A&E HES, it is hoped this will stimulate discussion and ultimately contribute to enhancements in patient care and to the improvement of both the quality and coverage of A&E data submitted into HES.

Table 2.1 summarises the main differences between the frequency, content and usage of the two datasets.

Table 2.1: Summary of QMAE and A&E HES datasets

Name	Frequency	Detail included in collection	Current uses
Quarterly Monitoring of Accident and Emergency (QMAE) return	Quarterly	Aggregate number of attendances, number of breaches of the 4 hour standard[1], admissions via A&E and time from decision to admit and admission.	National performance monitoring, including monitoring of the 4 hour standard.
Accident and Emergency Hospital Episode Statistics (A&E HES)	Providers can submit data at any point. Currently, monthly (cumulative) snapshots are included in HES.	Record level detail for each patient attending A&E departments, including details of patient, demographics, time of arrival and departure, and other times in between, details of any diagnosis, assessment and treatment[2].	Specific analyses that only this dataset can support, with appropriate caveats. Data quality comparisons and monitoring for quality improvement.

Information in A&E HES

The source data for A&E HES is the commissioning data set (CDS), which includes records for attendances at major A&E departments, single specialty A&E departments, walk-in centres and minor injury units. Any one patient can have multiple attendances, which may be in the same or different time period for the same or different condition.

Record-level data is extracted from the Secondary Uses Service for the HES system on a monthly basis and used to build up a set of records for the year.

Each attendance record contains information about:
- The patient, including gender, age and other demographics
- The organisation where the patient was seen
- Time of arrival, conclusion, assessment and departure
- Diagnosis, investigation and treatment detail.

Appendix 5 provides a link to the Connecting for Health website, which provides a list of the fields submitted as part of the CDS and summarises what each field contains. The website also indicates whether a field is mandatory (required to be submitted) or optional (to be submitted if available and if the organisation wishes to do so).

Not all of the fields in the CDS are submitted to the A&E HES database. In particular, certain data items that directly identify patients are not available in order to maintain confidentiality.

Fields available in A&E HES data can be analysed in many ways and some of these analyses are included within this report. A&E HES data not only contains most of the fields submitted as part of the CDS but it also contains a number of fields which are derived from the CDS fields.

Where additional information is required this can be requested via The NHS IC (e-mail enquires@ic.nhs.uk or call 0845 300 6016).

[1] Four-hour standard is the total time spent in A&E from the time that the patient arrives in A&E to when the patient leaves the department on admission, transfer to another agency or organisation, or discharge.
[2] The HESonline website [http://www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=289]

Improving data quality

This third release of A&E HES data continues to be labelled as 'experimental statistics'. There have been improvements in the coverage and quality of data provided to A&E HES compared to last year, with relative coverage levels improving in A&E HES.

Table 2.2: Coverage differences between A&E HES and QMAE, 2008-09 and 2009-10

	A&E HES[3]	QMAE[4]	Coverage[5]
2009-10	15,079,612	20,511,908	*73.5%*
2008-09	13,266,413	19,588,017	*67.7%*
Change	*13.7%*	*4.7%*	

The 'experimental statistics' status enables the release of inaccessible data into the public domain within a controlled environment, seeking to involve users actively in improving data quality. At the same time it allows the data to be used by experts who can accommodate and compensate for any identified data deficiencies.

The NHS IC will also provide specific advice and guidance to providers that are having difficulties with submitting A&E data, via the HES Data Quality team (email enquires@ic.nhs.uk).

As detailed in this report, there are also some definitional differences between A&E HES data and QMAE data. The main difference is that QMAE data does not include attendances where the A&E appointment has been pre-arranged or planned. Therefore, where A&E HES is compared directly with QMAE planned appointments are excluded, as shown in Table 2.3.

Table 2.3: Attendances recorded by type in A&E HES and QMAE, 2009-10

	2009-10			
	A&E HES		QMAE	
Attendance category	**Number**	***% of total attendances***	**Number**	***% of total attendances***
First A&E attendance	14,661,779	*94.2%*	19,810,420	*96.6%*
Planned follow-up A&E attendance	490,124	*3.1%*	-	-
Unplanned follow-up A&E attendance	318,864	*2.0%*	701,488	*3.4%*
Not known	98,969	*0.6%*	-	-
Total (all attendances)	**15,569,736**	***100.0%***	**20,511,908**	***100.0%***
Total (Excluding planned follow-up)[6]	**15,079,612**	***96.9%***	**20,511,908**	***100.0%***

Coverage within A&E HES has improved over the last year, both in terms of the comparison with QMAE and completed data fields within A&E HES. However, whilst there is an improvement in the percentage of valid records submitted it should be noted that in some fields this may be misleading.

[3] Excluding attendances which are planned follow-up appointments
[4] QMAE data is published quarterly by the Department of Health [http://www.dh.gov.uk/en/Publicationsandstatistics/Statistics/Performancedataandstatistics/AccidentandEmergency/index.htm]
[5] Coverage is the percentage of A&E HES attendances (excluding planned follow-up appointments) against QMAE attendances
[6] Comparable to QMAE

e.g. A&E Patient Group field (Table 3.10), though the percentage of valid records is 95% (14,768,678), of these 89% (13,904,055) are recorded as either "Other accident" or "Other". This may be the most appropriate code for the individual's attendance in A&E if the reason is not related to any of the other codes available within this field, or it could be that some providers are not coding this field fully.
The fields available within A&E HES are provided within the A&E HES Data Dictionary: [http://www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=289].

Table 2.4: Number of valid records in HES by A&E key field, 2008-09 and 2009-10

	2008-09		2009-10	
All Attendances	**13,794,072**		**15,569,736**	
A&E key fields	**Number of valid records**	***% of all records***	**Number of valid records**	***% of all records***
A&E Arrival Mode	13,540,474	98.2%	15,145,652	97.3%
A&E Department Type	5,604,697	40.6%	10,971,330	70.5%
A&E Attendance Category	13,639,284	98.9%	15,470,767	99.4%
A&E Attendance Disposal	13,767,706	99.8%	15,530,101	99.7%
A&E Incident Location Type	12,726,577	92.3%	14,057,208	90.3%
A&E Patient Group	13,212,647	95.8%	14,768,678	94.9%
Source of Referral for A&E	13,623,033	98.8%	15,443,282	99.2%
A&E Arrival Date	13,794,072	100.0%	15,569,736	100.0%
A&E Arrival Time	13,794,072	100.0%	15,569,736	100.0%
A&E Initial Assessment Time	10,744,746	77.9%	12,474,089	80.1%
A&E Time Seen For Treatment	11,464,250	83.1%	13,244,783	85.1%
A&E Attendance Conclusion Time	12,041,043	87.3%	14,631,019	94.0%
A&E Departure Time	13,445,355	97.5%	15,526,514	99.7%
First A&E Diagnosis - 2 Character Level[7]	7,805,270	56.6%	9,043,559	58.1%
First A&E Investigation - 2 Character Level[8]	9,008,765	65.3%	12,099,695	77.7%
First A&E Treatment - 2 Character Level[9]	8,003,000	58.0%	10,292,444	66.1%

Codes were considered to be valid if they matched to one of the A&E CDS data dictionary values for the specified field and were considered invalid if they did not match to one of the data dictionary values. Where a field has a null value it is considered invalid.

Multiple diagnosis, investigation and treatment codes can be submitted within the dataset. The analysis contained within this report only looks at the first (or primary) diagnosis, investigation and treatment submitted. It also only uses the first two characters of these codes covering the diagnosis condition, investigation and treatment sections of the six character codes. This is due to quality issues with these clinical fields.

[7] The A&E diagnosis is a six character code made up of diagnosis condition (n2), sub-analysis (n1), anatomical area (n2) and anatomical side (an1)
[8] The A&E investigation is a six character code made up of investigation (n2) and local sub-analysis (up to an4)
[9] The A&E treatment is a six character code made up of treatment (n2), sub-analysis (n1) and local use (up to an3)

Findings

Summary of current limitations

There are some limitations of A&E HES data for 2009-10:

- Coverage: there are 91 providers who have not submitted data to A&E HES
- Validity: many of the submitted records use invalid codes in the clinical fields
- Accuracy of individual fields:
  - High use of default categories in diagnosis and treatment codes
- Inconsistency between data captured in the A&E CDS when compared to the same data collated for QMAE.

The NHS IC would welcome feedback from providers and others on the limitations of the A&E HES data for 2009-10 highlighted within this publication, including those listed above. Please refer to the details under the feedback section of this document for further details.

Provider level analysis

Provider level analysis is available within the supporting Excel document [A&E Attendances - Provider level analysis (Experimental statistics) 2009-10]. Also provided within Appendix 1 of this report are provider level comparisons relating to coverage between A&E HES and QMAE.

The accompanying Excel spreadsheet provides information at provider level (where submitted) relating to:

- Number of attendances
- Gender and age group profiles
- Arrival to A&E, by day and time
- Arrival method by age
- Comparison with QMAE
- Duration spent in A&E department
- Method of discharge
- Average duration in A&E department by hour of arrival.

Where the comparison information is blank for A&E HES within Appendix 1 this signifies that the provider, having submitted data to QMAE, has not submitted data to A&E HES. Table 3.1 summarises information relating to the number of providers who have not submitted data to A&E HES. It also provides a comparison between the two accident and emergency data sources and their relative coverage levels; 98% of trusts submit data to A&E HES, while 20% of PCTs provide this information. There have been improvements in coverage from last year. Overall records have increased from 13,794,072 (2008-09) to 15,569,736 (2009-10).The number of providers submitting data has increased from 161 to 172.

Table 3.1: Comparison of 2008-09 and 2009-10 A&E attendances (excluding pre-arranged or planned) in A&E HES against those reported in QMAE, broken down by organisation type

	2008-09		2009-10	
Organisation type	**HES**	**QMAE**	**HES**	**QMAE**
All providers	**161**	**256**	**172**	**263**
Trusts	144	155	150	153
PCT[10]	17	101	22	110
All attendances	**13,266,413**	**19,588,017**	**15,079,612**	**20,511,908**
Trusts	12,870,757	15,222,825	14,389,956	15,489,615
PCT	395,656	4,365,192	689,656	5,022,293

Overall coverage

Total attendances

While QMAE remains the official source of A&E attendance numbers and 4 hour wait target information, A&E HES is able to offer more detailed analysis. As stated previously, A&E HES coverage (74% of the QMAE attendances) has improved since the first publication of these experimental statistics in 2007-08 (62%), aligning more closely to QMAE data.

With this in mind, this report focuses on the information available and submitted by providers to A&E HES as a rich data source, providing lower level trends and valuable analytical information which can be used to direct and inform decision making.

In 2009-10 there were 15.6 million A&E attendances (all) recorded within HES, representing an increase of 13% from the previous year. This difference is largely driven by coverage improvements within A&E HES. Over the same period A&E attendance levels reported within QMAE increased by 5%.

Attendance records in A&E HES data can be split into groups based on whether the attendance was a first[11] or a follow-up[12] attendance. Furthermore, follow-up attendances can be split into whether the attendance was planned or unplanned.

The QMAE submission does not collect planned follow-up attendances, but does include unplanned follow-up attendances. Where A&E HES is being compared with QMAE directly, total attendance will exclude planned follow-up attendances.

Using this definition, the number of total attendances when derived from A&E HES is 15.1 million. Therefore, there are 5.4 million fewer attendances than those reported in QMAE for 2009-10 (refer also to Table 2.3 for a full breakdown).

[10] PCT includes independent sector
[11] First Attendance to A&E - the first in a series or the only attendance
[12] Follow-up Attendance to A&E - Planned: a subsequent planned attendance at the same department and for the same incident as the first attendance. Unplanned: a subsequent unplanned attendance at the same department and for the same incident as the first attendance. (Source: A&E HES Data Dictionary [http://www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=289])

Table 3.2: A&E attendances by attendance category, 2008-09 and 2009-10

	2008-09		2009-10	
Attendance category	**Number**	***% of total attendances***	**Number**	***% of total attendances***
First A&E attendance	12,816,256	*92.9%*	14,661,779	*94.2%*
Planned follow-up A&E attendance	527,659	*3.8%*	490,124	*3.1%*
Unplanned follow-up A&E attendance	295,369	*2.1%*	318,864	*2.0%*
Not known	154,788	*1.1%*	98,969	*0.6%*
Total (excluding planned follow-up)[13]	**13,266,413**	***96.2%***	**15,079,612**	***96.9%***
Total (all attendances)	**13,794,072**		**15,569,736**	

Accident and emergency (A&E) attendances

Who attends A&E?

Despite the improvements in coverage, the demographic profile of patients who use A&E departments has remained relatively stable when compared to 2008-09 and 2007-08 data. Table 3.3 shows that in 2009-10 males are marginally the main users of A&E departments in England, slightly down by 0.7 percentage points from 2008-09.

Table 3.3: A&E attendances by gender, 2008-09 and 2009-10

	2008-09		2009-10	
Gender	**Number of A&E attendances**	**Percentage**	**Number of A&E attendances**	**Percentage**
Male	7,158,512	*51.9%*	7,967,759	*51.2%*
Female	6,564,540	*47.6%*	7,436,878	*47.8%*
Unknown	71,020	*0.5%*	165,099	*1.1%*
Total	**13,794,072**		**15,569,736**	

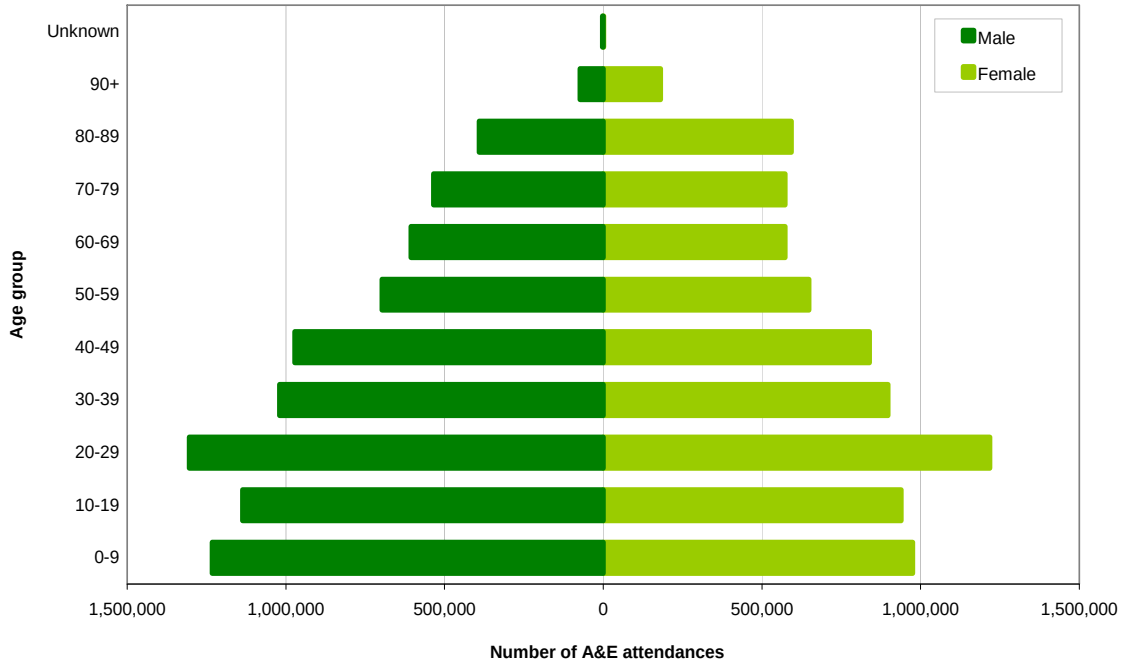
When focusing specifically on age groups (see Table 3.4), again these have changed very little in terms of the underlying distribution from last year. The age group with the largest number of A&E attendances is for those aged 20 – 29 years, of which the largest proportion is males (see Chart 3.1). Almost 44% of A&E attendances are for people aged 29 or under (2009-10).

[13] Comparable with QMAE

Table 3.4: A&E attendances by age group, 2008-09 and 2009-10

	2008-09		2009-10	
Age group	**Number**	***Percentage***	**Number**	***Percentage***
0-9	1,937,963	*14.0%*	2,217,749	*14.2%*
10-19	1,916,610	*13.9%*	2,090,943	*13.4%*
20-29	2,281,334	*16.5%*	2,539,619	*16.3%*
30-39	1,742,829	*12.6%*	1,929,526	*12.4%*
40-49	1,597,425	*11.6%*	1,821,498	*11.7%*
50-59	1,182,733	*8.6%*	1,353,325	*8.7%*
60-69	1,035,865	*7.5%*	1,186,933	*7.6%*
70-79	983,427	*7.1%*	1,114,954	*7.2%*
80-89	865,588	*6.3%*	991,054	*6.4%*
90+	224,111	*1.6%*	256,618	*1.6%*
Unknown	26,187	*0.2%*	67,517	*0.4%*
Total	**13,794,072**		**15,569,736**	

Chart 3.1: A&E attendances by gender and age group, 2009-10



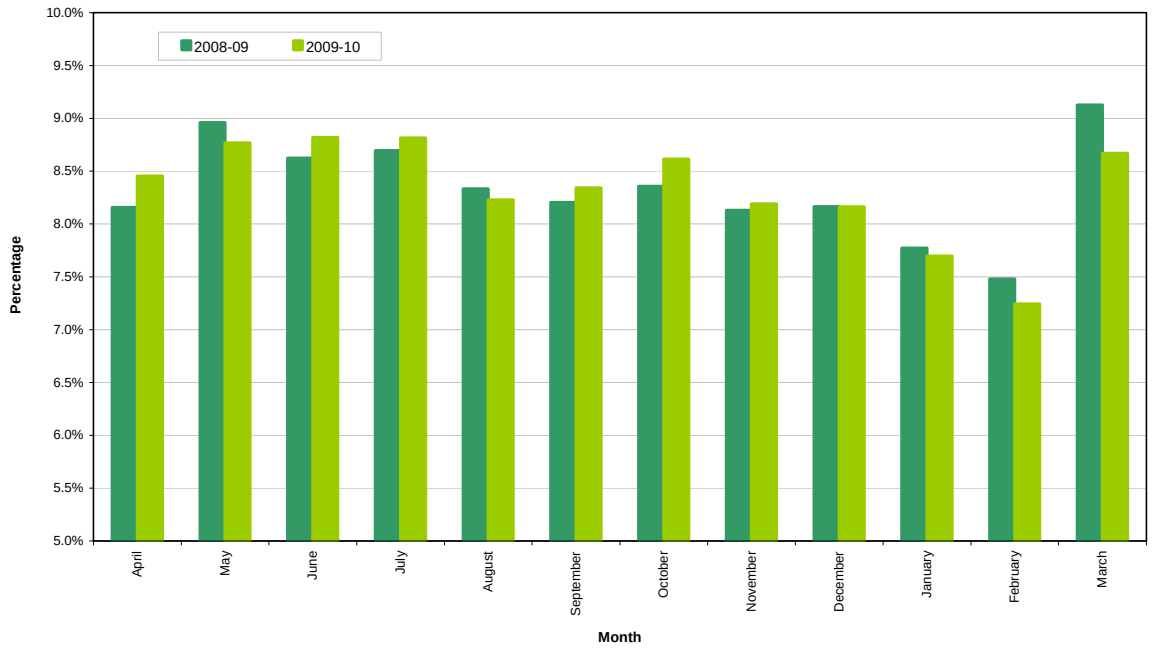
When do A&E attendances occur?

All A&E attendances (arrival month) are recorded within A&E HES; the number of attendances has increased across the months compared to last year as coverage has improved. The distribution of A&E attendances compared to 2008-09 is very similar. The number of A&E attendances recorded (submitted) in May, June and July are generally higher

Table 3.5: A&E attendances by month, 2008-09 and 2009-10

	2008-09		2009-10	
Month	**Number**	***Percentage***	**Number**	***Percentage***
April	1,125,175	*8.2%*	1,316,152	8.5%
May	1,235,891	*9.0%*	1,365,253	8.8%
June	1,189,715	*8.6%*	1,372,846	8.8%
July	1,199,422	*8.7%*	1,372,436	8.8%
August	1,149,472	*8.3%*	1,281,021	8.2%
September	1,131,584	*8.2%*	1,298,934	8.3%
October	1,152,728	*8.4%*	1,341,259	8.6%
November	1,121,270	*8.1%*	1,275,185	8.2%
December	1,126,183	*8.2%*	1,271,028	8.2%
January	1,072,069	*7.8%*	1,198,195	7.7%
February	1,031,699	*7.5%*	1,127,791	7.2%
March	1,258,864	*9.1%*	1,349,636	8.7%
Total	**13,794,072**		**15,569,736**	

Chart 3.2: A&E attendances by month of arrival, 2008-09 and 2009-10

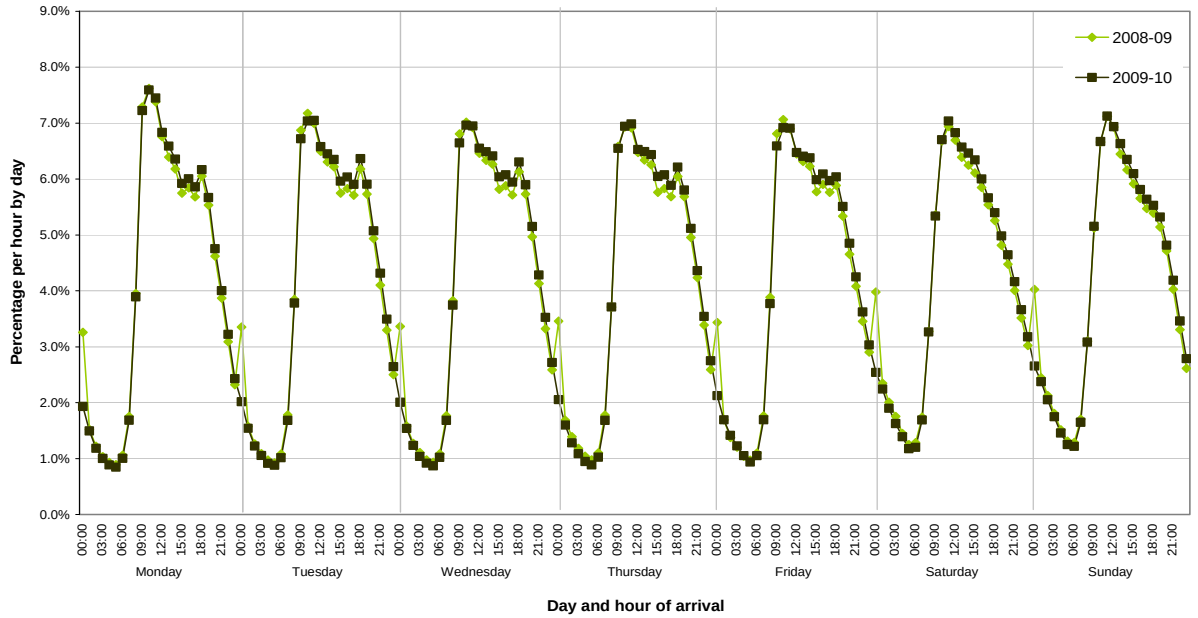


When looking at the day and hour of arrival of A&E attendances, the busiest day continues to be Monday, the busiest time of arrival is 10am (hour). The trend for the arrival time / day is relatively similar for all weekdays; peaking between 10am and 11am there is a slight variation to the underlying trend on a weekend, which doesn't see the 'post-work' peak at about 6pm.

Table 3.6: A&E attendances by day, 2008-09 and 2009-10

	2008-09		2009-10	
Day	**Number**	***Percentage***	**Number**	***Percentage***
Monday	2,186,095	*15.8%*	2,471,042	15.9%
Tuesday	2,000,358	*14.5%*	2,215,227	14.2%
Wednesday	1,916,703	*13.9%*	2,203,487	14.2%
Thursday	1,916,262	*13.9%*	2,158,242	13.9%
Friday	1,918,415	*13.9%*	2,143,897	13.8%
Saturday	1,898,654	*13.8%*	2,145,316	13.8%
Sunday	1,957,585	*14.2%*	2,232,525	14.3%
Total	**13,794,072**		**15,569,736**	

Chart 3.3: A&E attendances by day and hour of arrival, 2008-09 and 2009-10



Despite the changes in A&E attendance numbers and the people visiting these departments, these trends are similar between 2009-10 and 2008-09. These percentages (per hour) are shown in Chart 3.3. This stability should prove beneficial to providers when arranging staffing levels / requirements.

Referral method

Table 3.7 shows that the majority of A&E attendances are self referred, some 65.5% (10,194,224) in 2009-10, an increase in attendances from 2008-09 but a small reduction as a percentage of all referrals. Referrals to A&E from general practitioners and emergency services have remained relatively stable, representing 6.4% and 9.3% of all attendances respectively in 2009-10. Indeed all referral methods have remained stable when compared to 2008-09 data.

Table 3.7: A&E attendances by referral method, 2008-09 and 2009-10

	2008-09		2009-10	
Referral method	**Number**	***Percentage***	**Number**	***Percentage***
Self referral	9,071,194	*65.8%*	10,194,224	*65.5%*
Other	1,748,129	*12.7%*	2,015,300	*12.9%*
Emergency services	1,229,429	*8.9%*	1,454,190	*9.3%*
General Medical Practitioner	839,264	*6.1%*	1,001,745	*6.4%*
Health care provider: same or other	386,054	*2.8%*	447,477	*2.9%*
Police	175,348	*1.3%*	153,499	*1.0%*
Not known	171,039	*1.2%*	126,454	*0.8%*
Work	99,746	*0.7%*	98,899	*0.6%*
Educational establishment	53,124	*0.4%*	54,973	*0.4%*
Local authority social services	17,089	*0.1%*	16,708	*0.1%*
General Dental Practitioner	3,205	*0.0%*	5,541	*0.0%*
Community Dental Service	451	*0.0%*	726	*0.0%*
Total	**13,794,072**		**15,569,736**	

A&E attendances where the referral source is the emergency services account for 9.3% of all attendances in 2009-10.

Arrival method

In 2009-10, there were 15,569,736 attendances recorded in A&E HES. Of these, 3,924,919 arrived by ambulance or helicopter, compared to 2008-09 when 3,379,694 of patients arrived by ambulance or helicopter. Both figures represent 25% of attendances for each year.

Table 3.8: A&E attendances by arrival method, 2008-09 and 2009-10

	2008-09		2009-10	
Arrival method	**Number**	***Percentage***	**Number**	***Percentage***
Arrival by ambulance / helicopter	3,379,694	*24.5%*	3,924,919	*25.2%*
Other arrival method	10,160,780	*73.7%*	11,220,733	*72.1%*
Unknown	253,598	*1.8%*	424,084	*2.7%*
Total	**13,794,072**		**15,569,736**	

Table 3.9 shows that the number of attendances where the arrival method was 'ambulance or helicopter' is greatest during the 14:00 – 15:00 hour, when 217,338 patients arrived at A&E providers by ambulance or helicopter. However, these patients represent 22% of all attendances to A&E during the 14:00 -15:00 hour. Most attendances (proportionally) where the arrival mode is ambulance or helicopter are seen during the 4:00 – 5:00 hour, when 52% of all attendances arrived that way.

Table 3.9: A&E attendances by hour of arrival, where arrived by ambulance and helicopter, 2008-09 and 2009-10

	2008-09		2009-10	
Arrival hour	**Number**	***Percentage of all A&E attendances who arrived by ambulance***	**Number**	***Percentage of all A&E attendances who arrived by ambulance***
08:00	101,124	*20.0%*	113,315	*20.2%*
09:00	148,968	*16.8%*	170,466	*17.3%*
10:00	173,436	*17.9%*	199,216	*18.3%*
11:00	181,862	*18.7%*	212,205	*19.3%*
12:00	182,728	*20.0%*	213,166	*20.5%*
13:00	181,605	*20.7%*	216,495	*21.3%*
14:00	182,517	*21.3%*	217,338	*21.8%*
15:00	178,664	*22.2%*	215,237	*22.8%*
16:00	174,935	*21.8%*	209,006	*22.3%*
17:00	172,337	*22.1%*	206,644	*22.7%*
18:00	170,281	*21.1%*	204,648	*21.9%*
19:00	156,455	*20.9%*	188,629	*21.7%*
20:00	164,447	*25.0%*	196,485	*25.7%*
21:00	159,310	*28.4%*	190,943	*29.1%*
22:00	151,618	*33.0%*	182,992	*33.6%*
23:00	141,240	*38.8%*	170,894	*39.5%*
00:00	176,654	*36.1%*	152,932	*44.9%*
01:00	119,052	*47.2%*	137,234	*49.6%*
02:00	101,078	*48.3%*	116,851	*51.2%*
03:00	88,574	*49.2%*	101,025	*51.9%*
04:00	76,104	*48.9%*	87,373	*52.1%*
05:00	67,480	*47.3%*	76,033	*50.0%*
06:00	63,710	*40.4%*	72,247	*43.1%*
07:00	65,515	*27.1%*	73,545	*28.1%*

During daytime hours (08:00 to 19:00), the proportion of attendances where the arrival method was ambulance or helicopter is generally around 20%, indicating that patients will use their own resources to attend the A&E department. Interestingly, as time progresses through the night it becomes more likely that the patient will arrive by ambulance or helicopter, possibly indicating that these patients have more serious injuries / illnesses which require an emergency A&E attendance.

Chart 3.4: Number and percentage of A&E attendances, by hour of arrival, where arrival method is ambulance or helicopter 2009-10

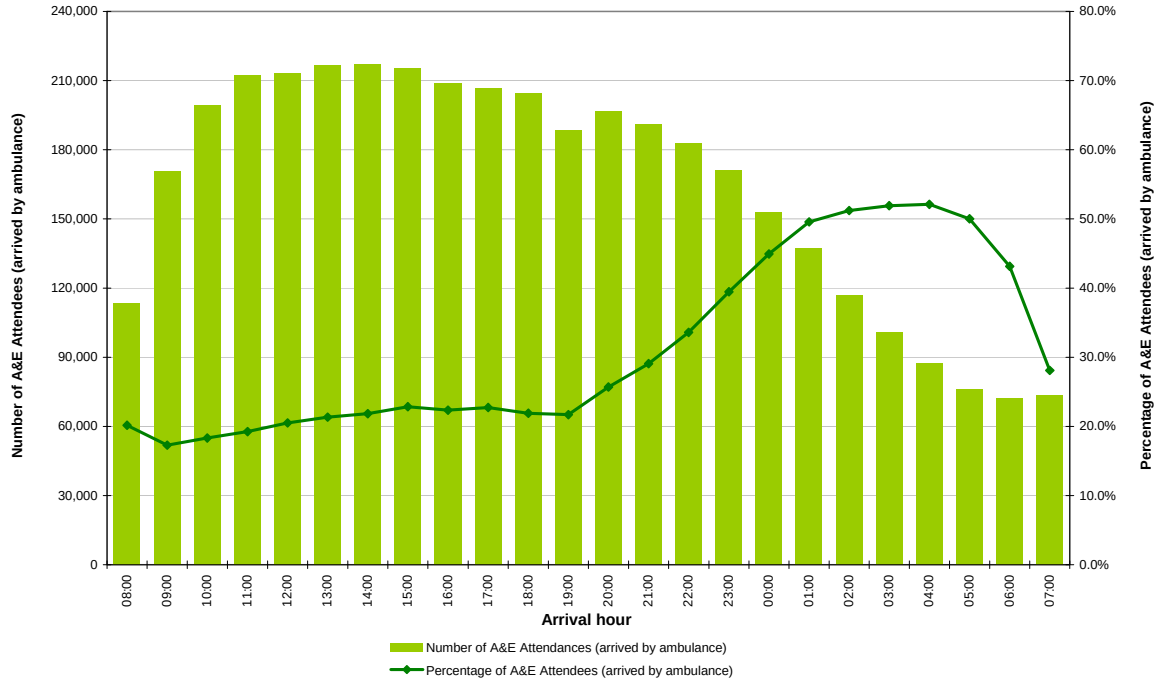


Chart 3.5 shows that more males arrive at A&E by ambulance or helicopter up to the age of 70 compared to females. However, from the age 71 onwards the number of female attendances (arriving by ambulance or helicopter) is higher than male attendances; this is possibly linked to population demographics.

The age group with the highest proportion of A&E attendances (who arrived by ambulance or helicopter) is the 81- to 90-year-old age group (635,834 or 16%). Closely followed by the preceding younger age group, those aged 71-80 (562,854 or 14%).

Chart 3.5: Number of A&E attendances, gender and age group, where arrival method is ambulance or helicopter, 2009-10

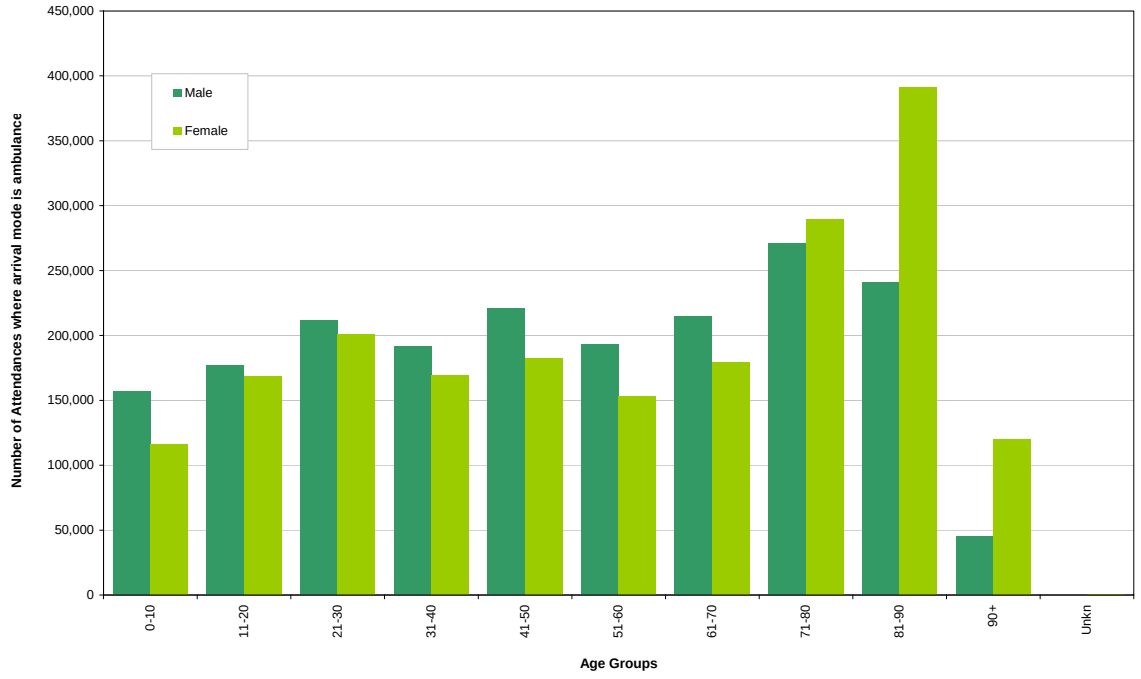
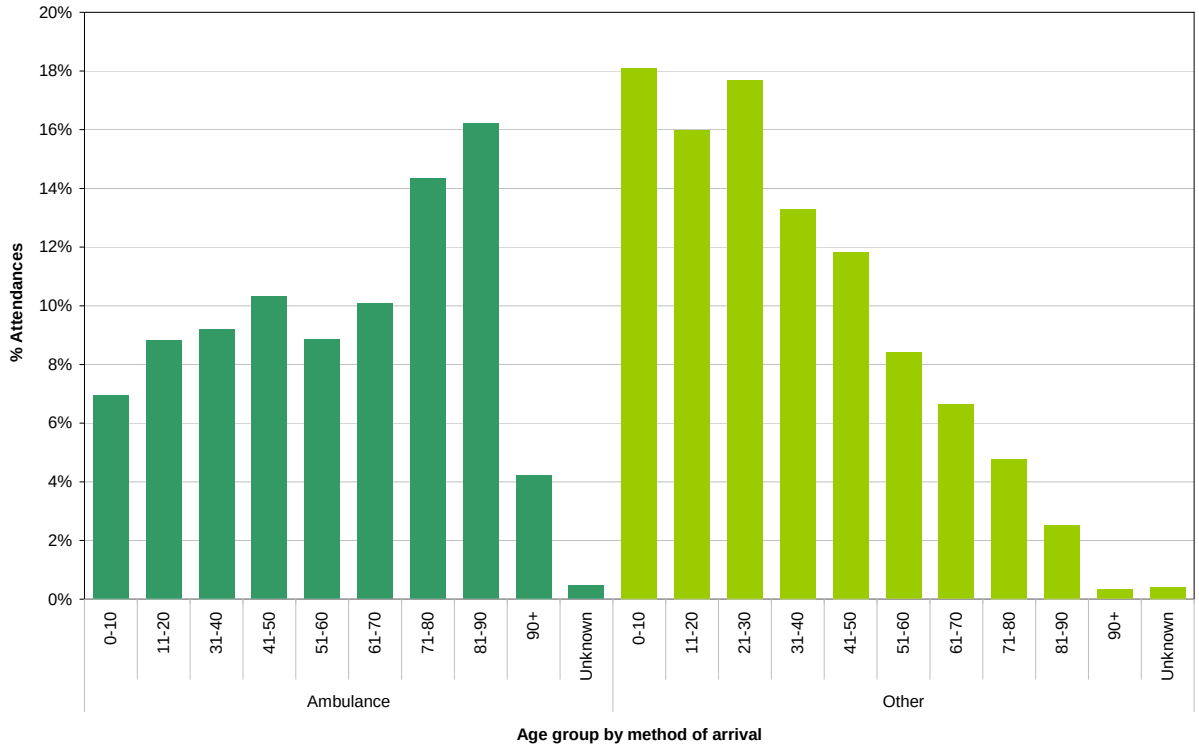


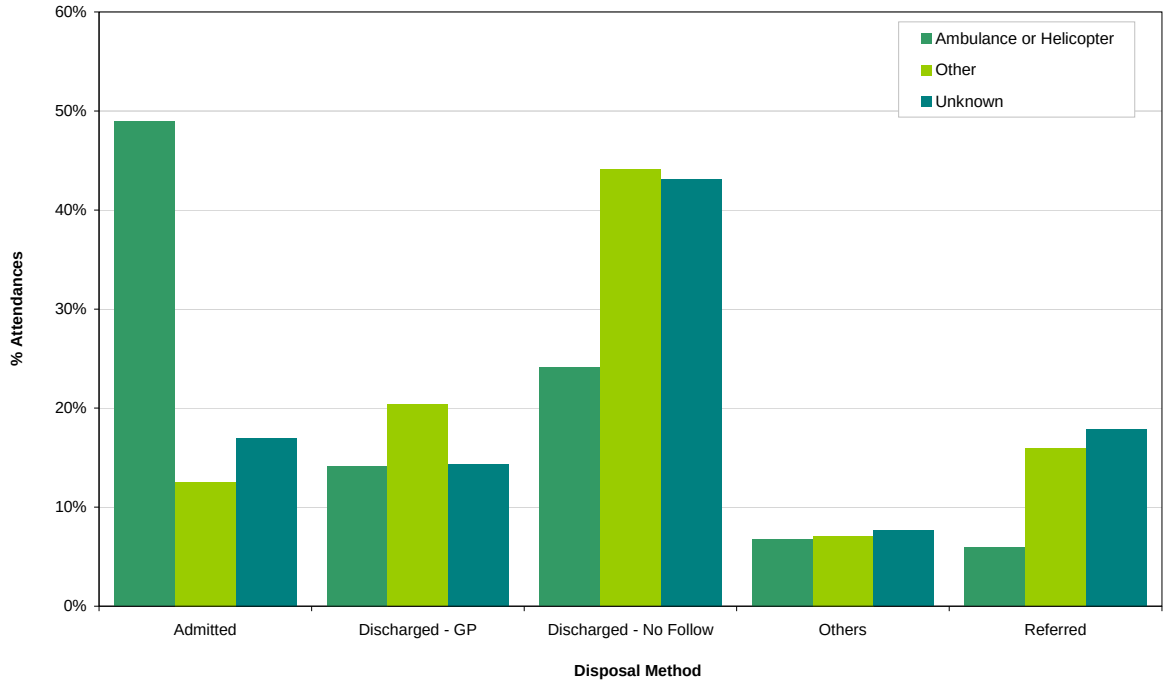
Chart 3.6 shows that of the 12 million A&E attendances where the patient made their own way to the A&E department, there is a clear pattern showing that younger people are more likely to arrive by another method. This decreases with age.

Chart 3.6: Percentage of A&E Attendances, by age group by arrival method, 2009-10



How a patient arrives at an A&E department can reflect the level of treatment / care required. Of patients who arrived at A&E by ambulance or helicopter nearly 49% are admitted to hospital. Conversely, those who arrived by another method were most likely to be discharged with no follow-up required.

Chart 3.7: Disposal method (discharge) of A&E attendance by arrival method, 2009-10



Reason for A&E attendance

Table 3.10: A&E attendances by patient group, 2008-09 and 2009-10

	2008-09		2009-10	
Patient group	**Number**	***Percentage***	**Number**	***Percentage***
Other	8,754,164	*63.5%*	9,968,845	*64.0%*
Other accident	3,676,438	*26.7%*	3,935,210	*25.3%*
Not known	581,425	*4.2%*	801,058	*5.1%*
Sports injury	274,056	*2.0%*	314,166	*2.0%*
Road traffic accident	221,174	*1.6%*	244,572	*1.6%*
Assault	181,568	*1.3%*	193,529	*1.2%*
Deliberate self-harm	101,670	*0.7%*	108,312	*0.7%*
Brought in dead	1,934	*0.0%*	1,903	*0.0%*
Firework injury	1,643	*0.0%*	2,141	*0.0%*
Total	**13,794,072**		**15,569,736**	

Within the reason for attendance field, 94.9% of entries are valid records i.e. 'excluding "Not known'. However, the majority of these 13,904,055 (or 89.3% of all records) are classified as either 'other accident' or 'other'. Taking this into consideration, this field should be used with caution.

However, there is useful information which could be used when looking specifically at those A&E attendances attributed to 'road traffic accident', 'assault', 'deliberate self-harm' or 'sports injury'.

When looking specifically at these 'reasons' why an A&E attendance has been necessary, by hour and day there are some interesting trends, these can be seen in charts 3.4 to 3.7. It is noticeable that improved data quality has removed the 00:00 peaks (where midnight appeared to be recorded as a default arrival time) that were present in 2008-09.

In examining the underlying provider level data in more detail, it may be the case that some attendances recorded as 'other accident' and 'other' are recorded incorrectly and should be recorded as 'road traffic accident', 'assault'[14], 'deliberate self-harm' or 'sports injury'. The extent to which this is occurring is unknown. Analysis reflects the data submitted to HES; coding accuracy should improve over time. Conclusions should be treated with caution; patterns are likely to be more reliable than volume figures.

The analysis provided below focuses specifically on the provided data and looks to give an understanding of the data available from A&E HES.

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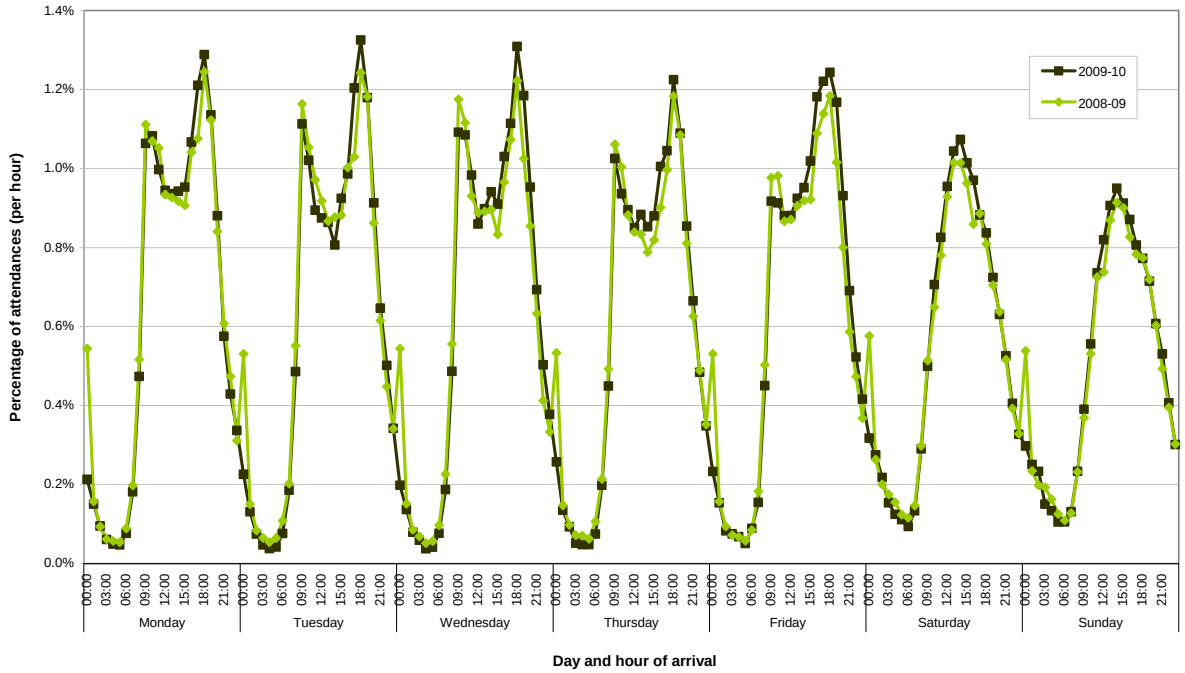
[14] Please note: Assault data relates to all A&E attendances for assault, previous data published by the NHS Information Centre on assault related specifically to those who had been admitted to hospital as an inpatient

Road accidents

Road accidents accounted for 1.6 % of all recorded attendances (244,572 out of 15,569,736). There are peaks in the number of A&E attendances during the morning and evening rush hours. There are fewer road accident related attendances over the weekend.

Chart 3.8: A&E attendances by day and hour of arrival (road accidents), 2008-09 and 2009-10

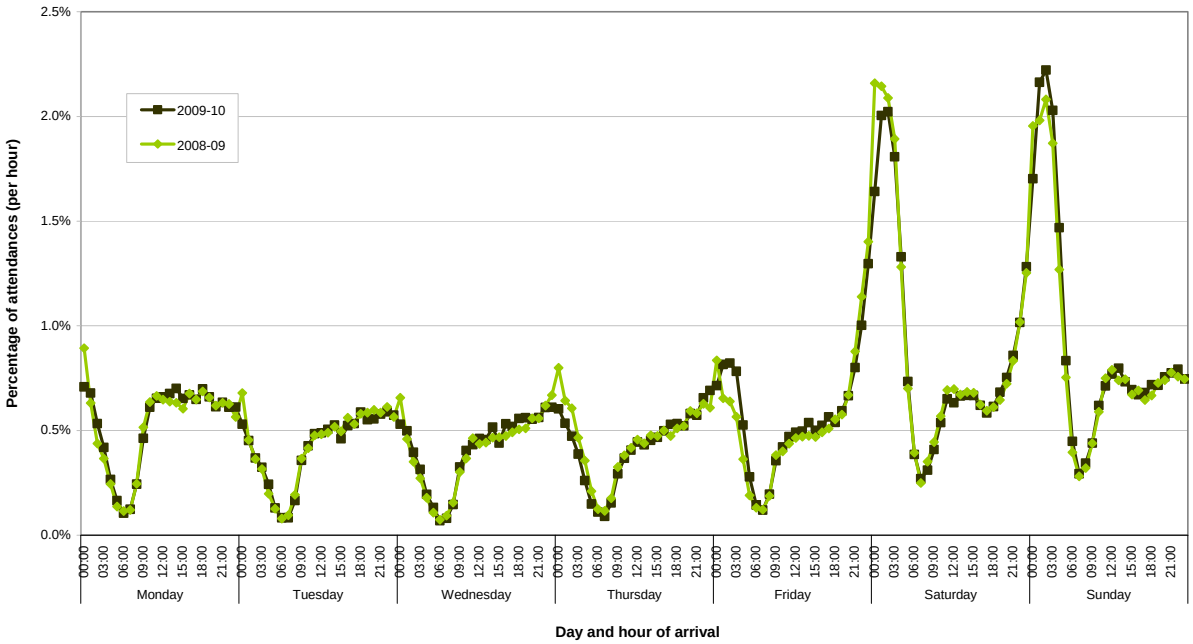


Note: Improvement in data quality of arrival time in 2009-10 means the peaks at 00:00 in 2008-09 are not repeated.

Assaults

Assaults accounted for 1.2 % of all recorded attendances (193,529 out of 15,569,736). There is a clear pattern Monday to Thursday, which increases on Friday and Saturday nights.

Chart 3.9: A&E attendances by day and hour of arrival (assaults), 2008-09 and 2009-10

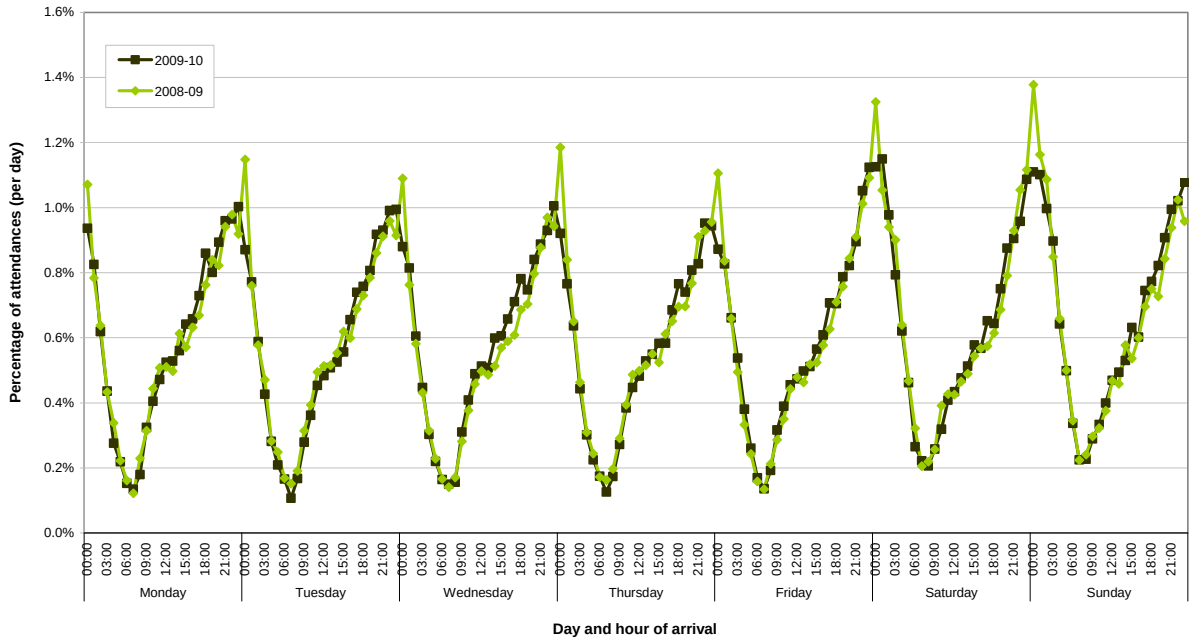


Note: Improvement in data quality of arrival time in 2009-10 means the peaks at 00:00 in 2008-09 are not repeated.

Deliberate self harm

Deliberate self harm accounted for 0.7% of all recorded attendances (108,312 out of 15,569,736). There is a clear re-occurring pattern throughout the week, increasing slightly on Friday and Saturday evenings. The number of attendances increases throughout the day.

Chart 3.10: A&E attendances by day and hour of arrival (deliberate self harm), 2008-09 and 2009-10



Note: Improvement in data quality of arrival time in 2009-10 means the peaks at 00:00 in 2008-09 are not repeated.

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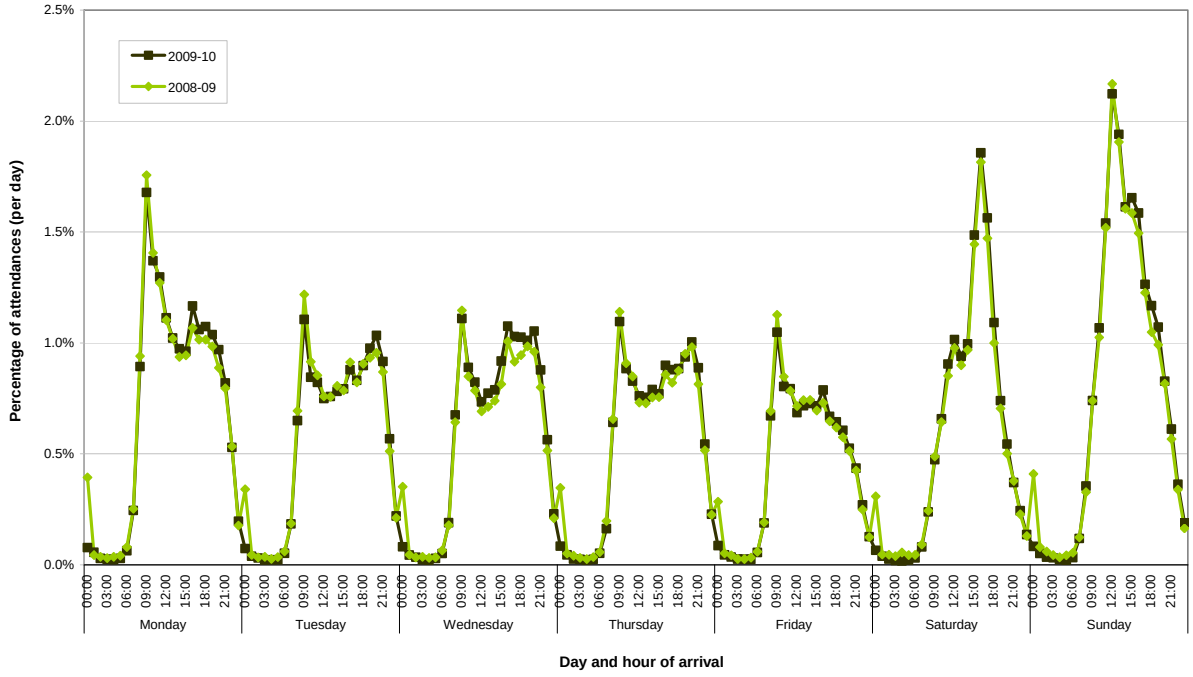
Sports injury

Sports injuries accounted for 2.0% of all recorded attendances (314,166 out of 15,569,736). These are most likely to occur on Saturday and Sunday afternoons, with an additional influx on weekday mornings.

Chart 3.11: A&E attendances by day and hour of arrival (sports injury), 2008-09 and 2009-10



Note: Improvement in data quality of arrival time in 2009-10 means the peaks at 00:00 in 2008-09 are not repeated.

Investigation, Diagnosis and Treatment

First investigation

Investigations can be requested to assist with any diagnosis during an A&E attendance. Not all attendances involve investigations. The A&E HES database can hold up to 12 investigation codes for each attendance. Analyses of investigations contained within this report are based on the first investigation code recorded for each attendance.

The A&E investigation coding scheme is the only scheme available for classifying investigation within the A&E Commissioning Data Set. It is mandatory[15] for all providers to populate the 'first investigation' field using a valid A&E investigation code for each attendance.

The A&E investigation code is made up of two parts. The first part, made up of two characters, contains the code to identify the investigation that took place. The second part of the A&E investigation code can be up to four characters long and is used for local analysis only.

From Table 2.4 (Page 8) 12,099,695 (77.7%) of the 15,569,736 recorded attendances had a valid investigation code. Appendix 2 shows a list of all the investigations within the A&E investigation field for all providers (where submitted). This list also includes options for 'none', where no investigation took place, and 'other', for any investigation not listed.

Table 3.11 shows the top ten recorded investigation descriptions. Based on the data submitted to A&E HES, the largest proportion of A&E attendances the main investigation is coded as 'X-ray plain film' (36%), for the year 2009-10. Nearly a third of valid records have an investigation code of 'None', an increase from a quarter of all records in 2008-09. Further investigation has highlighted that seven providers recorded an investigation code of 'None' for over 75% of A&E attendances.

Table 3.11 A&E attendances by first investigation, 2008-09 and 2009-10

	2008-09		2009-10	
Main investigation	**Number**	***Percentage (valid records only)***	**Number**	***Percentage (valid records only)***
X-ray plain film	3,482,978	*38.7%*	4,348,340	*35.9%*
None	2,266,170	*25.2%*	3,973,750	*32.8%*
Other	1,006,699	*11.2%*	899,018	*7.4%*
Haematology	559,183	*6.2%*	758,947	*6.3%*
Biochemistry	546,038	*6.1%*	661,685	*5.5%*
Electrocardiogram	362,776	*4.0%*	444,286	*3.7%*
Urinalysis	246,545	*2.7%*	314,704	*2.6%*
Computerised tomography (exc genito urinary contrast examination/tomography)	105,137	*1.2%*	168,424	*1.4%*
Bacteriology	98,270	*1.1%*	112,387	*0.9%*
Cross match blood/group & save serum for later cross match	84,377	*0.9%*	110,892	*0.9%*
Total remaining valid records	250,592	2.8%	307,262	2.5%
Total valid records	**9,008,765**		**12,099,695**	

[15] Mandatory fields are those that are required to be populated.

Primary diagnosis

'Primary diagnosis' is the first diagnosis recorded for each A&E attendance. From April 2008, all providers are mandated to use the A&E diagnosis coding scheme, improving comparative analysis of diagnoses.

The A&E HES dataset provides two separate fields that can potentially be used to determine which diagnosis scheme is used. These are 'diagnosis scheme in use' and 'primary diagnosis'. The 'diagnosis scheme in use' field enables providers to submit details of which diagnosis coding scheme has been used, while the 'primary diagnosis' field contains the actual diagnosis code submitted. It is mandated for providers to populate and submit both of these fields.

From Table 2.4 (Page 8) 9,043,559 (58.1%) of the 15,569,736 recorded attendances had a valid diagnosis code, an increase of 1.5 percentage points from 2008-09.

Table 3.12 shows the top ten primary diagnosis descriptions for the 9 million A&E attendance records where a valid diagnosis code has been recorded. The highest percentage of valid A&E HES attendances within primary diagnosis information are coded as 'diagnosis not classifiable', representing 17% of all valid records, followed by 'dislocation/fracture/joint injury/amputation' (8%) and then 'laceration' (8%), replicating last year's top 3.

Table 3.12: A&E attendances by primary diagnosis, 2008-09 and 2009-10

	2008-09		2009-10	
Primary diagnosis description	**Number**	***Percentage (valid records only)***	**Number**	***Percentage (valid records only)***
Diagnosis not classifiable	1,266,514	*16.2%*	1,565,348	*17.3%*
Dislocation/fracture/joint injury/amputation	644,563	*8.3%*	756,886	*8.4%*
Laceration	663,475	*8.5%*	700,254	*7.7%*
Sprain/ligament injury	530,922	*6.8%*	585,279	*6.5%*
Soft tissue inflammation	473,055	*6.1%*	525,219	*5.8%*
Gastrointestinal conditions	413,656	*5.3%*	511,533	*5.7%*
Contusion/abrasion	442,501	*5.7%*	472,531	*5.2%*
Respiratory conditions	357,481	*4.6%*	411,149	*4.5%*
Head injury	272,485	*3.5%*	336,396	*3.7%*
Cardiac conditions	278,586	*3.6%*	334,200	*3.7%*
Total remaining valid records	2,462,032	*31.5%*	2,844,764	*31.5%*
Total Valid records	**7,805,270**		**9,043,559**	

The quantity of valid A&E diagnosis codes submitted for 2009-10 has increased from 2008-09, in addition the proportion of valid codes has increased thus reversing the decrease shown between 2007-08 and 2008-09. It continues to be difficult to carry out detailed analysis using the diagnosis code field. Some of the issues with submitted A&E diagnosis codes are:

- Incomplete diagnosis code: providers that have used the A&E diagnosis code have not always submitted the sub-analysis, anatomical area or anatomical side.
- Inconsistent use of codes: some providers have used a space between each part of the code and other providers have used an alpha or numeric character to split each part of the A&E code. The

NHS Data Dictionary for A&E clinical codes does not ask for providers to separate each part of the A&E code.

- Incorrectly using A&E diagnosis codes: some providers have omitted the use of 0 for numeric codes between 1 and 9. For example, rather than submitting '01', they have only submitted '1'. The NHS Data Dictionary for A&E clinical codes states providers should submit a leading zero '0' before any numeric codes between '1' and '9'.

Analyses of the primary diagnosis field in this report are based on the first part (first two characters) of the field, which is the diagnosis condition. Appendix 3 provides a list and number of recorded diagnosis conditions available within the A&E primary diagnosis field, broken down by all providers (where submitted).

First treatment

First treatment is the primary clinical intervention that takes place for an A&E attendance. From April 2008 providers were mandated to use the A&E treatment coding scheme. As this is implemented over time by providers it should provide improvements to the analysis of A&E treatment.

Analyses of A&E treatment in this report are based on the A&E treatment code. This report aims to exclude information where providers have submitted treatment data using a coding scheme other than the A&E treatment coding scheme.

The A&E HES dataset provides two separate fields that can potentially be used to determine which treatment scheme is used. These are 'treatment scheme in use' and 'first treatment'. The field 'treatment scheme in use' enables providers to submit details of which treatment scheme has been used, while the 'first treatment' field contains the actual treatment code submitted. It is mandated for providers to record and submit both of these fields.

From Table 2.4 (Page 8) 10,292,444 (66.1%) of the 15,569,736 recorded attendances had a valid treatment code, an increase of 8.1 percentage points from 2008-09. Appendix 4 shows a list of all the treatment codes recorded within the first A&E treatment field for all providers (where submitted).

Table 3.13 shows the top ten treatment descriptions for the 10.3 million A&E attendance records in A&E HES that have a valid treatment code that matched to an A&E main treatment condition. For 38% of valid records the first treatment was recorded as 'Guidance/advice only'.

Table 3.13: A&E attendances by first treatment, 2008-09 and 2009-10

	2008-09		2009-10	
First treatment description	**Number**	***Percentage (valid records only)***	**Number**	***Percentage (valid records only)***
Guidance/advice only	3,020,024	*37.7%*	3,899,437	*37.9%*
None (consider guidance/advice option)	967,931	*12.1%*	1,235,602	*12.0%*
Observation/electrocardiogram, pulse oximetry/head injury/trends	508,521	*6.4%*	771,394	*7.5%*
Other (consider alternatives)	550,421	*6.9%*	540,684	*5.3%*
Intravenous cannula	357,366	*4.5%*	512,370	*5.0%*
Medication administered	363,302	*4.5%*	507,558	*4.9%*
Dressing	279,632	*3.5%*	340,477	*3.3%*
Prescription/medicines prepared to take away	232,482	*2.9%*	324,112	*3.1%*
Recording vital signs	206,493	*2.6%*	287,512	*2.8%*
Prescription (retired 2006)	267,461	*3.3%*	221,059	*2.1%*
Total remaining valid records	1,249,367	*15.6%*	1,652,239	*16.1%*
Total valid records	**8,003,000**		**10,292,444**	

Time in department

The Government has set an operational standard for A&E departments, whereby 98% of all patients attending A&E should wait no longer than four hours from arrival to admission, transfer or discharge. The QMAE aggregate data collection is used to monitor performance on the 4 hour standard and remains the official source of information on performance against the standard.

Duration time between arrival and departure at A&E can be derived from A&E HES. The definition of this differs in several areas from the duration time used in the QMAE four hour standard. These definitional differences provide a legitimate reason why there should be variations between the four hour performance figures reported via QMAE and the arrival to departure figures contained within this report.

The definitional differences are as follows:

- When recording arrival time within QMAE the guidance states that 'for ambulance cases arrival time is when hand over (of patient from ambulance to A&E staff) occurs or 15 minutes after the ambulance arrives at A&E, whichever is earlier'. The A&E Commissioning Data Set (CDS) definition of arrival time is 'the time of arrival in the A&E department or for urgent transport requests the time the vehicle arrives at the specified destination'. This means that arrival time for ambulance arrivals could be up to 15 minutes later within the QMAE figures than the A&E HES figures.
- The departure time as used by QMAE distinguishes between different groups of patients. Time of departure under QMAE can relate to the time a patient is discharged home. The QMAE guidance states 'patients awaiting family or "private" transport or who wish to make their own arrangements should be considered discharged once the clinical episode is complete whether or not they have actually left the department'. The CDS definition of departure time is 'the time that a patient leaves the A&E department after an A&E attendance has concluded and the department is no longer responsible for the care of the patient'. The A&E CDS cannot be used to distinguish this group of patients, which means the departure time available within A&E HES may be later than that used for the QMAE figures.

There are also a number of data quality issues that could have an impact upon the arrival to departure calculation using A&E HES data. One purpose of presenting the data is to highlight where there are differences, so providers can determine whether they are due to data quality issues and, if so, address them in subsequent submissions. The data quality issues are listed below:

- The data coverage differences between A&E HES attendance data and QMAE attendance data.
- Arrival and departure times submitted also show a level of rounding to the nearest five or ten minutes, especially on the hour. When calculating the arrival to departure duration this issue could impact upon the percentages when comparing against the QMAE data.

Table 2.4 shows that 100% of attendances in A&E HES data had an arrival time and 99.7% of attendances had a departure time. The departure time figures are an improvement by 2.2 percentage points from 2008-09.

Time spent in A&E is derived from the HES dataset by subtracting the A&E departure time from the arrival time, both of which are available to the nearest minute.

Appendix 1 contains a table, at provider level, showing the percentage of all attendances that had an arrival to departure time of less than or equal to four hours for both A&E HES and QMAE during 2009-10.

From April 2011 a set of clinical quality indicators for accident and emergency (A&E) services will replace the existing standard that no patient should spend more than four hours in A&E from arrival to admission, transfer or discharge. The purpose of these clinical quality indicators is to provide a more balanced and comprehensive view of the quality of care in A&E; this includes outcomes, clinical effectiveness, safety and service experience, as well as timeliness. These indicators remove the isolated focus on achieving faster care at the expense of higher quality care and will stimulate a more sophisticated discussion about quality of care to support a culture of continuous improvement.

Many of these indicators will use information collected through the A&E Commissioning Data Set.

More details of the indicators, their definitions and how they will be used can be found in the following documents:
http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_122868

Chart 3.12: Accident and emergency attendances in England: Distribution of A&E attendances by total time spent in department (by minute) 2008-09 and 2009-10

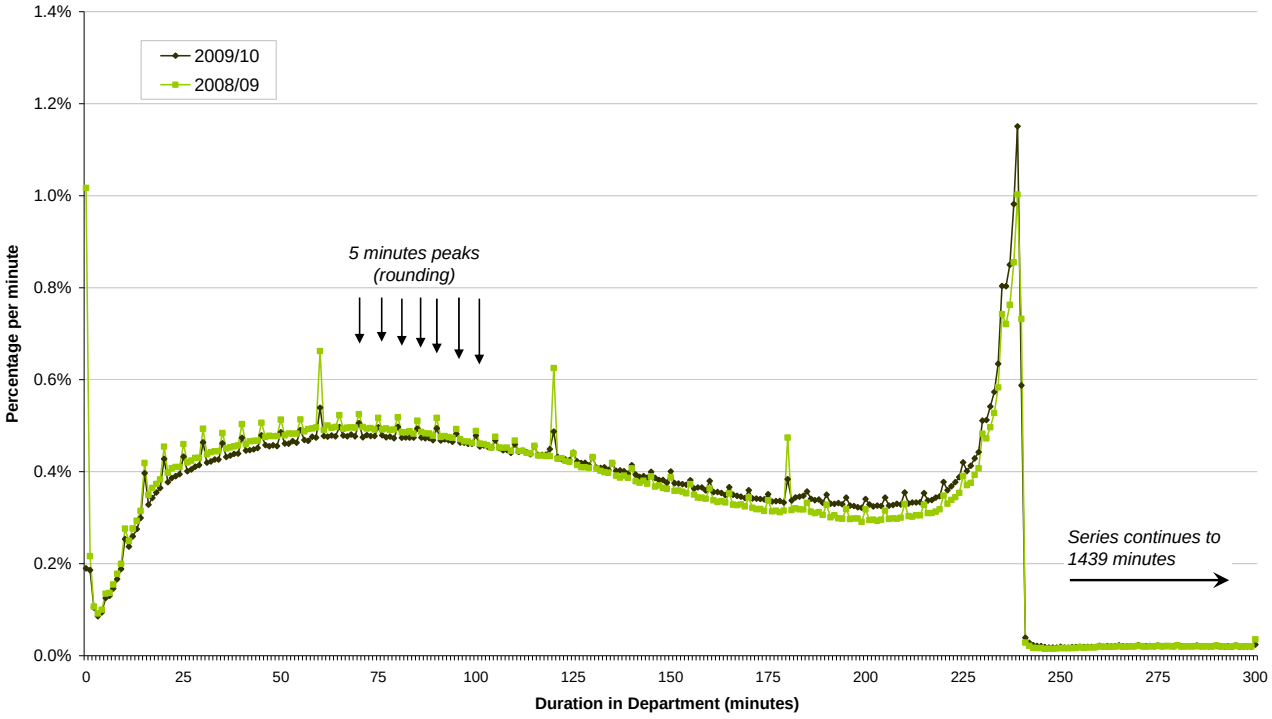


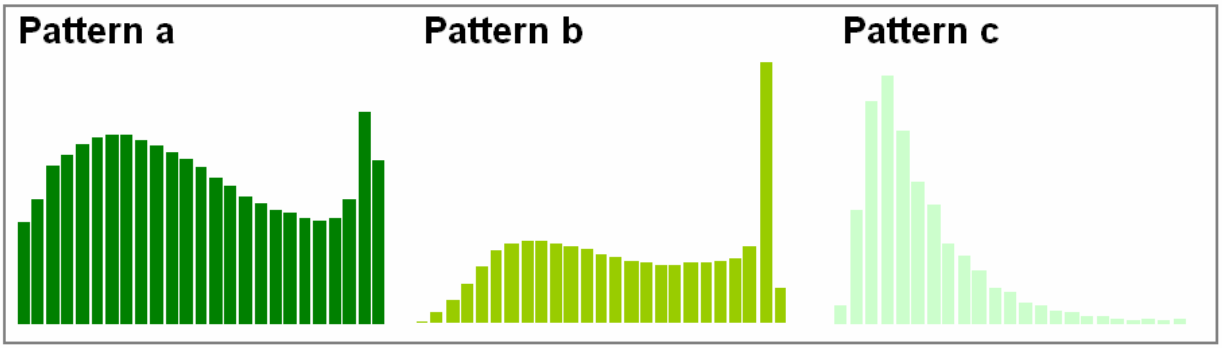
Chart 3.12 illustrates the derived (departure minus arrival) time patients spent in A&E in England. It is broken down into minute intervals to demonstrate the key underlying trends. Analysis of the underlying data shows that approximately three-quarters of patients depart A&E within three hours of arrival.

The spike at zero minutes (which is larger in 2008-09) is likely to be due to a combination of two factors: patients who simply pass through A&E who are immediately admitted and data quality issues with certain providers submitting the default time of 00:00 on their systems. There are also spikes at 5 minute intervals, signalling that some providers are rounding to the nearest 5 minutes.

After zero minutes the graph climbs towards a peak of approximately 70 minutes as providers report an increase in the number of patients they are dealing with. Patient departures begin to fall off after the peak at 70 minutes. The fall continues until the 200 minute (03:20 hrs) mark when the number of departures starts to increase again, finally reaching a peak at 239 minutes (03:59 hrs), the most rapid increase happening between 231 and 239 minutes (03:51 and 03:59 hrs).

There is a significant drop off in the number of A&E patients with a reported duration in the department of 241 minutes or greater. This low level of departures continues through to a maximum of 1,439 minutes (23:59 hrs).

Chart 3.13: Key patterns: Distribution of A&E attendances by total time spent in department 2009-10



Key: The vertical axis represents the percentage of patients dealt with during the specific time block, while the horizontal axis represents the 10 minute time blocks, up to 4 hours (the final time block represents all time periods beyond 4 hours).

The three patterns in Chart 3.13 show the following:

- Pattern a: the proportion of patients dealt with increases as the length of time the patient has been in the A&E department moves towards the 4 hour target.
- Pattern b: fewer people are dealt with throughout the period between 0 minutes and 3 hours 50 minutes (compared to pattern a). In the last 10 minute time slot before the 4 hour target, there is a significant increase.
- Pattern c: most patients are dealt with quickly; very few wait longer than 3 hours.

Table 3.14 shows the average (mean) time of each A&E attendance is 135 minutes (or 2 hours 15 minutes) in 2009-10, within the 4 hour wait target. Mean duration to assessment was 77 minutes (or 1 hour 17 minutes). Duration to treatment was 102 minutes (or 1 hour 42 minutes).

Table 3.14: A&E attendances by average duration in department (minutes), 2008-09 and 2009-10

	2008-09	2009-10
Duration to assessment		
Mean	61	77
Median	7	9
Duration to treatment		
Mean	116	102
Median	55	55
Duration to departure		
Mean	136	135
Median	117	122
5th Percentile	18	21
95th Percentile	240	239

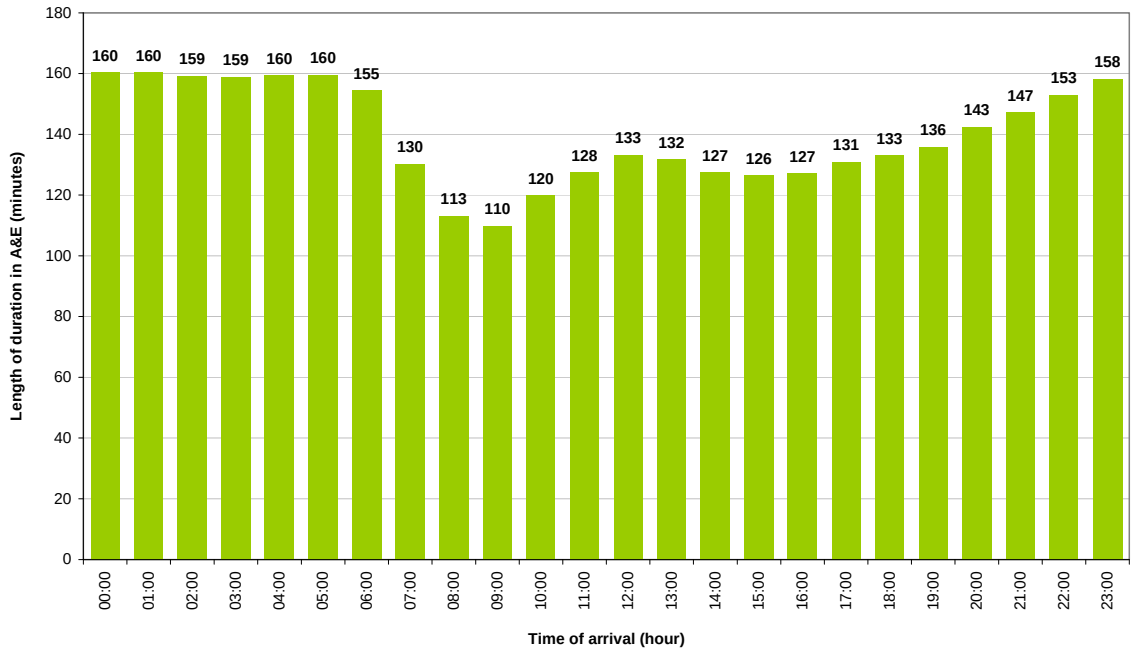
Mean average calculated as total number of minutes divided by total number of eligible attendances

Median duration is the middle duration in department (minutes) when all durations are ordered.
Duration to assessment is the time (expressed as a whole number of minutes) between the patients' arrival and their initial assessment.
Duration to treatment is the time (expressed as a whole number of minutes) between the patients' arrival and commencement of their treatment.
Duration to departure is the time (expressed as a whole number of minutes) between the patients' arrival and the time the A&E attendance has concluded and the department is no longer responsible for the care of the patient.

The time of day that the attendance commences will drive how long on average the attendance is likely to last, based on the time of arrival to the time of departure from the A&E department. In general terms, attendances are likely to be shorter during 'normal' working hours (8:00 to 18:00). However, this is also when more attendances occur, therefore these average wait times are likely to drive the overall average.

Outside these hours (between 19:00 to 7:00) average wait times are likely to be increased. The longest average attendance duration is likely to occur for patients arriving between 5:00 and 5:59, despite there being fewer demands placed on the service.

Chart 3.14: Average (mean) duration to departure by arrival hour to A&E, 2009-10



Attendance disposal

Table 3.15 shows a breakdown of all attendances in A&E HES for 2008-09 and 2009-10 by the 'attendance disposal' code. The attendance disposal code is a mandatory field in the A&E Commissioning Data Set (CDS) and contains information on what happens to the patient on completion of an attendance.

More than half of all the patients were discharged (follow-up required and no follow-up required) following their attendance and 22% of all patients attending A&E were admitted into hospital

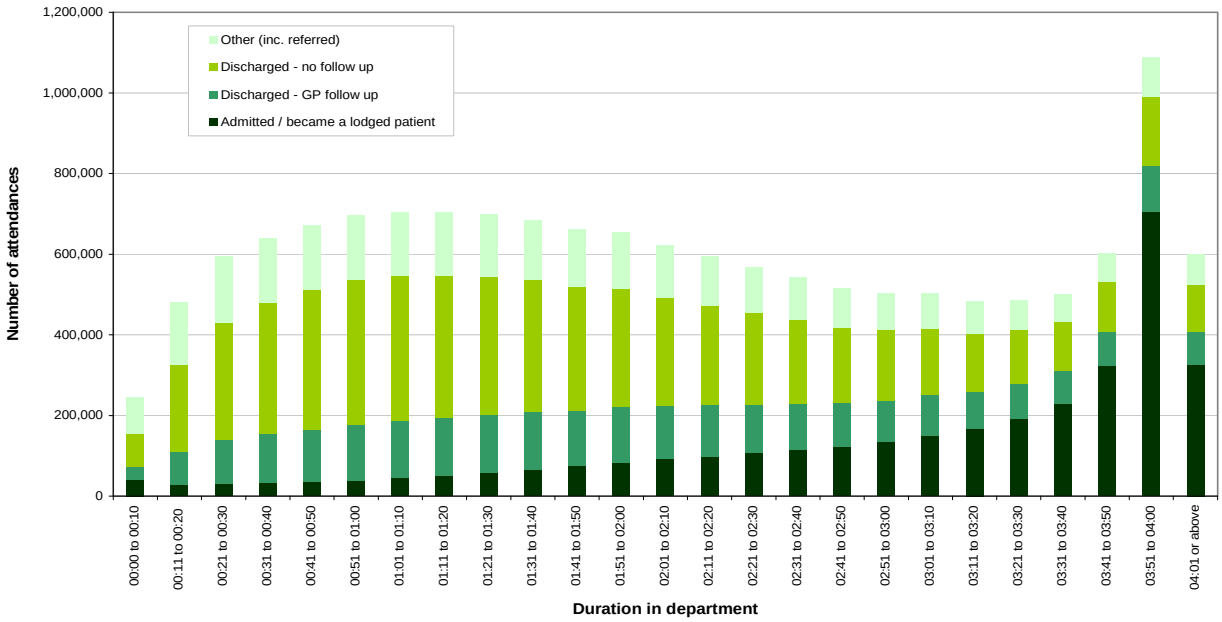
Table 3.15: Total number of attendances in A&E HES by attendance disposal method, 2008-09 and 2009-10

	2008-09		2009-10	
Attendance disposal method	**Attendances**	***Percentage***	**Attendances**	***Percentage***
1. Admitted / became a lodged patient	**2,979,331**	***21.6%***	**3,398,362**	***21.8%***
2. Discharged - follow up by GP	**2,447,969**	***17.7%***	**2,898,961**	***18.6%***
3. Discharged - no follow up required	**5,473,967**	***39.7%***	**6,080,355**	***39.1%***
4. Referred	**1,904,169**	***13.8%***	**2,093,929**	***13.4%***
Referred to A&E Clinic	459,584	*3.3%*	466,951	*3.0%*
Referred to Fracture Clinic	563,927	*4.1%*	650,522	*4.2%*
Referred to other OP Clinic	550,190	*4.0%*	603,959	*3.9%*
Referred to other health care professional	330,468	*2.4%*	372,497	*2.4%*
5. Others	**988,636**	***7.2%***	**1,098,129**	***7.1%***
Left Department before being treated	449,924	*3.3%*	514,223	*3.3%*
Transferred to other Health Care Provider	315,084	*2.3%*	247,790	*1.6%*
Other	122,455	*0.9%*	209,608	*1.3%*
Left Department having refused treatment	51,705	*0.4%*	61,552	*0.4%*
Not known	26,366	*0.2%*	39,635	*0.3%*
Died in Department	23,102	*0.2%*	25,321	*0.2%*
Total	**13,794,072**		**15,569,736**	

Chart 3.15 shows that as the duration the A&E patient has spent in the A&E department increases, so does the likelihood that the patient will be admitted to hospital. Peaking in the 10 minute time slot, immediately prior to the 4 hour wait target.

Patients who have shorter durations in A&E are more likely to be discharged with no follow-up required, compared to those patients who wait longer.

Chart 3.15: Attendance disposal method by 10 minute time interval, 2009-10



A&E HES data linked to APC HES data

Accident and Emergency (A&E) Hospital Episode Statistics (HES) data has been linked to Admitted Patient Care (APC) HES data for the first time by the NHS IC to allow wider analysis of patients admitted to hospital following an A&E attendance. This is released as experimental statistics within this publication to enable initial findings to be presented and to promote and highlight potential uses of these linked data.

The linkage allows the patient's pathway to be followed and provides additional information beyond what is available from the standalone datasets. For example, for linked records we can identify what time admitted patients arrived at A&E and also look at the more detailed clinical coding available from the APC data.

The linkage methodology

The linkage algorithm has evolved from research and development undertaken on the two datasets to establish the most effective method for linking the records. The algorithm is primarily based on fields that:

- identify the patient
- report the outcome of the A&E attendance
- report the method of APC admission

The basic principles behind the linkage method are as follows:

- Records are linked where the unique patient ID (pseudo HESID[16]) is the same in both A&E and APC data and the A&E discharge date[17] and APC admission dates are the same. For multi-episode spells the admission date used for the linkage comes from the first episode in a spell.
- When a patient is linked more than once, in cases where the patient has had multiple A&E attendances and/or APC admissions, further algorithm rules are applied to find the most appropriate one-to-one A&E to APC link.

A more detailed document which thoroughly explains the linkage methodology is accessible via the HES online website, http://www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=1272. Please refer to this document to gain a more in depth understanding of the linkage algorithm.

The linkage outcome

Previously there were two methods in which HES could have been used to ascertain the number of inpatients who have been admitted via A&E.

These are:

• Using the A&E dataset, and looking at the disposal method, where the patient has been admitted into a hospital bed of the same provider or transferred to another provider. There are 3,646,152 of these attendances recorded in 2009-10.

• Using the APC dataset, focusing on the admission method, where the admission was recorded as via A&E. There are 3,968,881 of these finished consultant episodes recorded in 2009-10.

There are discrepancies between these two figures, highlighting potential data quality, consistency and coverage issues.

[16] Pseudo HESID is a unique patient identifier used in the suite of HES products. Further information is available on HESOnline, http://www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=330

[17] A&E Discharge Date is calculated by the linkage algorithm. It uses the Arrival Date, Arrival Time and Duration to Departure to calculate an accurate discharge date.

This chapter summarises some of the work being undertaken by the NHS IC to link these datasets, to provide in-depth information about A&E patients who require admittance to hospital. There are 3,230,534 of these linked A&E attendances recorded in 2009-10.

Analysis of linked data

The 3,230,534 A&E records that were linked to an FCE in the 2009-10 HES data provide a valuable source of information for analysing trends relating to patients that were admitted to hospital following an A&E attendance.

This section provides an introduction to the types of analysis that the linked data can be used to produce. Supporting figures for each chart are available from HES online at the following location, http://www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=1272

Chart 4.1: Linked FCEs by duration in A&E department 2009-10

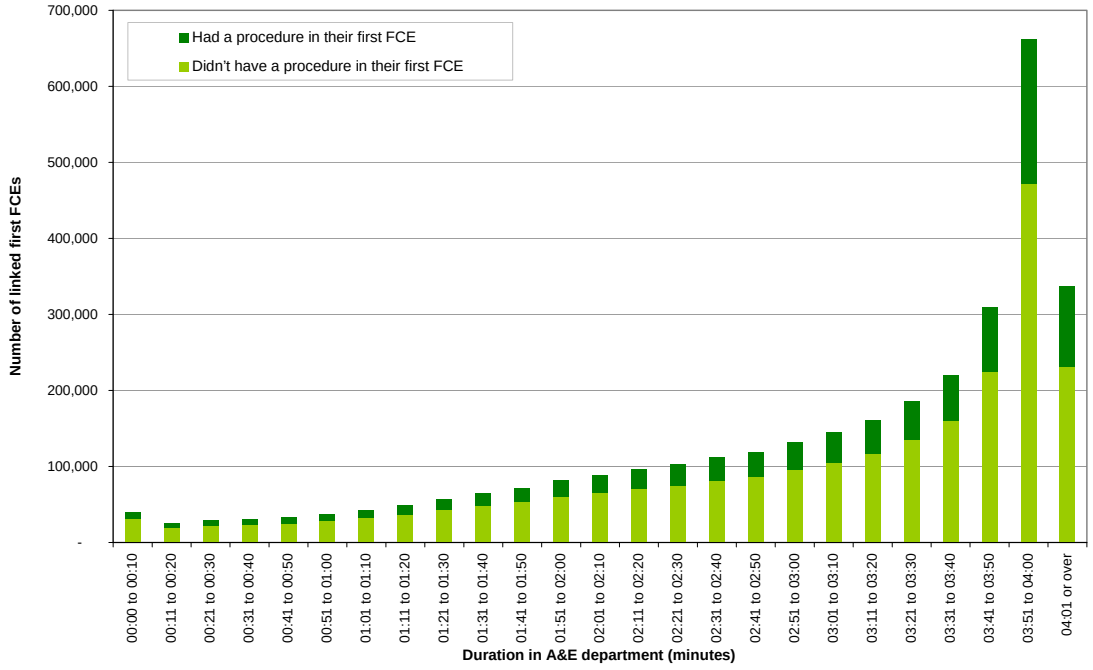
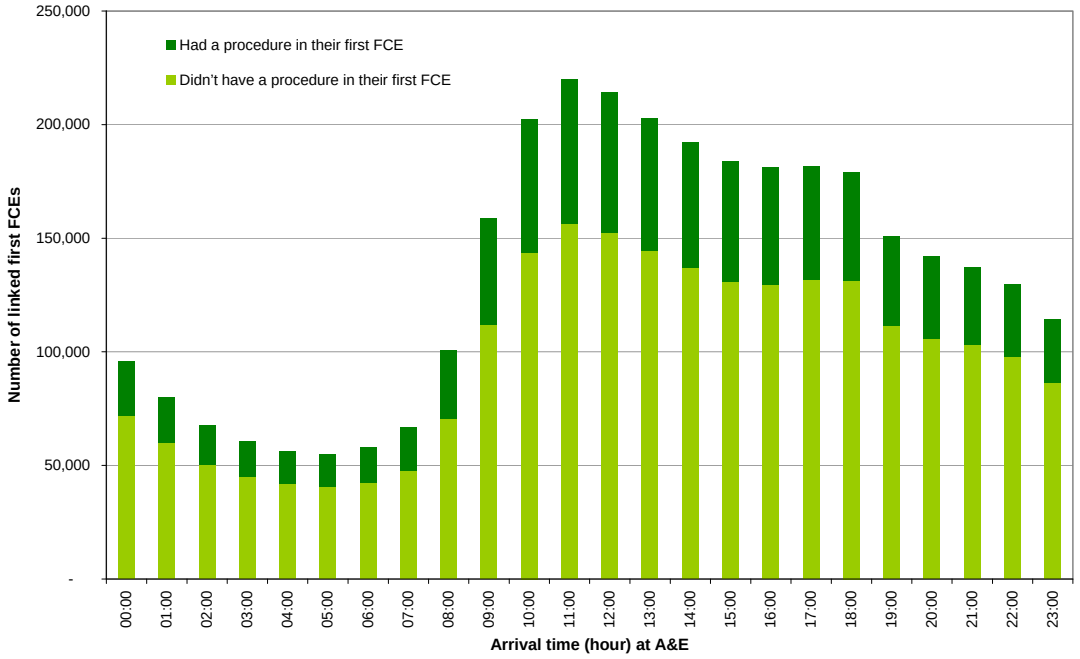


Table 4.1: Linked FCEs by duration in A&E department 2009-10

Duration to Departure from A&E	Total number of linked first FCEs	Percentage of first linked FCEs where the episode didn't have a procedure	Percentage of first linked FCEs where the episode had a procedure
00:00 - 00:10	39,677	79.0%	21.0%
00:11 - 00:20	25,956	77.4%	22.6%
00:21 - 00:30	28,366	77.1%	22.9%
00:31 - 00:40	30,446	76.7%	23.3%
00:41 - 00:50	33,401	76.3%	23.7%
00:51 - 01:00	37,612	75.9%	24.1%
01:01 - 01:10	42,820	76.2%	23.8%
01:11 - 01:20	49,228	75.9%	24.1%
01:21 - 01:30	56,602	75.9%	24.1%
01:31 - 01:40	64,514	74.9%	25.1%
01:41 - 01:50	71,498	74.5%	25.5%
01:51 - 02:00	81,778	74.0%	26.0%
02:01 - 02:10	88,634	73.5%	26.5%
02:11 - 02:20	96,129	73.3%	26.7%
02:21 - 02:30	103,187	72.8%	27.2%
02:31 - 02:40	111,683	72.8%	27.2%
02:41 - 02:50	118,724	72.6%	27.4%
02:51 - 03:00	131,266	72.7%	27.3%
03:01 - 03:10	145,247	72.3%	27.7%
03:11 - 03:20	160,284	72.5%	27.5%
03:21 - 03:30	185,166	72.9%	27.1%
03:31 - 03:40	220,097	72.7%	27.3%
03:41 - 03:50	309,535	72.5%	27.5%
03:51 - 04:00	661,598	71.3%	28.7%
4:01+	337,086	68.6%	31.4%

Chart 4.1 & Table 4.1 above show that for FCEs linked to an A&E attendance you are more likely to be admitted to hospital the longer your duration in A&E. This shows that the linked data exhibit the same pattern as the unlinked A&E HES data, displayed in chart 3.14 ('Admitted/became a lodged patient' key). Also, if you have a longer duration in A&E your first FCE is more likely to include a procedure, with an almost steady increase from 21.0% for those with a duration of 10 minutes or under (8,334 out of 39,677) to 31.4% for those with a duration of 241 minutes or over (105,960 out of 337,086).

Chart 4.2: Linked FCEs by arrival time (hour) at A&E 2009-10



When looking at the arrival time for linked FCEs in chart 4.2 above you can see that this trend is again very similar to the trends seen in the unlinked A&E HES data which can be seen in chart 3.3. Unlike the duration analysis the percentage of first FCEs which include a procedure remains fairly stable throughout the day with an increase in volumes between 08:00 and 18:00.

Chart 4.3: Linked FCEs by arrival time (hour) at A&E and age group, where the external cause was pedestrian / cycle accident (ICD-10 V01 to V19) 2009-10

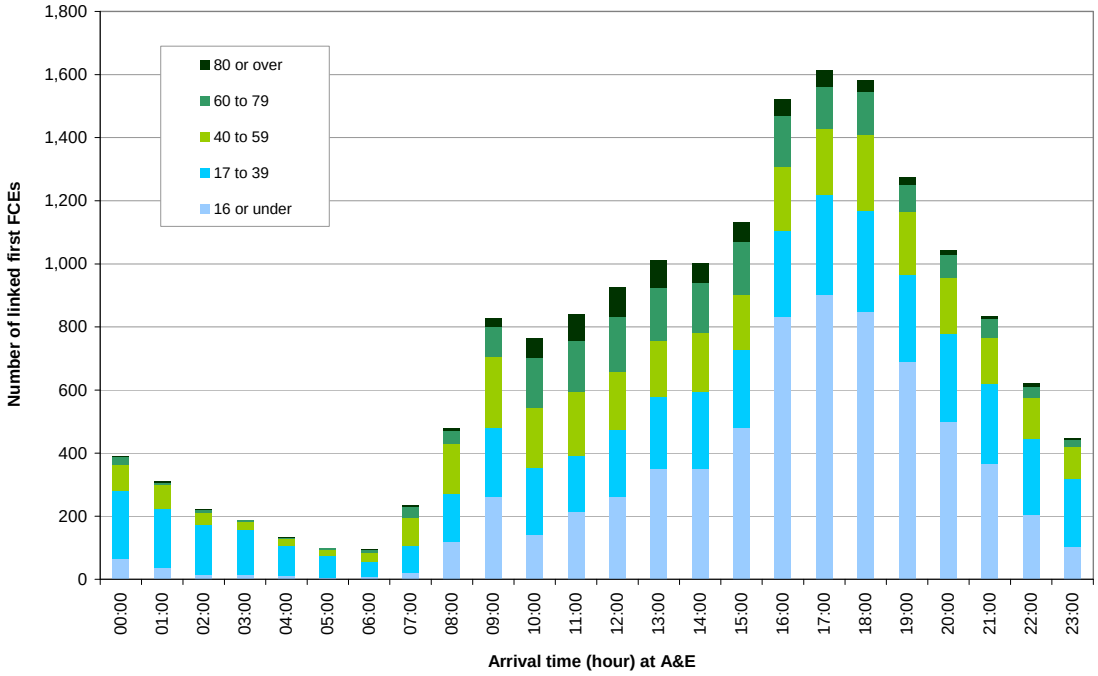


Chart 4.3 shows that the majority of attendances at A&E departments where the external cause code for the first FCE was pedestrian/cycle accident occurred between 09:00 and 21:00. Within this timeframe there is a fairly even distribution across the different age groups except at 09:00 and between 15:00 and 20:00 when the proportion of first FCEs for people aged 16 or under increases.

Chart 4.4: Linked FCEs by arrival time (hour) at A&E and age group, where the cause was fall (ICD-10 W00 to W19) 2009-10

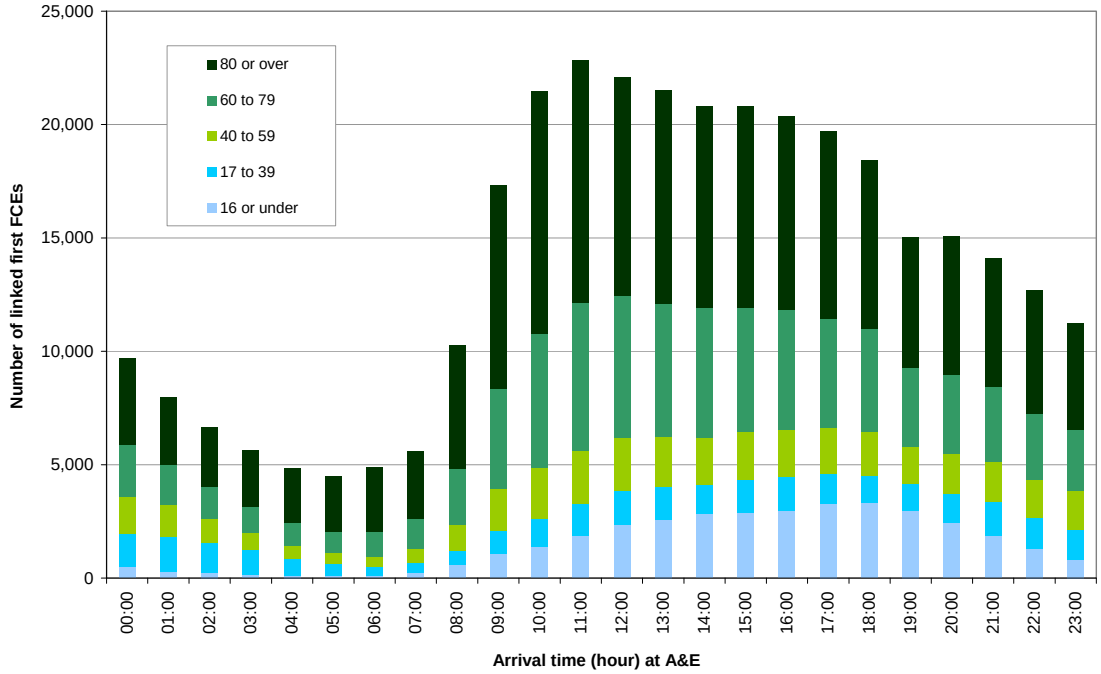


Chart 4.4 shows that the majority of linked FCEs where the external cause code for the first FCE was a fall take place between the hours of 09:00 and 18:00 for all age groups. People aged 60 or over have the highest number of FCEs, accounting for at least 50% of FCEs in each arrival time hourly blocks.

Chart 4.5: Top 5 primary APC diagnosis codes where a procedure was recorded in the first FCE, by arrival time (hour) at A&E 2009-10

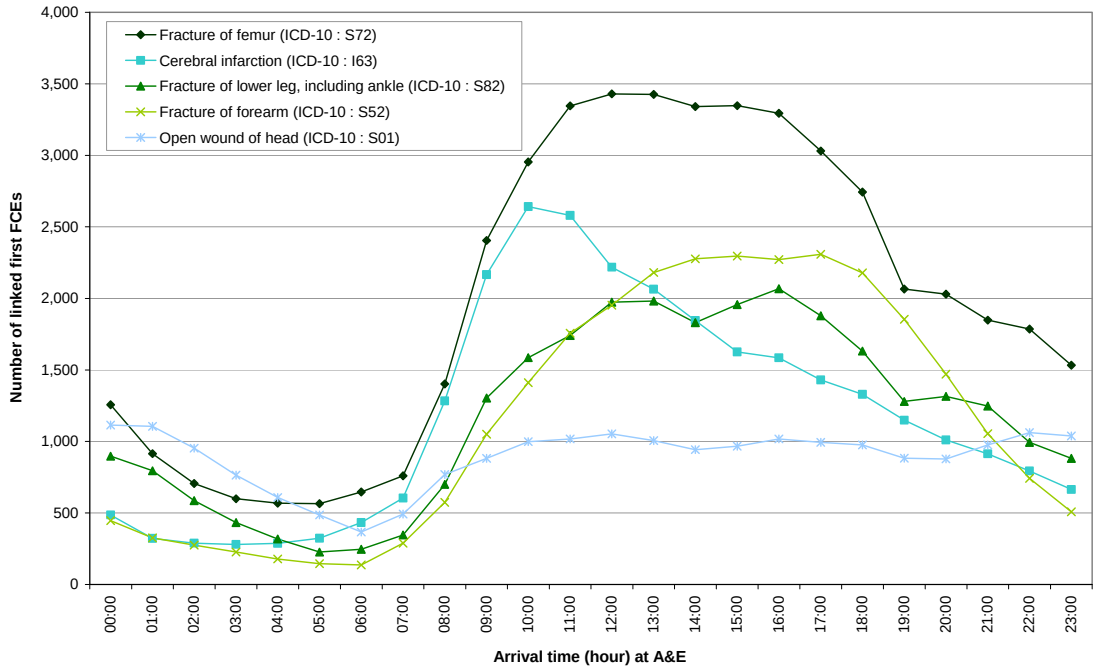


Chart 4.5 displays the top five primary APC diagnosis codes having the largest number of first FCEs where a procedure was recorded by hour of arrival time at A&E. This shows that three of the top five primary diagnoses are related to different types of fracture, with 'fracture of femur' resulting in the largest number of FCEs following A&E attendance.

The arrival time patterns show differing distributions with 'fracture of femur' showing a large increase in volumes from 07:00, reaching a peak at 11:00 whilst 'fracture of lower leg, including ankle' and 'fracture of forearm' display a steadier increase during the day reaching a peak at around 16:00. 'Cerebral infarction' arrival times display a large increase in the early morning reaching a peak much earlier at 10:00, then slowing throughout the day.

Chart 4.6: Linked FCEs by arrival time (hour) at A&E where the primary APC diagnosis was stroke or heart attack 2009-10

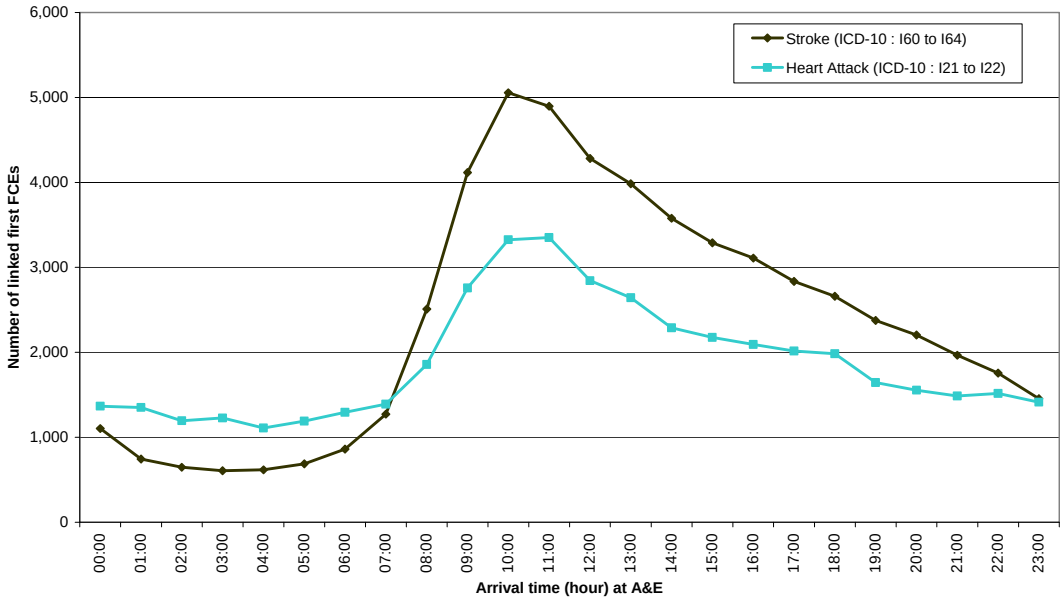


Chart 4.6 shows that where the first FCE in the linked data has a primary APC diagnosis of stroke or heart attack there is a large increase in arrivals at A&E departments between the hours of 07:00 and 10:00. There are a greater number of FCEs with a primary APC diagnosis of stroke and they show a larger increase between 07:00 and 10:00 when compared to FCEs with a heart attack diagnosis.

Between 00:00 and 07:00 there are a greater number of FCEs with a primary APC diagnosis of heart attack.

How to access the linked data

The linked records will be made available to all users of the HES Interrogation System via an A&E tail contained within the APC HES data. The A&E tail will contain a subset of fields from the A&E HES data.

A bespoke extract of A&E and APC linked data is available on request. Further information on requesting a tailor-made extract is available from the HES online website, http://www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=1342.

Accessing HES

How to access A&E HES data

Freely available HES data, including this report, is accessible via the HESonline website [http://www.hesonline.nhs.uk].

Ad hoc tabulations and extracts based on experimental A&E HES data are available on request, subject to agreement of terms and conditions of use. Users requiring such access should refer to the information in the Request a tailor-made report area of the HESonline website.

Organisations can also request direct access to the full A&E HES data via the HES Interrogation System. Please note that there are restrictions on who can access HES data in this way. For further information on this service, please contact the NHS Information Centre (0845 300 6016 or enquires@ic.nhs.uk).

Feedback

Specific areas for feedback

The NHS Information Centre welcomes all feedback relating to any aspect of this publication.

In particular we would welcome feedback on the following issues highlighted within the publication:

- The underlying reasons behind providers not submitting data to A&E HES.
- Where large differences exist between the number of attendances submitted to A&E HES and QMAE, what are the reasons behind the A&E HES numbers being different?
- The reasons behind the current use of invalid codes in the clinical fields (diagnosis, investigation and treatment)
- The accuracy of the time fields, including the apparent rounding of times..

How to provide feedback

Feedback can be provided to the NHS Information Centre via:
enquiries@ic.nhs.uk or 0845 300 6016 .

Responsible statistician:
Tony Childs, Principal Information Analyst HES/SUS
Contact via enquiries@ic.nhs.uk or 0845 300 6016

Appendices

Contents

Appendix 1: Number of A&E attendances recorded in A&E HES (excluding planned follow ups) compared to QMAE, and the percentage of attendances completed within 4 hours, 2009-10

		HES			QMAE		
Provider description	**Code**	**Total Attendances**	**Number of patients who spent less than 4 hrs in A&E 1**	**% of patients who spent less than 4 hrs in A&E 1**	**Total Attendances**	**Number of patients who spent less than 4 hrs in A&E 1**	**% of patients who spent less than 4 hrs in A&E 1**
England		**15,079,612**	**14,443,018**	**95.8%**	**20,511,908**	**20,158,291**	**98.3%**
Aintree University Hospitals NHS Foundation Trust	REM	85,115	83,516	98.1%	86,835	85,300	98.2%
Airedale NHS Trust	RCF	-	-	-	52,238	51,330	98.3%
Alder Hey Children's NHS Foundation Trust	RBS	57,944	56,759	98.0%	57,943	56,963	98.3%
Ashford and St Peter's Hospitals NHS Trust	RTK	93,567	91,549	97.8%	102,231	100,215	98.0%
Ashford Health Centre	5P5C1	-	-	-	26,066	26,062	100.0%
Ashton, Leigh and Wigan Primary Care Trust	5HG	-	-	-	56,968	56,725	99.6%
Barking and Dagenham Primary Care Trust	5C2	-	-	-	56,732	56,732	100.0%
Barking, Havering and Redbridge Hospitals NHS Trust	RF4	187,083	178,572	95.5%	187,059	178,683	95.5%
Barnet and Chase Farm Hospitals NHS Trust	RVL	151,032	145,283	96.2%	152,101	149,556	98.3%
Barnet Primary Care Trust	5A9	-	-	-	111,592	111,524	99.9%
Barnsley Hospital NHS Foundation Trust	RFF	71,893	71,106	98.9%	71,898	71,161	99.0%
Barts and The London NHS Trust	RNJ	130,145	120,707	92.7%	124,879	121,899	97.6%
Basildon and Thurrock University Hospitals NHS Foundation Trust	RDD	89,933	84,534	94.0%	96,292	93,945	97.6%
Basingstoke and North Hampshire NHS Foundation Trust	RN5	27,564	25,331	91.9%	44,404	43,653	98.3%
Bath and North East Somerset Primary Care Trust	5FL	-	-	-	32,305	32,305	100.0%
Bedford Hospital NHS Trust	RC1	62,285	60,734	97.5%	64,426	63,483	98.5%
Bedfordshire Primary Care Trust	5P2	-	-	-	25,685	25,684	100.0%
Berkshire East Primary Care Trust	5QG	-	-	-	41,546	41,546	100.0%
Berkshire West Primary Care Trust	5QF	-	-	-	37,494	37,494	100.0%
Birmingham Children's Hospital NHS Foundation Trust	RQ3	44,758	43,968	98.2%	44,636	43,945	98.5%
Birmingham East And North Primary Care Trust	5PG	-	-	-	44,579	44,579	100.0%
Blackpool Primary Care Trust	5HP	-	-	-	49,978	49,942	99.9%
Blackpool, Fylde and Wyre Hospitals NHS Foundation Trust	RXL	91,737	77,663	84.7%	92,013	91,094	99.0%
Bolton Primary Care Trust	5HQ	-	-	-	43,952	43,952	100.0%

		HES			QMAE		
Provider description	**Code**	**Total Attendances**	**Number of patients who spent less than 4 hrs in A&E 1**	**% of patients who spent less than 4 hrs in A&E 1**	**Total Attendances**	**Number of patients who spent less than 4 hrs in A&E 1**	**% of patients who spent less than 4 hrs in A&E 1**
Bradford Teaching Hospitals NHS Foundation Trust	RAE	69,055	67,757	98.1%	134,281	132,263	98.5%
Brighton and Sussex University Hospitals NHS Trust	RXH	144,000	120,670	83.8%	143,743	142,073	98.8%
Bristol Primary Care Trust	5QJ	-	-	-	60,104	60,104	100.0%
Buckinghamshire Hospitals NHS Trust	RXQ	-	-	-	110,900	109,339	98.6%
Burton Hospitals NHS Foundation Trust	RJF	59,941	57,730	96.3%	60,180	57,968	96.3%
Bury Primary Care Trust	5JX	-	-	-	61,757	61,757	100.0%
Calderdale and Huddersfield NHS Foundation Trust	RWY	126,730	124,498	98.2%	130,904	128,618	98.3%
Cambridge University Hospitals NHS Foundation Trust	RGT	90,356	88,147	97.6%	90,356	88,147	97.6%
Cambridgeshire Primary Care Trust	5PP	-	-	-	19,450	19,449	100.0%
Central And Eastern Cheshire Primary Care Trust	5NP	-	-	-	2,645	2,645	100.0%
Central Lancashire Primary Care Trust	5NG	24,467	21,485	87.8%	25,434	25,434	100.0%
Central Manchester University Hospitals NHS Foundation Trust	RW3	175,897	171,664	97.6%	191,212	187,526	98.1%
Chelsea and Westminster Hospital NHS Foundation Trust	RQM	1,278	1,248	97.7%	100,746	99,377	98.6%
Chesterfield Royal Hospital NHS Foundation Trust	RFS	61,959	60,964	98.4%	63,181	62,196	98.4%
City and Hackney Teaching Primary Care Trust	5C3	-	-	-	16,010	16,010	100.0%
City Hospitals Sunderland NHS Foundation Trust	RLN	106,248	102,131	96.1%	112,864	109,058	96.6%
Colchester Hospital University NHS Foundation Trust	RDE	71,878	70,116	97.5%	72,297	70,975	98.2%
Cornwall And Isles Of Scilly Primary Care Trust	5QP	-	-	-	92,146	92,048	99.9%
Countess of Chester Hospital NHS Foundation Trust	RJR	67,850	66,603	98.2%	67,899	66,665	98.2%
County Durham and Darlington NHS Foundation Trust	RXP	126,748	125,127	98.7%	129,660	128,307	99.0%
Coventry Teaching Primary Care Trust	5MD	-	-	-	55,914	55,872	99.9%
Cumbria Teaching Primary Care Trust	5NE	-	-	-	53,031	52,928	99.8%
Darlington Primary Care Trust	5J9	-	-	-	94,296	94,296	100.0%
Dartford and Gravesham NHS Trust	RN7	49,486	47,603	96.2%	49,487	47,616	96.2%
Derby City Primary Care Trust	5N7	-	-	-	61,954	61,954	100.0%
Derby Hospitals NHS Foundation Trust	RTG	109,866	106,167	96.6%	111,348	107,651	96.7%
Derbyshire County Primary Care Trust	5N6	50,701	50,332	99.3%	72,068	71,816	99.7%
Devon Primary Care Trust	5QQ	47,633	46,934	98.5%	139,755	139,681	99.9%
Doncaster and Bassetlaw Hospitals NHS Foundation Trust	RP5	153,601	150,590	98.0%	158,201	155,383	98.2%

		HES			QMAE		
Provider description	**Code**	**Total Attendances**	**Number of patients who spent less than 4 hrs in A&E 1**	**% of patients who spent less than 4 hrs in A&E 1**	**Total Attendances**	**Number of patients who spent less than 4 hrs in A&E 1**	**% of patients who spent less than 4 hrs in A&E 1**
Dorset County Hospital NHS Foundation Trust	RBD	36,639	36,229	98.9%	36,625	36,213	98.9%
Dorset Primary Care Trust	5QM	17,806	17,795	99.9%	47,268	47,252	100.0%
Dudley Primary Care Trust	5PE	-	-	-	18,742	18,742	100.0%
Ealing Hospital NHS Trust	RC3	94,155	81,786	86.9%	98,812	97,038	98.2%
East and North Hertfordshire NHS Trust	RWH	142,944	140,802	98.5%	152,020	149,872	98.6%
East And North Hertfordshire Primary Care Trust	5P3	-	-	-	9,656	9,655	100.0%
East Cheshire NHS Trust	RJN	51,654	51,058	98.8%	53,022	52,419	98.9%
East Kent Hospitals University NHS Foundation Trust	RVV	198,543	188,891	95.1%	199,288	196,511	98.6%
East Lancashire Hospitals NHS Trust	RXR	145,002	138,096	95.2%	145,070	138,138	95.2%
East Lancashire Primary Care Trust	5NH	-	-	-	63,771	63,758	100.0%
East Riding Of Yorkshire Primary Care Trust	5NW	-	-	-	14,616	14,611	100.0%
East Sussex Downs And Weald Primary Care Trust	5P7	-	-	-	21,476	21,460	99.9%
East Sussex Hospitals NHS Trust	RXC	102,019	81,944	80.3%	120,171	117,524	97.8%
Eastern And Coastal Kent Primary Care Trust	5QA	-	-	-	86,444	86,409	100.0%
Epsom and St Helier University Hospitals NHS Trust	RVR	135,944	133,742	98.4%	135,998	133,793	98.4%
Frimley Park Hospital NHS Foundation Trust	RDU	95,891	94,415	98.5%	95,049	93,567	98.4%
Gateshead Health NHS Foundation Trust	RR7	60,717	59,762	98.4%	60,748	59,769	98.4%
Gateshead Primary Care Trust	5KF	29,257	29,127	99.6%	34,818	34,803	100.0%
George Eliot Hospital NHS Trust	RLT	63,440	60,674	95.6%	66,340	64,767	97.6%
Gloucestershire Hospitals NHS Foundation Trust	RTE	105,273	101,190	96.1%	105,276	101,283	96.2%
Gloucestershire Primary Care Trust	5QH	62,724	62,616	99.8%	70,146	70,071	99.9%
Great Western Hospitals NHS Foundation Trust	RN3	66,347	64,446	97.1%	66,448	64,699	97.4%
Great Yarmouth And Waveney Primary Care Trust	5PR	-	-	-	13,266	13,266	100.0%
Guy's and St Thomas' NHS Foundation Trust	RJ1	140,847	135,224	96.0%	154,214	150,550	97.6%
Halton And St Helens Primary Care Trust	5NM	-	-	-	102,255	102,220	100.0%
Hammersmith and Fulham Primary Care Trust	5H1	-	-	-	20,751	20,751	100.0%
Hampshire Primary Care Trust	5QC	14,535	14,061	96.7%	22,403	22,392	100.0%
Haringey Teaching Primary Care Trust	5C9	-	-	-	35,349	35,325	99.9%
Harrogate and District NHS Foundation Trust	RCD	42,940	42,266	98.4%	42,829	42,156	98.4%
Havering Primary Care Trust	5A4	-	-	-	42,687	42,655	99.9%
Heart of Birmingham Teaching Primary Care Trust	5MX	-	-	-	45,210	45,210	100.0%

		HES			QMAE		
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Heart of England NHS Foundation Trust	RR1	235,496	225,070	95.6%	235,495	225,332	95.7%
Heatherwood and Wexham Park Hospitals NHS Foundation Trust	RD7	116,006	112,018	96.6%	121,371	117,380	96.7%
Hereford Hospitals NHS Trust	RLQ	44,646	43,345	97.1%	45,077	43,824	97.2%
Herefordshire Primary Care Trust	5CN	9,205	9,190	99.8%	8,871	8,869	100.0%
Heywood, Middleton And Rochdale Primary Care Trust	5NQ	-	-	-	16,936	16,936	100.0%
Hillingdon Primary Care Trust	5AT	-	-	-	30,517	30,517	100.0%
Hinchingbrooke Healthcare NHS Trust	RQQ	35,256	34,541	98.0%	36,137	35,422	98.0%
Homerton University Hospital NHS Foundation Trust	RQX	111,955	107,876	96.4%	112,357	110,652	98.5%
Hull and East Yorkshire Hospitals NHS Trust	RWA	123,073	120,477	97.9%	123,067	120,473	97.9%
Hull Teaching Primary Care Trust	5NX	-	-	-	10,202	10,199	100.0%
Imperial College Healthcare NHS Trust	RYJ	192,234	173,541	90.3%	235,341	230,056	97.8%
Ipswich Hospital NHS Trust	RGQ	55,445	54,356	98.0%	55,453	54,364	98.0%
Isle Of Wight NHS Primary Care Trust	5QT	39,041	38,121	97.6%	46,587	45,683	98.1%
James Paget University Hospitals NHS Foundation Trust	RGP	64,140	62,767	97.9%	64,553	63,359	98.2%
Kensington and Chelsea Primary Care Trust	5LA	10,534	10,455	99.3%	18,067	17,886	99.0%
Kettering General Hospital NHS Foundation Trust	RNQ	77,067	75,484	97.9%	85,971	84,390	98.2%
King's College Hospital NHS Foundation Trust	RJZ	122,396	98,492	80.5%	149,566	147,062	98.3%
Kingston Hospital NHS Trust	RAX	99,991	96,586	96.6%	109,870	107,802	98.1%
Kirklees Primary Care Trust	5N2	-	-	-	19,210	19,210	100.0%
Knowsley Primary Care Trust	5J4	-	-	-	60,719	60,719	100.0%
Lancashire Teaching Hospitals NHS Foundation Trust	RXN	118,540	116,584	98.3%	119,117	117,448	98.6%
Leeds Primary Care Trust	5N1	-	-	-	48,573	48,573	100.0%
Leeds Teaching Hospitals NHS Trust	RR8	195,358	191,464	98.0%	195,349	191,696	98.1%
Leicester City Primary Care Trust	5PC	-	-	-	30,364	30,348	99.9%
Leicestershire County And Rutland Primary Care Trust	5PA	-	-	-	78,819	78,684	99.8%
Lincolnshire Primary Care Trust	5N9	-	-	-	64,165	64,023	99.8%
Liverpool Primary Care Trust	5NL	-	-	-	120,797	120,797	100.0%
Liverpool Women's NHS Foundation Trust	REP	11,911	11,778	98.9%	11,936	11,933	100.0%
Luton and Dunstable Hospital NHS Foundation Trust	RC9	60,726	57,838	95.2%	62,137	59,220	95.3%
Luton Teaching Primary Care Trust	5GC	-	-	-	49,809	49,804	100.0%
Maidstone and Tunbridge Wells NHS Trust	RWF	114,884	102,733	89.4%	114,968	112,802	98.1%
Manchester Primary Care Trust	5NT	-	-	-	63,711	63,705	100.0%

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Mayday Healthcare NHS Trust	RJ6	125,436	122,754	97.9%	159,867	157,297	98.4%
Medway NHS Foundation Trust	RPA	79,526	78,231	98.4%	84,816	83,498	98.4%
Mid Cheshire Hospitals NHS Foundation Trust	RBT	75,403	73,349	97.3%	75,458	73,427	97.3%
Mid Essex Hospital Services NHS Trust	RQ8	73,809	72,205	97.8%	74,997	73,847	98.5%
Mid Essex Primary Care Trust	5PX	-	-	-	4,493	4,493	100.0%
Mid Staffordshire NHS Foundation Trust	RJD	51,031	49,005	96.0%	77,725	75,477	97.1%
Mid Yorkshire Hospitals NHS Trust	RXF	194,115	189,261	97.5%	194,119	189,302	97.5%
Milton Keynes Hospital NHS Foundation Trust	RD8	71,503	66,188	92.6%	71,912	69,908	97.2%
Milton Keynes Primary Care Trust	5CQ	-	-	-	42,605	42,597	100.0%
Moorfields Eye Hospital NHS Foundation Trust	RP6	69,384	69,065	99.5%	69,383	69,032	99.5%
Newcastle Primary Care Trust	5D7	-	-	-	23,064	23,029	99.8%
Newham Primary Care Trust	5C5	-	-	-	47,835	47,656	99.6%
Newham University Hospital NHS Trust	RNH	93,284	90,805	97.3%	68,346	66,530	97.3%
NHS Walsall	5M3	-	-	-	33,232	33,232	100.0%
Norfolk and Norwich University Hospitals NHS Foundation Trust	RM1	92,282	90,337	97.9%	92,094	90,184	97.9%
Norfolk Primary Care Trust	5PQ	-	-	-	23,362	23,362	100.0%
North Bristol NHS Trust	RVJ	84,590	82,887	98.0%	90,218	88,642	98.3%
North Cumbria Acute Hospitals NHS Trust	RNL	68,166	67,091	98.4%	68,371	67,351	98.5%
North East Essex Primary Care Trust	5PW	-	-	-	64,167	64,164	100.0%
North East Lincolnshire Care Trust Plus	TAN	-	-	-	5,778	5,778	100.0%
North Middlesex University Hospital NHS Trust	RAP	110,812	105,560	95.3%	112,977	110,667	98.0%
North Somerset Primary Care Trust	5M8	6,173	6,141	99.5%	16,292	16,277	99.9%
North Staffordshire Combined Healthcare NHS Trust	RLY	-	-	-	0	0	0.0%
North Staffordshire Primary Care Trust	5PH	10,218	10,159	99.4%	7,423	7,421	100.0%
North Tees and Hartlepool NHS Foundation Trust	RVW	92,534	91,401	98.8%	96,426	95,240	98.8%
North West London Hospitals NHS Trust	RV8	173,289	168,274	97.1%	245,779	240,771	98.0%
North Yorkshire And York Primary Care Trust	5NV	-	-	-	59,666	59,650	100.0%
Northampton General Hospital NHS Trust	RNS	78,599	74,757	95.1%	81,063	79,602	98.2%
Northamptonshire Primary Care Trust	5PD	-	-	-	8,887	8,886	100.0%
Northern Devon Healthcare NHS Trust	RBZ	49,015	47,586	97.1%	52,821	51,428	97.4%
Northern Lincolnshire and Goole Hospitals NHS Foundation Trust	RJL	131,649	129,761	98.6%	131,649	129,836	98.6%
Northumbria Healthcare NHS Foundation Trust	RTF	158,474	155,727	98.3%	162,805	160,208	98.4%

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Norwich Practices Ltd (Castle Mall)	NMH01	-	-	-	27,871	27,871	100.0%
Nottingham City Primary Care Trust	5EM	-	-	-	62,761	62,747	100.0%
Nottingham University Hospitals NHS Trust	RX1	167,506	162,550	97.0%	174,903	169,457	96.9%
Nottinghamshire County Primary Care Trust	5N8	-	-	-	21,820	21,820	100.0%
Oldham Primary Care Trust	5J5	-	-	-	45,166	45,144	100.0%
Oxford Radcliffe Hospitals NHS Trust	RTH	106,959	101,076	94.5%	120,984	116,910	96.6%
Oxfordshire Primary Care Trust	5QE	-	-	-	30,167	30,117	99.8%
Pennine Acute Hospitals NHS Trust	RW6	296,870	282,463	95.1%	296,910	282,660	95.2%
Peterborough and Stamford Hospitals NHS Foundation Trust	RGN	68,540	66,376	96.8%	66,687	64,516	96.7%
Peterborough Primary Care Trust	5PN	-	-	-	64,025	64,022	100.0%
Plymouth Hospitals NHS Trust	RK9	92,378	87,031	94.2%	94,948	93,078	98.0%
Plymouth Teaching Primary Care Trust	5F1	-	-	-	15,750	15,750	100.0%
Poole Hospital NHS Foundation Trust	RD3	58,494	51,725	88.4%	58,590	57,455	98.1%
Portsmouth City Teaching Primary Care Trust	5FE	-	-	-	48,328	48,324	100.0%
Portsmouth Hospitals NHS Trust	RHU	103,899	99,292	95.6%	120,307	115,586	96.1%
Queen Victoria Hospital NHS Foundation Trust	RPC	11,371	11,305	99.4%	11,480	11,420	99.5%
Redbridge Primary Care Trust	5NA	-	-	-	36,875	36,781	99.7%
Redcar And Cleveland Primary Care Trust	5QR	-	-	-	28,854	28,854	100.0%
Richmond and Twickenham Primary Care Trust	5M6	-	-	-	47,812	47,807	100.0%
Rotherham Primary Care Trust	5H8	-	-	-	29,178	29,177	100.0%
Royal Berkshire NHS Foundation Trust	RHW	77,613	74,415	95.9%	94,065	92,792	98.6%
Royal Bolton Hospital NHS Foundation Trust	RMC	107,993	104,900	97.1%	108,287	105,084	97.0%
Royal Cornwall Hospitals NHS Trust	REF	70,135	69,040	98.4%	70,199	69,103	98.4%
Royal Devon and Exeter NHS Foundation Trust	RH8	23,451	22,742	97.0%	89,871	87,208	97.0%
Royal Free Hampstead NHS Trust	RAL	84,682	81,049	95.7%	86,653	85,155	98.3%
Royal Liverpool and Broadgreen University Hospitals NHS Trust	RQ6	111,578	109,396	98.0%	111,589	109,425	98.1%
Royal Surrey County Hospital NHS Foundation Trust	RA2	67,954	60,535	89.1%	67,536	66,348	98.2%
Royal United Hospital Bath NHS Trust	RD1	67,804	59,883	88.3%	67,749	64,422	95.1%
Salford Primary Care Trust	5F5	-	-	-	34,239	34,236	100.0%
Salford Royal NHS Foundation Trust	RM3	82,932	81,323	98.1%	83,898	82,260	98.0%
Salisbury NHS Foundation Trust	RNZ	40,656	39,882	98.1%	40,656	39,881	98.1%
Sandwell and West Birmingham Hospitals NHS Trust	RXK	224,244	220,543	98.3%	224,952	221,501	98.5%
Scarborough and North East Yorkshire Healthcare NHS Trust	RCC	51,643	50,510	97.8%	51,648	50,516	97.8%

		HES			QMAE		
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Sefton Primary Care Trust	5NJ	-	-	-	40,606	40,606	100.0%
Sheffield Children's NHS Foundation Trust	RCU	51,280	50,799	99.1%	54,377	53,902	99.1%
Sheffield Teaching Hospitals NHS Foundation Trust	RHQ	120,131	100,116	83.3%	198,920	195,582	98.3%
Sherwood Forest Hospitals NHS Foundation Trust	RK5	96,174	94,365	98.1%	98,703	97,323	98.6%
Shrewsbury and Telford Hospitals NHS Trust	RXW	98,405	86,369	87.8%	104,946	101,244	96.5%
Shropshire County Primary Care Trust	5M2	15,580	15,567	99.9%	33,756	33,746	100.0%
Solihull Care Trust	TAM	-	-	-	38,929	38,929	100.0%
Somerset Primary Care Trust	5QL	61,195	60,940	99.6%	89,442	89,390	99.9%
South Birmingham Primary Care Trust	5M1	-	-	-	33,892	33,892	100.0%
South Devon Healthcare NHS Foundation Trust	RA9	70,237	68,512	97.5%	72,044	70,225	97.5%
South London Healthcare NHS Trust	RYQ	231,068	181,862	78.7%	282,484	277,769	98.3%
South Staffordshire Primary Care Trust	5PK	69,625	69,617	100.0%	51,646	51,644	100.0%
South Tees Hospitals NHS Foundation Trust	RTR	120,918	119,609	98.9%	123,381	122,049	98.9%
South Tyneside NHS Foundation Trust	RE9	54,787	53,945	98.5%	54,883	54,039	98.5%
South Warwickshire General Hospitals NHS Trust	RJC	51,893	49,915	96.2%	57,107	55,104	96.5%
South West Essex Primary Care Trust	5PY	-	-	-	20,447	20,437	100.0%
Southampton City Primary Care Trust	5L1	-	-	-	104,387	104,387	100.0%
Southampton University Hospitals NHS Trust	RHM	102,760	85,721	83.4%	107,480	102,970	95.8%
Southend University Hospital NHS Foundation Trust	RAJ	89,768	87,182	97.1%	104,909	102,636	97.8%
Southport and Ormskirk Hospital NHS Trust	RVY	77,847	76,540	98.3%	79,148	77,859	98.4%
St George's Healthcare NHS Trust	RJ7	111,603	108,269	97.0%	111,717	108,458	97.1%
St Helens and Knowsley Hospitals NHS Trust	RBN	161,156	159,557	99.0%	102,117	100,585	98.5%
Stockport NHS Foundation Trust	RWJ	85,023	83,782	98.5%	83,330	82,095	98.5%
Suffolk Primary Care Trust	5PT	-	-	-	45,690	45,689	100.0%
Sunderland Teaching Primary Care Trust	5KL	75,069	73,153	97.4%	83,951	83,934	100.0%
Surrey and Sussex Healthcare NHS Trust	RTP	50,266	46,086	91.7%	50,312	45,487	90.4%
Surrey Primary Care Trust	5P5	-	-	-	127,853	127,784	99.9%
Swindon Primary Care Trust	5K3	-	-	-	50,987	50,908	99.8%
Tameside Hospital NHS Foundation Trust	RMP	75,889	74,924	98.7%	76,210	75,245	98.7%
Taunton and Somerset NHS Foundation Trust	RBA	49,956	48,574	97.2%	49,988	49,180	98.4%
Telford and Wrekin Primary Care Trust	5MK	-	-	-	19,907	19,906	100.0%
Tetbury Hospital	NTY	1987	1,880	94.6%			

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The Dudley Group of Hospitals NHS Foundation Trust	RNA	94,743	92,604	97.7%	94,685	92,558	97.8%
The Hillingdon Hospital NHS Trust	RAS	102,660	100,366	97.8%	103,980	101,682	97.8%
The Lewisham Hospital NHS Trust	RJ2	114,821	113,295	98.7%	129,224	127,697	98.8%
The Newcastle Upon Tyne Hospitals NHS Foundation Trust	RTD	69,127	66,706	96.5%	127,592	125,896	98.7%
The Princess Alexandra Hospital NHS Trust	RQW	79,938	76,559	95.8%	80,770	78,301	96.9%
The Queen Elizabeth Hospital King's Lynn NHS Trust	RCX	59,584	58,390	98.0%	60,402	59,209	98.0%
The Rotherham NHS Foundation Trust	RFR	72,279	64,526	89.3%	74,053	72,671	98.1%
The Royal Bournemouth & Christchurch Hospitals NHS Foundation Trust	RDZ	61,085	55,145	90.3%	65,452	65,195	99.6%
The Royal Wolverhampton Hospitals NHS Trust	RL4	98,900	97,730	98.8%	98,915	97,766	98.8%
The Whittington Hospital NHS Trust	RKE	82,024	80,731	98.4%	95,209	93,913	98.6%
Torbay Care Trust	TAL	5,868	5,863	99.9%	7,850	7,848	100.0%
Tower Hamlets Primary Care Trust	5C4	-	-	-	47,325	47,325	100.0%
Trafford Healthcare NHS Trust	RM4	58,876	54,512	92.6%	58,874	57,742	98.1%
Trafford Primary Care Trust	5NR	-	-	-	3,637	3,637	100.0%
United Lincolnshire Hospitals NHS Trust	RWD	168,696	164,031	97.2%	168,478	163,982	97.3%
University College London Hospitals NHS Foundation Trust	RRV	100,749	99,961	99.2%	100,756	99,995	99.2%
University Hospital Birmingham NHS Foundation Trust	RRK	82,637	80,980	98.0%	82,632	81,044	98.1%
University Hospital of North Staffordshire NHS Trust	RJE	100,635	97,340	96.7%	145,731	142,370	97.7%
University Hospital of South Manchester NHS Foundation Trust	RM2	83,922	81,367	97.0%	84,167	82,030	97.5%
University Hospitals Coventry and Warwickshire NHS Trust	RKB	155,198	151,174	97.4%	156,867	152,868	97.5%
University Hospitals of Bristol NHS Foundation Trust	RA7	114,320	107,493	94.0%	114,322	110,986	97.1%
University Hospitals of Leicester NHS Trust	RWE	160,568	155,963	97.1%	160,405	155,806	97.1%
University Hospitals of Morecambe Bay NHS Trust	RTX	102,828	100,780	98.0%	102,337	100,325	98.0%
Wakefield District Primary Care Trust	5N3	-	-	-	43,822	43,820	100.0%
Walsall Hospitals NHS Trust	RBK	73,056	71,036	97.2%	78,927	76,766	97.3%
Waltham Forest Primary Care Trust	5NC	-	-	-	54,169	53,985	99.7%
Wandsworth Primary Care Trust	5LG	65,254	65,240	100.0%	80,527	80,521	100.0%
Warrington and Halton Hospitals NHS Foundation Trust	RWW	94,146	92,090	97.8%	94,168	92,139	97.8%
Warwickshire Primary Care Trust	5PM	-	-	-	16,414	16,414	100.0%

		HES			QMAE		
Provider description	**Code**	**Total Attendances**	**Number of patients who spent less than 4 hrs in A&E 1**	**% of patients who spent less than 4 hrs in A&E 1**	**Total Attendances**	**Number of patients who spent less than 4 hrs in A&E 1**	**% of patients who spent less than 4 hrs in A&E 1**
West Essex Primary Care Trust	5PV	-	-	-	53,801	53,800	100.0%
West Hertfordshire Hospitals NHS Trust	RWG	107,208	103,173	96.2%	114,567	111,999	97.8%
West Kent Primary Care Trust	5P9	-	-	-	76,259	76,172	99.9%
West Middlesex University Hospital NHS Trust	RFW	102,730	101,101	98.4%	102,725	101,103	98.4%
West Suffolk Hospitals NHS Trust	RGR	48,124	46,619	96.9%	48,100	46,599	96.9%
West Sussex Primary Care Trust	5P6	11,035	11,011	99.8%	58,282	58,009	99.5%
Western Cheshire Primary Care Trust	5NN	-	-	-	3,962	3,962	100.0%
Western Sussex Hospitals NHS Trust	RYR	120,582	116,962	97.0%	127,533	125,459	98.4%
Westminster Primary Care Trust	5LC	-	-	-	32,949	32,949	100.0%
Weston Area Health NHS Trust	RA3	46,359	43,639	94.1%	47,026	45,601	97.0%
Whipps Cross University Hospital NHS Trust	RGC	92,152	88,494	96.0%	104,116	100,327	96.4%
Wiltshire Primary Care Trust	5QK	38,192	38,155	99.9%	43,263	43,239	99.9%
Winchester and Eastleigh Healthcare NHS Trust	RN1	58,134	55,412	95.3%	58,136	57,084	98.2%
Wirral Primary Care Trust	5NK	-	-	-	69,700	69,600	99.9%
Wirral University Teaching Hospital NHS Foundation Trust	RBL	89,635	85,547	95.4%	89,636	85,195	95.0%
Wolverhampton City Primary Care Trust	5MV	-	-	-	53,907	53,907	100.0%
Worcestershire Acute Hospitals NHS Trust	RWP	138,061	134,359	97.3%	138,063	134,360	97.3%
Worcestershire Primary Care Trust	5PL	23,557	23,541	99.9%	52,334	52,326	100.0%
Wrightington, Wigan and Leigh NHS Foundation Trust	RRF	84,186	80,620	95.8%	88,956	85,220	95.8%
Yeovil District Hospital NHS Foundation Trust	RA4	42,635	41,437	97.2%	42,635	41,601	97.6%
York Hospitals NHS Foundation Trust	RCB	71,166	68,874	96.8%	71,493	69,807	97.6%
NHS Walk in Centres, with a commuter focus	CWiC	-	-	-	155,283	155,283	100.0%

Appendix 2: Number of A&E attendances by first A&E investigation '1-2 character description field', 2008-09 and 2009-10

	2008 - 09			2009 - 10		
First A&E investigation	**Number of attendances**	**Percentage (all records)**	***Percentages (excluding unknowns and unmatched)***	**Number of attendances**	**Percentage (all records)**	***Percentages (excluding unknowns and unmatched)***
Arterial/capillary blood gas	22,220	0.2%	*0.2%*	32,243	0.2%	*0.3%*
Bacteriology	98,270	0.7%	*1.1%*	112,387	0.7%	*0.9%*
Biochemistry	546,038	4.0%	*6.1%*	661,685	4.2%	*5.5%*
Blood culture	5,296	0.0%	*0.1%*	6,976	0.0%	*0.1%*
Cardiac enzymes	10,434	0.1%	*0.1%*	15,422	0.1%	*0.1%*
Clotting studies	16,400	0.1%	*0.2%*	39,801	0.3%	*0.3%*
Computerised tomography (exc genito urinary contrast examination/tomography)	105,137	0.8%	*1.2%*	168,424	1.1%	*1.4%*
Computerised tomography (retired 2006)	28,749	0.2%	*0.3%*	31,079	0.2%	*0.3%*
Cross match blood/group & save serum for later cross match	84,377	0.6%	*0.9%*	110,892	0.7%	*0.9%*
Dental investigation	779	0.0%	*0.0%*	2,091	0.0%	*0.0%*
Electrocardiogram	362,776	2.6%	*4.0%*	444,286	2.9%	*3.7%*
Genito urinary contrast examination/tomography	4,609	0.0%	*0.1%*	3,348	0.0%	*0.0%*
Haematology	559,183	4.1%	*6.2%*	758,947	4.9%	*6.3%*
Histology	3,087	0.0%	*0.0%*	6,523	0.0%	*0.1%*
Immunology	3,428	0.0%	*0.0%*	7,899	0.1%	*0.1%*
Magnetic resonance imaging	27,798	0.2%	*0.3%*	8,160	0.1%	*0.1%*
None	2,266,170	16.4%	*25.2%*	3,973,750	25.5%	*32.8%*
Other	1,006,699	7.3%	*11.2%*	899,018	5.8%	*7.4%*
Pregnancy test	17,910	0.1%	*0.2%*	29,799	0.2%	*0.2%*
Refraction, orthoptic tests and computerised visual fields	40,424	0.3%	*0.4%*	51,319	0.3%	*0.4%*
Serology	2,095	0.0%	*0.0%*	3,622	0.0%	*0.0%*
Toxicology	3,253	0.0%	*0.0%*	4,151	0.0%	*0.0%*
Ultrasound	64,110	0.5%	*0.7%*	64,829	0.4%	*0.5%*
Urinalysis	246,545	1.8%	*2.7%*	314,704	2.0%	*2.6%*
X-ray plain film	3,482,978	25.2%	*38.7%*	4,348,340	27.9%	*35.9%*
Total Valid records	**9,008,765**	**65.3%**	***100.0%***	**12,099,695**	**77.7%**	***100.0%***
Null/Blank	4,572,746	33.2%		3,426,269	22.0%	
Unmatched	212,561	1.5%		43,772	0.3%	
Total Invalid records	**4,785,307**	**34.7%**		**3,470,041**	**22.3%**	
Total	**13,794,072**	***100.0%***		**15,569,736**	***100.0%***	

Appendix 3: Number of A&E attendances by first A&E primary diagnosis '1-2 character description field', 2008-09 and 2009-10

First A&E Diagnosis	2008 -09			2009-10		
	Number of attendances	*Percentage (all records)*	*Percentages (excluding unknowns and unmatched)*	Number of attendances	*Percentage (all records)*	*Percentages (excluding unknowns and unmatched)*
Allergy (inc anaphylaxis)	49,638	*0.4%*	*0.6%*	55,838	*0.4%*	*0.6%*
Bites/stings	60,861	*0.4%*	*0.8%*	72,406	*0.5%*	*0.8%*
Burns and scalds	87,863	*0.6%*	*1.1%*	90,927	*0.6%*	*1.0%*
Cardiac conditions	278,586	*2.0%*	*3.6%*	334,200	*2.1%*	*3.7%*
Central nervous system conditions (exc stroke)	179,500	*1.3%*	*2.3%*	214,624	*1.4%*	*2.4%*
Cerebro-vascular conditions	79,373	*0.6%*	*1.0%*	94,412	*0.6%*	*1.0%*
Contusion/abrasion	442,501	*3.2%*	*5.7%*	472,531	*3.0%*	*5.2%*
Dermatological conditions	62,833	*0.5%*	*0.8%*	77,007	*0.5%*	*0.9%*
Diabetes and other endocrinological conditions	33,191	*0.2%*	*0.4%*	44,356	*0.3%*	*0.5%*
Diagnosis not classifiable	1,266,514	*9.2%*	*16.2%*	1,565,348	*10.1%*	*17.3%*
Dislocation/fracture/joint injury/amputation	644,563	*4.7%*	*8.3%*	756,886	*4.9%*	*8.4%*
Electric shock	4,021	*0.0%*	*0.1%*	3,514	*0.0%*	*0.0%*
ENT conditions	135,411	*1.0%*	*1.7%*	171,345	*1.1%*	*1.9%*
Facio-maxillary conditions	31,757	*0.2%*	*0.4%*	41,998	*0.3%*	*0.5%*
Foreign body	105,243	*0.8%*	*1.3%*	115,738	*0.7%*	*1.3%*
Gastrointestinal conditions	413,656	*3.0%*	*5.3%*	511,533	*3.3%*	*5.7%*
Gynaecological conditions	91,951	*0.7%*	*1.2%*	106,370	*0.7%*	*1.2%*
Haematological conditions	26,210	*0.2%*	*0.3%*	26,327	*0.2%*	*0.3%*
Head injury	272,485	*2.0%*	*3.5%*	336,396	*2.2%*	*3.7%*
Infectious disease	86,024	*0.6%*	*1.1%*	102,574	*0.7%*	*1.1%*
Laceration	663,475	*4.8%*	*8.5%*	700,254	*4.5%*	*7.7%*
Local infection	204,313	*1.5%*	*2.6%*	220,534	*1.4%*	*2.4%*
Muscle/tendon injury	198,140	*1.4%*	*2.5%*	228,016	*1.5%*	*2.5%*
Near drowning	635	*0.0%*	*0.0%*	1,900	*0.0%*	*0.0%*
Nerve injury	8,095	*0.1%*	*0.1%*	11,072	*0.1%*	*0.1%*
Nothing abnormal detected	276,850	*2.0%*	*3.5%*	312,994	*2.0%*	*3.5%*
Obstetric conditions	30,940	*0.2%*	*0.4%*	42,048	*0.3%*	*0.5%*
Ophthalmological conditions	270,345	*2.0%*	*3.5%*	295,934	*1.9%*	*3.3%*
Other vascular conditions	40,597	*0.3%*	*0.5%*	46,877	*0.3%*	*0.5%*
Poisoning (inc overdose)	117,183	*0.8%*	*1.5%*	127,240	*0.8%*	*1.4%*
Psychiatric conditions	71,738	*0.5%*	*0.9%*	90,079	*0.6%*	*1.0%*
Respiratory conditions	357,481	*2.6%*	*4.6%*	411,149	*2.6%*	*4.5%*
Septicaemia	6,850	*0.0%*	*0.1%*	9,080	*0.1%*	*0.1%*
Social problems (inc chronic alcoholism and homelessness)	28,964	*0.2%*	*0.4%*	29,620	*0.2%*	*0.3%*
Soft tissue inflammation	473,055	*3.4%*	*6.1%*	525,219	*3.4%*	*5.8%*
Sprain/ligament injury	530,922	*3.8%*	*6.8%*	585,279	*3.8%*	*6.5%*
Urological conditions (inc cystitis)	161,050	*1.2%*	*2.1%*	197,414	*1.3%*	*2.2%*
Vascular injury	7,536	*0.1%*	*0.1%*	8,833	*0.1%*	*0.1%*
Visceral injury	4,920	*0.0%*	*0.1%*	5,687	*0.0%*	*0.1%*
Valid records	**7,805,270**	***56.6%***	***100.0%***	**9,043,559**	***58.1%***	***100.0%***
Null/Blank	4,703,418	*34.1%*		5,089,970	*32.7%*	
Unmatched	1,285,384	*9.3%*		1,436,207	*9.2%*	
Invalid records	**5,988,802**	***43.4%***		**6,526,177**	***41.9%***	
Total	**13,794,072**			**15,569,736**		

Appendix 4: Number of A&E attendances by first A&E treatment '1-2 character description field', 2008-09 and 2009-10

	2008 - 09			2009 - 10		
First A&E treatment	**Number of attendances**	**Percentage (all records)**	***Percentages (excluding unknowns and unmatched)***	**Number of attendances**	**Percentage (all records)**	***Percentages (excluding unknowns and unmatched)***
Active rewarming of the hypothermic patient	413	0.0%	*0.0%*	1,105	0.0%	*0.0%*
Anaesthesia	51,719	0.4%	*0.6%*	65,207	0.4%	*0.6%*
Arterial line	1,179	0.0%	*0.0%*	1,311	0.0%	*0.0%*
Bandage/support	157,837	1.1%	*2.0%*	197,977	1.3%	*1.9%*
Blood product transfusion	416	0.0%	*0.0%*	8,374	0.1%	*0.1%*
Burns review	3,472	0.0%	*0.0%*	4,303	0.0%	*0.0%*
Central line	21,529	0.2%	*0.3%*	21,193	0.1%	*0.2%*
Chest drain	867	0.0%	*0.0%*	1,472	0.0%	*0.0%*
Continuous positive airways pressure/nasal intermittent positive pressure ventilation/bag valve mask	2,390	0.0%	*0.0%*	1,760	0.0%	*0.0%*
Cooling - control body temperature	12,948	0.1%	*0.2%*	4,085	0.0%	*0.0%*
Defibrillation/pacing	714	0.0%	*0.0%*	1,285	0.0%	*0.0%*
Dental treatment	1,701	0.0%	*0.0%*	2,106	0.0%	*0.0%*
Dressing	279,632	2.0%	*3.5%*	340,477	2.2%	*3.3%*
Dressing/wound review	12,429	0.1%	*0.2%*	19,623	0.1%	*0.2%*
Epistaxis control	2,787	0.0%	*0.0%*	3,377	0.0%	*0.0%*
Eye	19,345	0.1%	*0.2%*	30,607	0.2%	*0.3%*
Fracture review	5,090	0.0%	*0.1%*	4,028	0.0%	*0.0%*
Guidance/advice only	3,020,024	21.9%	*37.7%*	3,899,437	25.0%	*37.9%*
Incision and drainage	12,058	0.1%	*0.2%*	14,779	0.1%	*0.1%*
Infusion fluids	38,576	0.3%	*0.5%*	56,942	0.4%	*0.6%*
Intravenous cannula	357,366	2.6%	*4.5%*	512,370	3.3%	*5.0%*
Intubation & Endotracheal tubes/laryngeal mask airways/rapid sequence induction	2,040	0.0%	*0.0%*	8,975	0.1%	*0.1%*
Joint aspiration	795	0.0%	*0.0%*	1,020	0.0%	*0.0%*
Lavage/emesis/charcoal/eye irrigation	5,345	0.0%	*0.1%*	6,596	0.0%	*0.1%*
Loan of walking aid (crutches)	25,732	0.2%	*0.3%*	32,666	0.2%	*0.3%*
Lumbar puncture	89	0.0%	*0.0%*	144	0.0%	*0.0%*
Manipulation	27,154	0.2%	*0.3%*	21,293	0.1%	*0.2%*
Medication administered	363,302	2.6%	*4.5%*	507,558	3.3%	*4.9%*
Minor plastic procedure/splint skin graft	121	0.0%	*0.0%*	256	0.0%	*0.0%*
Minor surgery	9,915	0.1%	*0.1%*	11,554	0.1%	*0.1%*
Nasal airway	19,480	0.1%	*0.2%*	28,643	0.2%	*0.3%*
Nebulise/spacer	37,354	0.3%	*0.5%*	45,400	0.3%	*0.4%*
None (consider guidance/advice option)	967,931	7.0%	*12.1%*	1,235,602	7.9%	*12.0%*
Observation/electrocardiogram,pulse oximetry/head injury/trends	508,521	3.7%	*6.4%*	771,394	5.0%	*7.5%*
Occupational therapy	1,223	0.0%	*0.0%*	3,304	0.0%	*0.0%*
Oral airway	313	0.0%	*0.0%*	598	0.0%	*0.0%*

	2008 - 09			2009 - 10		
First A&E treatment	**Number of attendances**	**Percentage (all records)**	***Percentages (excluding unknowns and unmatched)***	**Number of attendances**	**Percentage (all records)**	***Percentages (excluding unknowns and unmatched)***
Other (consider alternatives)	550,421	4.0%	*6.9%*	540,684	3.5%	*5.3%*
Other parenteral drugs	85,702	0.6%	*1.1%*	117,743	0.8%	*1.1%*
Parenteral thrombolysis	6,083	0.0%	*0.1%*	12,475	0.1%	*0.1%*
Pericardiocentesis	224	0.0%	*0.0%*	406	0.0%	*0.0%*
Physiotherapy	11,734	0.1%	*0.1%*	14,960	0.1%	*0.1%*
Plaster of Paris	120,976	0.9%	*1.5%*	163,269	1.0%	*1.6%*
Prescription/medicines prepared to take away	232,482	1.7%	*2.9%*	324,112	2.1%	*3.1%*
Prescription (retired 2006)	267,461	1.9%	*3.3%*	221,059	1.4%	*2.1%*
Recall/x-ray review	9,462	0.1%	*0.1%*	16,538	0.1%	*0.2%*
Recording vital signs	206,493	1.5%	*2.6%*	287,512	1.8%	*2.8%*
Removal foreign body	39,332	0.3%	*0.5%*	47,377	0.3%	*0.5%*
Resuscitation/cardoipulmonary resuscitation	7,700	0.1%	*0.1%*	9,345	0.1%	*0.1%*
Sling/collar cuff/broad arm sling	50,205	0.4%	*0.6%*	66,092	0.4%	*0.6%*
Social worker intervention	516	0.0%	*0.0%*	1,344	0.0%	*0.0%*
Splint	122,264	0.9%	*1.5%*	157,657	1.0%	*1.5%*
Supplemental oxygen	26,774	0.2%	*0.3%*	30,393	0.2%	*0.3%*
Sutures	64,405	0.5%	*0.8%*	80,605	0.5%	*0.8%*
Tetanus	13,157	0.1%	*0.2%*	64,719	0.4%	*0.6%*
Urinary catheter/suprapubic	14,590	0.1%	*0.2%*	20,153	0.1%	*0.2%*
Wound cleaning	73,631	0.5%	*0.9%*	88,134	0.6%	*0.9%*
Wound closure (exc sutures)	127,581	0.9%	*1.6%*	161,046	1.0%	*1.6%*
Valid records	**8,003,000**	**58.0%**	***100.0%***	**10,292,444**	**66.1%**	***100.0%***
Null/Blank	5,408,885	39.2%		5,107,640	32.8%	
Unmatched	382,187	2.8%		169,652	1.1%	
Invalid records	**5,791,072**	**42.0%**		**5,277,292**	**33.9%**	
Total	**13,794,072**	**100.0%**		**15,569,736**	**100.0%**	

Appendix 5: Data submissions to A&E HES

A list of mandatory and optional fields for submission in the A&E Commissioning Data Set (CDS) are provided by Connecting for Health within the CDS data dictionary [http://www.datadictionary.nhs.uk/data_dictionary/messages/cds_v6/cds_v6_type_010_fr.asp?shownav=1].

CDS V6 TYPE 010 - ACCIDENT AND EMERGENCY CDS

Please note: The markers in the columns "OPT, U/A and HES" indicate the NHS recommendations for the inclusion of data:

M = Mandatory: data must be included **where** available
O = Optional: data need not be included
* = Must **not** be used

Appendix 6: Glossary of terms

A&E	Accident and Emergency
A&E HES	'Accident and Emergency Hospital Episodes Statistics' is a name given to the data set that contains data on individual A&E attendances. A&E HES is one of a number of data sets available from the family of HES products. More information on HES products is available on the HESonline website [http://www.hesonline.nhs.uk].
CDS	Commissioning Data Set
DH	Department of Health
HES	Hospital Episode Statistics is a brand that holds a collection of data sets produced from regular CDS submissions, these data sets include, admitted patient care, outpatients and now A&E.
NHS IC	The NHS Information Centre for health and social care
MIU	Minor Injury Unit
NHS	National Health Service
ONS	Office for National Statistics
OP	Outpatient
PAS	Patient Administration Systems
PCT	Primary Care Trust
QMAE	Quarterly Monitoring of Accident and Emergency
SUS	Secondary Uses Service
WIC	Walk-in Centre

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