

Statistical Note: Ambulance Quality Indicators (AQI)

Ambulance response times in February 2023 for Categories 2, 3, and 4, were all longer than in January 2023, but shorter than in all the 18 months before that.

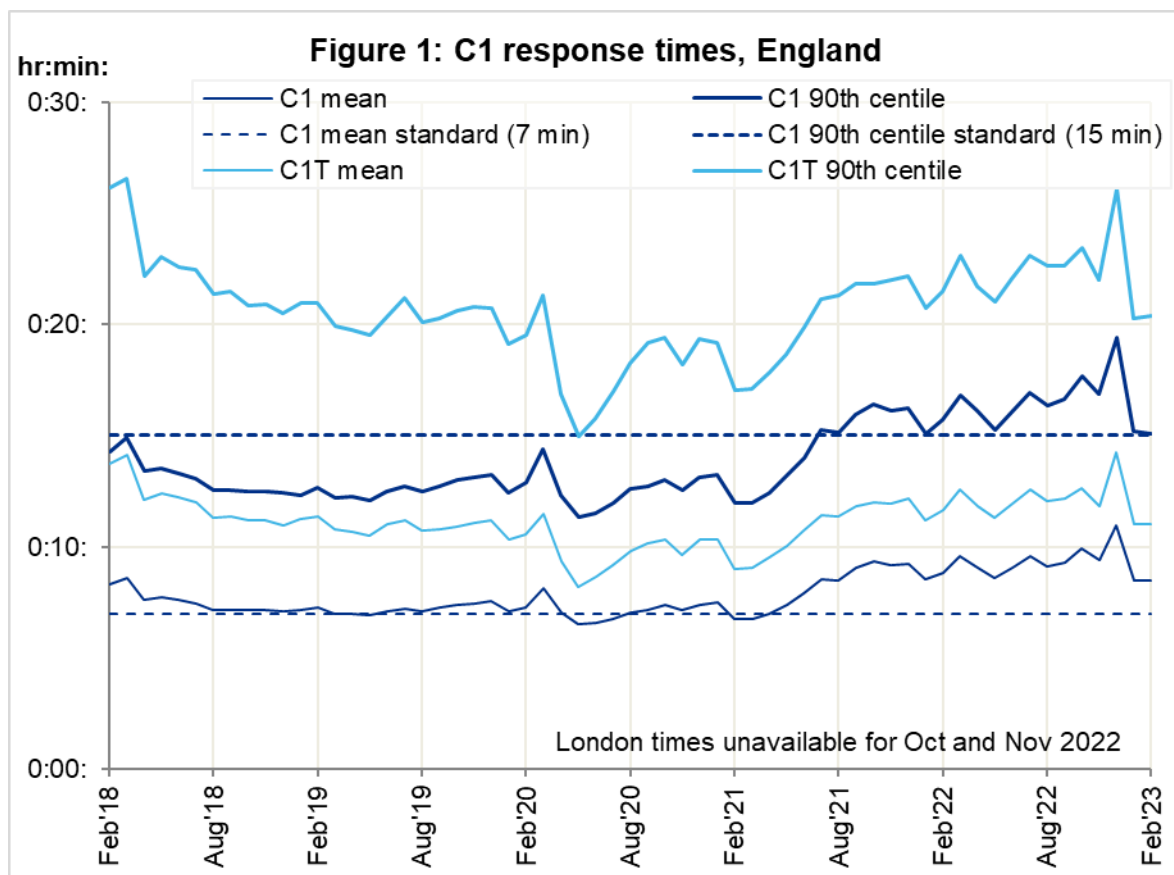
The average time from 999 call to catheter insertion to treat STEMI (a type of heart attack) in October 2022 was the longest in five years.

1. Ambulance Systems Indicators

1.1 Response times

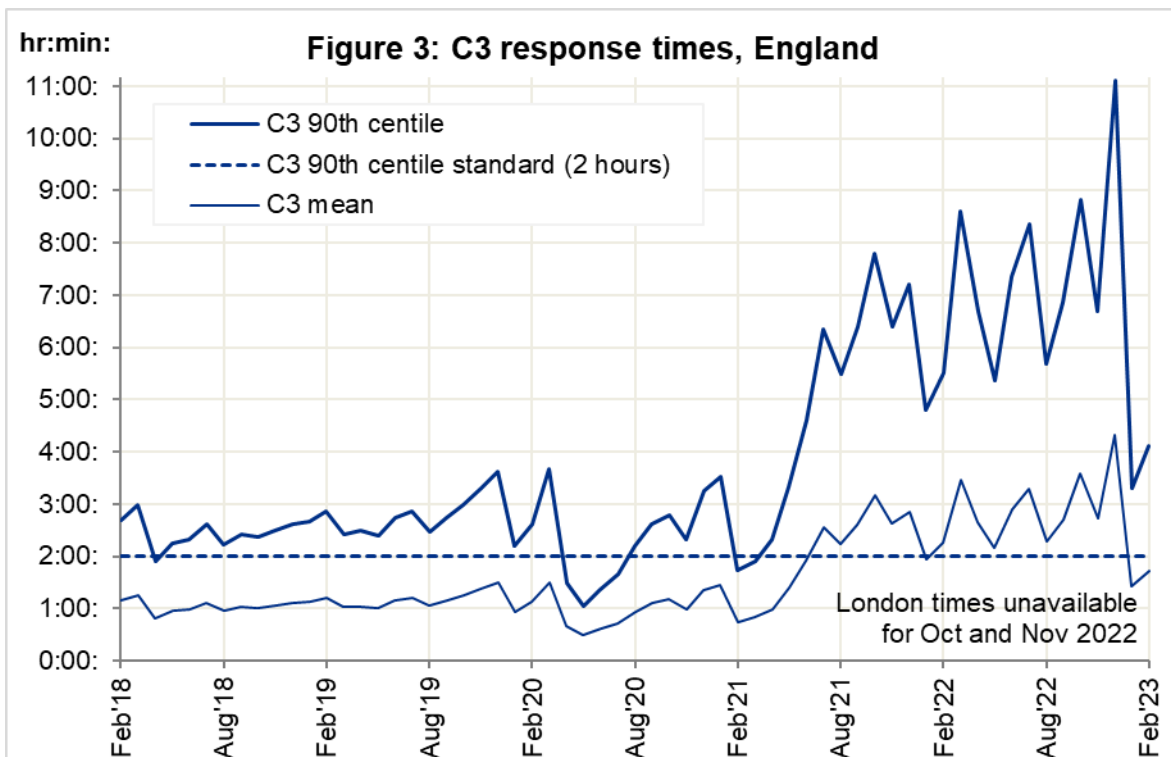
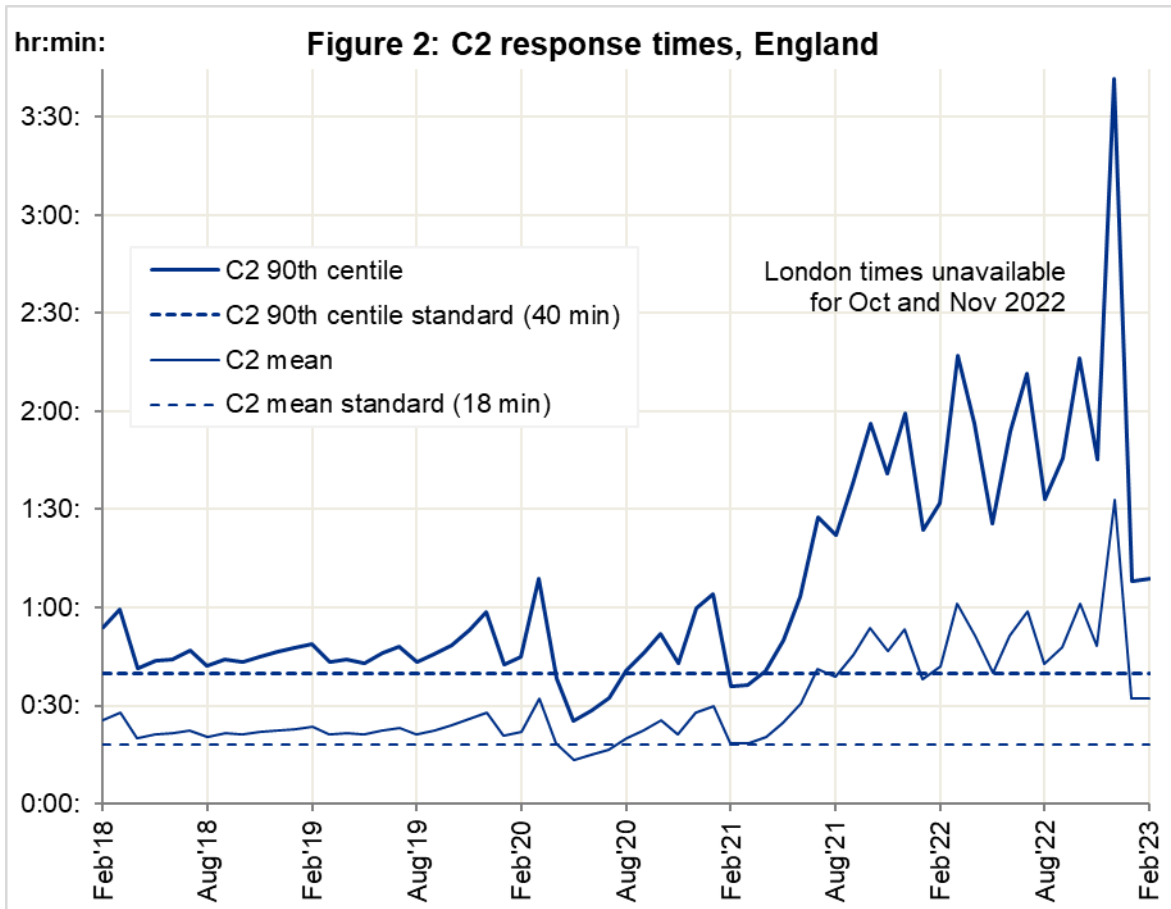
In February 2023 none of the six response time standards¹ were met. For England, the mean average response time for the most urgent Category, C1, was 8 minutes 30 seconds, the same as last month, and the 90th centile was 15:06, a little shorter than last month; both were still above the standards of 7 and 15 minutes (Figure 1).

The mean average for C1T (time to the arrival of the transporting vehicle for C1 incidents) was 11:01, one second more than last month. The 90th centile was 20:25.

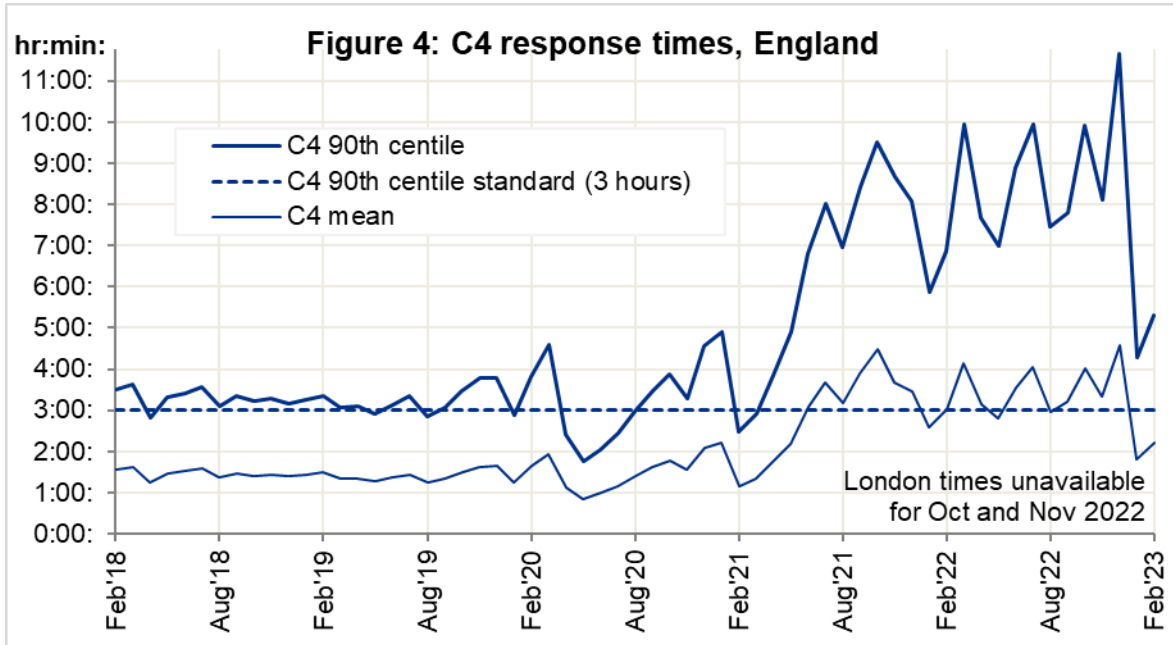


¹ Standards in the NHS Constitution Handbook: www.gov.uk/government/publications/supplements-to-the-nhs-constitution-for-england/the-handbook-to-the-nhs-constitution-for-england

The C2 average in February 2023 was 32:20, and the 90th centile was 1:08:45 (Figure 2). C3 averaged 1:42:39 with a 90th centile of 4:06:13 (Figure 3).



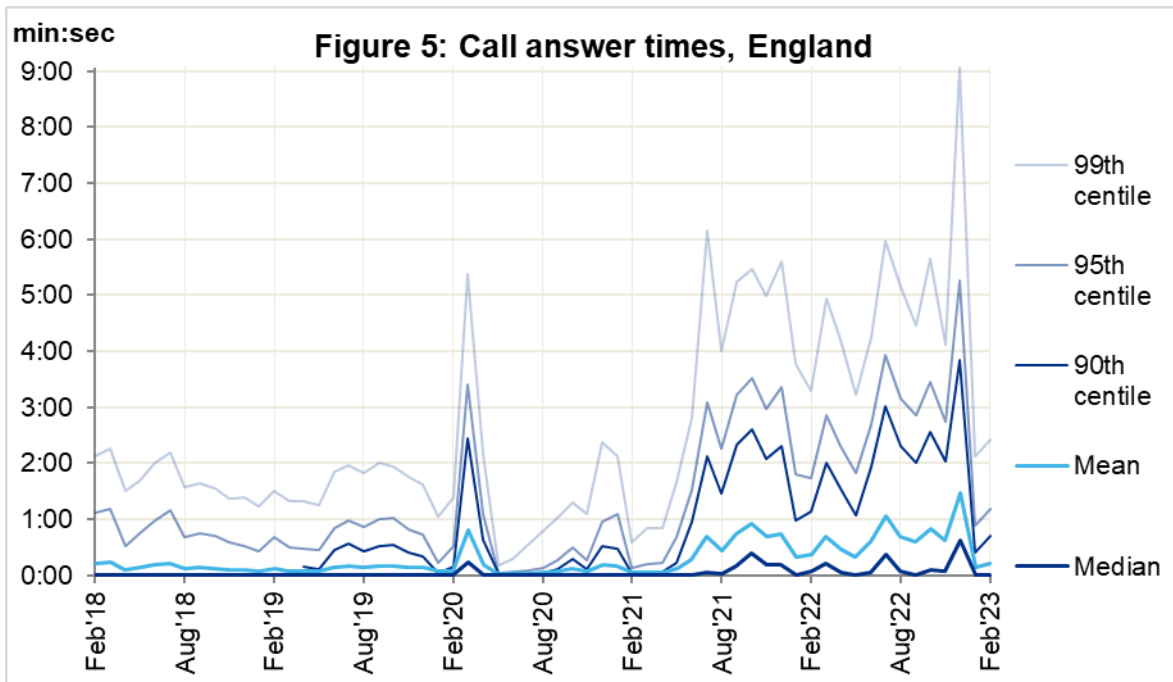
C4 averaged 2:12:24 in February 2023 with a 90th centile of 5:18:55. As with the other categories, these were shorter than the times for 2021-22 and for 2022-23 so far, but longer than the times for the three years before those (Figure 4).



1.2 Other Systems Indicators

Ambulance Services answered 662,383 calls in February 2023. This was 23,657 per day, which was 8% more than in January 2023.

The average 999 call answer time in February 2023 was 13 seconds. The answer times in Figure 5 increased upon January 2023, but those had all been the lowest since May 2021.



Incidents per day in February 2023 increased 4% to 21,893, and incidents with conveyance to ED per day increased 5% to 11,490 (Figure 6).

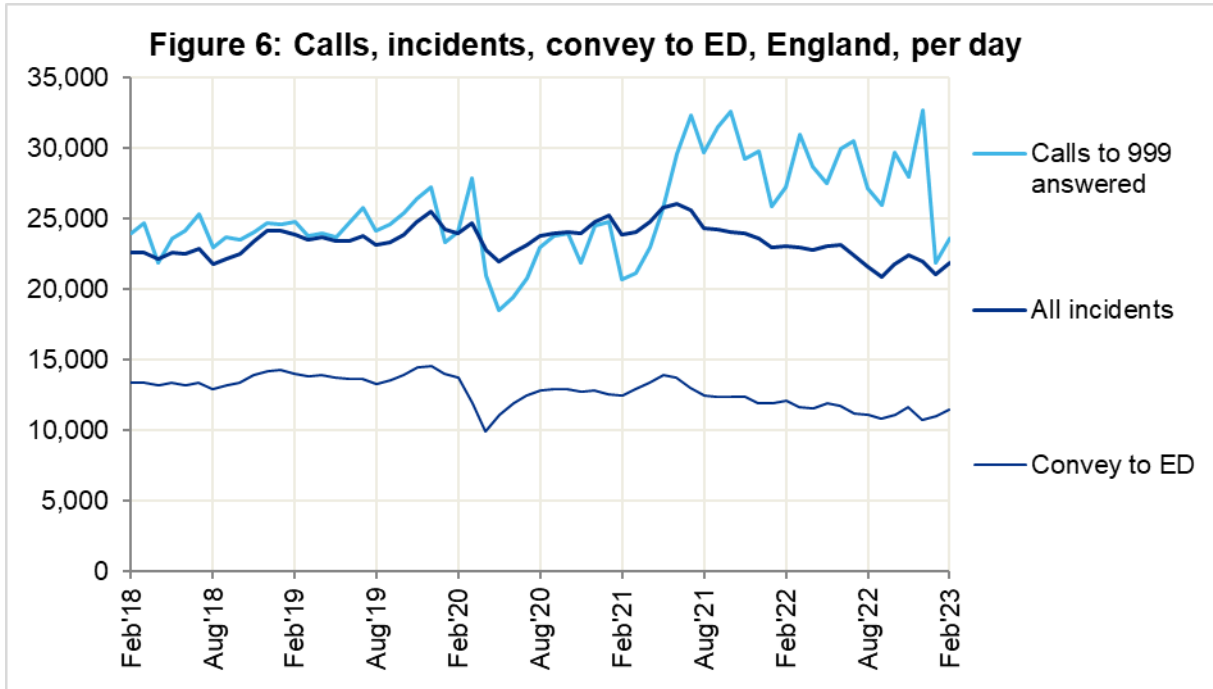
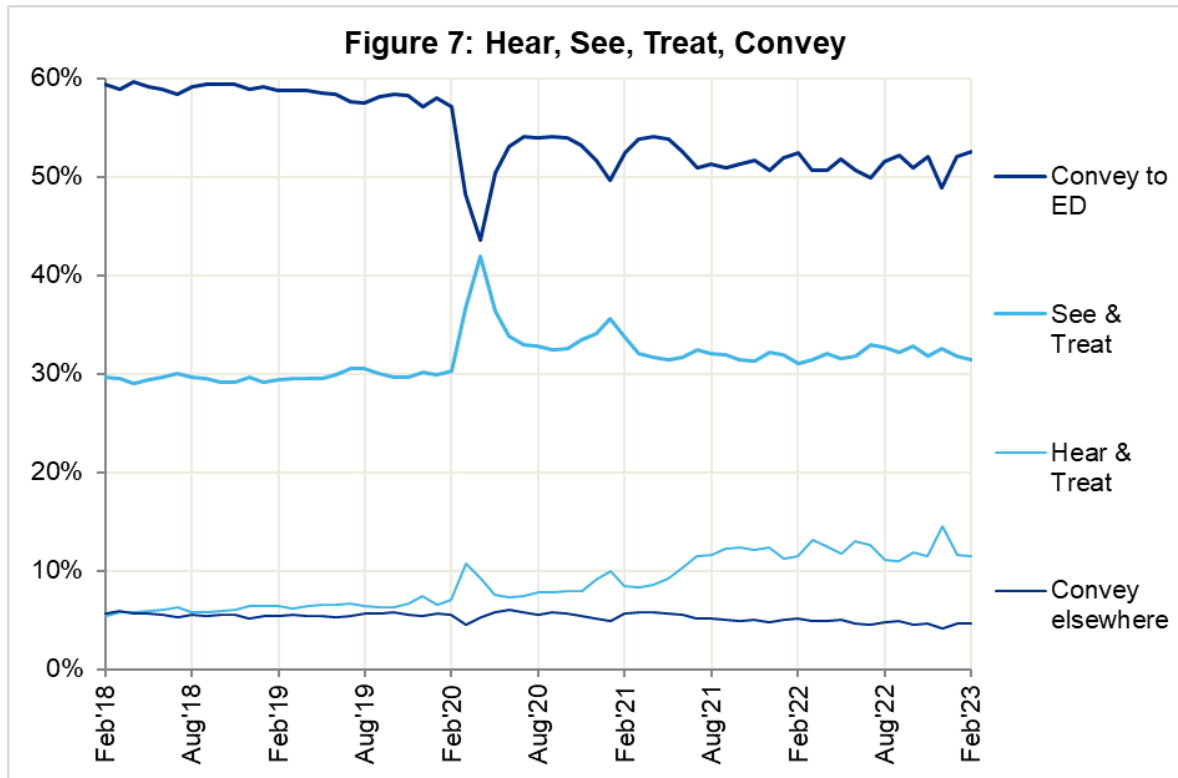


Figure 7 shows that in February 2023, 52.5% of incidents had conveyance to ED, a small increase on 52.1% for January, but the most since June 2021. Other outcomes changed less; 5% had conveyance to non-ED, 31% were resolved on scene (See & Treat), and 11% of incidents were resolved on the telephone (Hear & Treat).



2. Ambulance Clinical Outcomes (AmbCO)

Today, alongside the latest AmbCO data for October 2022, we are publishing revisions to data for February 2022 and April to September 2022.

Most AmbCO data items had been unavailable for the Isle of Wight for 2022-23, but these have all now been provided and published to complete data for England up to October 2022.

We describe data for STEMI (a type of heart attack) and cardiac arrest here, and will describe data for strokes next month.

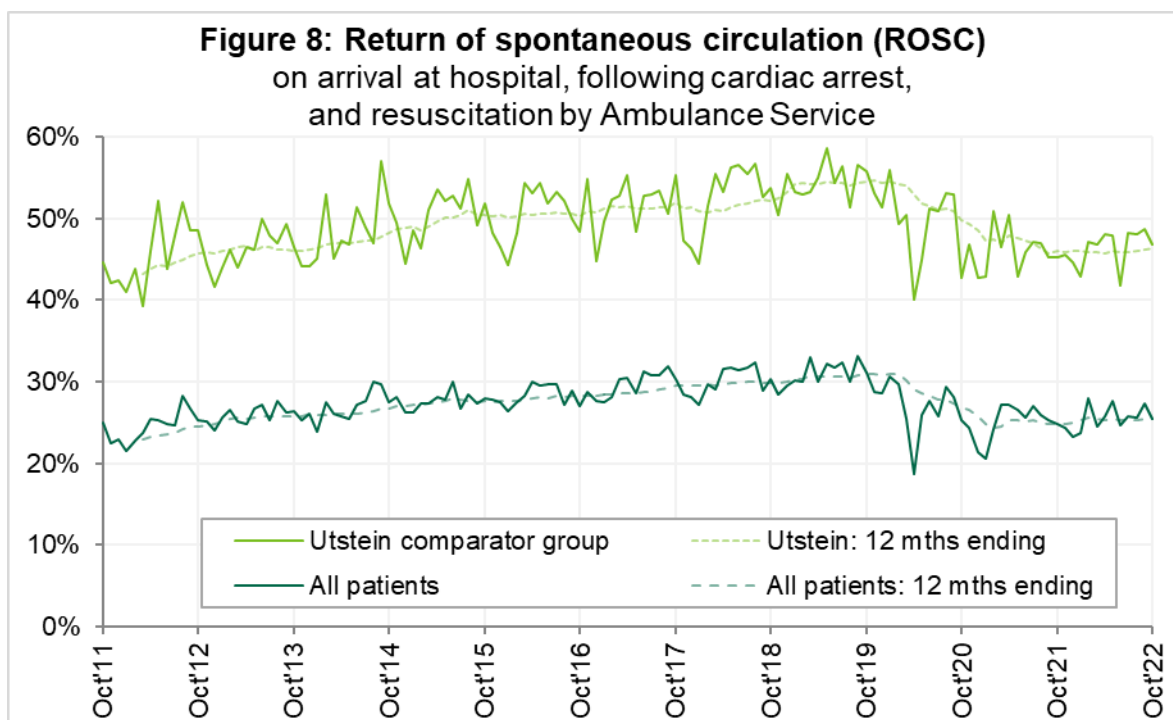
2.1 Return of spontaneous circulation (ROSC) after cardiac arrest (Figure 8)

For the 2,843 patients in October 2022 with cardiac arrest and resuscitation by an ambulance service in England, 725 (26%) had ROSC on arrival at hospital, not significantly² different to the year ending September 2022 (25%).

The Utstein comparator group comprises patients with an out-of-hospital cardiac arrest of presumed cardiac origin, where the initial rhythm was Ventricular Fibrillation or Ventricular Tachycardia, and the arrest was bystander witnessed. This group therefore have a better chance of survival.

In October 2022, of the 2,843 cardiac arrest patients, 406 met the Utstein criteria, and of those, 190 (47%) had ROSC on arrival at hospital, also not significantly different to the year ending September 2022 (46%).

Revisions to these ROSC measures would not be perceptible in Figure 8; the largest revision is for the Utstein group for June 2022, from 41.57% to 41.79%.

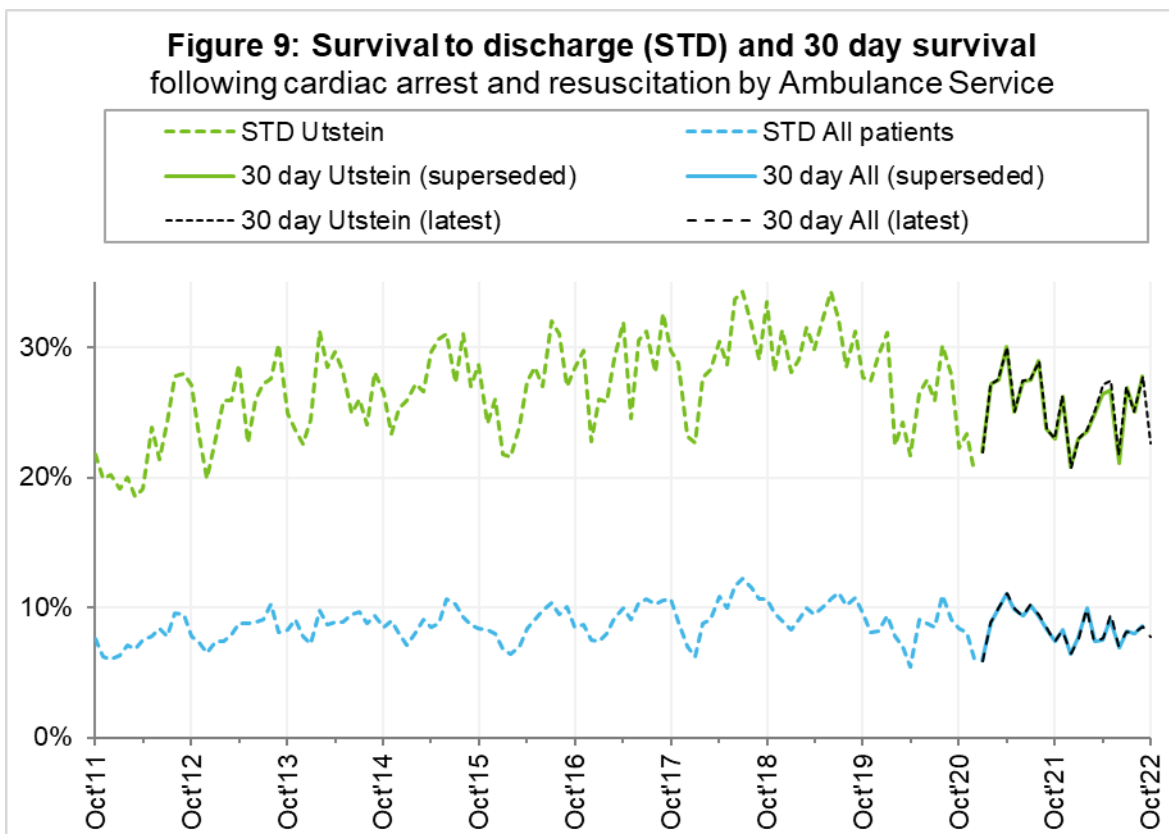


² Calculated using Student's t-test with 95% significance.

2.2 Survival following cardiac arrest (Figure 9)

For the 2,791 resuscitated cardiac arrest patients in England in October 2022 where survival at 30 days is known, 216 (7.7%) survived. For the Utstein group, 89 of 394 (23%) survived for 30 days. Both were similar to the averages for the year ending September 2022 of 8.0% and 25%. Figure 9, particularly from 2014 to 2018, shows that survival from cardiac arrest is higher in summer.

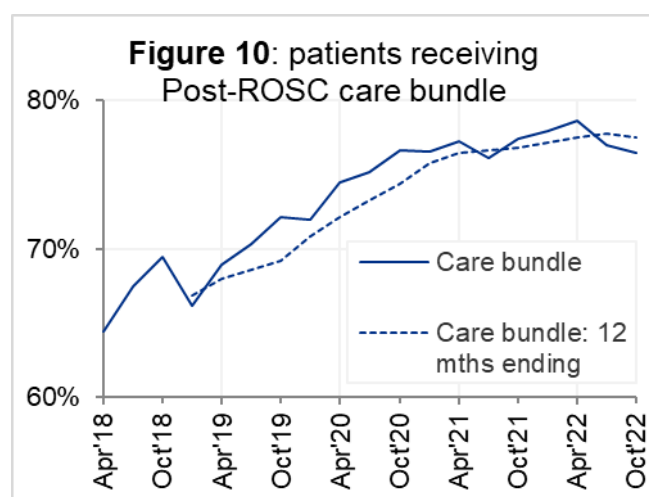
Revisions have made the survival rate larger in England for some months, particularly for the Utstein group, which is for example 27.2% for April 2022, and not 26.4% as we originally published.



2.3 Cardiac arrest care bundle (Figure 10)

There were 964 resuscitated cardiac arrest patients who had ROSC on scene (not necessarily on arrival at hospital) in October 2022, of which 737 (76%) received the appropriate care bundle, similar to the average for the year ending September 2022.

Revisions to these values for England are all for April and July 2022, and all 4 or fewer.

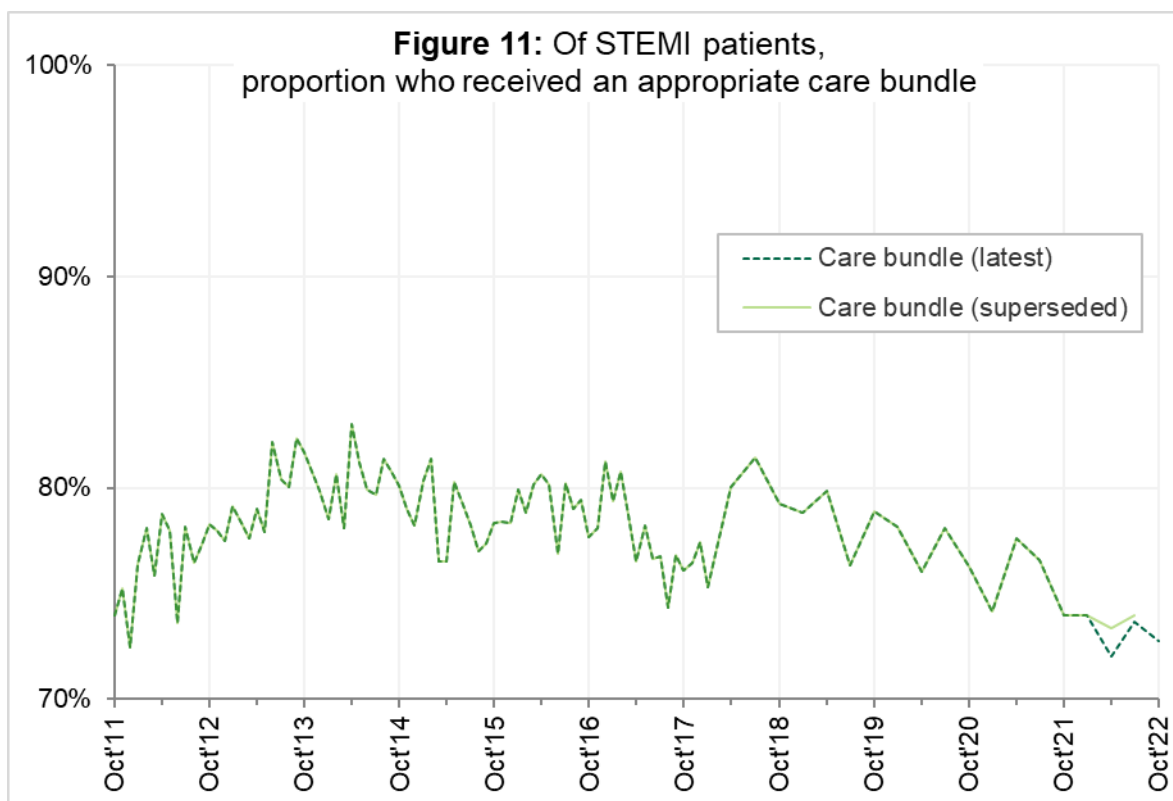


2.4 ST-segment elevation myocardial infarction (STEMI)

STEMI is a type of heart attack, determined by an electrocardiogram (ECG) test. Early access to reperfusion, where blocked arteries are opened to re-establish blood flow, and other assessment and care interventions, are associated with reductions in STEMI mortality and morbidity.

Of 1,526 patients with an acute STEMI in England in October 2022, 1,110 (73%) received an appropriate care bundle from the ambulance service (Figure 11), which was also the proportion for the year ending September 2022.

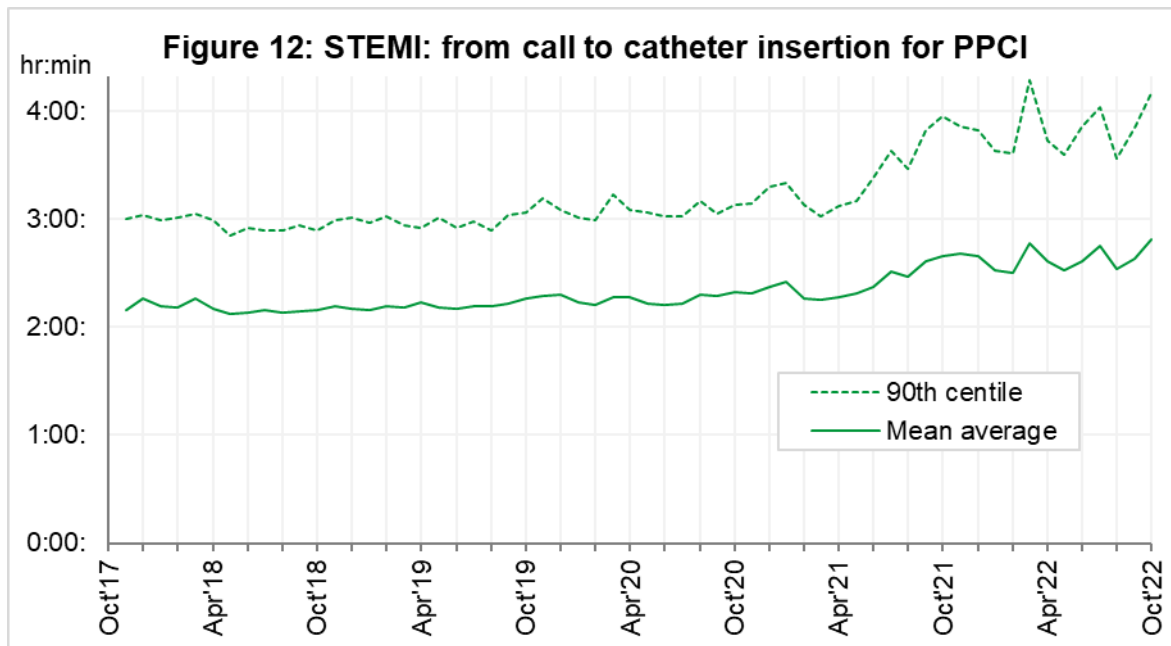
Besides the new data for Isle of Wight, we have revised data for North East, North West, and South Central Ambulance Services, reducing the proportion receiving this bundle in April 2022 from 73.4% to 72.0%, with a smaller revision for July 2022.



For STEMI patients, the Myocardial Ischaemia National Audit Project (MINAP) collects the time from ambulance call to insertion of a catheter for primary percutaneous coronary intervention (PPCI): inflation of a balloon inside a blood vessel to restore blood flow to the heart. (Figure 12)

In England, the latest mean average time from call to catheter insertion was 2 hours 48 minutes for October 2022, the longest in the five years that we have collected this indicator. The 90th centile of 4:09 is the second longest after in March 2022.

Our latest revisions to MINAP data have increased the count of STEMI incidents that count towards these times, most of all for April 2022 which was previously derived from times for 821 patients but now includes 924. However, Figure 12 shows that the actual times changed less, with the largest change a decrease in the June and July 2022 90th centiles of six minutes.



3. Further information on AQI

3.1 The AQI landing page and Quality Statement

www.england.nhs.uk/statistics/statistical-work-areas/ambulance-quality-indicators, or <http://bit.ly/NHSAQI>, is the AQI landing page, and it holds:

- a Quality Statement for these statistics, which includes information on relevance, accuracy, timeliness, coherence, and user engagement;
- the specification guidance documents for those who supply the data;
- timetables for data collection and publication;
- time series spreadsheets and csv files from April 2011 up to the latest month;
- links to individual web pages for each financial year;
- contact details for the responsible statistician (also in section 3.5 below).

Publication dates are also at

www.gov.uk/government/statistics/announcements?keywords=ambulance.

The web pages for each financial year hold:

- separate spreadsheets of each month's data;
- this Statistical Note, and equivalent versions from previous months;
- the list of people with pre-release access to the data.

3.2 AQI Scope

The AQI include calls made by dialling either the usual UK-wide number 999 or its international equivalent 112. As described in the specification guidance in section 3.1, incidents resulting from a call to NHS 111 are included in all the AQI, except the counts of 999 calls (indicators A1, A124, and A125) and answer times (A1 to A6 and A114).

3.3 Centiles

The centile data for England in this document, also published in spreadsheets alongside this document, are not precise centiles calculated from national record-level data. Instead, they are the centiles calculated from each individual trust's record-level data, weighted by their incident count, and averaged across England. So, if England only had two trusts, with centiles of 7:10 and 7:40, and the former had twice as many incidents as the latter, the England centile would be 7:20.

3.4 Related statistics

NHSEI publishes ambulance handover delays at Emergency Departments of over 30 minutes during winter 2012-13 to 2014-15 and winter 2017-18 to 2021-22 at www.england.nhs.uk/statistics/statistical-work-areas/winter-daily-sitreps.

The Quality Statement described in section 3.1 includes information on:

- the “Ambulance Services” publications by NHS Digital <https://digital.nhs.uk/data-and-information/publications/statistical/ambulance-services>, with data from before 2000, to 2014-15;
- a dashboard with an alternative layout for AQI data up to April 2016;
- the comparability of data for other countries of the UK:

Wales: <https://easc.nhs.wales/asi>

Scotland: See Quality Improvement Indicators (QII) documents at www.scottishambulance.com/TheService/BoardPapers.aspx

Northern Ireland: www.health-ni.gov.uk/articles/emergency-care-and-ambulance-statistics

3.5 Contact information

Media: NHS England Media team, nhsengland.media@nhs.net, 0113 825 0958.

The person responsible for producing this publication is Ian Kay, Performance Analysis Team, Transformation Directorate, NHS England, 0113 825 4606, england.nhsdata@nhs.net.

3.6 National Statistics

The UK Statistics Authority has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Official Statistics.

Designation can be broadly interpreted to mean that the statistics:

- meet identified user needs;
- are well explained and readily accessible;
- are produced according to sound methods; and
- are managed impartially and objectively in the public interest.

Once statistics have been designated as National Statistics it is a statutory requirement that the Code of Practice shall continue to be observed.