Statistical Note: Ambulance Quality Indicators (AQI)

In England, for all four categories, the average and 90th centile response times in February 2024 were the shortest since August 2023. The number of 999 calls answered was also the lowest since August 2023.

Of patients resuscitated by an Ambulance Service after cardiac arrest in October 2023, the proportion who survived for 30 days was the third largest in the last 24 months.

1. Ambulance Systems Indicators (AmbSYS)

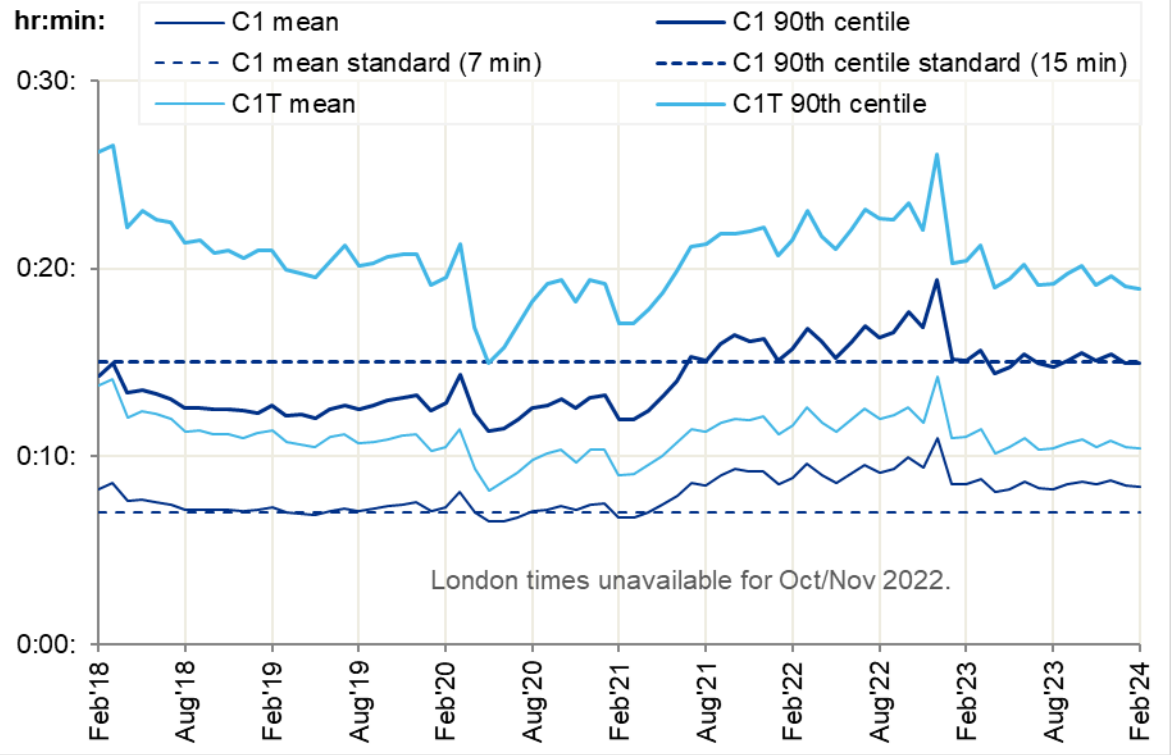
1.1 Response times

For England, the mean average response time in February 2024 for C1, the most urgent Category, was 8 minutes 25 seconds, which is longer than the standard[1] of 7 minutes. However, the 90th centile time was 14:56, which is within the standard of 15 minutes.

Both were shorter than in every month from July 2021 to March 2023 inclusive.

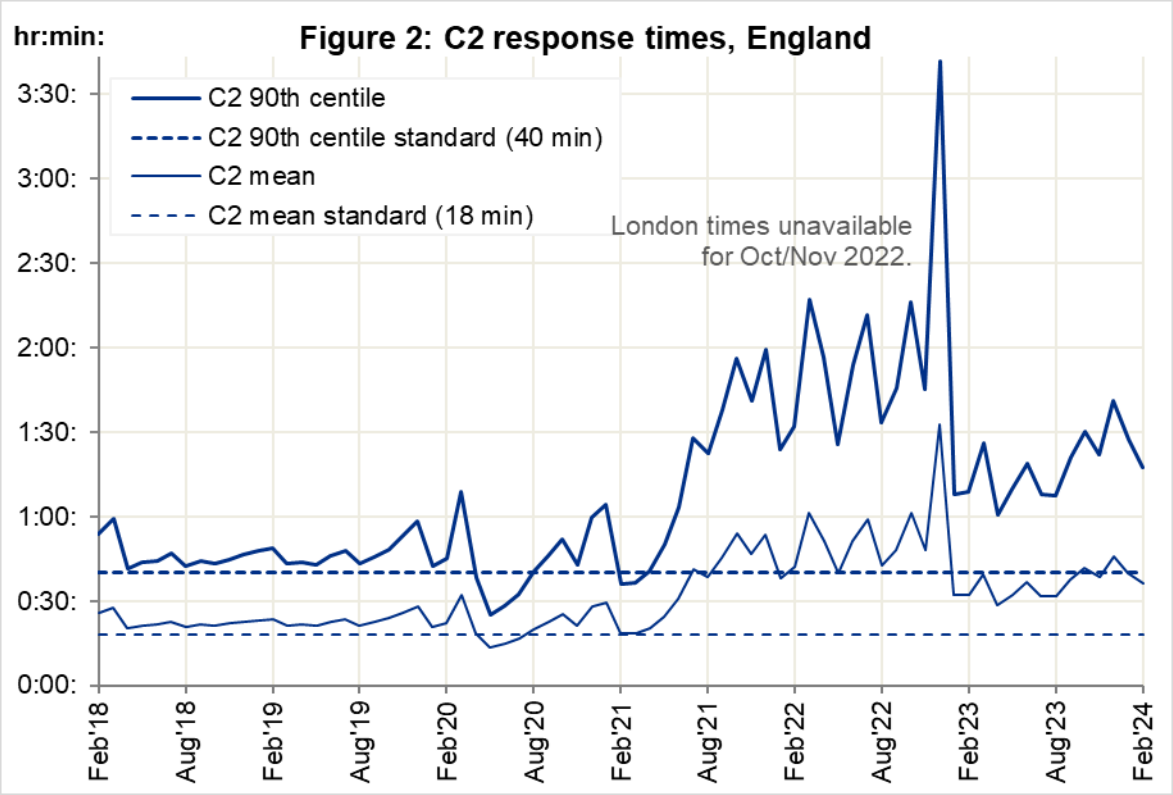
For C1T (time to the arrival of the transporting vehicle for C1 incidents), the average was 10:24, and the 90th centile was 18:56. (Figure 1)

Figure 1: C1 response times, England

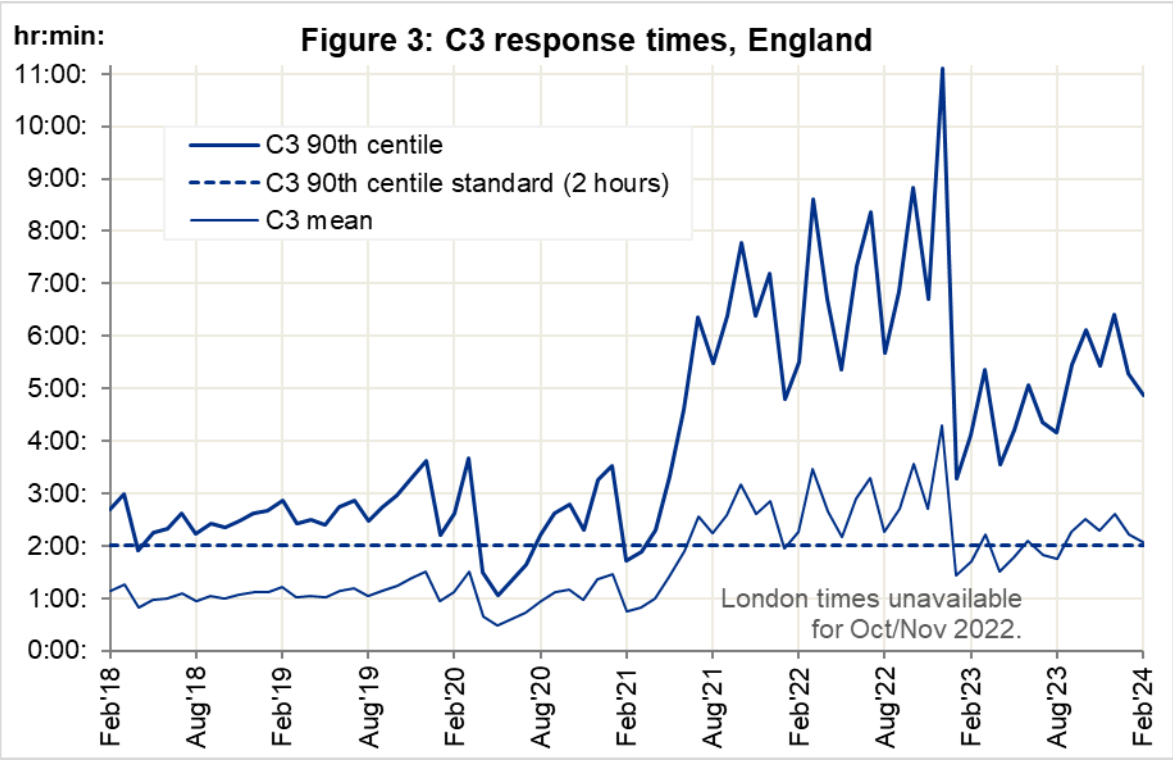


[1] Standards in the NHS Constitution Handbook: www.gov.uk/government/publications/supplements-to-the-nhs-constitution-for-england/the-handbook-to-the-nhs-constitution-for-england

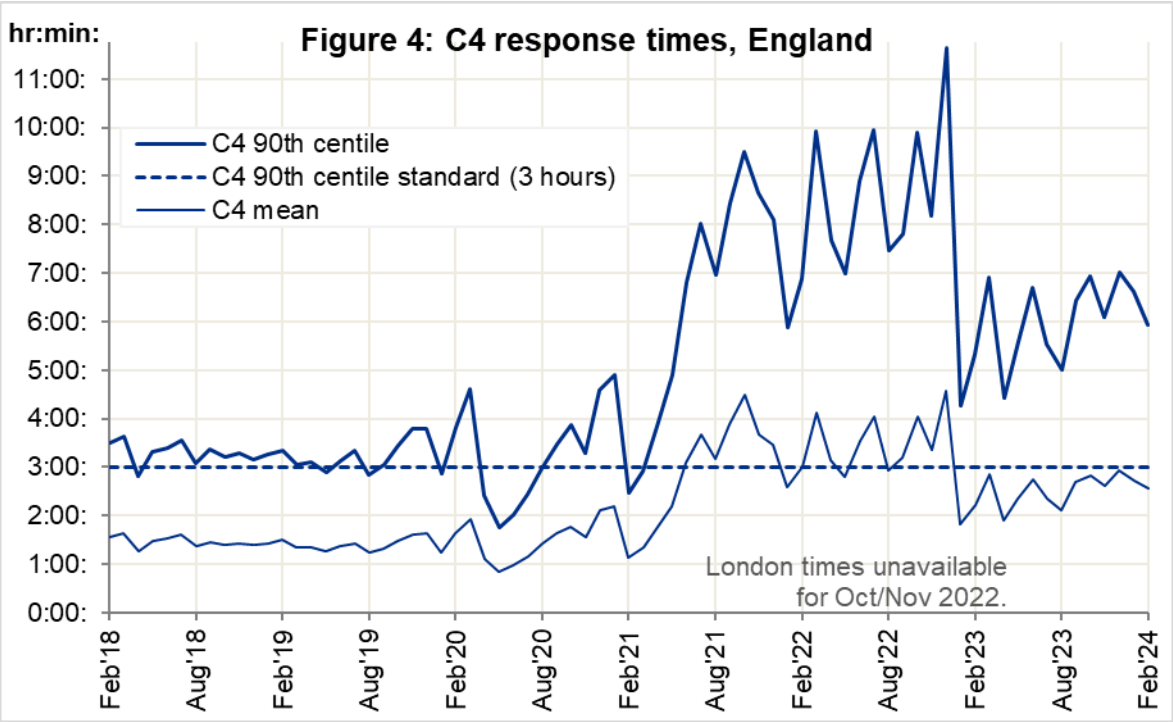
The England C2 average in February 2024 was 36:20 and the 90th centile was 1:17:39. Both of these were shorter than in every month of 2022. (Figure 2)



The February 2024 C3 average was 2:04:12, which was shorter than the averages for 2022-23 and 2023-24 so far. The 90th centile was 4:51:59. (Figure 3)

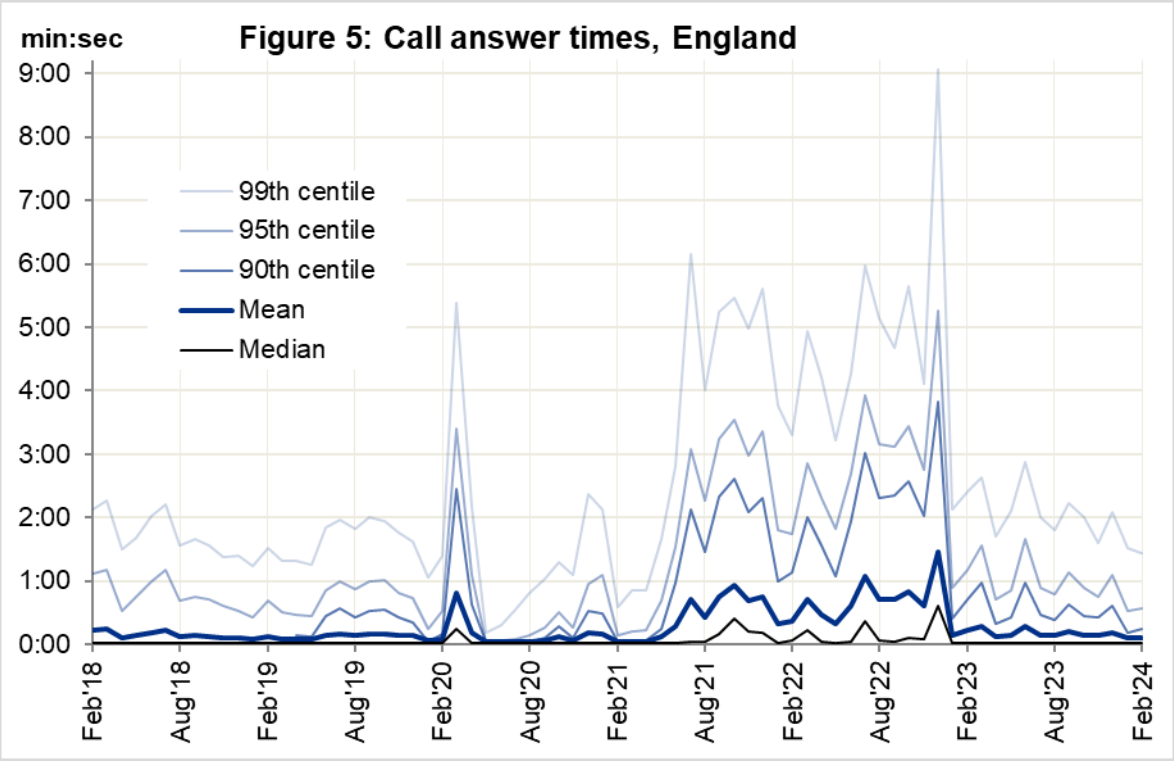


The C4 average was 2:33:04 and the 90th centile was 5:56:23 (Figure 4).



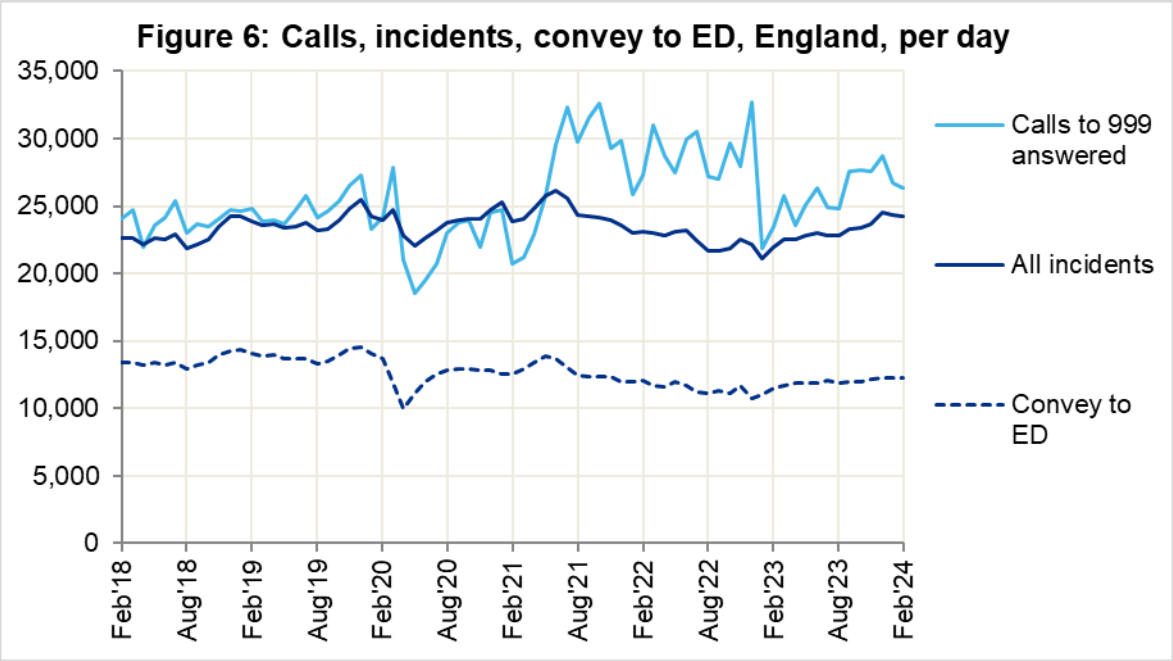
1.2 Other Systems Indicators

In February 2024, the average 999 call answer time was 6 seconds, shorter than the average of 9 seconds for 2023-24 so far, and the joint shortest since April 2021, with January 2024 also being 6 seconds (Figure 5).

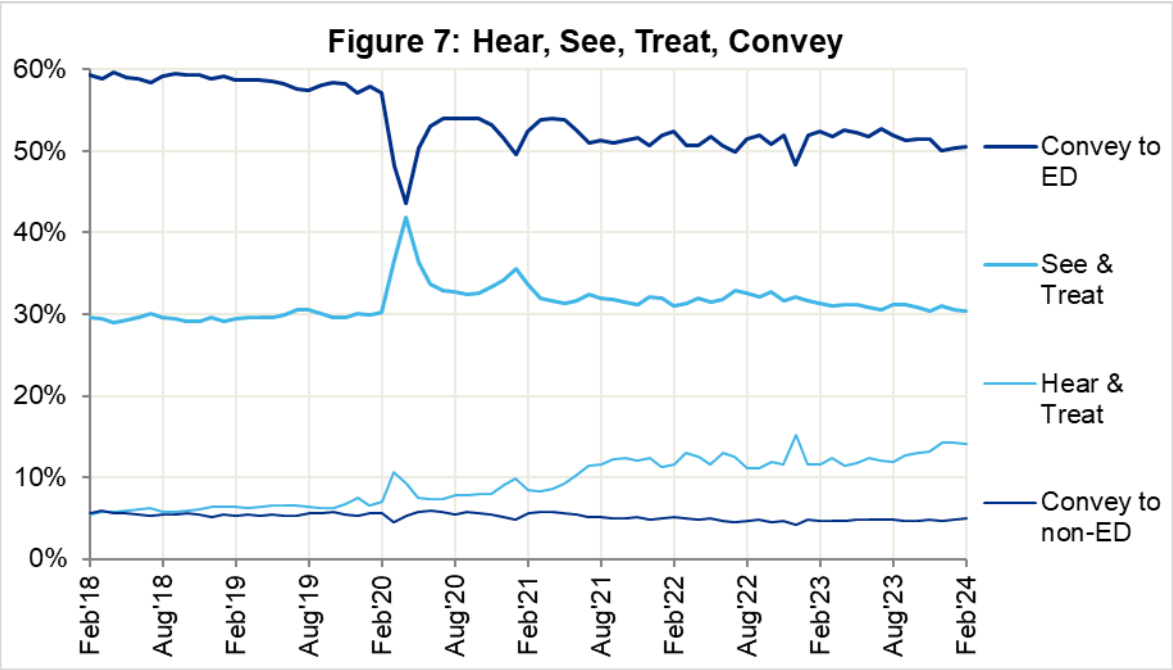


The count of 999 calls answered was 763,141 in February 2024. This was 26,315 per day, higher than the average for 2023-24 so far, but lower than for 2022-23.

There were 704,111 incidents in February 2024, of which 355,564 had conveyance to ED. Per day, these are 24,280 and 12,261 respectively, both fewer than in the previous two months, but more than in the 24 months before that. (Figure 6)



Of incidents in England in February 2024, 14.2% were resolved on the telephone (Hear & Treat), 30.4% were resolved on the scene (See & Treat), 50.5% had conveyance to an Emergency Department (ED), and 4.9% had conveyance to non-ED. All these changed less than 0.2 percentage points from January 2024, although the non-ED proportion was the largest since May 2022. (Figure 7)



2. Ambulance Clinical Outcomes (AmbCO)

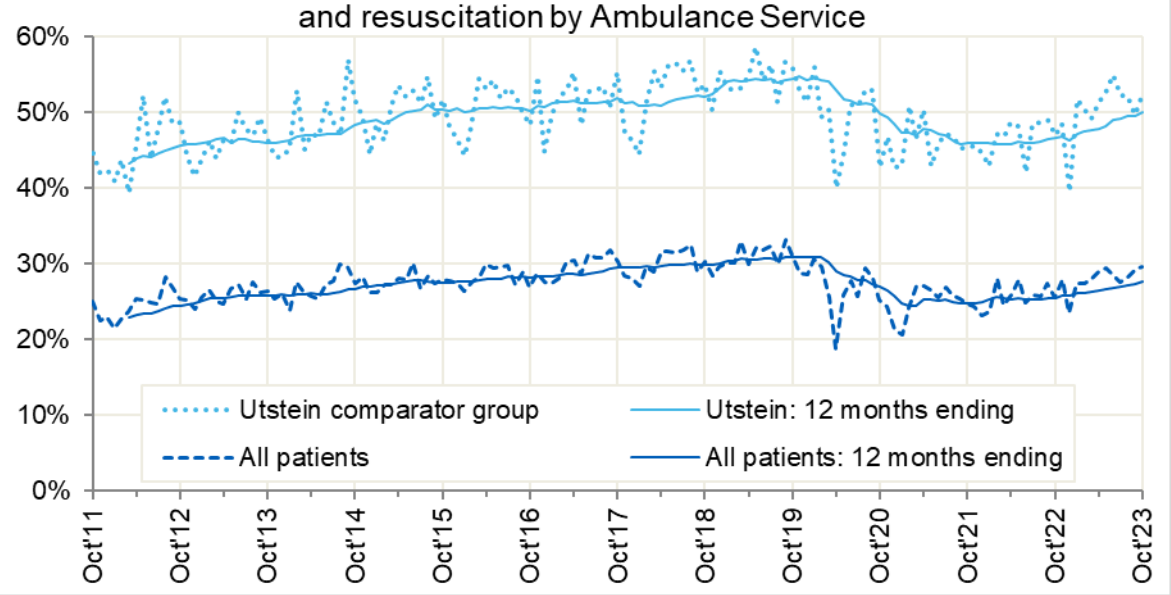
In these Statistical Notes, we continue to summarise data for STEMI (a type of heart attack) and cardiac arrest when we publish January, April, July, or October data, and stroke data in the following month.

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

For the 2,612 patients in October 2023 with cardiac arrest and resuscitation by an ambulance service in England where the outcome is known, 774 (30%) had ROSC on arrival at hospital, significantly[2] more than the year ending September 2022-23 average (27%).

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 2023, of the 2,612 cardiac arrest patients, 397 met these criteria, of which 208 (52%) had ROSC on arrival at hospital; but this was not significantly more than the year ending September 2022-23 average (50%).

Figure 8: Return of spontaneous circulation (ROSC) on arrival at hospital, following cardiac arrest, and resuscitation by Ambulance Service



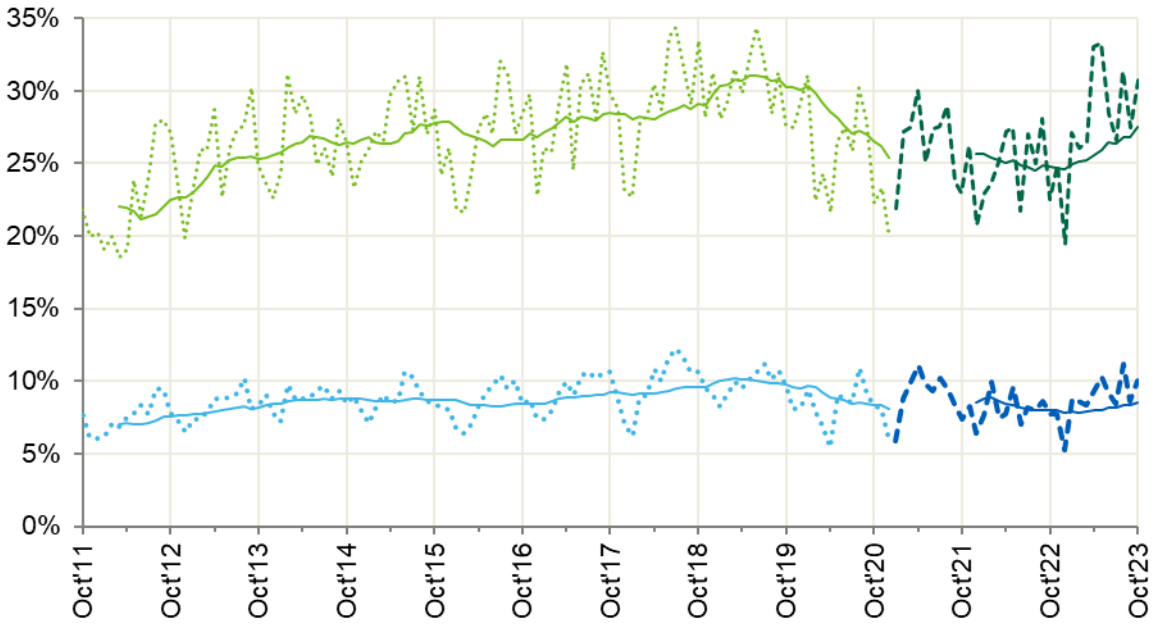
2.2 Survival following cardiac arrest (Figure 9)

For the 2,587 resuscitated cardiac arrest patients in England in October 2023 where survival at 30 days is known, 259 (10%) survived, which was significantly more than the year ending September 2022-23 average (8%). For the Utstein group, 119 of 387 (31%) survived for 30 days. This was not significantly more than the year ending September 2022-23 average (27%).

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

Figure 9 shows that survival from cardiac arrest is higher in summer.

Figure 9: Survival to discharge (STD) and 30 day survival following cardiac arrest and resuscitation by Ambulance Service

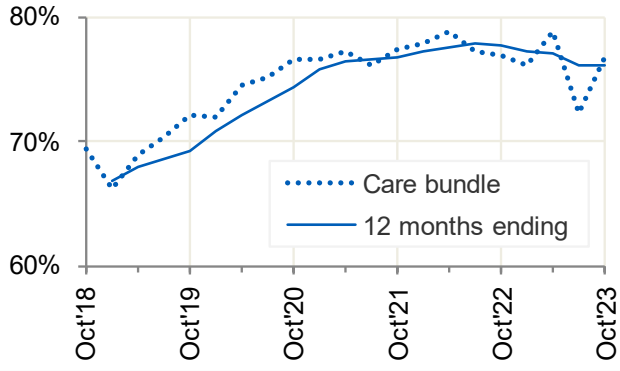


2.3 Cardiac arrest care bundle (Figure 10)

In October 2023, there were 954 cardiac arrest patients resuscitated by an ambulance service in England who had return of spontaneous circulation on scene (not necessarily on arrival at hospital).

Of these, data show that 732 (77%) received the appropriate care bundle. This was similar to the year ending September 2022-23 average (76%).

Figure 10: patients receiving Post-ROSC care bundle

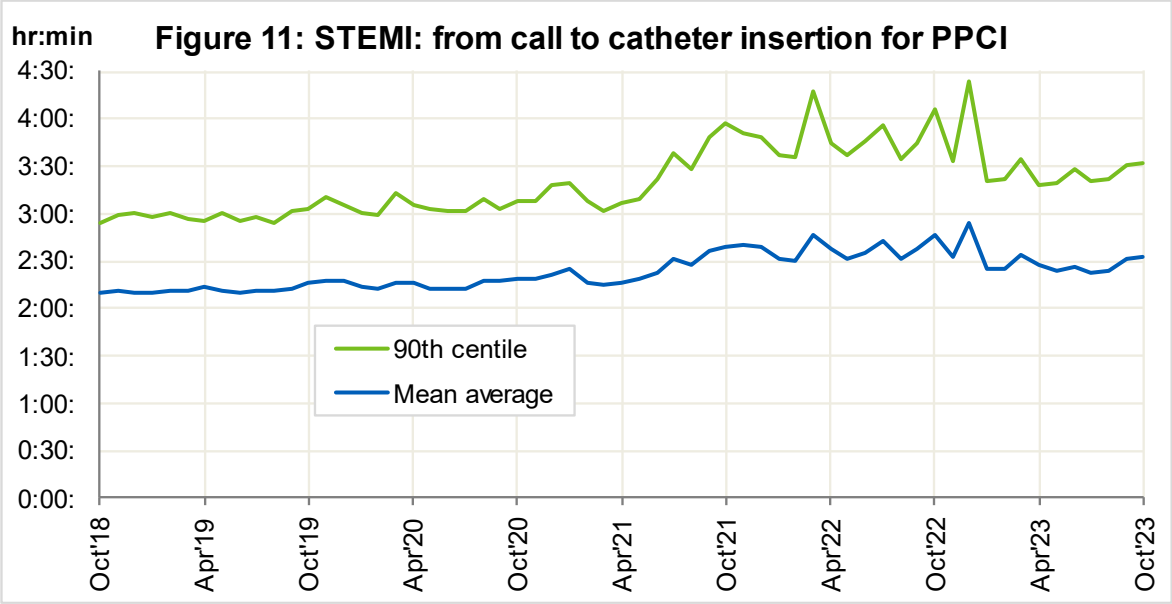


2.4 ST-segment elevation myocardial infarction (STEMI)

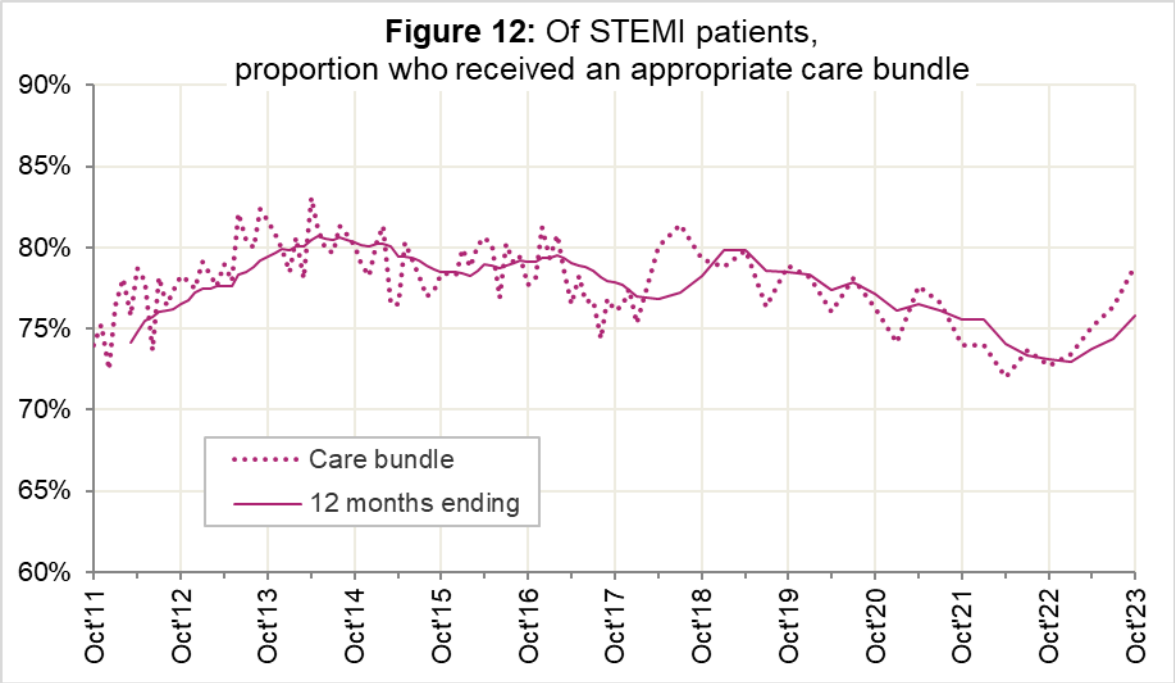
STEMI is a type of heart attack, determined by an electrocardiogram (ECG) test. Early access to reperfusion, where blocked arteries are opened to re-establish blood flow, and other assessment and care interventions, are associated with reductions in STEMI mortality and morbidity.

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 11).

In England in October 2023, the mean average time from 999 call to catheter insertion was 2 hours 32 minutes, and the 90th centile was 3 hours 32 minutes. These were shorter than the year ending September 2022-23 average and 90th centile, but they are the longest average and 90th centile in the 2023/24 year so far.



Of 1,405 patients with an acute STEMI in England in October 2023, 1,108 (79%) received an appropriate care bundle (Figure 12), significantly more than the year ending September 2022-23 average of 74%.



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 AmbSYS indicators, except the counts of 999 calls (indicators A1, A124, and A125) and answer times (A2 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

NHS England publishes monthly data on ambulance handover delays by acute trust at www.england.nhs.uk/statistics/statistical-work-areas/ambulance-quality-indicators/ambulance-management-information starting from October 2023, and at www.england.nhs.uk/statistics/statistical-work-areas/uec-sitrep for individual days during winter from 2017-18.

The Quality Statement described in section 3.1 includes information on:

- the “Ambulance Services” publications by what became 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, Operational Insights, Transformation Directorate, NHS England, 0113 825 4606, england.nhsdata@nhs.net.

3.6 Accredited official statistics

These accredited official statistics were independently reviewed by the Office for Statistics Regulation in May 2015. They comply with the standards of trustworthiness, quality and value in the Code of Practice for Statistics and should be labelled “accredited official statistics”.