

Statistical Note: Ambulance Quality Indicators (AQI)

Ambulance response times in November 2022 were similar to the first half of 2022-23, although comparisons are difficult because London data are unavailable again for the latest month (November 2022).

For patients with a certain type of heart attack, the average monthly time from call to clinical intervention in July 2022 was the second longest in the last four years.

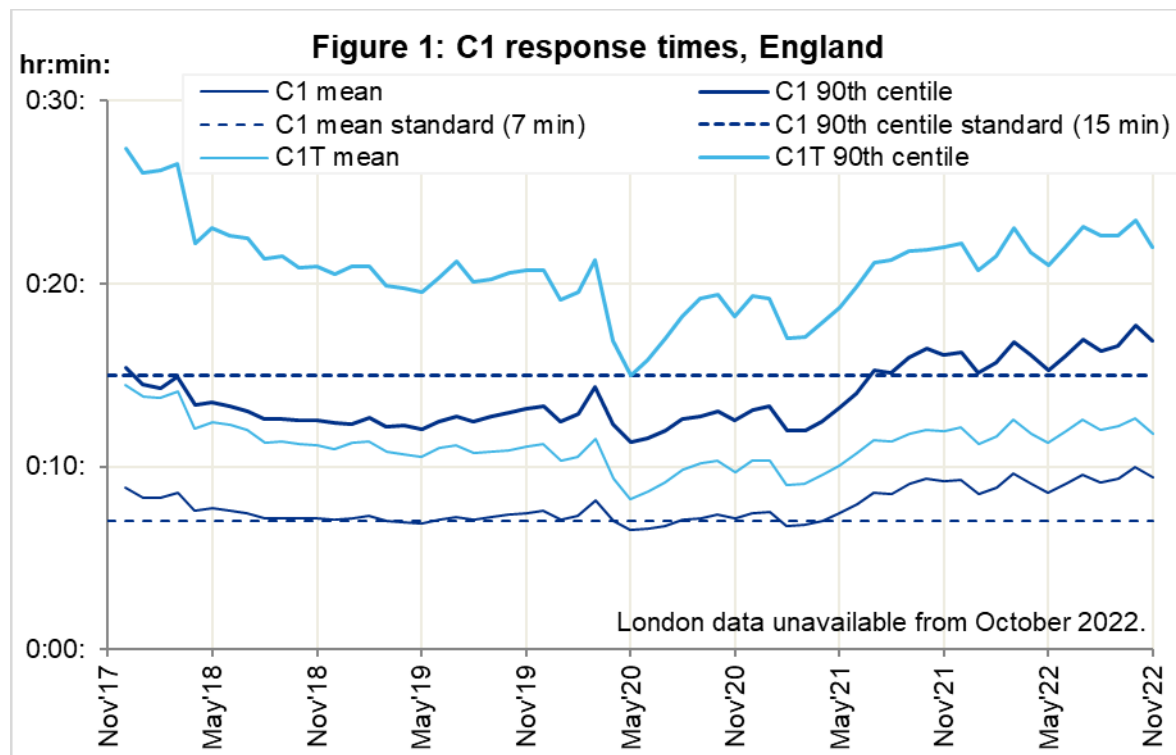
1. Ambulance Systems Indicators (AmbSYS)

1.1 Response times

Today we are publishing revisions to AmbSYS data from August 2021 to October 2022. For England response times, the largest percentage revision is to the C2 average for July 2022, from 59:07 to 58:53, and all revisions are less than 1%, so would be imperceptible in Figures 1-4.

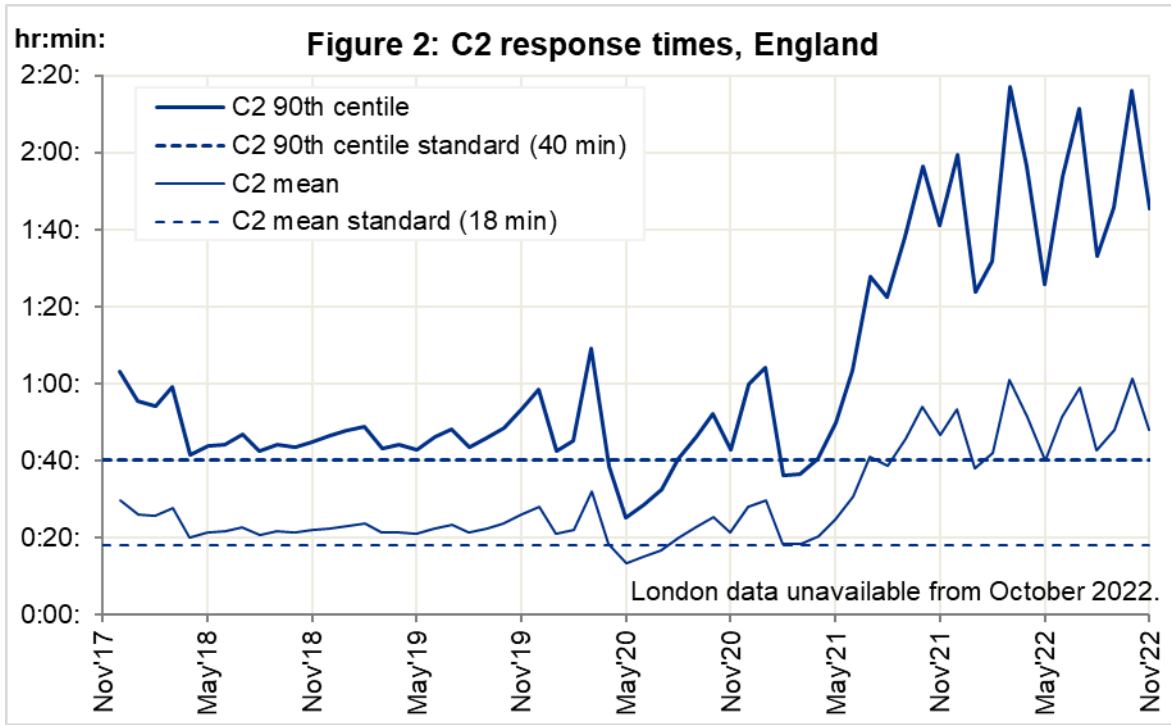
In November 2022, the mean average response time for the most urgent Category, C1, for England excluding London, was 9 minutes 26 seconds, and the 90th centile was 16:51 (Figure 1), which would both still have been longer than the respective standards¹ (7 and 15 minutes) whether or not London data were available.

The mean average for C1T (time to the arrival of the transporting vehicle for C1 incidents) was 11:48, and the 90th centile was 22:00.

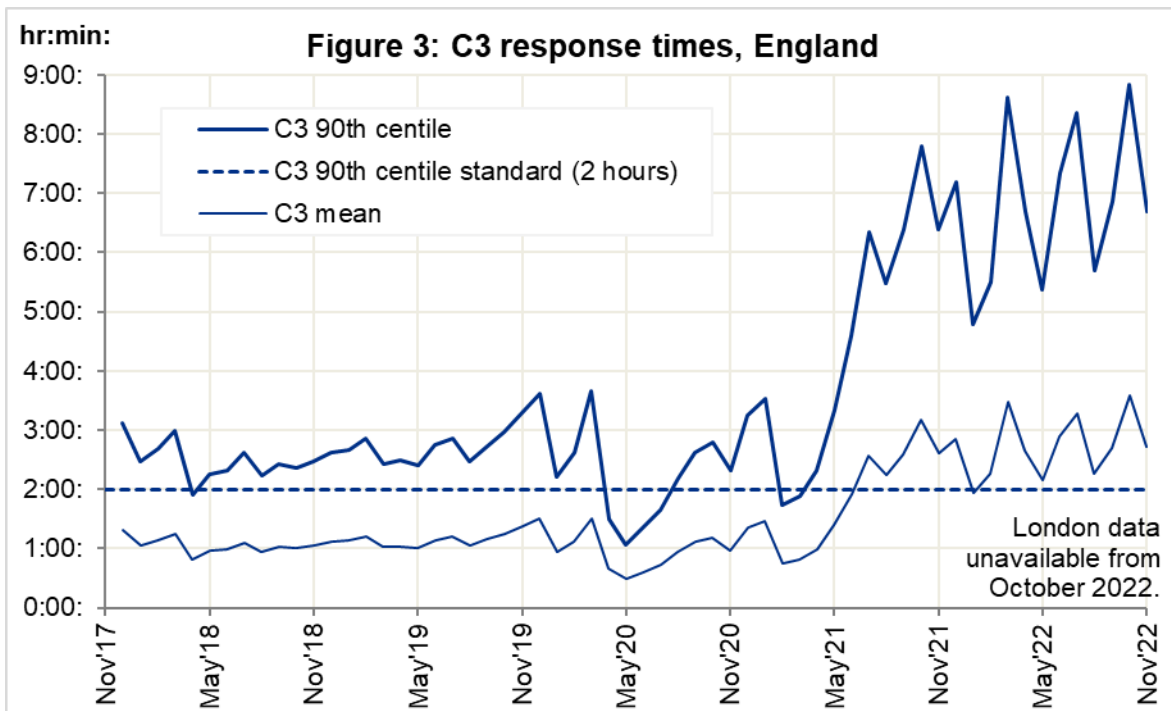


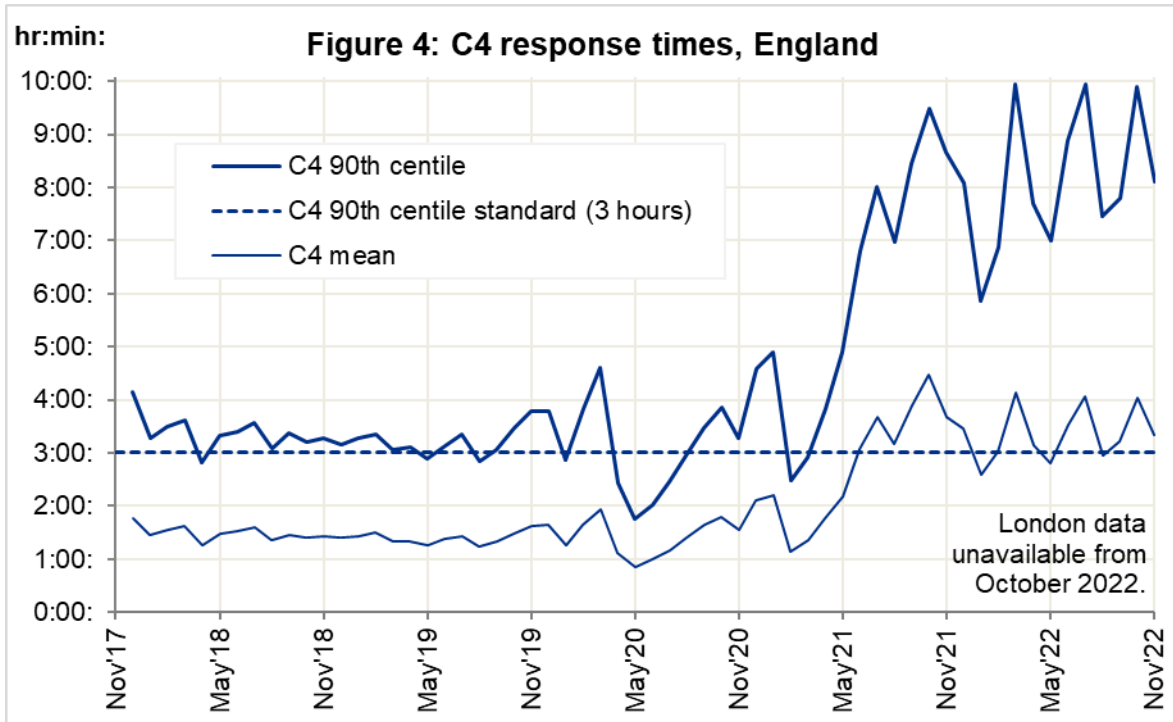
¹ Standards in the NHS Constitution Handbook: www.gov.uk/government/publications/supplements-to-the-nhs-constitution-for-england/the-handbook-to-the-nhs-constitution-for-england

England excluding London in November 2022 had an average C2 response time of 48:08 and a 90th centile of 1:45:18 (Figure 2), both slightly shorter than for the first half of 2022-23 for England (48:43 and 1:47:51).



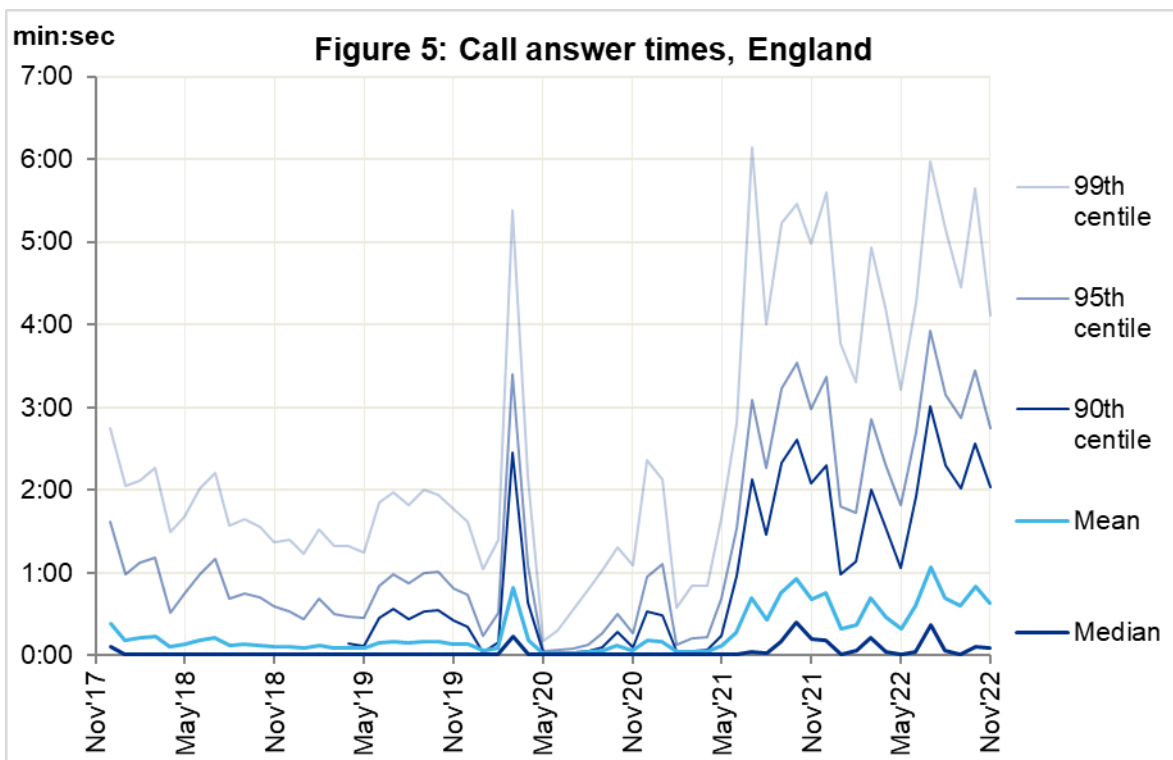
The November 2022 C3 (Figure 3) and C4 (Figure 4) average response times for England excluding London (2:43:05 and 3:20:18) and 90th centiles (6:40:57 and 8:06:59) were also similar to, but slightly longer than, in the first half of 2022-23 for England. All C2-C4 90th centile response times remain more than double the respective standards.





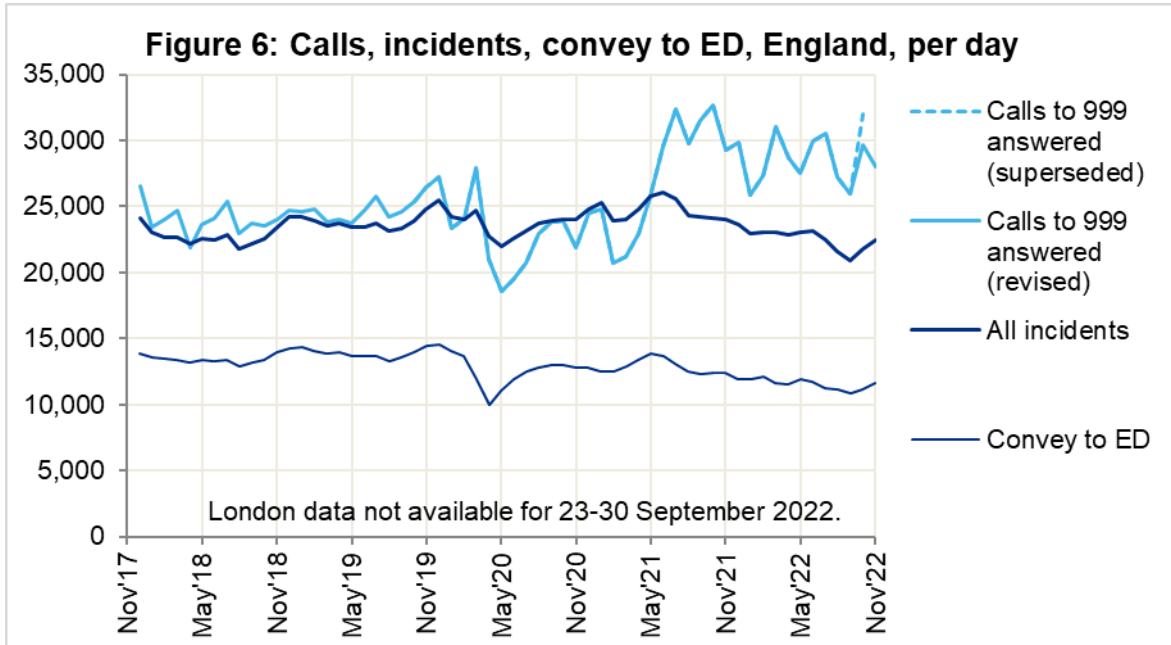
1.2 Other Systems Indicators

The October 2022 London call count has been revised to 130,612, reducing the count for England to 920,592 (29,697 per day), as shown in Figure 6. This has also increased call answer times, such as the October 2022 England average, which was 50 seconds as shown in Figure 5, not 48 seconds as we reported last month. It reduced to 38 seconds in November 2022.

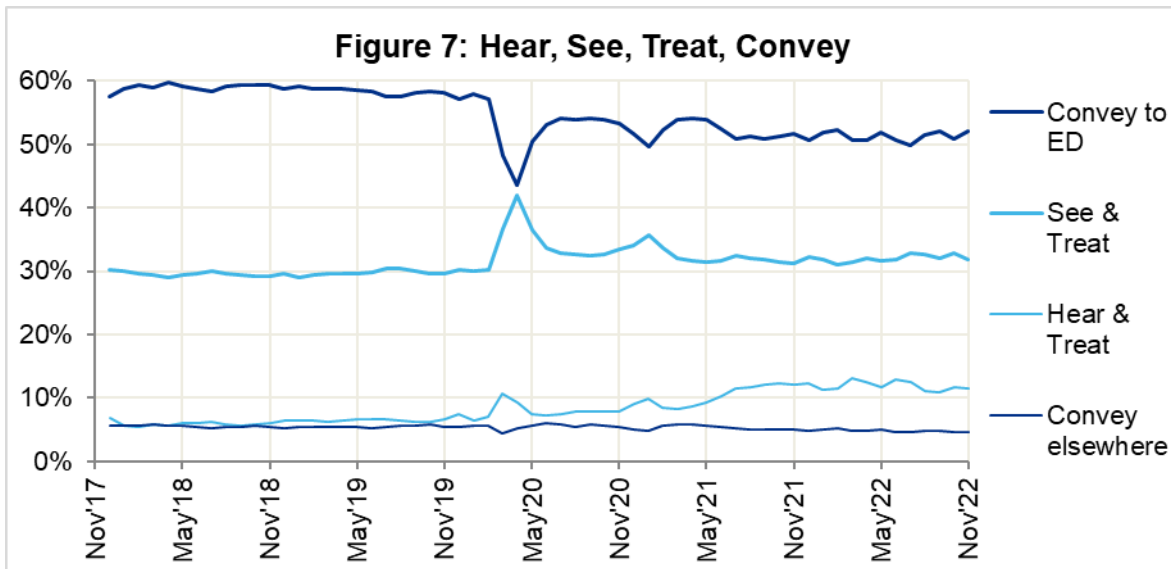


In November 2022, 27,968 calls to 999 per day were answered in England, fewer than in October 2022 (29,697 per day) and the average for 2022-23 so far (28,450).

However, the numbers of incidents, and incidents with conveyance to ED, increased to 22,447 and 11,681 per day.



In November 2022, incidents resolved on the scene (See & Treat) decreased to 32% and incidents with conveyance to ED increased to 52%, while 5% had conveyance to non-ED, and 11% of incidents were resolved on the telephone (Hear & Treat).



There have been large revisions to the counts of incidents closed (A18 and A21) and referred (A19 and A22) in West Midlands, and to call backs (A20) in South Central. However, for the four proportions in Figure 7, no revisions for an individual trust are larger than from 16.2% to 16.8% for Hear & Treat in West Midlands in July 2022.

Nearly all indicators have been revised by at least one trust; exceptions include those introduced in last month's publication, and those for Cardio-Pulmonary Resuscitation (CPR) by bystanders (indicators A49 to A52).

All revised data is within the latest published AmbSYS Time Series (the first spreadsheet at the link in section 3.1 below).

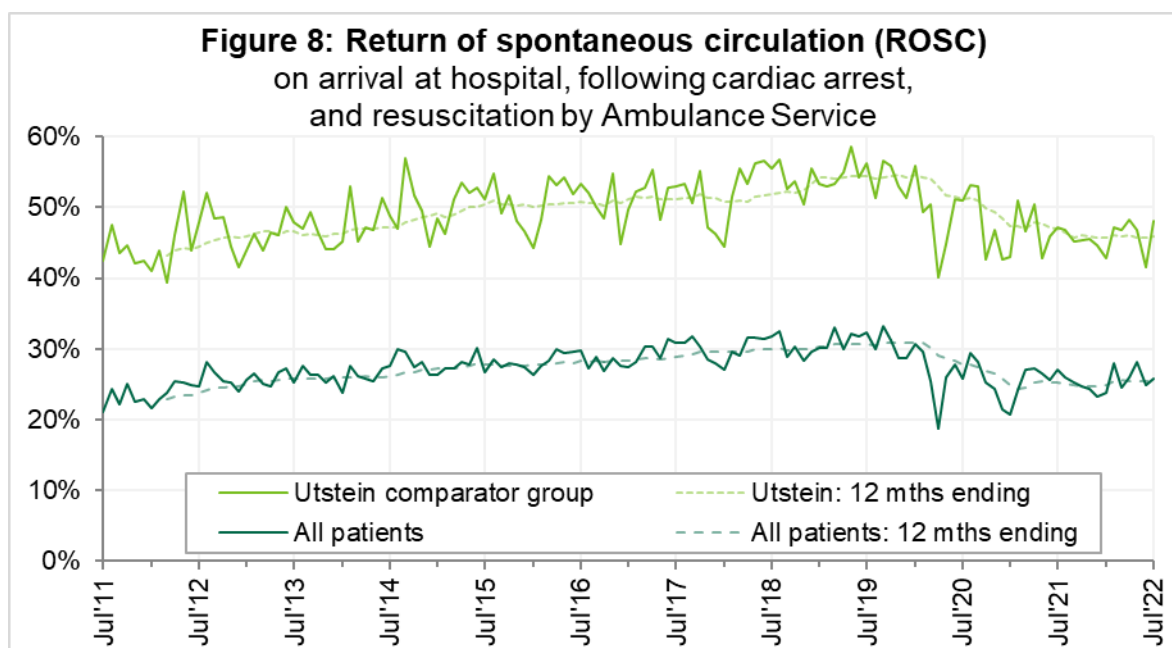
2. Ambulance Clinical Outcomes (AmbCO)

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. Today this includes revisions to cardiac arrest and STEMI data that we published in our spreadsheets on 13 October 2022.

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

For the 2,715 patients in July 2022 with cardiac arrest and resuscitation by an ambulance service in England, 701 (26%) had ROSC on arrival at hospital, not significantly² different to the average for 2021-22 (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 July 2022, of the 2,715 cardiac arrest patients, 422 met the Utstein criteria, and of those, 203 (48%) had ROSC on arrival at hospital, also not significantly different to the 2021-22 average (46%).



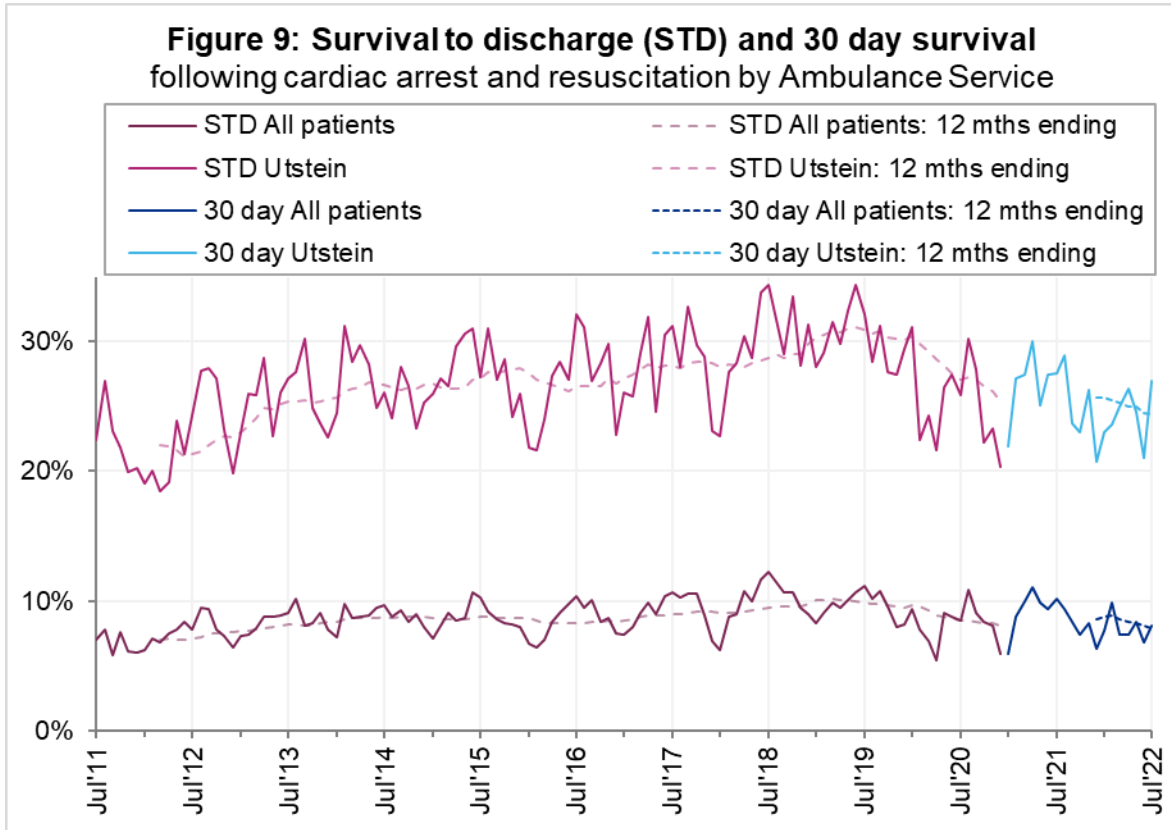
Revision to ROSC data are small; the largest revision to proportions for England is just from 45.3% to 45.4% for the October 2021 Utstein group.

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

2.2 Survival following cardiac arrest (Figure 9)

For the 2,677 resuscitated cardiac arrest patients in England in July 2022 where survival at 30 days is known, 218 (8.1%) survived. For the Utstein group, 111 of 412 (27%) survived for 30 days. Both were similar to the 2021-22 averages of 8.6% and 25%. Figure 9 shows that survival from cardiac arrest is higher in summer.

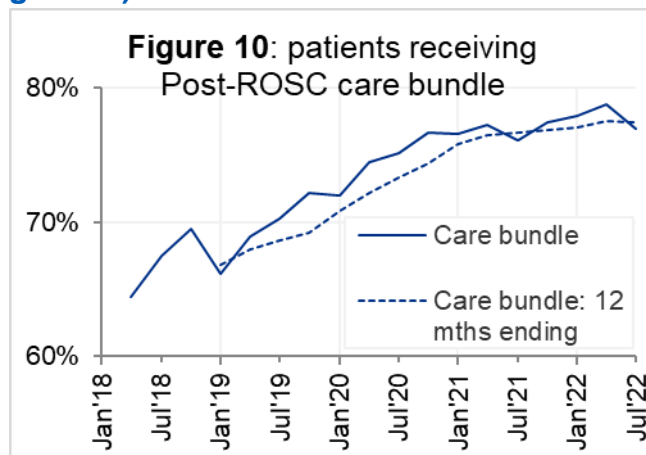
Revisions to survival data are a little larger than for ROSC, with the largest for the Utstein group in the North West for January 2022, from 22% to 28%.



2.3 Cardiac arrest care bundle (Figure 10)

There were 919 resuscitated cardiac arrest patients who had ROSC on scene (not necessarily on arrival at hospital) in July 2022, of which 707 (77%) received the appropriate care bundle, the same as the 2021-22 average.

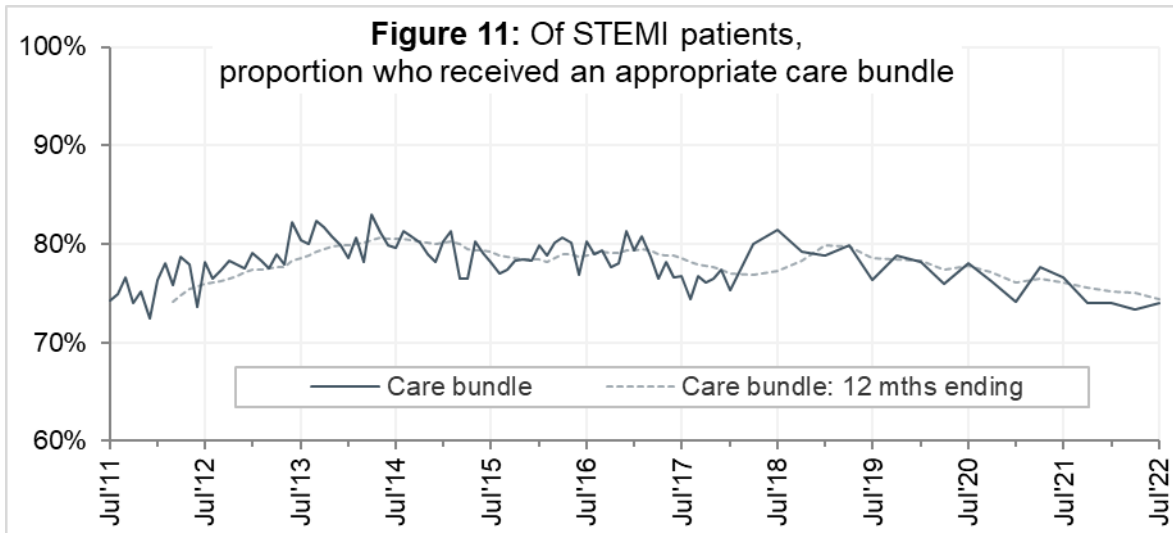
The largest revision to a monthly proportion was for South Western in January 2022, from 76% to 80%.



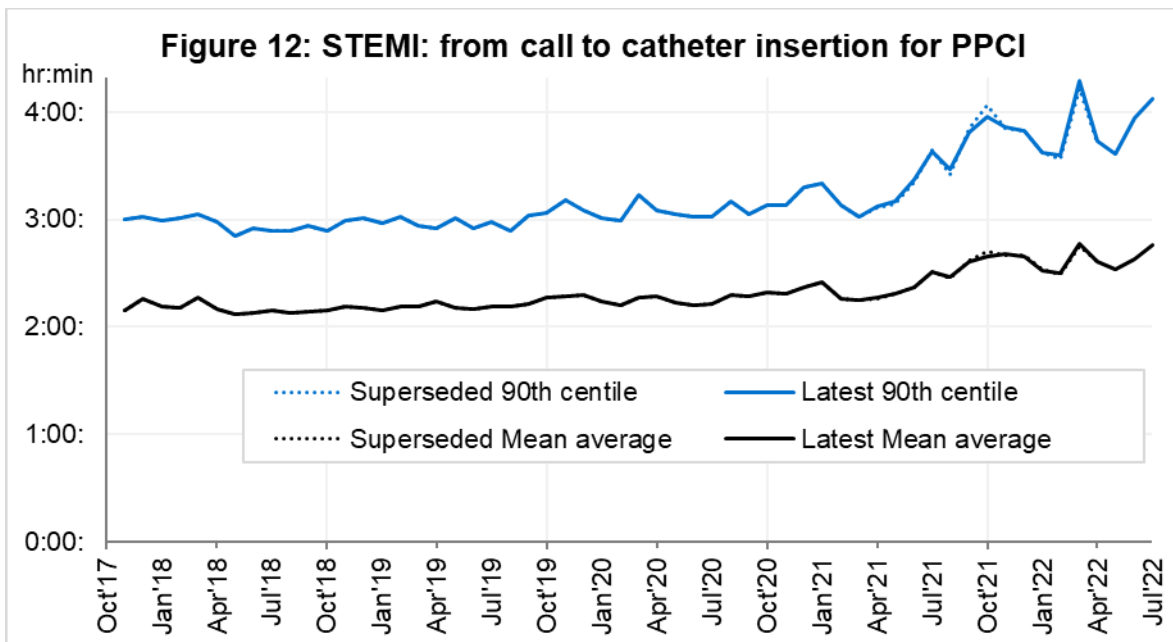
2.4 ST-segment elevation myocardial infarction (STEMI)

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 1,467 patients with an acute STEMI in England in July 2022, 1,085 (74%) received an appropriate care bundle from the ambulance service, not significantly different to the average for 2021-22 (76%). Revisions to these proportions for England are all less than 0.2 percentage points and would be imperceptible if shown in Figure 11.



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 in July 2022, the mean average time from call to catheter insertion was 2 hours 45 minutes and the 90th centile was 4:07. Apart from in March 2022, both were the highest since this collection began in November 2017.

Our latest revisions to MINAP data have increased the count of STEMI incidents that count towards these times, most of all for October 2021 which previously comprised times for 806 patients but now has 960. However, Figure 12 shows that the actual times changed less, with the largest change a decrease in the October 2021 90th centile from 4:03 to 3:57.

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 mentioned in section 3.1, incidents resulting from a call to NHS 111 are included in all Systems Indicators the except the call indicators, 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.