

## Statistical Note: Ambulance Quality Indicators (AQI)

The number of incidents receiving a response from an ambulance service in England per day in August 2022 was the lowest for nearly five years.

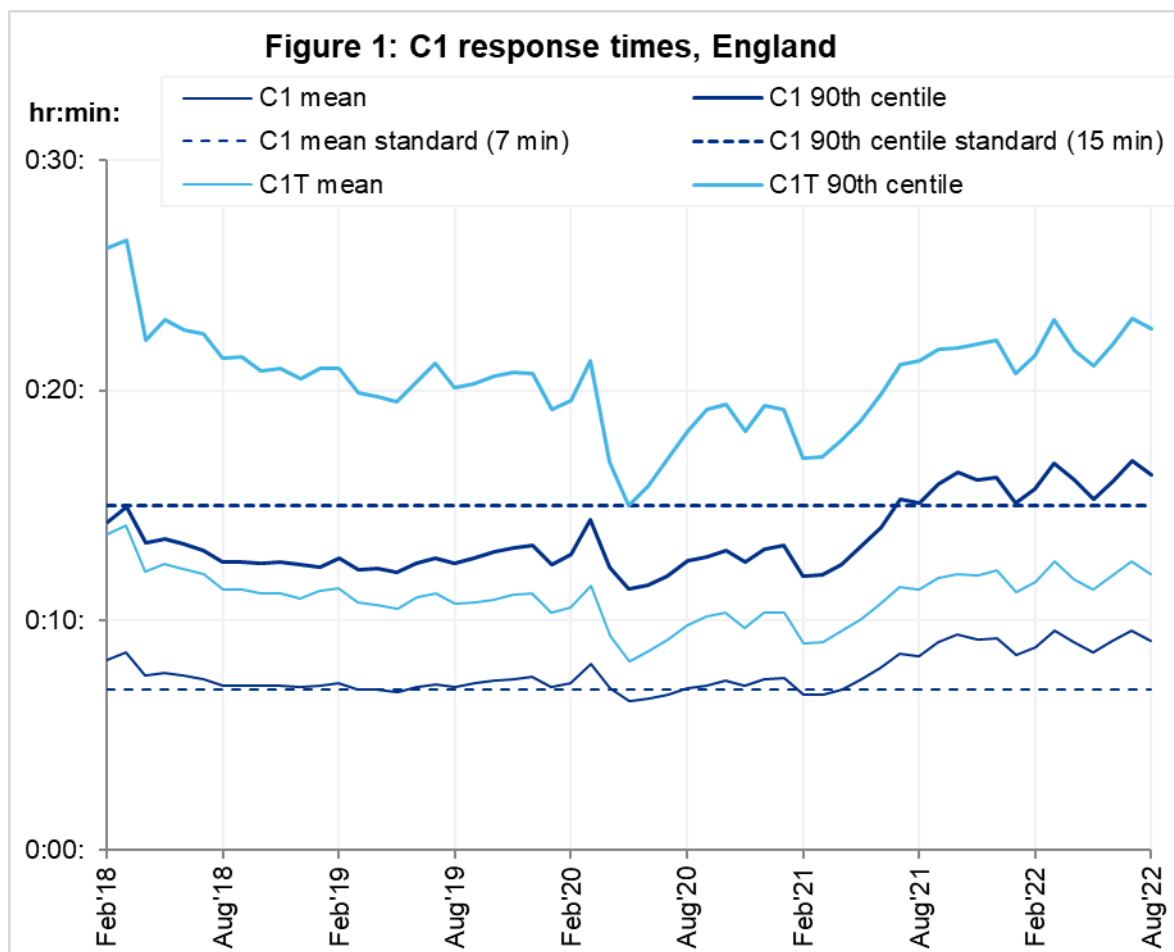
For STEMI (a type of heart attack), the time from 999 call to clinical intervention in March 2022 was the highest since this collection began in 2017.

### 1. Ambulance Systems Indicators

#### 1.1 Response times

In August 2022, the England mean average response time for Category C1, the most urgent incidents, was 9 minutes 8 seconds, and the 90th centile was 16:20 (Figure 1), so neither the 7-minute mean nor the 15-minute 90th centile standard<sup>1</sup> were met.

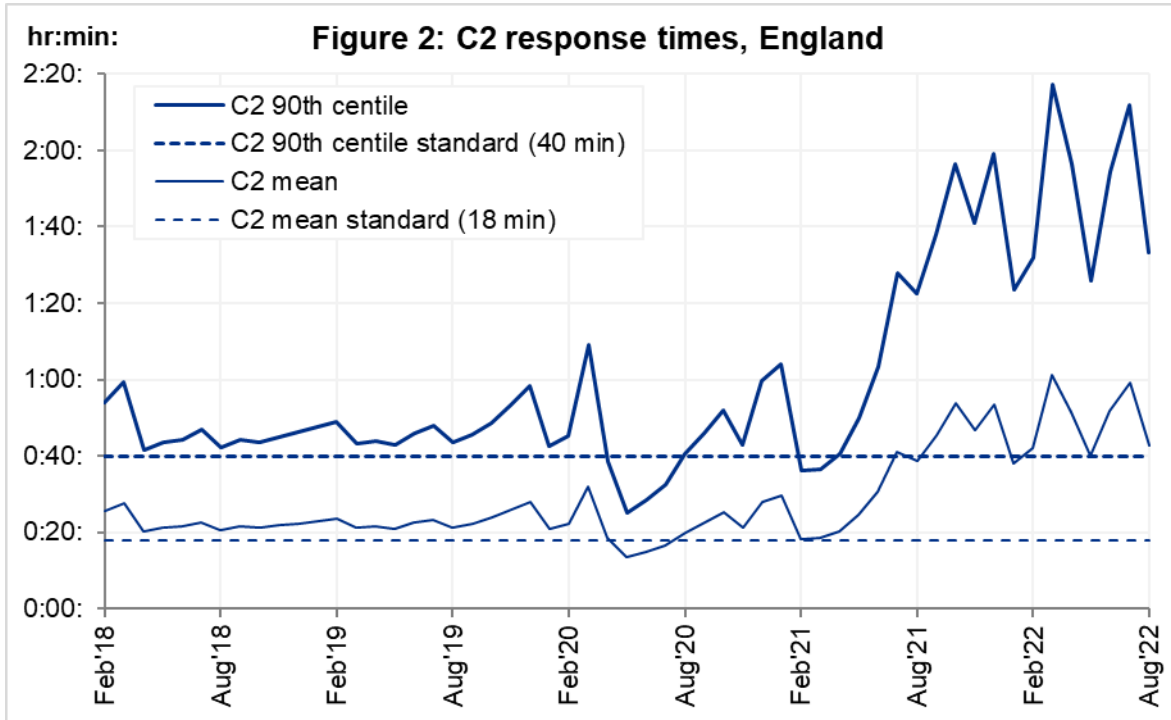
The mean average for C1T (time to the arrival of the transporting vehicle for C1 incidents) was 12:02, and the 90th centile was 22:41. Like the C1 times, these were similar to the values for 2022-23 so far, but longer than in the previous four years.



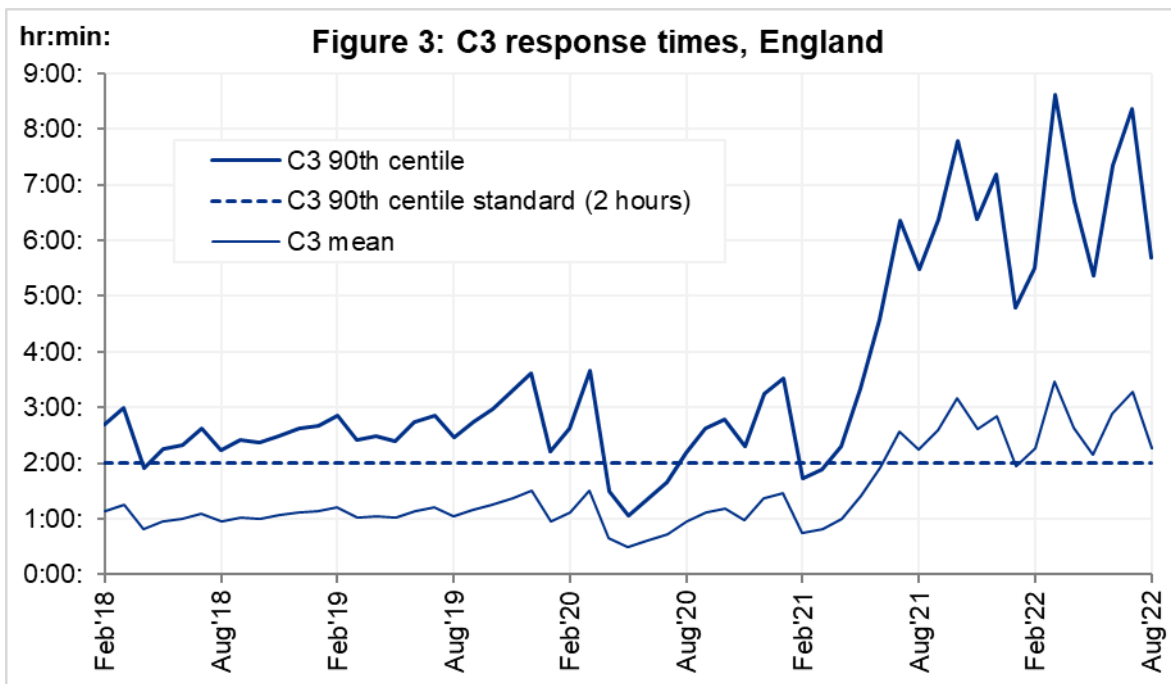
<sup>1</sup> Standards in the NHS Constitution Handbook: [www.gov.uk/government/publications/supplements-to-the-nhs-constitution-for-england/the-handbook-to-the-nhs-constitution-for-england](http://www.gov.uk/government/publications/supplements-to-the-nhs-constitution-for-england/the-handbook-to-the-nhs-constitution-for-england)

The average C2, C3, and C4 response times in August 2022 were all more than 25% than in July 2022, but still longer than every month before July 2021.

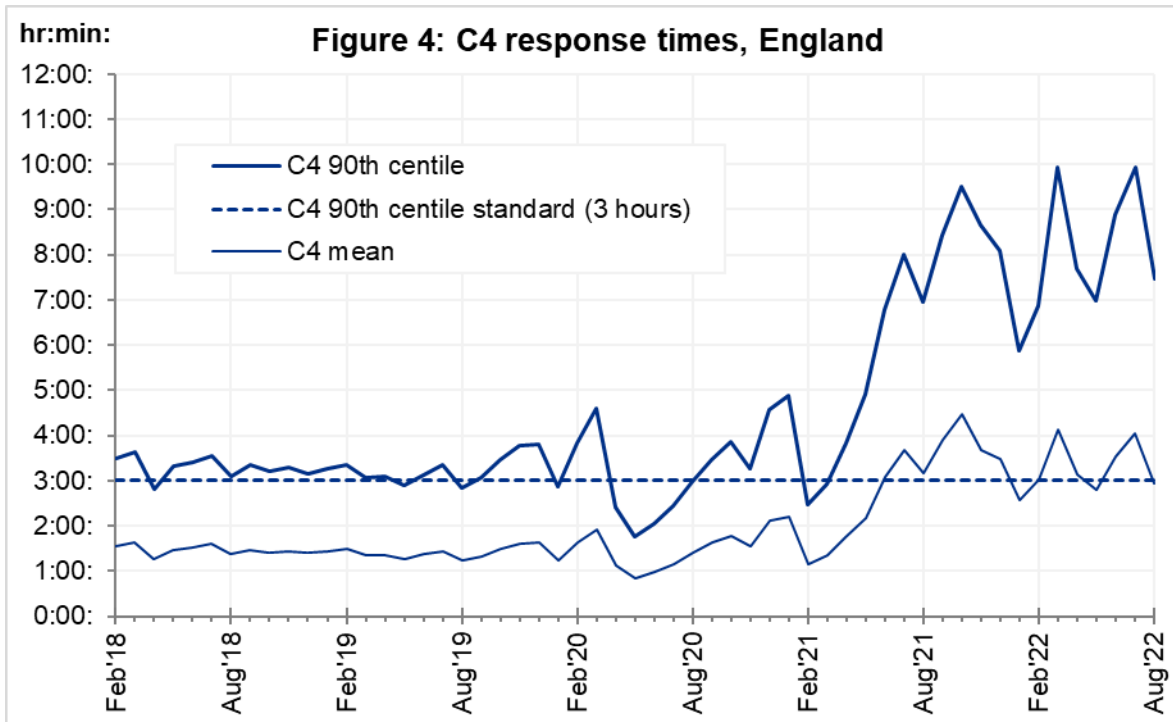
The C2 mean response time in August 2022 was 42:44, and the 90th centile was 1:33:20, so the 18 and 40-minute standards were not met. (Figure 2)



The C3 mean response time was 2:16:23, and the 90th centile was 5:41:13 so the 2-hour 90th centile standard was not met. (Figure 3)

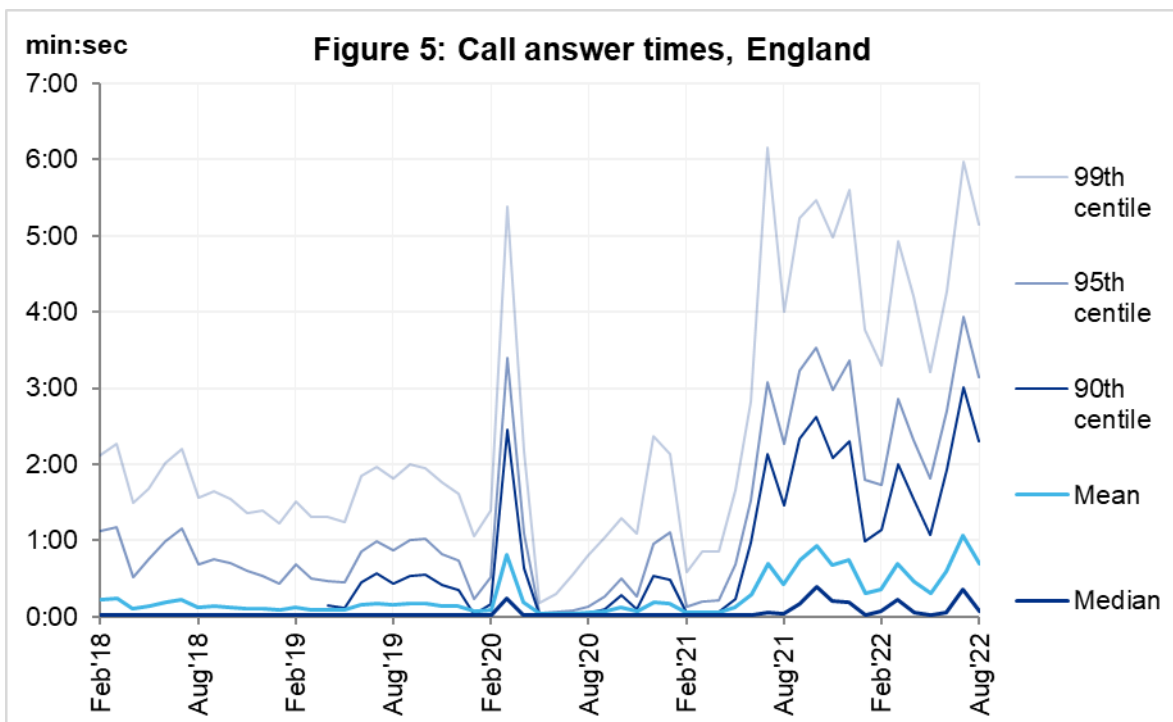


The C4 mean average response time in August 2022 was 2:56:39, and the 90th centile was 7:27:56, so the 3-hour 90th centile standard was not met. (Figure 4)



## 1.2 Other Systems Indicators

The average answer time for ambulance 999 calls in England in August 2022 was 42 seconds, more than the average for 2021-22 and 2022-23 so far, and much more than the averages for the previous three years. (Figure 5)



In August 2022, per day, there were (Figure 6):

- 27,215 calls to 999 answered, 11% fewer than July 2022;
- 21,635 incidents receiving a response from an ambulance service (whether on the telephone or on the scene), the fewest in the time series (starting December 2017);
- 11,149 incidents where a patient was conveyed to an Emergency Department (ED), the fewest since May 2020.

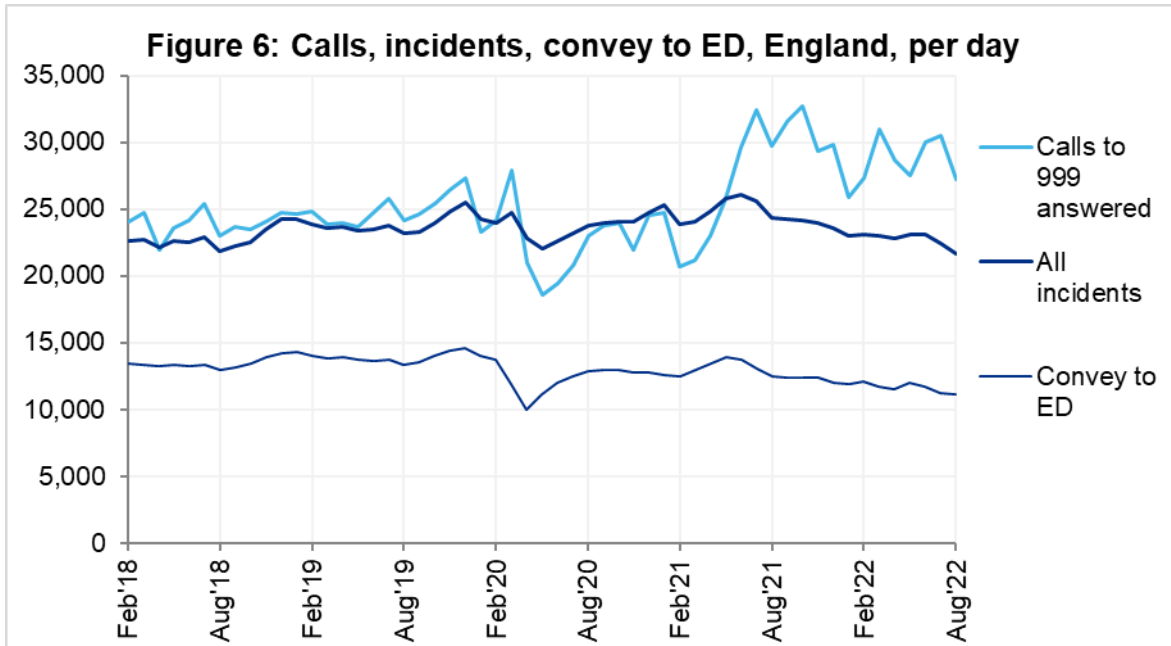
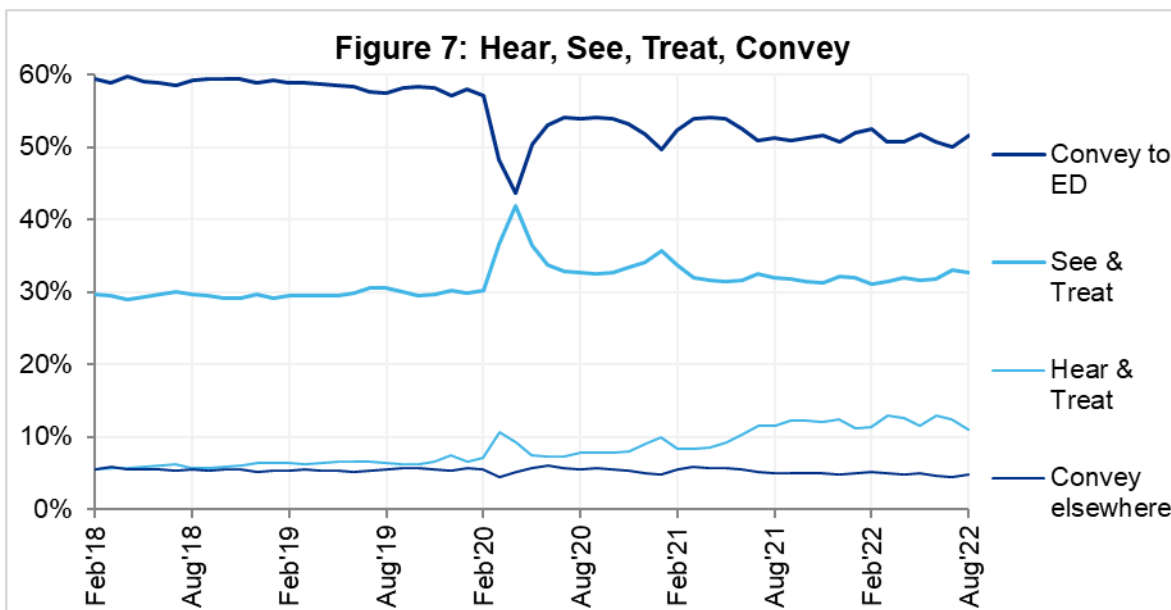


Figure 7 shows that in August 2022, the proportion of incidents resolved on the telephone (Hear & Treat) reduced from 12.5% to 11.1%, while the proportion conveyed to ED increased from 50.0% to 51.5%. There was little change in the proportions conveyed elsewhere (5%) or resolved on scene (See & Treat, 33%).



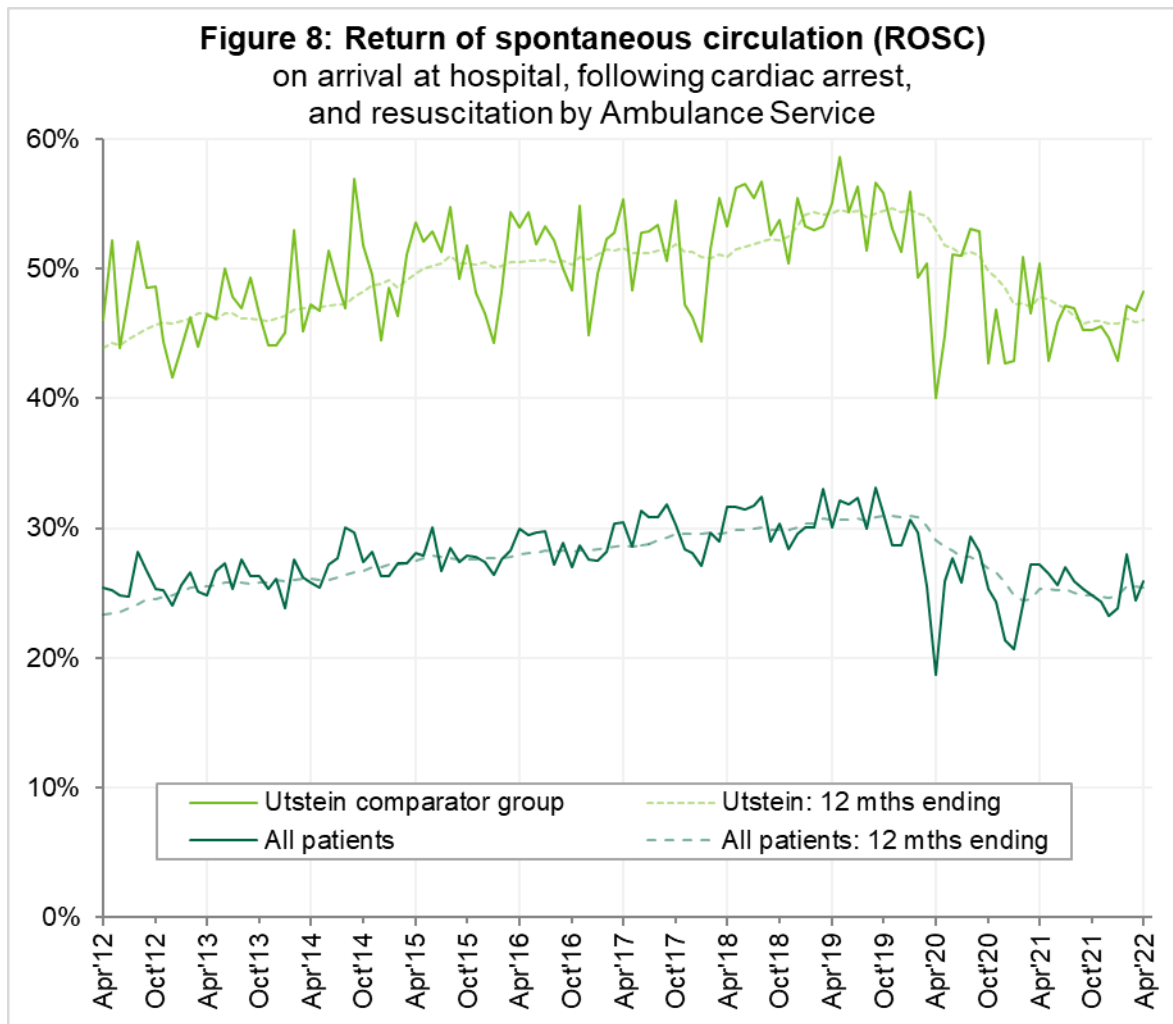
## 2. Ambulance Clinical Outcomes (AmbCO)

We continue to summarise data for STEMI (a type of heart attack) and cardiac arrest in this Statistical Note when we publish January, April, July, or October AmbCO data; stroke data in the following month; and sepsis data in the month after that.

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

For the 2,866 patients in April 2022 with cardiac arrest and resuscitation by an ambulance service in England, 742 (26%) had ROSC on arrival at hospital, not significantly<sup>2</sup> different to the average for 2021-22 (25%).

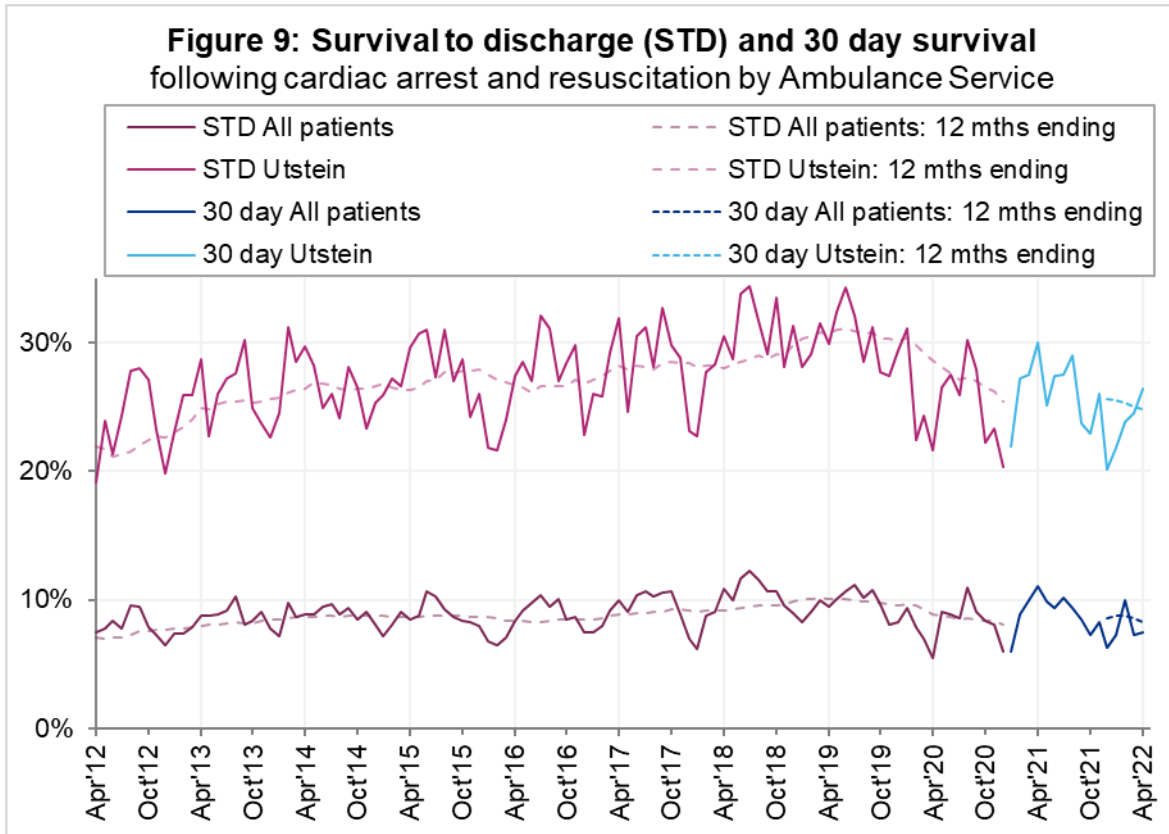
The Utstein comparator group comprises patients with an out-of-hospital cardiac arrest of presumed cardiac origin, where the initial rhythm was Ventricular Fibrillation or Ventricular Tachycardia, and the arrest was bystander witnessed. This group therefore have a better chance of survival. In April 2022, of the 2,866 cardiac arrest patients, 427 met the Utstein criteria, and of those, 206 (48%) had ROSC on arrival at hospital, also not significantly different to the 2021-22 average (46%).



<sup>2</sup> Calculated using Student's t-test with 95% significance.

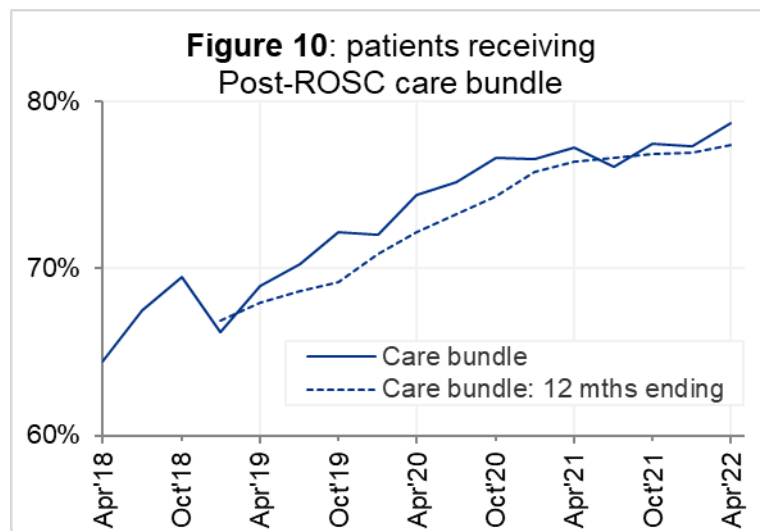
## 2.2 Survival following cardiac arrest (Figure 9)

For the 2,815 resuscitated cardiac arrest patients in England in April 2022 where survival at 30 days is known, 210 (7%) survived. For the Utstein group, 108 of 409 (26%) survived for 30 days. Both were similar to the 2021-22 averages of 9% and 25%. Figure 9 shows that survival from cardiac arrest is higher in summer.



## 2.3 Cardiac arrest care bundle (Figure 10)

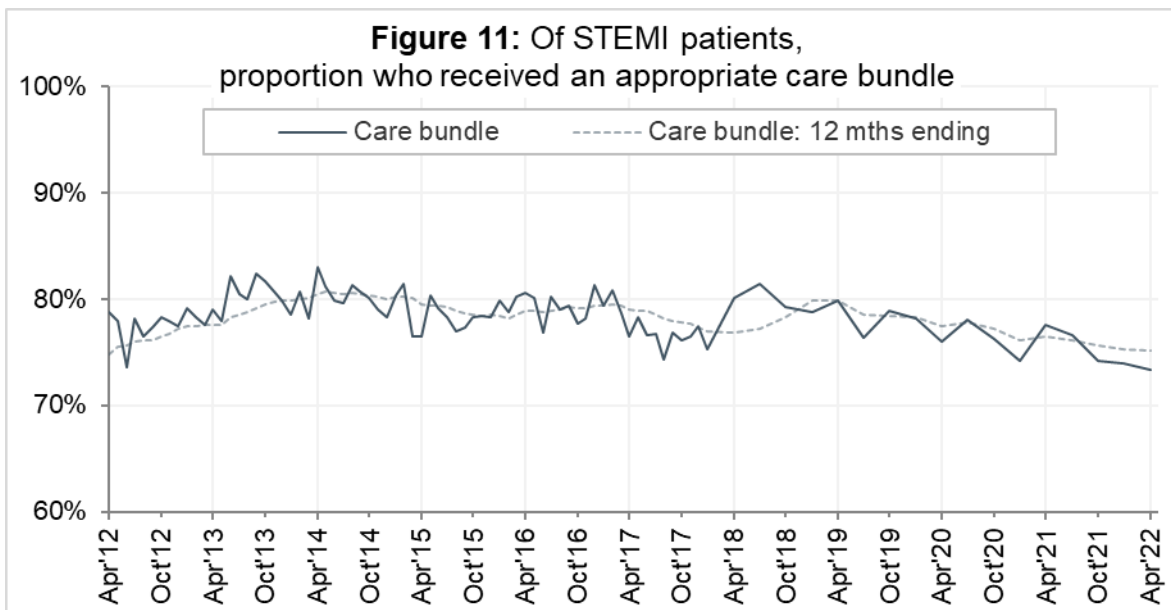
There were 1,011 resuscitated cardiac arrest patients who had ROSC on scene (not necessarily on arrival at hospital) in April 2022, of which 796 (79%) received the appropriate care bundle, not significantly different to the average for 2021-22 of 77%.



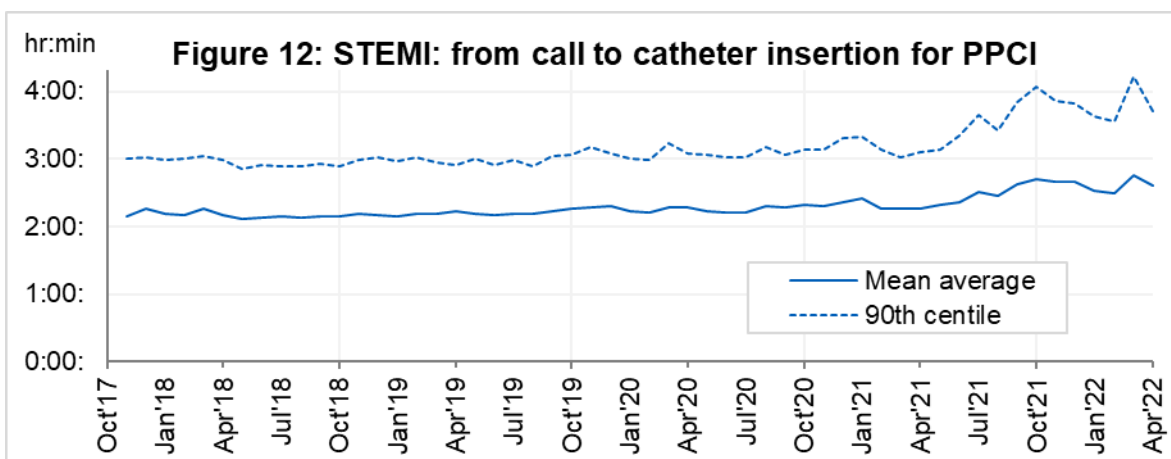
## 2.4 ST-segment elevation myocardial infarction (STEMI)

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 1,612 patients with an acute STEMI in England in April 2022, 1,183 (73%) received an appropriate care bundle from the ambulance service (Figure 11), not significantly different to the average for 2021-22 (76%).



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 March 2022, the mean average time from call to catheter insertion was 2 hours 45 minutes and the 90<sup>th</sup> centile was 4 hours 13 minutes. Both were the highest since this collection began in November 2017 and both times reduced in April 2022 but remained higher than the averages for the previous 4 years.

### 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](http://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](http://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 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.

#### 3.3 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.

#### 3.4 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](http://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](http://www.scottishambulance.com/TheService/BoardPapers.aspx)

Northern Ireland: [www.health-ni.gov.uk/articles/emergency-care-and-ambulance-statistics](http://www.health-ni.gov.uk/articles/emergency-care-and-ambulance-statistics)

### 3.5 Contact information

Media: NHSEI Media team, [nhsengland.media@nhs.net](mailto:nhsengland.media@nhs.net), 0113 825 0958.

The person responsible for producing this publication is Ian Kay; Performance Analysis Team; Finance, Performance and Planning Directorate; NHS England and NHS Improvement (NHSEI); [england.nhsdata@nhs.net](mailto:england.nhsdata@nhs.net); 0113 825 4606.

### 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.