

Statistical Note: Ambulance Quality Indicators (AQI)

As the COVID-19 pandemic continued, the C2 and C3 90th centile response time standards, met in each of April to July 2020, were not met in August.

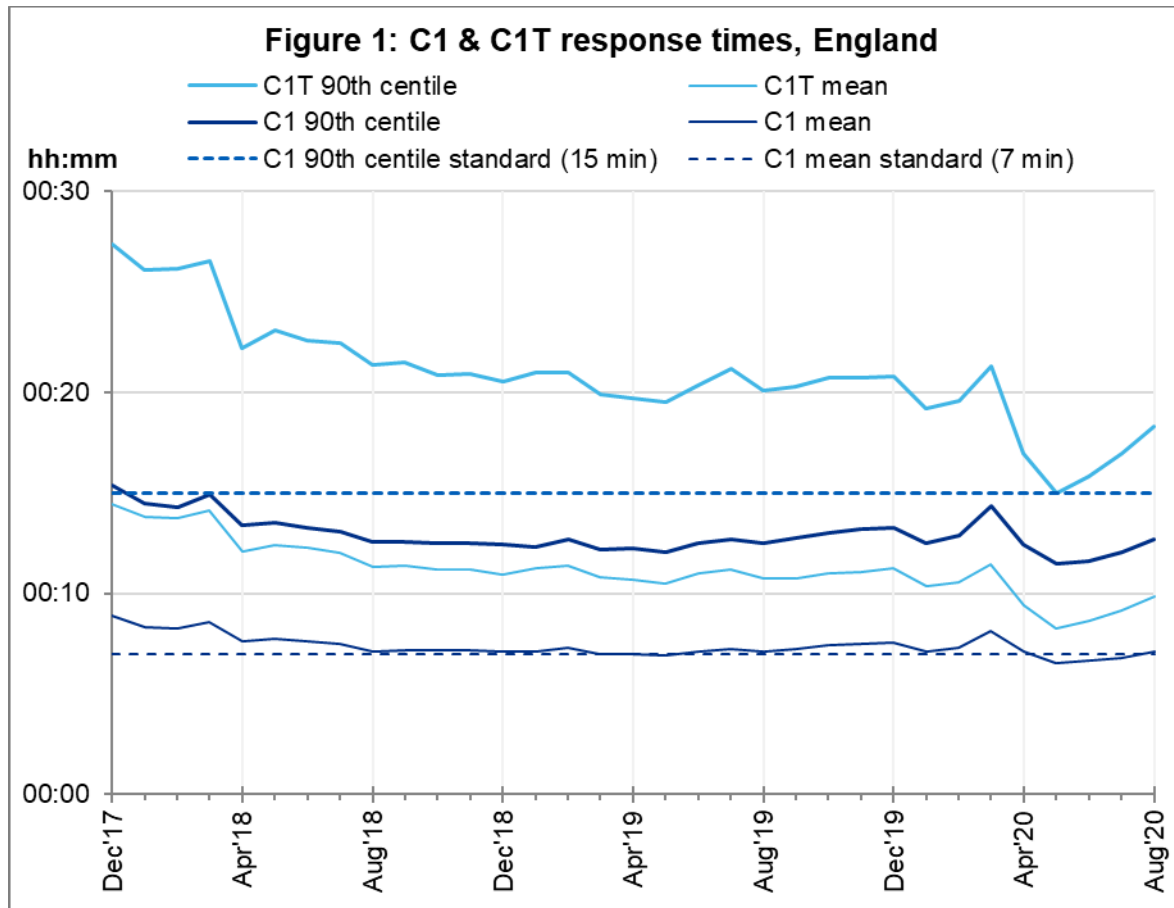
The number of 999 calls per day in England in August 2020 was more than in each of the previous four months, and yet fewer than in each of the months of 2019-20.

1. Systems Indicators

1.1 Response times

In August 2020, the mean average C1 response time England was 7 minutes 6 seconds, so the 7-minute standard was not met, but the C1 90th centile response times averaged 12:40 across England, so the 15-minute standard was met.¹

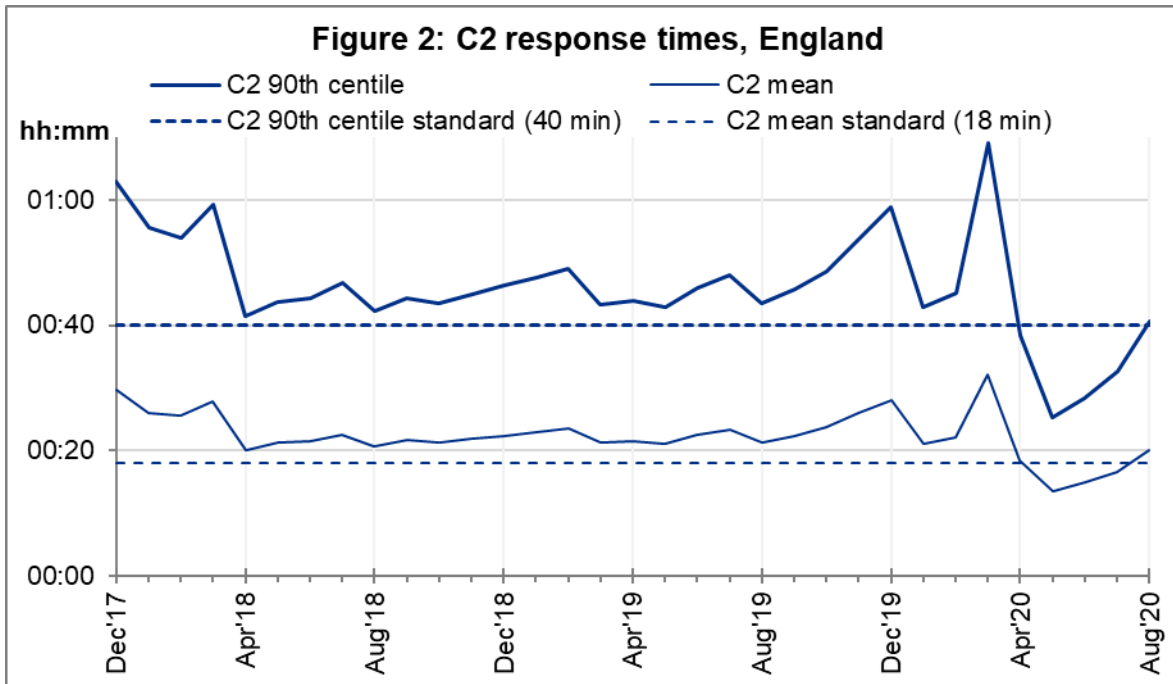
For C1T (response times for arrival of transporting vehicle, for C1 patients transported), the mean was 09:51, and the 90th centiles averaged 18:17.



Although the C1 mean standard, met in the previous three months, was not met in August, the measure was still less than throughout the second half of 2019-20. This was all also true for the C2 mean, the C2 90th centile, and the C3 90th centile.

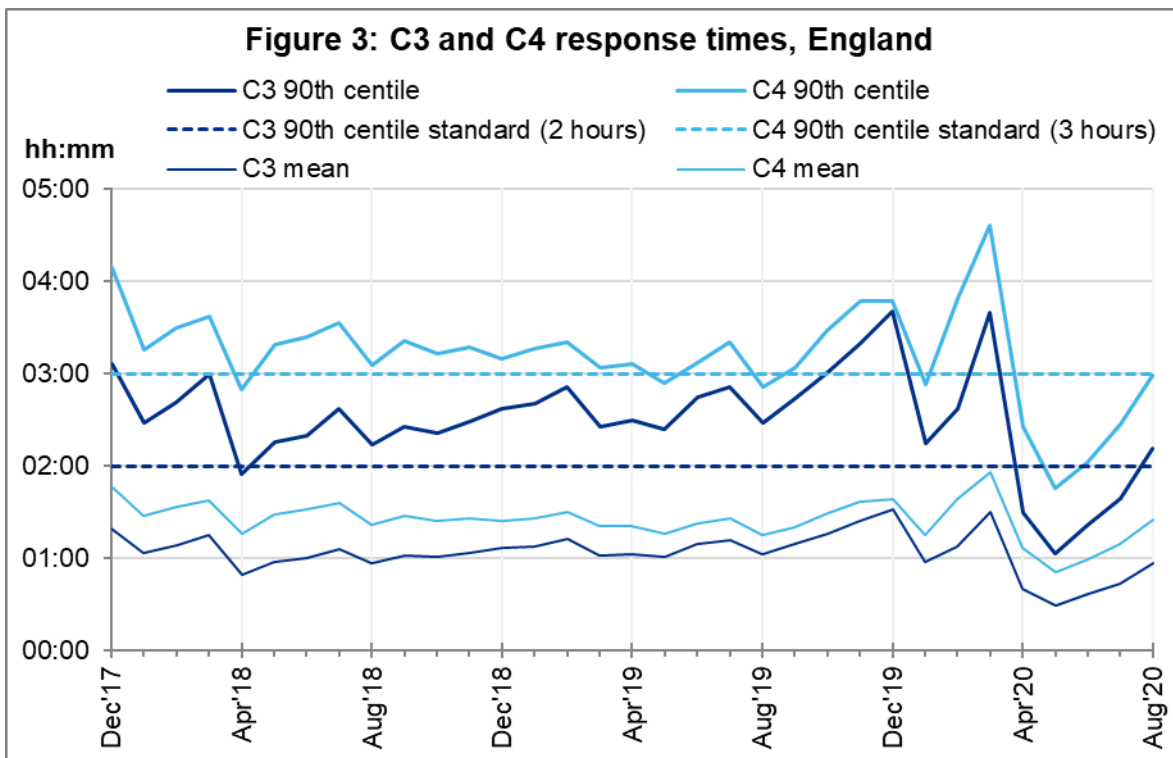
¹ Standards for Ambulance Services: www.gov.uk/government/publications/supplements-to-the-nhs-constitution-for-england/the-handbook-to-the-nhs-constitution-for-england

For C2 in August, the mean average response time was 20:03 for England, and the 90th centiles averaged 40:34 across England (Figure 2).



For C3 in August, the mean average response time was 56:42, and the C3 90th centile times averaged 2:11:40.

For C4 in August, the mean average response time was 1:25:01. The C4 90th centile times averaged 2:59:06, so the three-hour standard continues to be met in each month of 2020-21 so far (Figure 3).



1.2 Other Systems Indicators

The 95th and 99th centile call answer times averaged 8 and 48 seconds respectively across England in August 2020, each more than in May, June, and July 2020, but less than in all other months since 2017.

In August 2020, per day, there were (Figure 4):

- 22.9 thousand calls to 999 answered, 10.7% more than in July;
- 23.8 thousand incidents that received a response (whether on the telephone or on the scene) from an ambulance service, 2.7% more than in July;
- 12.8 thousand incidents where a patient was transported to an Emergency Department (ED), 2.4% more than in July.

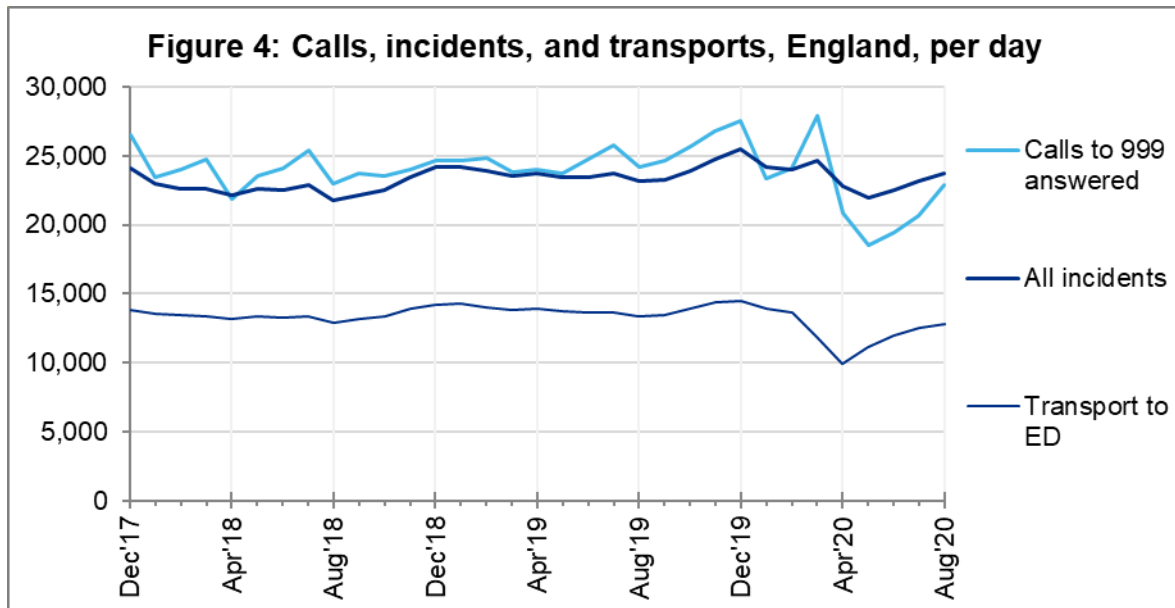
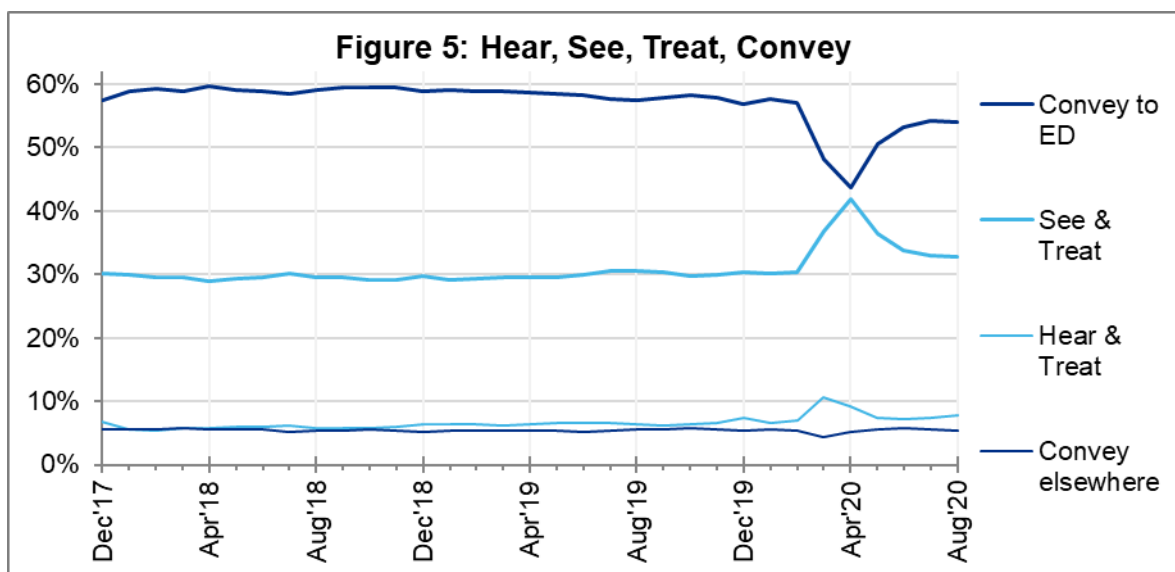


Figure 5 shows that 7.8% of incidents were resolved on the telephone (Hear & Treat) in August 2020, a small increase on 7.3% in July. In August 2020, conveyance to ED (54.0%), conveyance to non-ED (5.3%), and incidents closed at the scene (See & Treat, 32.9%) all had very small decreases from July.



2. Ambulance Clinical Outcomes

On 9 April 2020, we published Ambulance Clinical Outcomes (AmbCO) data for November 2019, but wrote in the Statistical Note that we would pause collection and publication of AmbCO data. This was to release capacity across the NHS to support the response to COVID-19.

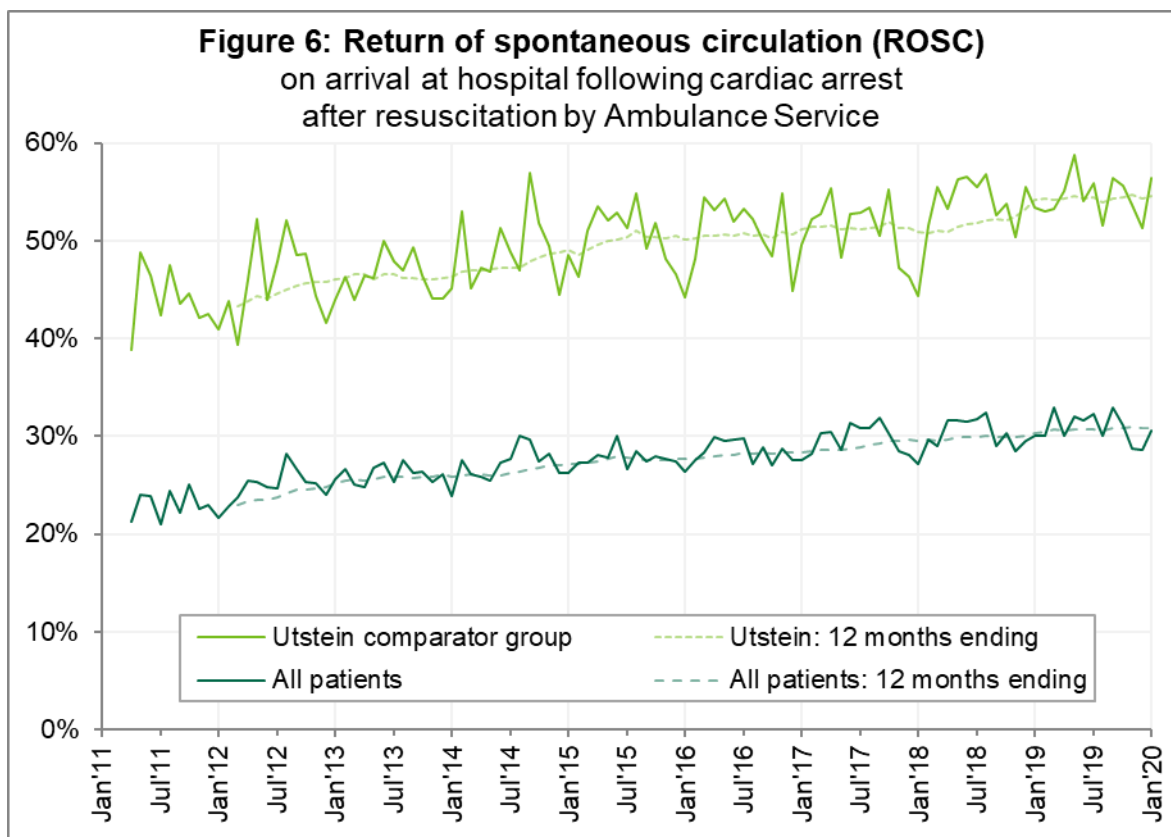
As announced at www.england.nhs.uk/statistics/covid-19-and-the-production-of-statistics and in our 9 July Statistical Note, last month we restarted publication of AmbCO, with data for December 2019. This month we publish data for January 2020, along with descriptions of the latest cardiac arrest (section 2.1) and STEMI (section 2.2) data.

We will publish AmbCO for February 2020 on 8 October, and then revert to the pre-COVID schedule, starting with June 2020 data in our 12 November publication. A publication later in 2020-21 will include the data that we are able to collect for March, April, and May 2020.

2.1 Cardiac arrest

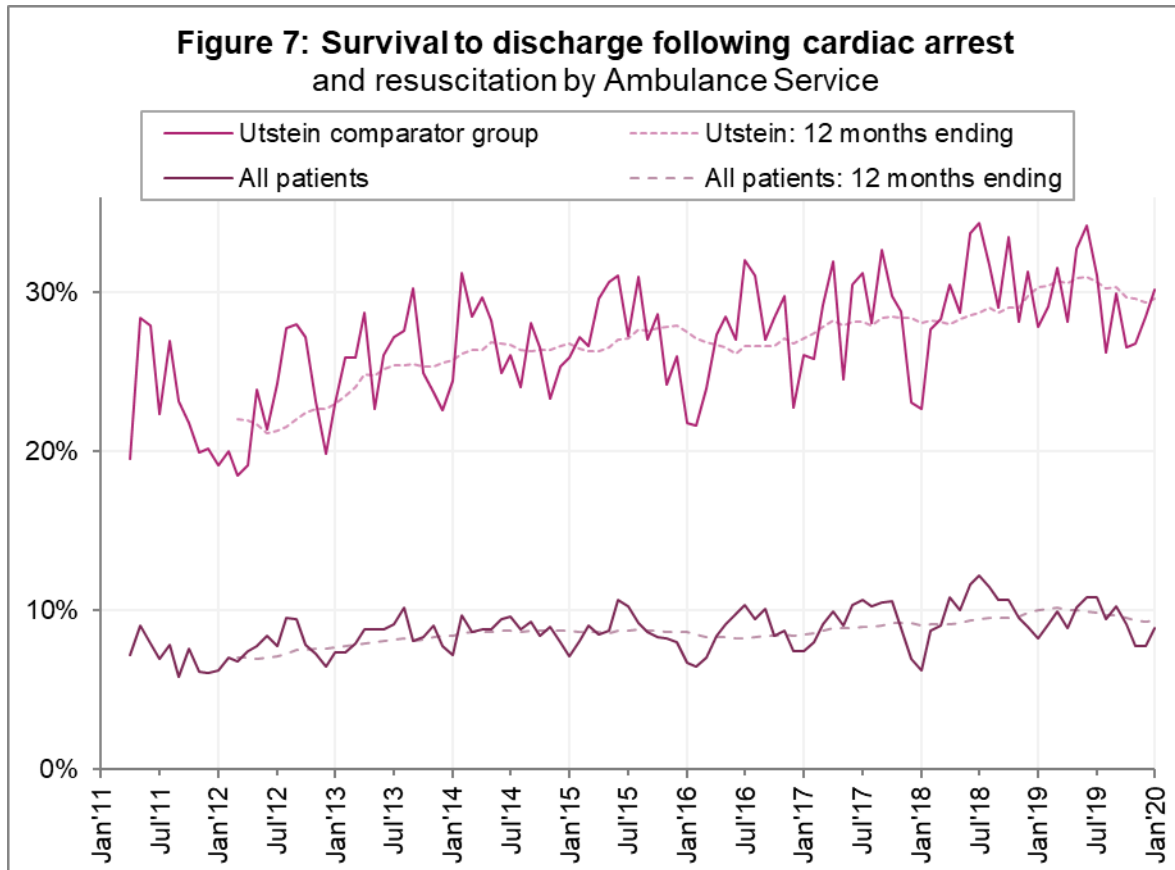
Patients in cardiac arrest will typically have no pulse and will not be breathing. We show, of patients for whom resuscitation was commenced or continued by ambulance staff out of hospital, how many had return of spontaneous circulation (ROSC), with a pulse, on arrival at hospital (Figure 6), and how many survived to be discharged from hospital (Figure 7).

For all patients, in January 2020, at England level, ROSC was 31% (Figure 6), the same as the proportion for the year ending September 2019.



The Utstein comparator group² comprises patients with an out-of-hospital cardiac arrest of presumed cardiac origin, where the arrest was bystander witnessed, and the initial rhythm was Ventricular Fibrillation or Ventricular Tachycardia. This group therefore have a better chance of survival.

For the Utstein group, ROSC was 56%. This was not significantly³ different to 54%, the average for the year ending September 2019 (Figure 6).



Survival to discharge following cardiac arrest in January 2020 was 9% for all patients, and 30% for the Utstein group. Neither were significantly different to 10% and 30% respectively, the averages for the year ending September 2019 (Figure 7).

For patients with ROSC in January 2020, 72% received the post-ROSC care bundle, the same as in October 2019, and larger than in the previous six months where this measure was collected.

2.2 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.

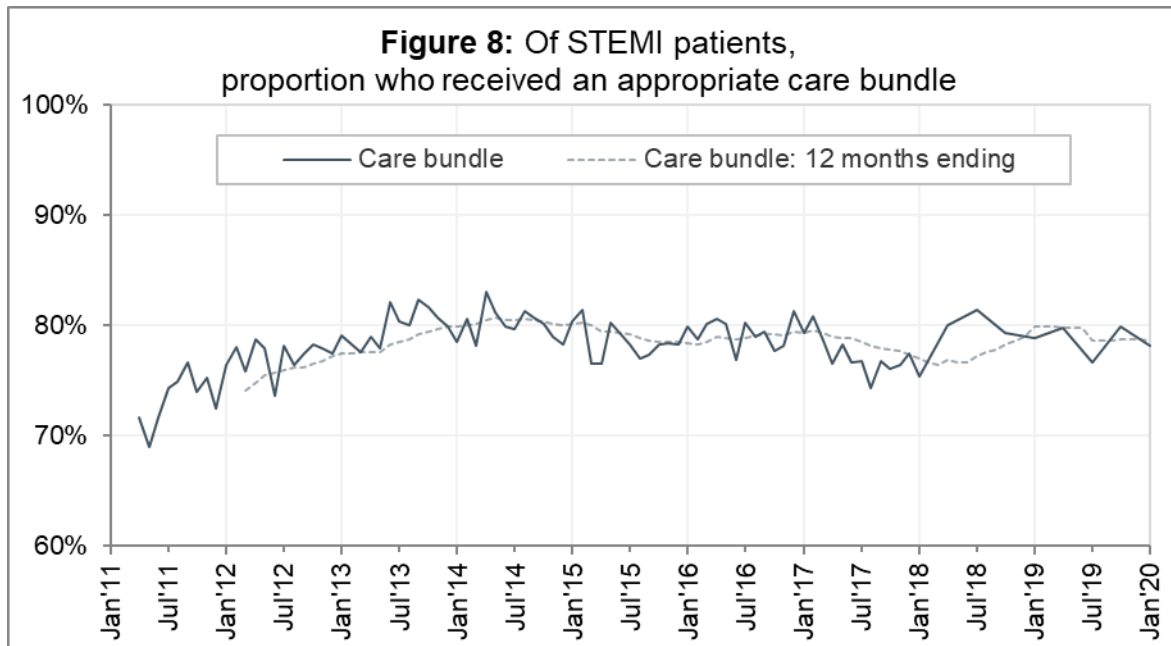
² This definition was proposed at Utstein Abbey in Norway by an international group of cardiologists and other health professionals in 1990. <http://circ.ahajournals.org/content/110/21/3385>

³ Calculated using Student's t-test with 95% significance.

For STEMI patients, ambulance services measure 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.

In England in January 2020, for time from call to catheter insertion, the mean average was 2 hours 14 minutes, and the 90th centiles averaged 3 hours 0 minutes.

Figure 8 shows that of patients with an acute STEMI in England in January 2020, the proportion that received an appropriate care bundle was 78%, similar to the average for the year ending September 2019 (79%).



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 3.4 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 call data items, A1 to A6 and A114.

3.3 Related statistics

Ambulance handover delays of over 30 minutes at each Emergency Department are published by NHSEI during winter 2012-13, 2013-14, 2014-15, 2017-18, 2018-19, and 2019-20, 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://statswales.gov.wales/Catalogue/Health-and-Social-Care/NHS-Performance/Ambulance-Services>

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

3.4 Contact information

Media: NHSEI Media team, 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; england.nhsdata@nhs.net; 0113 825 4606.

3.5 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.