Key statistics from the National Cardiac Arrest Audit *2018/19*

Supported by Resuscitation Council (UK) and
Intensive Care National Audit & Research Centre (ICNARC)

Data collection scope (NCAA Version 1.4)

NCAA data are collected on any resuscitation event commencing in-hospital where an individual receives chest compression(s) and/or defibrillation and is attended by the hospital-based resuscitation team (or equivalent) in response to a 2222 call.

Note: The data collection scope changed on 1 April 2018

Available data

This report is based on data for in-hospital cardiac arrests in NHS acute hospitals. The following team visits were therefore excluded:

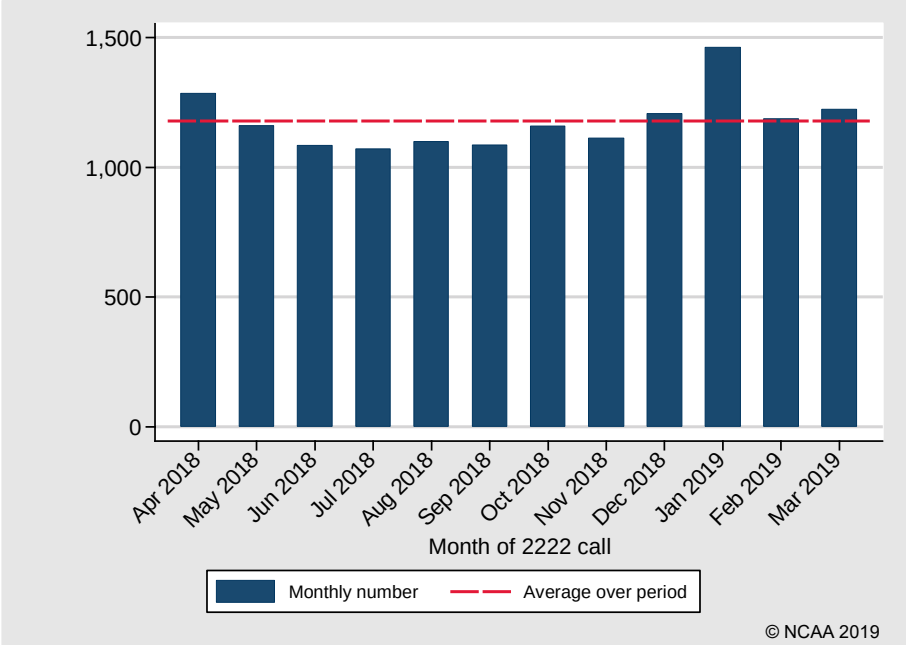
- Team visits taking place in specialist or non-acute hospitals
- Team visits taking place in paediatric hospitals
- Team visits (meeting the scope of NCAA) in response to pre-hospital cardiac arrests

Year	Number of hospitals participating in NCAA	Total number of admissions to hospital	Total number of reported in-hospital cardiac arrests	Total number of individuals
April 2018 – March 2019	192	14,088,735	14,139	13,571
April 2017 – March 2018	186	13,864,341	16,012	15,445
April 2016 – March 2017	183	13,591,271	16,672	16,114
April 2015 – March 2016	189	12,786,637	16,971	16,347
April 2014 – March 2015	173	11,315,820	16,133	15,559

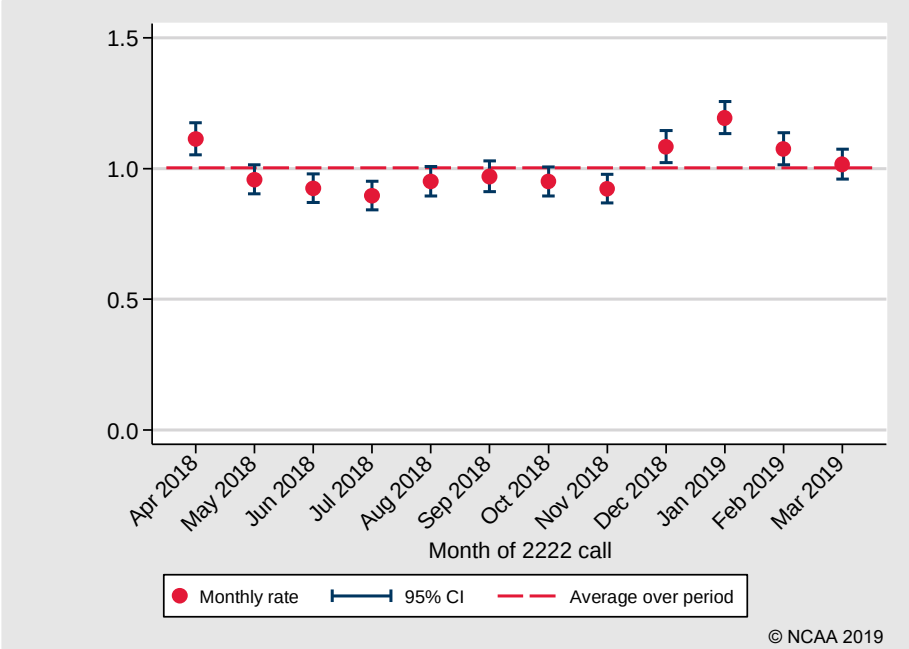
Note: Number of hospitals participating in NCAA includes those submitting data for all or part of the specified period

Incidence of in-hospital cardiac arrests attended by the team

Number of in-hospital cardiac arrests attended by the team

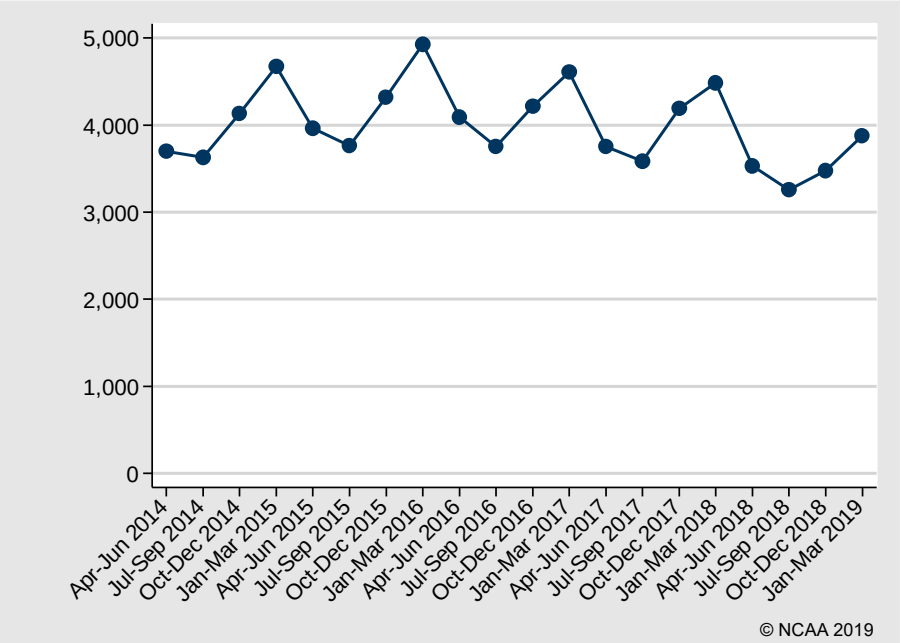


Rate of in-hospital cardiac arrests per 1000 hospital admissions



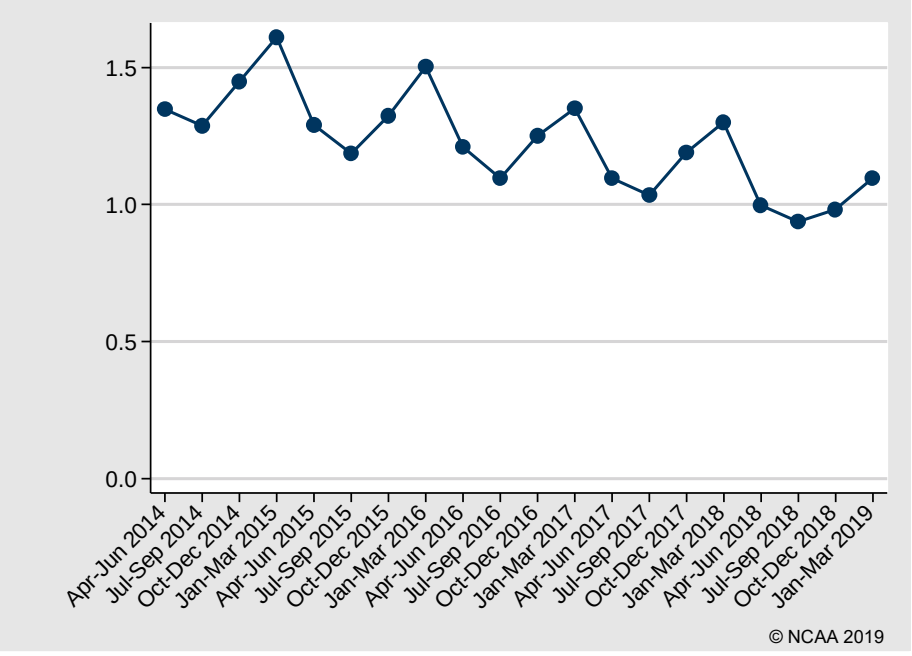
Trends in incidence of in-hospital cardiac arrests attended by the team

Number of in-hospital cardiac arrests attended by the team



Note: number of hospitals participating in NCAA has increased over time

Rate of in-hospital cardiac arrests per 1000 hospital admissions



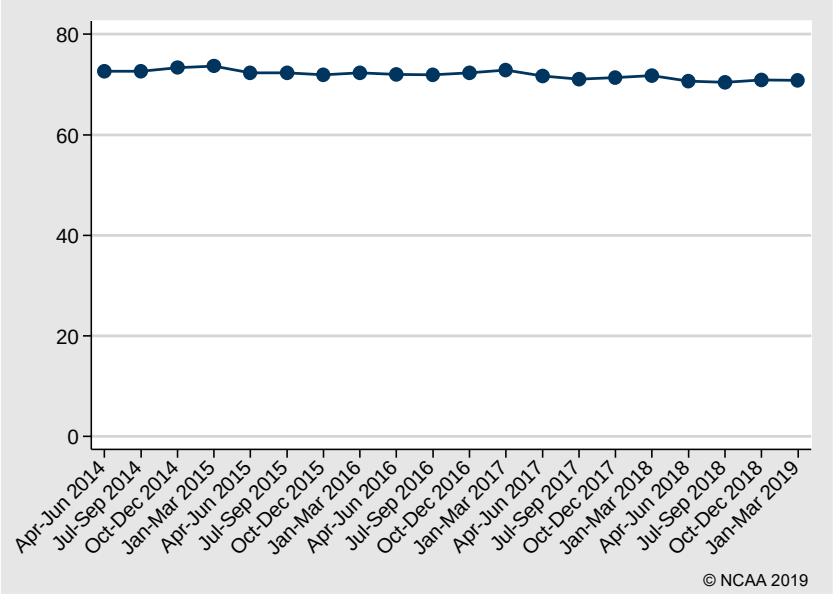
Patient characteristics

Age (years), n (%)	
0-15	177 (1.3)
16-64	3,782 (26.7)
65-74	3,401 (24.1)
75-84	4,237 (30.0)
85+	2,538 (18.0)
Missing	4 (0.0)
Mean (SD)	70.7 (16.3)
Median (IQR)	74 (63, 82)
Sex, n (%)	
Female	5,605 (39.6)
Male	8,531 (60.3)
Missing	3 (0.0)
Reason for admission to/attendance at/visit to your hospital, n (%)	
Patient - trauma	370 (2.6)
Patient - medical	11,943 (84.5)
Patient - elective/scheduled surgery	753 (5.3)
Patient - emergency/urgent surgery	779 (5.5)
Patient - obstetric	33 (0.2)
Outpatient	206 (1.5)
Staff	8 (0.1)
Visitor	46 (0.3)
Missing	1 (0.0)

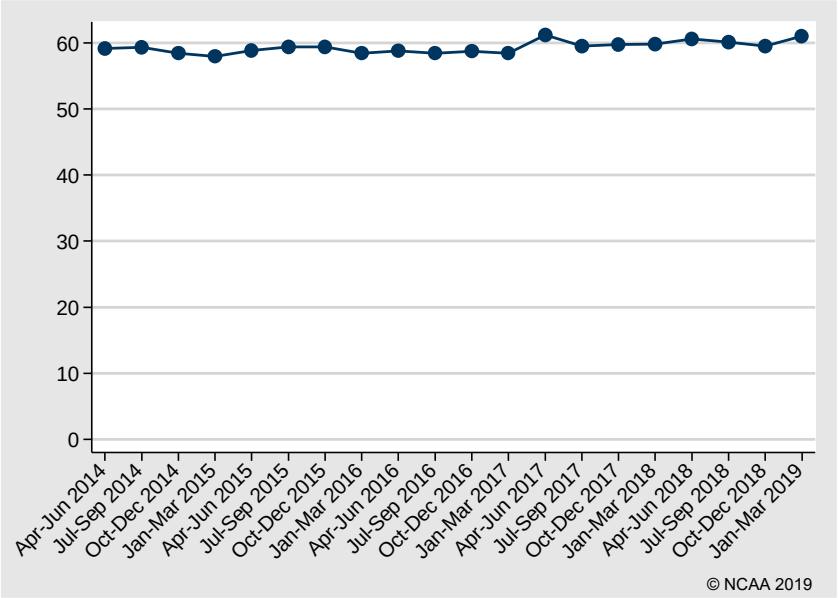
IQR, interquartile range; SD, standard deviation.

Trends in patient characteristics

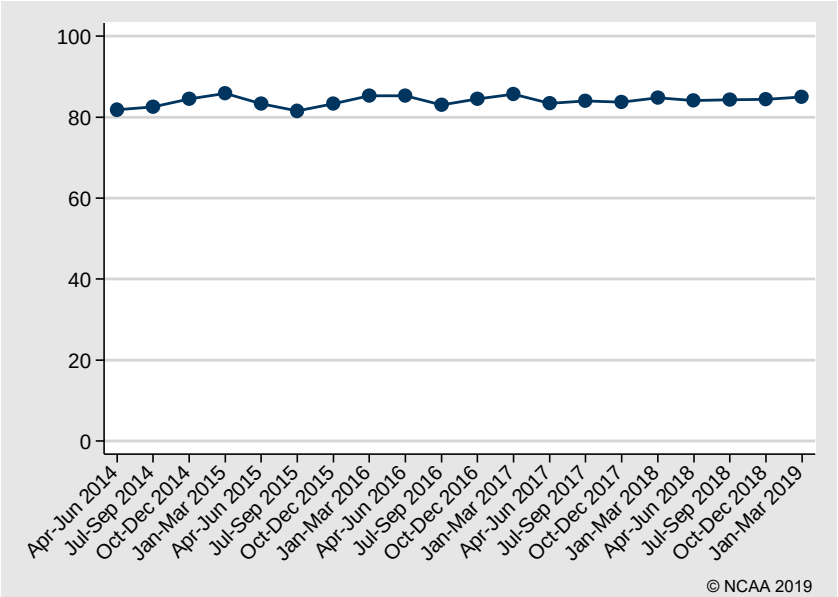
Mean age



Sex: Male



Reason for attendance: Medical



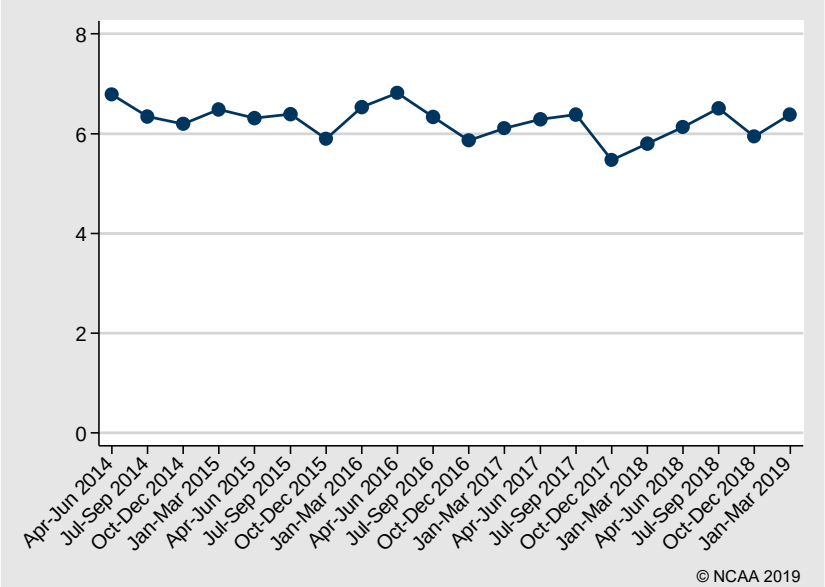
Team visit characteristics

Number of days from admission to 2222 call, n (%)	
0	3,931 (27.8)
1	2,466 (17.4)
2-7	4,649 (32.9)
8-30	2,555 (18.1)
>30	535 (3.8)
Missing	3 (0.0)
Mean (SD)	6.2 (14.2)
Median (IQR)	2 (0, 6)
Location of arrest, n (%)	
Emergency department	1,379 (9.8)
Emergency admissions unit	964 (6.8)
Theatre & recovery	236 (1.7)
Imaging department	257 (1.8)
Cardiac catheter laboratory	554 (3.9)
Specialist treatment area	206 (1.5)
ICU or ICU/HDU	841 (5.9)
HDU	145 (1.0)
PICU	43 (0.3)
PHDU	12 (0.1)
Coronary care unit	1,461 (10.3)
Other intermediate care area	29 (0.2)
Obstetrics area	18 (0.1)
Ward	7,784 (55.1)
Other internal location	14 (0.1)
Clinic	77 (0.5)
Non-clinical area	119 (0.8)
Status at team arrival, n (%)	
Dead - resuscitation stopped	117 (0.8)
Resuscitation ongoing	11,603 (82.1)
ROSC achieved before team arrival	1,497 (10.6)
Deteriorating (not yet arrested)	919 (6.5)
Missing	3 (0.0)
Presenting/first documented rhythm, n (%)	
Shockable - VF	1,581 (11.2)
Shockable - VT	781 (5.5)
Shockable - unknown rhythm	61 (0.4)
Non-shockable - asystole	2,766 (19.6)
Non-shockable - PEA	7,479 (52.9)
Non-shockable - bradycardia	50 (0.4)
Non-shockable - unknown rhythm	253 (1.8)
Never determined	766 (5.4)
Unknown	402 (2.8)

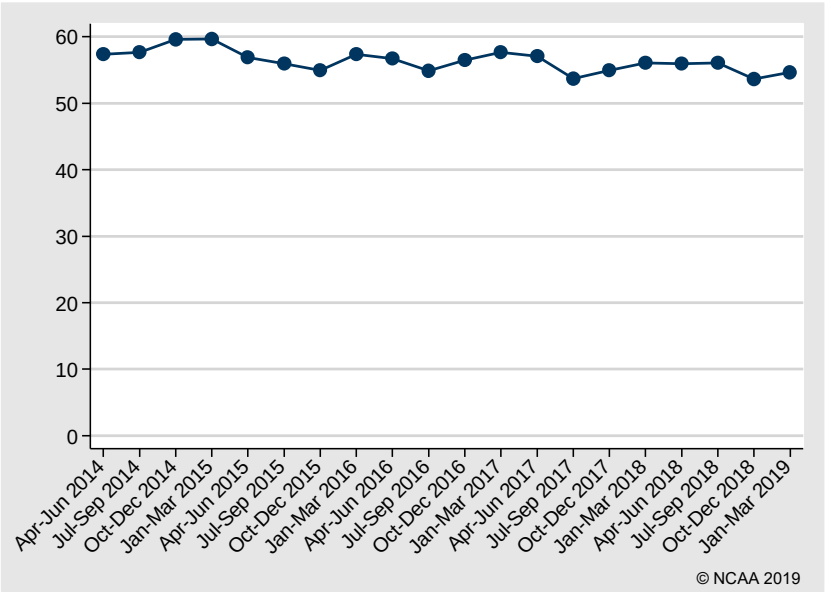
HDU, high dependency unit; ICU, intensive care unit; IQR, interquartile range; PEA, pulseless electrical activity; PHDU, paediatric high dependency unit; PICU, paediatric intensive care unit; ROSC, return of spontaneous circulation; SD, standard deviation; VF, ventricular fibrillation; VT, ventricular tachycardia.

Trends in team visit characteristics

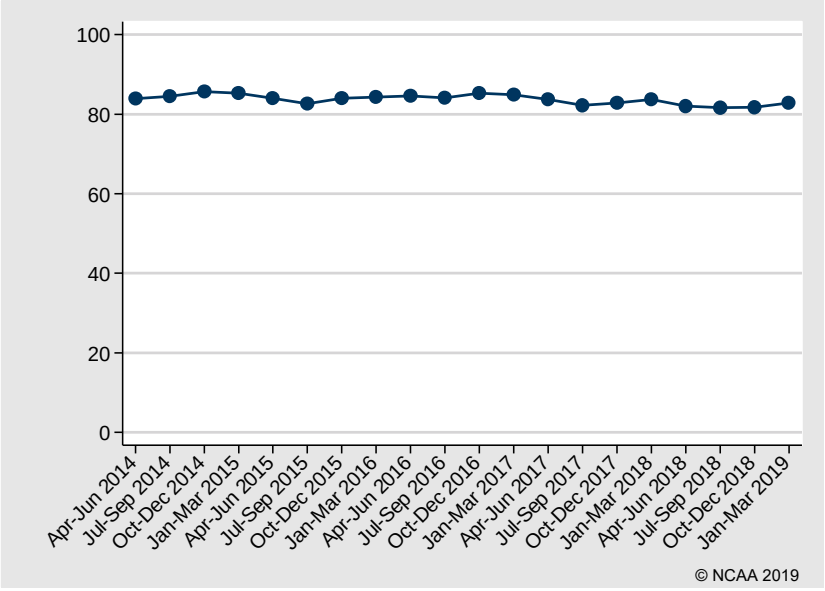
Mean number of days from admission to 2222 call



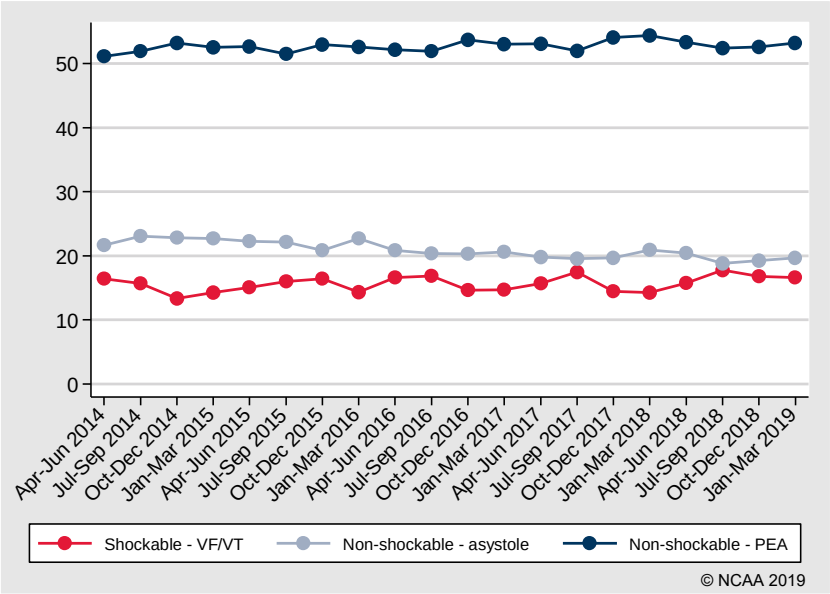
Location of arrest: Ward



Status at team arrival: Resuscitation ongoing



Presenting/first documented rhythm



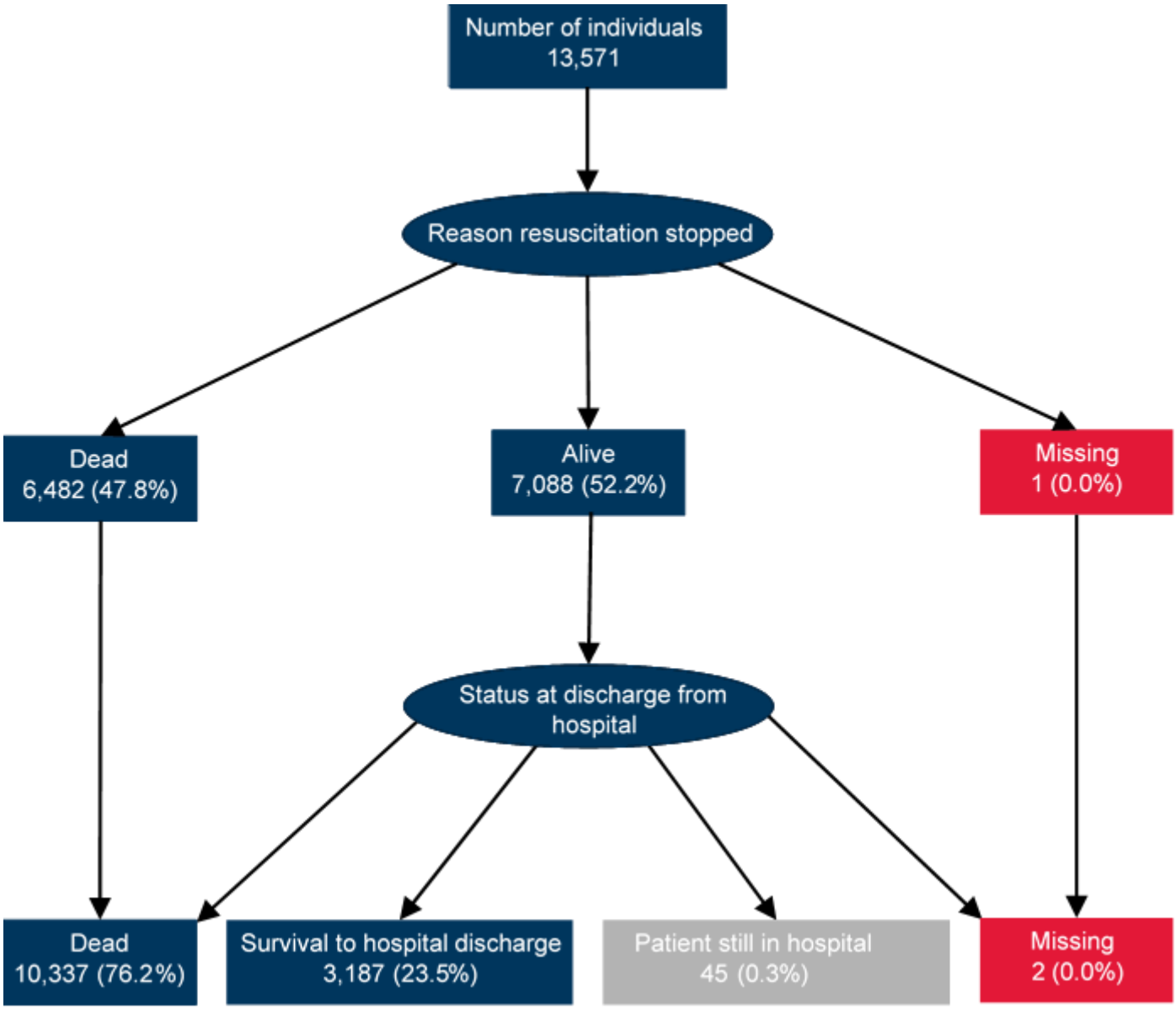
Outcomes

Reason resuscitation stopped at end of team visit, n (%)	
Alive - ROSC > 20 minutes	7,513 (53.1)
Dead - ROSC < 20 minutes	825 (5.8)
Dead - no ROSC	4,822 (34.1)
Dead - DNACPR	322 (2.3)
Dead - futility	656 (4.6)
Missing	1 (0.0)
Post-arrest location, n (% of ROSC > 20 minutes)	
Emergency admissions unit	193 (2.6)
ICU or ICU/HDU	2,852 (38.0)
HDU	130 (1.7)
PICU	53 (0.7)
PHDU	7 (0.1)
CCU	1,397 (18.6)
Other intermediate care area	21 (0.3)
Obstetrics area	4 (0.1)
Ward	1,546 (20.6)
Other internal location	5 (0.1)
Mortuary	956 (12.7)
Other hospital	331 (4.4)
Not in hospital	17 (0.2)
Missing	1 (0.0)
CPC at hospital discharge, n (% of adult survivors)	
1	2,404 (76.5)
2	208 (6.6)
3	87 (2.8)
4	11 (0.4)
Missing	432 (13.7)

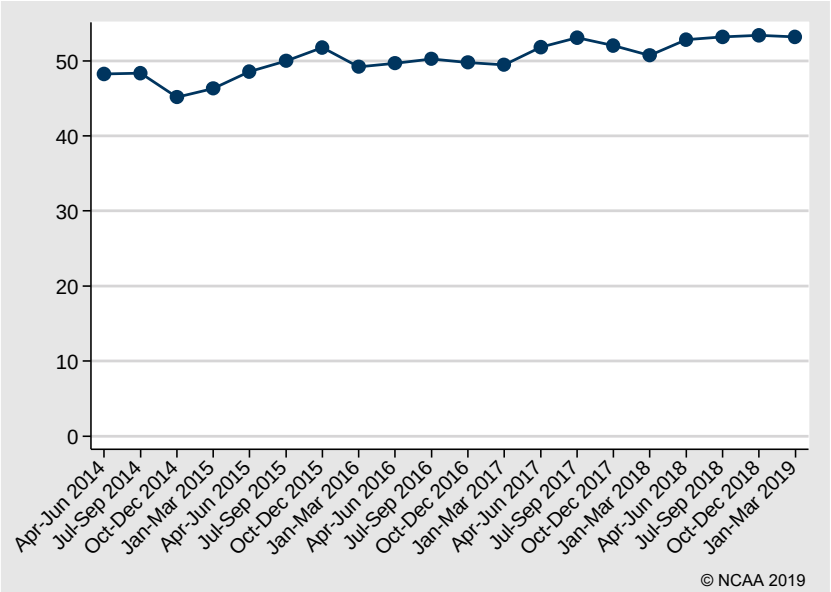
CPC, cerebral performance category; DNACPR, do not attempt cardiopulmonary resuscitation; HDU, high dependency unit; ICU, intensive care unit; PHDU, paediatric high dependency unit; PICU, paediatric intensive care unit; ROSC, return of spontaneous circulation.

Outcome flow

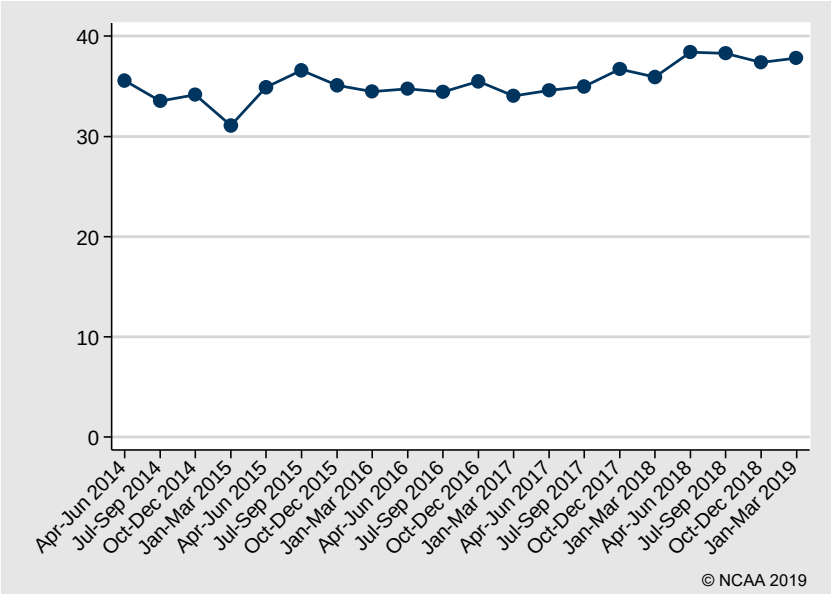
All percentages are reported as the percentage of all individuals (N=13,571).



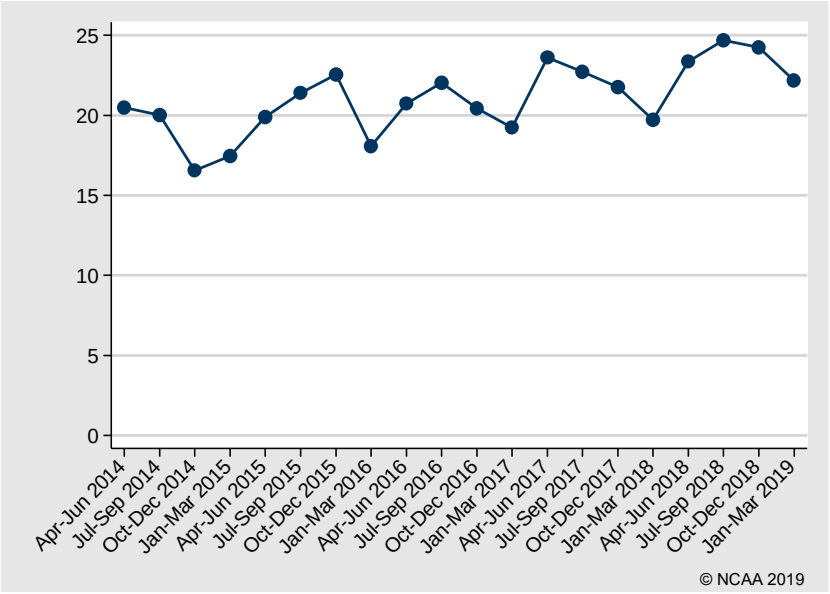
Reason resuscitation stopped: ROSC > 20 minutes



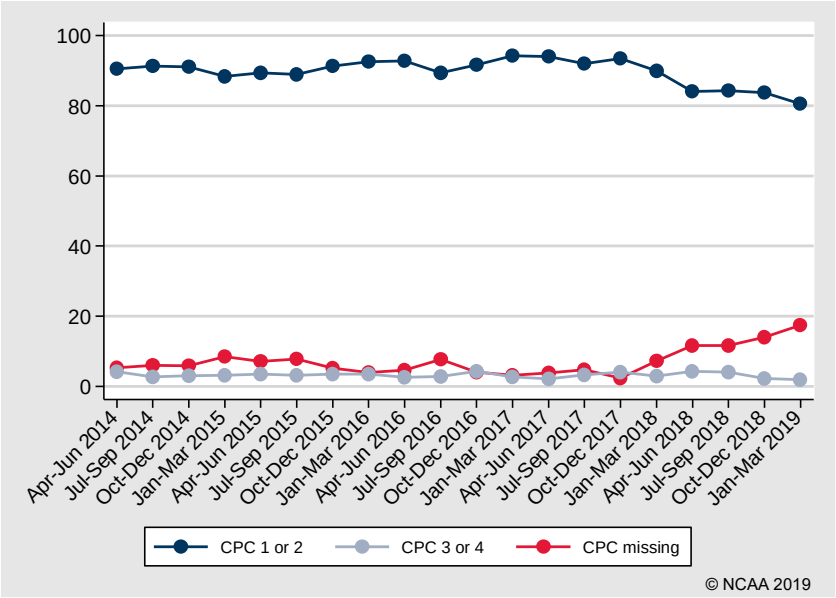
Post-arrest location: ICU or ICU/HDU



Survival to hospital discharge



CPC at hospital discharge (adult survivors)



Outcomes by patient subgroups

ROSC > 20 minutes

Subgroup	Number of in-hospital cardiac arrests*	Number with ROSC > 20 min	Percentage (95% confidence interval)
Overall	14,138	7,513	53.1 (52.3, 54.0)
By presenting rhythm:			
Shockable - VF/VT	2,361	1,875	79.4 (77.7, 81.0)
Non-shockable - asystole	2,766	876	31.7 (30.0, 33.4)
Non-shockable - PEA	7,479	3,685	49.3 (48.1, 50.4)
By age group (years):			
0-15	177	124	70.1 (62.9, 76.3)
16-64	3,782	2,320	61.3 (59.8, 62.9)
65-74	3,401	1,870	55.0 (53.3, 56.6)
75-84	4,237	2,157	50.9 (49.4, 52.4)
85+	2,538	1,040	41.0 (39.1, 42.9)

PEA, pulseless electrical activity; ROSC, return of spontaneous circulation; VF, ventricular fibrillation; VT, ventricular tachycardia.

* Excluding arrests missing reason resuscitation stopped (N=1).

Survival to hospital discharge

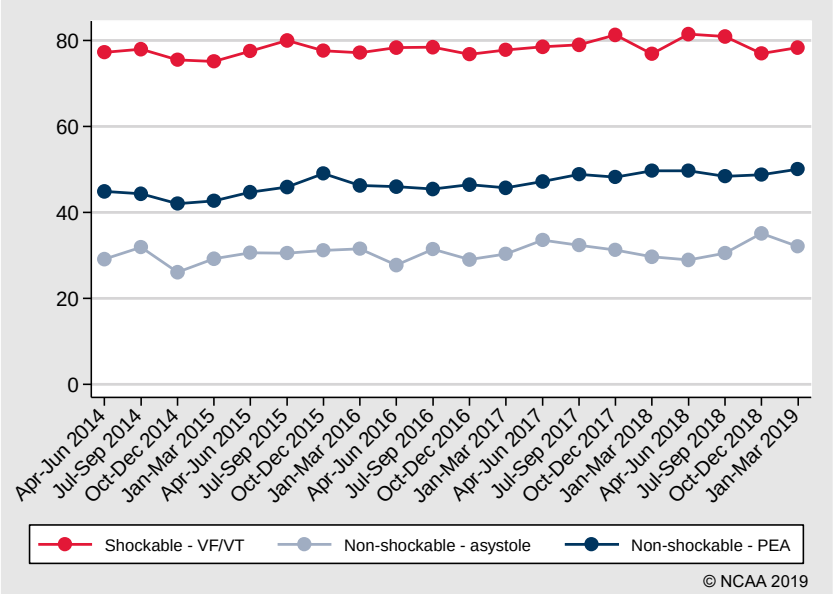
Subgroup	Number of individuals*	Number of hospital survivors	Percentage (95% confidence interval)
Overall	13,524	3,187	23.6 (22.9, 24.3)
By presenting rhythm:			
Shockable - VF/VT	2,146	1,168	54.4 (52.3, 56.5)
Non-shockable - asystole	2,687	241	9.0 (7.9, 10.1)
Non-shockable - PEA	7,207	1,143	15.9 (15.0, 16.7)
By age group (years):			
0-15	156	87	55.8 (47.9, 63.3)
16-64	3,577	1,181	33.0 (31.5, 34.6)
65-74	3,243	783	24.1 (22.7, 25.6)
75-84	4,057	796	19.6 (18.4, 20.9)
85+	2,490	340	13.7 (12.4, 15.1)

PEA, pulseless electrical activity; VF, ventricular fibrillation; VT, ventricular tachycardia.

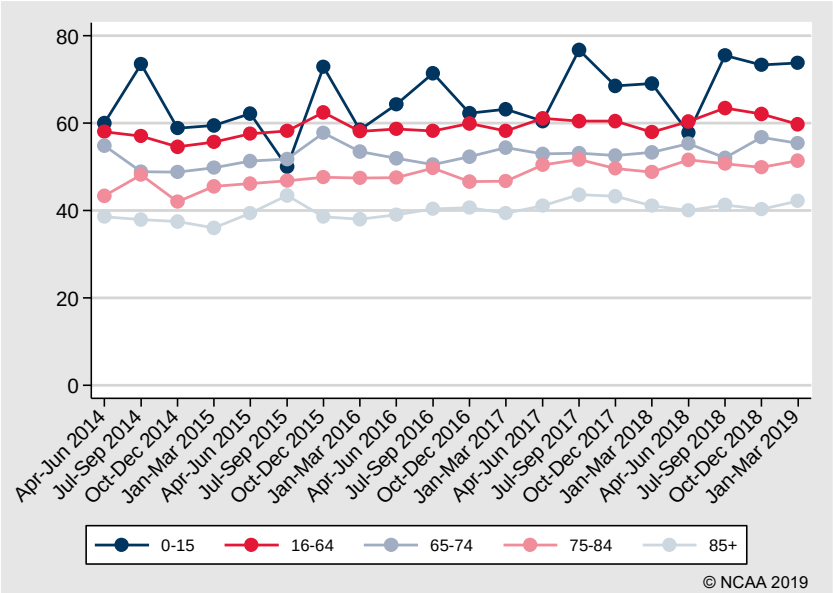
* Excluding individuals still in hospital (N=45) or missing hospital survival (N=1).

Trends in outcomes by patient subgroups

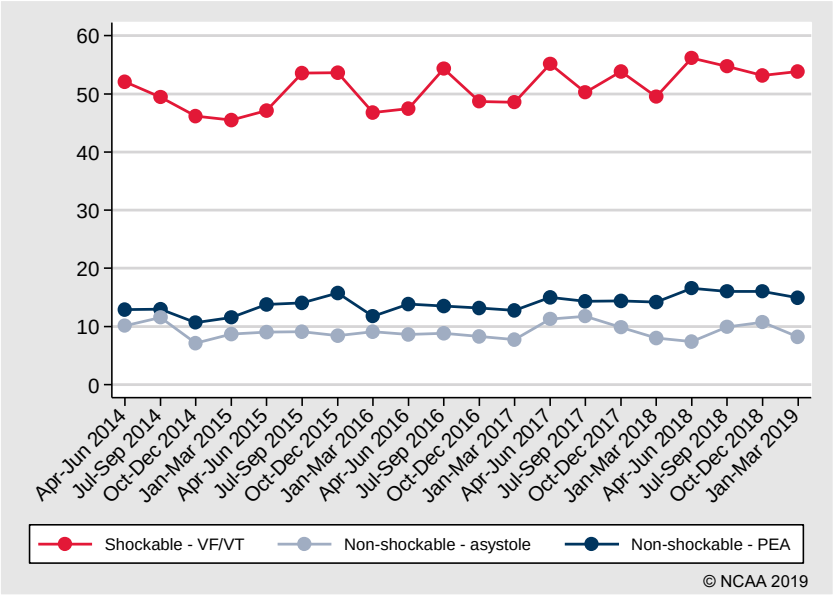
ROSC > 20 minutes by presenting/first documented rhythm



ROSC > 20 minutes by age group



Survival to hospital discharge by presenting/first documented rhythm



Survival to hospital discharge by age group