

# Key statistics from the Case Mix Programme

## 2012/2013

- Based on 133,626 admissions to 202 NHS adult, general critical care units, 1 April 2012 to 31 March 2013.
- Trends based on 579,203 admissions to 217 NHS adult, general critical care units, 1 April 2008 to 31 March 2013.

### Case Mix Programme (CMP) Annual Quality Report

ICNARC publicly reports on risk-adjusted acute hospital mortality and six other Potential Quality Indicators (PQIs).

PQIs are displayed in a dashboard (new for 2012/13) and as funnel plots. Formal, local consent is requested prior to publication and a strict outlier management process is followed.

For 2012/13, new CMP Annual Quality Reports have been created for neuroscience, cardiothoracic and high dependency units, each using their own recalibrated versions of the ICNARC model.

CMP Annual Quality Reports are available to view on ICNARC's online reporting site

<https://onlinereports.icnarc.org>

### Potential Quality Indicators (PQIs)

	Overall	Median (IQR*) across units
Risk-adjusted hospital mortality**, observed mortality	28,243	
Risk-adjusted hospital mortality**, expected mortality	27,868	
Risk-adjusted hospital mortality**, standardised mortality ratio	1.01	1.02 (0.94, 1.09)
Unit-acquired MRSA, rate per 1,000 patient days***	0.7	0.4 (0, 1.0)
Unit-acquired VRE, rate per 1,000 patient days***	1.6	0.4 (0, 3.9)
Unit-acquired C. diff, rate per 1,000 patient days***	1.3	0.8 (0, 2.1)
Unit-acquired infections present in blood, rate per 1,000 patient days***	1.57	1.0 (0.3, 2.1)
Non-clinical transfers (out), percentage of all critical care admissions	0.6	0.4 (0.1, 1.0)
Out-of-hours discharges to the ward, percentage of all critical care unit survivors discharged to a ward in the same hospital	7.8	6.5 (4.5, 11.7)
Out-of-hours discharges to the ward (not delayed), percentage of all critical care unit survivors discharged to a ward in the same hospital	3.3	2.8 (1.3, 4.7)
Delayed discharges (4 hour delay), percentage of all critical care unit survivors	58.3	59.0 (45.3, 70.1)
Delayed discharges (24 hour delay), percentage of all critical care unit survivors	10.6	9.2 (4.5, 14.8)
Unplanned readmissions within 48 hours, percentage of all critical care unit survivors discharged to a ward in the same hospital	1.4	1.2 (0.8, 1.9)

\* Interquartile range

\*\* Excluding: 5,960 (4.5%) readmissions within the same acute hospital stay; 432 (0.3%) admissions with missing data

\*\*\* Identified in critical care unit for admissions staying 48 hours or more and excluding those with the same infection identified in the first 48 hours.

## Case mix

Number of admissions	133,626
Extrapolated number of admissions <sup>†</sup>	152,700
Number of patients	123,211
Age (years), mean (SD*)	61.1 (18.2)
Sex (male), n (%)	74,268 (55.6)
Number of severe conditions in past medical history**, n (%)	
0	109,604 (82.6)
1	16,291 (12.3)
2	5,422 (4.1)
3 or more	1,455 (1.1)
Surgical status***, n (%)	
Elective/scheduled	30,181 (22.6)
Emergency/urgent	23,863 (17.9)
Non-surgical	79,572 (59.6)

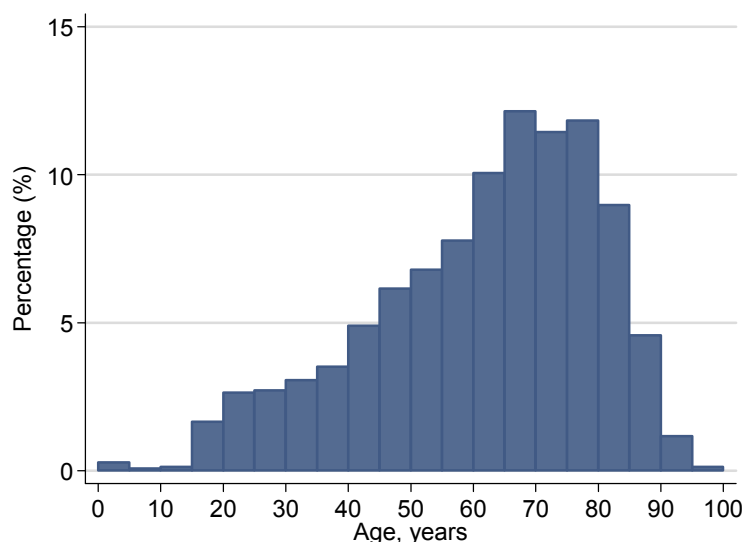
<sup>†</sup> Extrapolations are based on expected admissions to 221 adult, general critical care units in England, Wales and Northern Ireland, and is calculated from 88% coverage of these units.

\* Standard deviation

\*\* No evidence to assess past medical history for 854 (0.6%) admissions

\*\*\* Excluding 10 admissions with missing data

### Age of admissions (distribution)



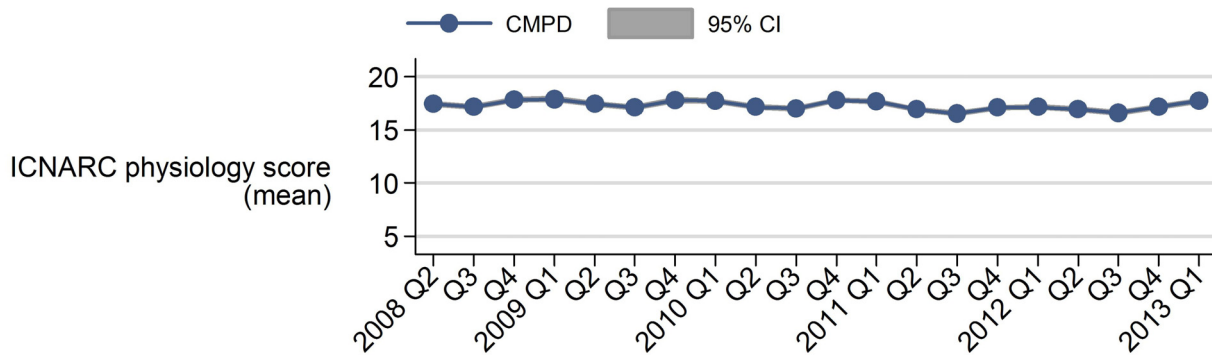
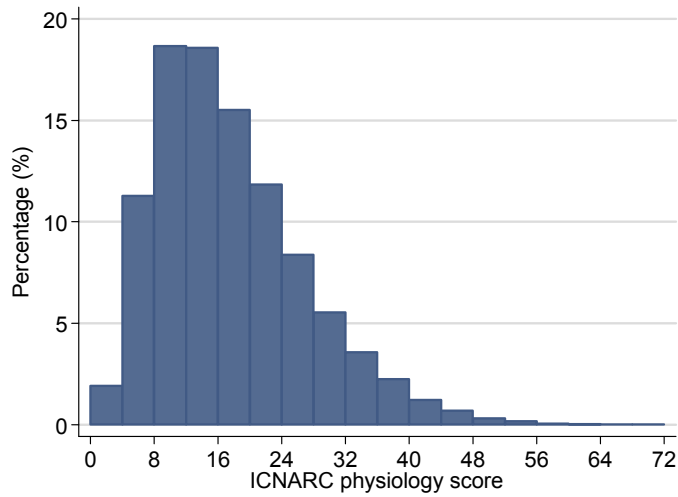
ICNARC physiology score, mean (SD)	17.1 (9.4)
ICNARC (2013) model predicted risk of acute hospital mortality* (%), median (IQR)	11.0 (3.0, 34.2)

\* Excluding 5 (<0.01%) admissions with insufficient data

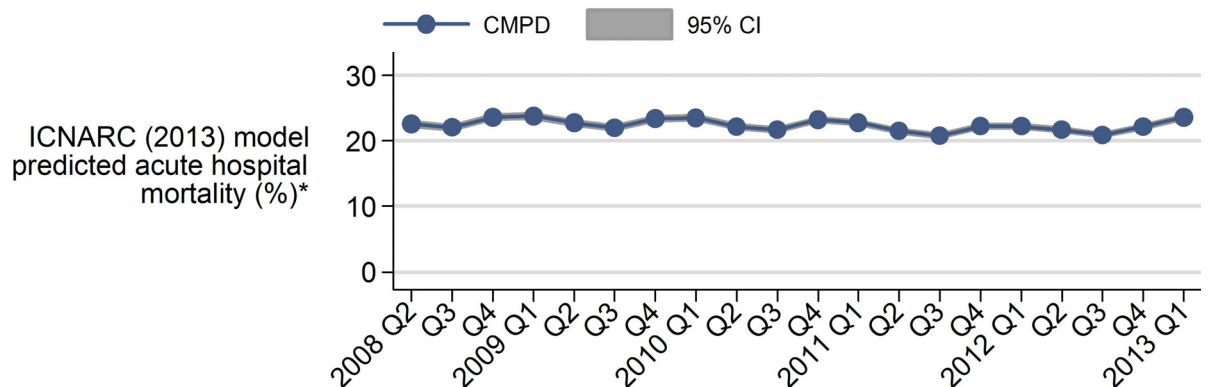
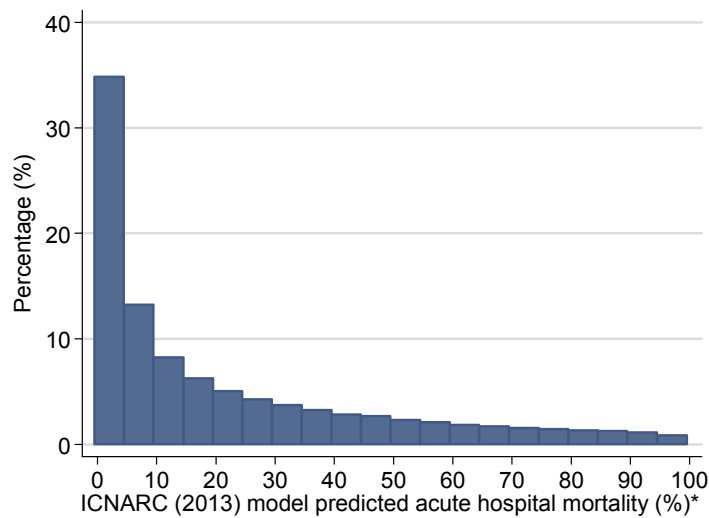
## Patient management

Admission groups, n (%)	
Mechanically ventilated during first 24 hours	54,902 (41.1)
Severe sepsis during first 24 hours	26,854 (20.1)
Pneumonia as a primary or secondary reason for admission	16,512 (12.4)
Trauma, perforation or rupture as a primary or secondary reason for admission	14,816 (11.1)
Admission MRSA, n (%)	2,296 (1.7)
Admission VRE, n (%)	416 (0.3)
Admission C. diff, n (%)	646 (0.5)

## ICNARC physiology score



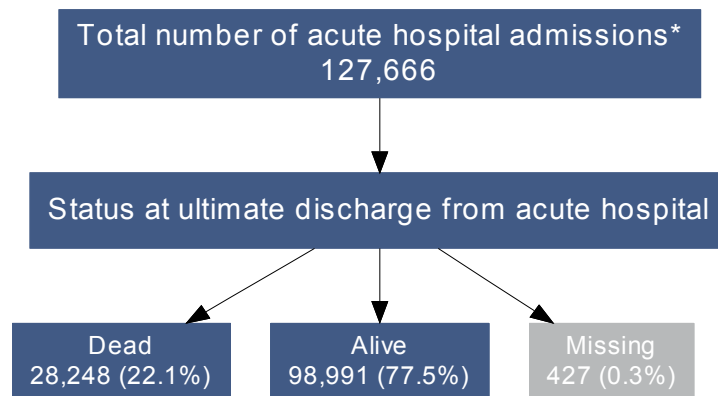
## ICNARC (2013) model predicted risk of acute hospital mortality



\* Excluding admissions with insufficient data

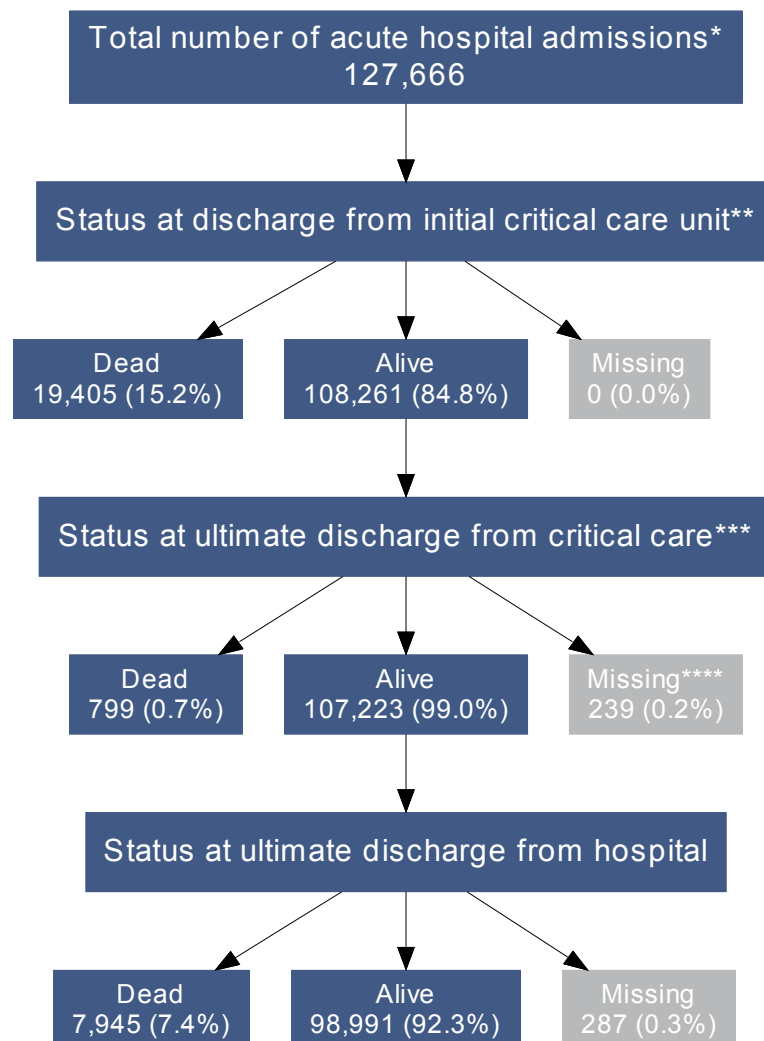
## Overall outcome flow

The overall outcome flow shows the ultimate outcome for all acute hospital admissions with a critical care unit stay.



## Staged outcome flow

The staged outcome flow shows the outcome at different stages from initial critical care unit discharge to ultimate discharge from acute hospital.



\* Excluding 5,960 (4.5%) readmissions to the critical care unit during the same acute hospital stay

\*\* Where more than one critical care unit admission exists for a patient during the same hospital stay, then the outcome for the first admission has been used

\*\*\* For all patients discharged alive from the initial critical care unit, including those not transferred to another critical care unit

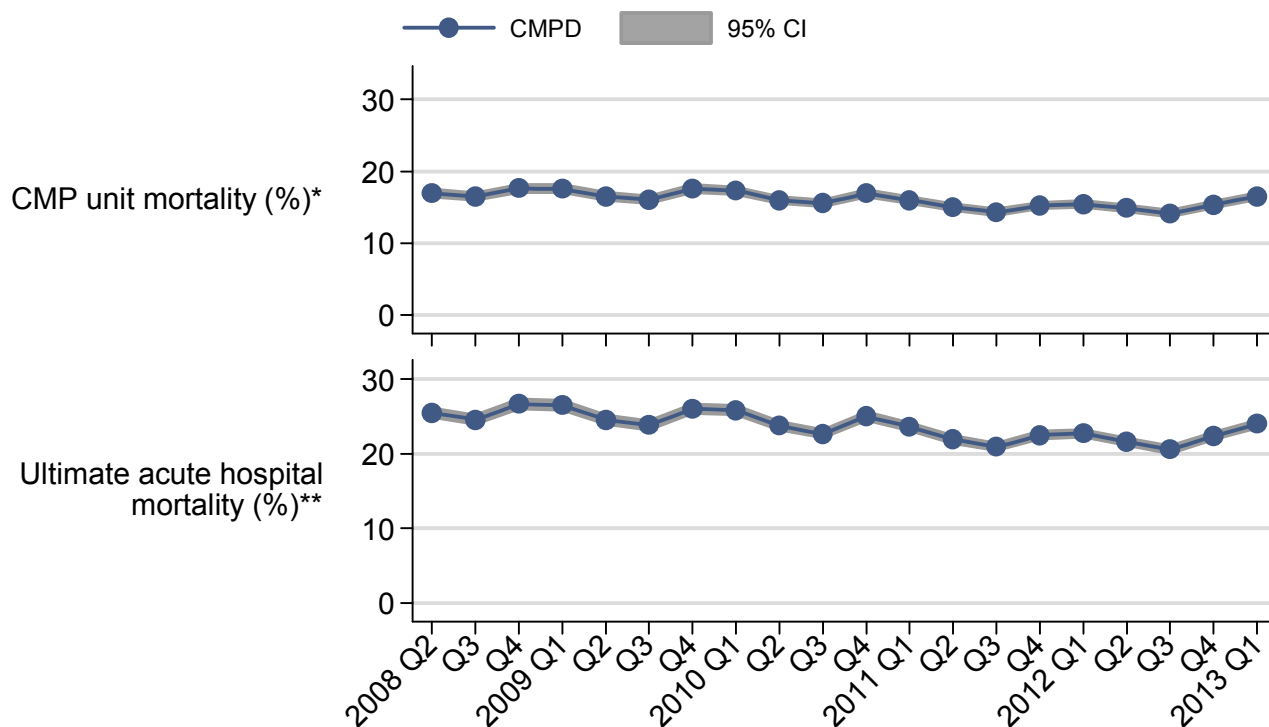
\*\*\*\* Including: 99 admissions missing ultimate discharge from critical care but known to be dead at ultimate discharge from acute hospital

## Crude mortality

	N	Deaths (%)
Critical care unit mortality	133,626	20,342 (15.2)
Acute hospital mortality*	127,239	28,248 (22.2)
Surgical status		
Elective/scheduled	29,728	1,162 (3.9)
Emergency/urgent	22,724	4,009 (17.6)
Non-surgical	74,778	23,075 (30.9)
Admission groups		
Mechanically ventilated	52,156	17,632 (33.8)
Severe sepsis	24,923	8,846 (35.5)
Pneumonia	15,194	5,804 (38.2)
Trauma, perforation or rupture	14,075	2,813 (20.0)

\* Excluding: readmissions within the same acute hospital stay and admissions with missing data

### Crude mortality (trends)



\* Excluding: admissions with missing data

\*\* Excluding: readmissions within the same acute hospital stay and admissions with missing data

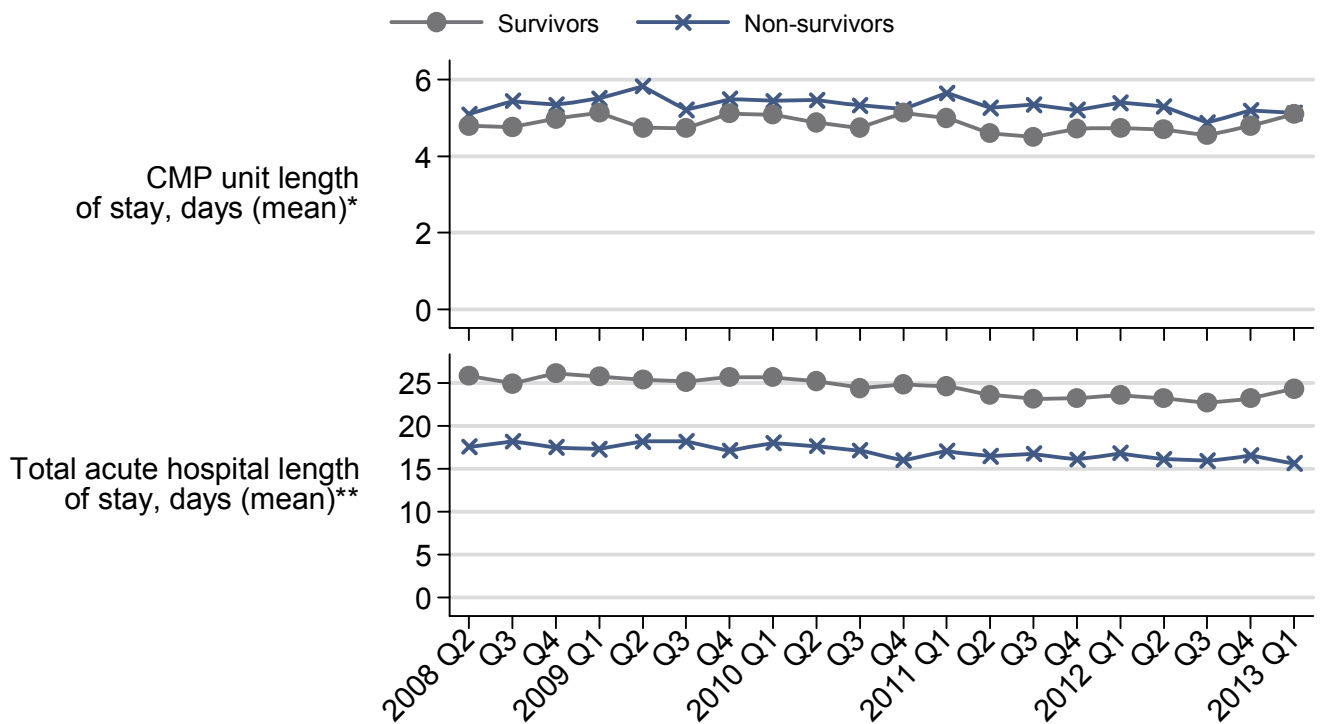
## Length of stay (LOS)

		Median (IQR)	Mean (SD)
Critical care unit LOS*	All admissions	2.2 (1.0, 5.1)	4.8 (8.3)
	Critical care unit survivors	2.2 (1.0, 5.0)	4.8 (8.0)
	Critical care unit non-survivors	2.1 (0.8, 5.8)	5.2 (9.5)
Acute hospital LOS**	All admissions	12 (6, 26)	21.9 (30.8)
	Acute hospital survivors	13 (7, 28)	23.5 (31.4)
	Acute hospital non-survivors	7 (2, 19)	16.3 (27.9)

\* Does not include continuous critical care pre-/post-admission to the CMP unit. Excluding: 11 (0.01%) admissions with missing data

\*\* Excluding: 5,960 (4.5%) readmissions within the same acute hospital stay; 970 (0.8%) admissions with missing data

### LOS (trends)



\* Excluding: admissions with missing data

\*\* Excluding: readmissions within the same acute hospital stay and admissions with missing data