

Night discharges and risk-adjusted mortality in the Case Mix Programme Annual Quality Report 2013/13

Question

What were the proportion of night discharges and standardised mortality ratios for adult, general critical care units in England, as reported in the Case Mix Programme (CMP) Annual Quality Report 2012/13 for adult, general (ICU, ICU/HDU) critical care?

<https://onlinereports.icnarc.org/Reports/2013/10/annual-quality-report-201213-for-adult-general-icu-icuhdu-critical-care>

Background to the ICNARC Case Mix Programme

The Intensive Care National Audit & Research Centre (ICNARC) was established in 1994 on a two-year (1994-1995), pump-priming grant from the Department of Health (England) and Welsh Health Common Services Authority (Wales), ICNARC became an independent Registered Charity in July, 1994 (Registered Charity Number: 1039417).

ICNARC's aim is to foster improvements in the organisation and practice of adult critical care (intensive and high dependency care) to improve patient care and outcomes. Towards achieving part of this aim, ICNARC coordinates a national, comparative audit of patient outcomes from adult critical care units in England, Wales and Northern Ireland known as the CMP.

The CMP is a voluntary, performance assessment programme using high quality clinical data to facilitate local quality improvement through routine feedback of comparative outcomes and key quality indicators to clinicians/managers in adult critical care units.

The CMP recruits predominantly adult, general critical care units. Adult, general critical care units are defined as either standalone intensive care units (ICUs) or combined intensive care/high dependency units (ICU/HDUs). Participation in the CMP is entirely voluntary. Currently, 96% of adult, general critical care units in England, Wales and Northern Ireland are participating in the CMP.

CMP specified data are recorded prospectively and abstracted retrospectively by trained data collectors according to precise rules and definitions - set out in the ICNARC Case Mix Programme Dataset Specification. Data collectors from each unit are trained prior to commencing data collection with retraining of existing staff, or training of new staff, also

available. CMP training courses are held at least four times per year. CMP specified data are collected on consecutive admissions to each participating critical care unit and are submitted to ICNARC quarterly. Data are validated locally, on data entry, and then undergo extensive central validation, for completeness, illogicalities and inconsistencies, with data validation reports returned to units for correction and/or confirmation. The validation process is repeated until all queries have been resolved and then the data are incorporated into the CMP Database (CMPD).

Participating units receive comparative data analysis reports on outcomes and key quality indicators, in which they can identify their own unit data and compare with all units participating in the CMP. In addition, staff at units can interrogate the CMPD by submitting analysis requests which are provided free-of-charge.

Data collected for the CMP include alphanumeric unit/admission identifiers, demographics (e.g. age, sex, ethnicity), case mix (e.g. acute severity, comorbidity, surgical status, reason for admission), outcome (e.g. unit/acute hospital survival) and activity (e.g. unit/acute hospital length of stay) for each admission to each critical care unit.

Available data for report

104,587 admissions to 169 adult critical care units in England
1 April 2012 – 31 March 2013

Selection of Cases

Admissions to all adult general critical care units (either ICU or combined ICU/HDU) located in a NHS hospital in England participating in the CMP that satisfied the following criteria were included in the analysis:

1. participating in the Case Mix Programme (CMP) from 1 April 2012 to 31 March 2013;
2. completion of the first cycle of data validation, through a first Data Validation Report, for at least six months data within the reporting period as of 10 July 2013;
3. formal, signed consent from the Clinical Director of the critical care unit and the Chief Executive of the Trust.

Definitions for variables included

Acute hospital mortality is defined as death before ultimate discharge from acute hospital

Standardised mortality ratio is calculated by dividing the observed by the expected acute hospital mortality, with the expected estimated by a risk prediction model, a mortality ratio is one (1.0) when the observed and expected acute hospital mortality are equal. The risk model used is the ICNARC (2013) model.

The ICNARC risk prediction model describes the relationship between case mix factors (from the first 24 hours following admission to a critical care unit) and hospital mortality. It estimates the expected number of acute hospital deaths for a given critical care unit based on the case mix of its admissions. For full details please see the Appendix to the Annual Quality Report.

Out of hours discharges to the ward are critical care unit survivors discharged to a ward in the same hospital between 22:00 and 06:59, reported as the percentage of all critical care unit survivors discharged to a ward in the same hospital

Out of hours discharges to the ward (not delayed) are critical care unit survivors discharged to a ward in the same hospital out-of-hours (between 22:00 and 06:59) who are not delayed i.e. not declared fully ready for discharge by 18:00 on that day, reported as the percentage of all critical care unit survivors discharged to a ward in the same hospital

Results

Please see accompanying spread sheet, *DAAG 131001.xlsx*

Acknowledgement

Please acknowledge the source of these data in all future presentations (oral and/or written), as follows:

“These data derive from the Case Mix Programme Database. The Case Mix Programme is the national, comparative audit of patient outcomes from adult critical care coordinated by the Intensive Care National Audit & Research Centre (ICNARC). These analyses are based on data for 104,587 admissions to 169 adult critical care units based in NHS hospitals geographically spread across England. For more information on the representativeness and quality of these data, please contact ICNARC.”