**Number of admissions receiving advanced respiratory support**

**Question**

What number of patients were intubated and ventilated from 1 September 2008 to 31 August 2009?

**Available data for report**

90,736 admissions to 177 general critical care units  
1 September 2008 – 31 August 2009

**Selection of Cases**

All admissions to adult, general critical care units (i.e. excluding admissions to specialist critical care units or standalone high dependency units) that were participating in the Case Mix Programme from 1 September 2008 to 31 August 2009 were included in the analysis.

**Definitions for variables included**

The data field *Advanced respiratory support days* records the total number of days an admission was receiving advanced respiratory support in the critical care unit at any time during the critical care stay and is part of the NHS Critical Care Minimum Data Set. Please refer to Appendix A for a full definition. We define an admission as receiving advanced respiratory support if the number of *Advanced respiratory support days* is greater or equal to one.

To account for critical care units joining and leaving the Case Mix Programme over time, the observed number of admissions was extrapolated to estimate the total number of admissions to all adult, general critical care units in England, Wales and Northern Ireland. This extrapolation was performed by weighting each unit’s data according to the duration of data...
collected (in this case the weight is 1 if the unit has data from 1 September 2008 to 31 August 2009) and multiplying by the total number of adult, general critical care units in England, Wales and Northern Ireland. This was assumed to be 234 units.

Results

46,693 (51.5%) admissions received advanced respiratory support at any time during the critical care stay in the CMP from 1 September 2008 to 31 August 2009. Thus an estimated 68,200 admissions received advanced respiratory support in England, Wales and Northern Ireland in the same time period.

Acknowledgement

Please acknowledge the source of these data 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 90,736 admissions to 177 adult, general critical care units based in NHS hospitals geographically spread across England, Wales and Northern Ireland. For more information on the representativeness and quality of these data, please contact ICNARC."

Sarah Power
Statistical Research Officer
Source: Case Mix Programme Database
13 May 2011
Appendix A – Definition of Respiratory Support Days

Taken from the Case Mix Programme Data Collection Manual, Version 3.1.

Respiratory support days

Fields: Basic respiratory support days
Advanced respiratory support days

Number of data items: Two
Units of measurement: Calendar days

Definition for collection:

- a calendar day is defined as any complete calendar day (00:00-23:59) or part thereof e.g. a patient admitted on 1 January 2006 at 23:45 and discharged on 3 January 2006 at 00:10 would be recorded as having received three calendar days of care

- specifies the number of calendar days during which the admission received any basic or advanced respiratory support whilst on your unit

- record 1, 2, 3 etc for one, two, three etc calendar days; record 998 for 998 or more calendar days; record 999 for support occurring but number of days not known

- Advanced Respiratory - indicated by one or more of the following (see diagram):
  - admissions receiving invasive mechanical ventilatory support applied via a trans-laryngeal tube or applied via a tracheostomy
  - admissions receiving BiPAP (bilevel positive airway pressure) applied via a trans-laryngeal tracheal tube or applied via a tracheostomy
  - admissions receiving CPAP (continuous positive airway pressure) via a trans-laryngeal tracheal tube

Sarah Power
Statistical Research Officer
Source: Case Mix Programme Database
13 May 2011 © ICNARC 2011
o admissions receiving extracorporeal respiratory support

o admissions receiving mask/hood CPAP or mask/hood BiPAP is not considered advanced respiratory support

- Basic Respiratory - indicated by one or more of the following (see diagram):
  
o admissions receiving more than 50% oxygen delivered by a face mask (except those receiving short-term increases in FiO₂, e.g. during transfer, for physiotherapy, etc.

  
o admissions receiving close observation due to the potential for acute deterioration to the point of requiring advanced respiratory monitoring and support e.g. severely compromised airway, deteriorating respiratory muscle function, etc.

  
o admissions receiving physiotherapy or suction to clear secretions, at least two hourly, either via a tracheostomy, a minitracheostomy or in the absence of an artificial airway

  
o admissions recently (i.e. within 24 hours) extubated after a period of intubation

  
o admissions recently (i.e. within 24 hours) extubated after a period (i.e. more than 24 hours) of mechanical ventilation via an endotracheal tube

  
o admissions receiving mask/hood CPAP or mask/hood BiPAP or non-invasive ventilation

  
o admissions receiving CPAP via a tracheostomy

  
o admissions intubated to protect their airway but receiving no ventilatory support and who are otherwise stable.

- Note: If advanced and basic respiratory monitoring and support occur simultaneously, then only advanced respiratory monitoring and support should be recorded.

- The following diagram may aid categorisation to advanced or basic respiratory support
Justification

This field is part of the NHS Critical Care Minimum Data Set (CCMDS) approved by the Department of Health and supported by the Intensive Care Society (DSCN: 25/2008 Version 1.1). These data support local, regional and national analysis, commissioning and Payment by Results (PbR). Level of care definitions are based on ICS Standards and Guidelines 2009.