Information Standards Board
for Health and Social Care

Critical Care Minimum Dataset Full Specification

Critical Care Minimum Dataset

March 2010

SECTION 1 – Data available from PAS for Admitted Patient Care CDS (Commissioning Data Set)

• **The data in the CCMDS primarily relates to any part of the patient's hospital spell that requires care in a designated critical care bed**.
Guidance is contained in *Guidelines on Admission and Discharge for Intensive and High Dependency Care, DH 1996*[1].
Beds are conventionally grouped into Critical Care Areas, e.g. ICU, ITU, HDU, or level 2 and 3 beds, but may include occasional, non-standard locations when conventional critical care beds are not available.
• Data collection should commence from the date and time that the patient first occupies the designated bed.
• Outreach activity, although part of critical care, should not be recorded in a CCMDS record.
• Resuscitation conducted outside designated critical care areas e.g. as part of conventional care in operating theatres and emergency medicine departments should not be recorded in a CCMDS even though many aspects of the care given may satisfy level 2 or 3 critical care definitions.
• Emergency Department (ED), At present, the CCMDS can only be attached to admitted patient care, therefore time spent by the critical care service in the ED cannot be captured.
• Cardiac ('coronary') Care Units. It is not the intention to collect CCMDS data from these units.
• If there are readmissions to the same unit these should be given separate CCMDS records identified by different start dates. If a patient is transferred to another critical care location within the same hospital these should only be given separate CCMDS records when identified by a different unit function i.e. a single CCMDS record is kept running.
• As the focus of the CCMDS is on the patient's acute illness, changes of consultant or brief transfers for investigations and treatment should be ignored and a single CCMDS kept running.

Item	Variable	Suggested Source of Existing Data	Outline Description
1	NHS NUMBER	GP/NHS Trust APC CDS*	Unique identifier for transferable patient records and other NHS data sets
2	LOCAL PATIENT IDENTIFIER	NHS Trust APC CDS	Unique identifier for other patient data held within a hospital, e.g. *PAS/HISS* hospital number
3	SITE CODE (OF TREATMENT)	NHSIA/NHS TRUST APC CDS	Unique identifier for Hospital to allow Network and Commissioning analyses. This allows the hospital to be identified if there is more than one hospital with critical care facilities in the Trust.
4	CODE OF GP PRACTICE (REGISTERED GMP)	GP/NHS Trust APC CDS	Registered GP from patient medical record system. (Note that patients now register with a GP practice rather than an individual GP).
5	TREATMENT FUNCTION CODE	NHSIA/NHS Trust APC CDS	The treatment function of the consultant with primary responsibility for the patient at the beginning of the hospital episode that contains the critical care period. (NB. This is not the same as the original ACPSPEF that referred to the specialty of the critical care team). Note that treatment function is the particular specialty that the patient is treated under and not necessarily the main specialty of the consultant. E.g. colorectal surgery compared to general surgery. .
6	PERSON BIRTH DATE	NHS Trust APC CDS	To provide age and an additional patient identifier.
7	POSTCODE OF USUAL ADDRESS	Post Office/ NHS Trust APC CDS	Postcode of patient's address, to track source of patient in relation to PCTs, networks and SHAs.

* APC CDS = Admitted Patient Care Commissioning Data Set. However, there may be other more easily accessible sources, e.g. the Patient Administration System.

SECTION 2 – Specific Items to be collected by Critical Care Staff.

The fourteen mandatory Critical Care HRG subset items that replaced the ACP are indicated 'M1 to M14' in column three and are in bold type. All remaining data items are optional.

Item	Variable	M)andatory / (O)ptional	Source of Data Definition	DEFINITIONS AND GUIDANCE FOR USE
8	**CRITICAL CARE LOCAL IDENTIFIER**	**M1**	Previously labelled as ACP local identifier	This locally defined variable should, as a minimum, include a sequential numerical component that can discriminate two or more critical care periods occurring on the same calendar day for the same patient.
9	**CRITICAL CARE START DATE**	**M2**	Revised ACP, e-gif	FORMAT; CCYY-MM-DD (e-gif)
10	CRITICAL CARE START TIME	O	Revised ACP, e-gif	FORMAT; HH:MM:SS (e-gif)
11	CRITICAL CARE UNIT FUNCTION	M3	Revised ACP	REASON FOR COLLECTION: The category of unit may be used in workload analysis examining the facilities in which patients received care both within large trusts, networks and nationally. The permutations of different types of critical care area are based on descriptions contained in '*Comprehensive Critical Care'* but are enhanced by condensing the previous ACP list into a flexible series of two linked codes; critical care (unit) function and unit bed configuration. The options from 90 onwards are available to retain compatibility with the ACP format that permitted non-standard locations to be recorded as a separate period of critical care. Temporary (e.g. greater than four hours) delivery of level 2 and 3 care to patients in non-designated critical care areas may be recorded here, i.e. care that would ideally have been

				provided in a designated critical care area if there had been sufficient capacity. The 04 Paediatric option is included as a non-specific option for units that primarily care for children. It is anticipated that specific data sets will be developed in the NHS for these areas in the future. Neonatal units caring for babies less than 28 days old are currently excluded as a defined location for the CCMDS because the data items are not aligned to neonatal care. DEFINITIONS: Type of critical care area to which the patient was admitted. Options chosen should reflect the principal clinical service provided within the area; **01** = non-specific, general adult critical care. **02** = surgical adult patients (unspecified specialty) **03** = medical adult patients (unspecified specialty) **04 =** paediatric critical care (includes infants greater than 28 days old on Neonatal Intensive Care Unit) **05 =** neurosciences patients predominate **06 =** cardiac surgical patients predominate **07 =** thoracic surgical patients predominate **08 =** burns and plastic surgery patients predominate **09 =** spinal patients predominate **10 =** renal patients predominate **11 =** liver patients predominate **12 =** obstetric patients predominate **90** = non standard location using a ward area (The care in this location needs to exceed 4 hours, must include clinical interventions, monitoring and supervision normally associated with a critical care area (ITU or HDU) and must be continuously supervised by currently practising critical care doctors and nurses who would normally work in critical care). **91** = non-standard location using the operating department (The care in this location needs to exceed 4 hours, must include clinical interventions, monitoring and supervision normally associated with a critical care area (ITU or HDU) and must be continuously supervised by currently practising critical care doctors and nurses who would normally work in critical care).

Item	Variable	M)andatory / (O)ptional	Source of Data Definition	DEFINITIONS AND GUIDANCE FOR USE
12	UNIT BED CONFIGURATION	O	New	DEFINITION: The composition of bed types for your unit based on maximum funded and intended use, e.g. some units plan to use staff and beds flexibly whilst others are organized to take a full complement of level three patients or only 'HDU' patients. **02** = level 2 beds only where patients require more detailed observation or intervention including support for a single failing organ or post-operative care and those 'stepping down' from higher levels of care **03** = level 3 beds only. Level 3 care is defined as patients needing advanced respiratory support alone or two or more organs system support. NB Basic respiratory and basic cardiovascular support occurring on one day count as one organ. This level includes beds for all complex patients requiring support for multi-organ failure. **05** = flexible critical care beds where there is a mix of level 2 and level 3 beds **90** = Temporary use of non critical care beds.
13	CRITICAL CARE ADMISSION SOURCE	O	Revised ICNARC/ACP	REASON FOR COLLECTION: Information on the source of the patient is of use in analyzing unit workload and outcomes. Exactly the same classification is used as developed in collaboration with ICNARC. Admission sequences are captured in two stages, i.e. there are **two** variables collected before unit admission, the critical care admission source and the location associated with the source. DEFINITIONS: **01** Same NHS hospital site **02** Other NHS hospital site (same or different NHS Trust) **03** Independent Hospital Provider in the UK **04** Non-hospital source within the UK (e.g. home) **05** Non UK source such as repatriation, military personnel or foreign national)

Item	Variable	(M)andatory / (O)ptional	Sources of Data Definition	DEFINITIONS AND GUIDANCE FOR USE
14	CRITICAL CARE SOURCE LOCATION	O	Revised ICNARC/ACP	Specific location in the admission source DEFINITIONS: **01** Theatre and Recovery (following surgical and /or anaesthetic procedure) **02** Recovery only (when used to provide temporary critical care facility) **03** Other Ward (not critical care) **04** Imaging department **05** Accident and Emergency **06** Other intermediate care or specialist treatment areas including endoscopy units and catheter suites. **07** Obstetrics area **08** Clinic **09** Home or other residence (including nursing home, H.M. Prison or other residential care) **10**Adult level 3 critical care bed (ICU bed, including a flexibly configured unit) **11** Adult level 2 critical care bed (HDU bed) **12** Paediatric critical care area (neonatal and paediatric care)
15	CRITICAL CARE ADMISSION TYPE	O	revised ACP and ICNARC planned/unplanned	REASON FOR COLLECTION: Information on the proportion of a critical care unit's workload that can be planned ahead and the proportion that is unpredictable is useful information for management and audit. Information is also required on the numbers and types of transfers. There is also interest in the distinction between patients from the local area rather than a wider area. For this purpose, the local area is defined as hospitals within the Trust together with neighbouring community units and services. DEFINITIONS: **01** = UNPLANNED LOCAL ADMISSION. All emergency or urgent patients referred to the unit only as a result of an unexpected acute illness occurring in the local area

				02 = UNPLANNED TRANSFER IN. All emergency or urgent patients referred to the unit as a result of an unexpected acute illness occurring outside the hospital local area (including private and overseas Health Care providers). **03** = PLANNED TRANSFER IN (tertiary referral). A pre-arranged admission to the unit after treatment or initial stabilisation at another Health Care provider (including private and overseas Health Care providers) but requiring specialist or higher-level care that cannot be provided at the source hospital or unit. **04** = PLANNED LOCAL SURGICAL ADMISSION. A pre-arranged surgical admission from the local area to the Critical Care Unit, acceptance by unit must have occurred prior to the start of the surgical procedure and the procedure will usually have been of an elective or scheduled nature. For example, following a major procedure, for a high risk medical condition associated with any level of surgery, admitted prior to elective surgery for optimisation, admitted for monitoring of pain control e.g. epidurals or obstetric surgical cases admitted on a planned basis. **05** = PLANNED LOCAL MEDICAL ADMISSION from the local area. Booked medical admission, for example, planned investigation or high risk medical treatment. **06 =** REPATRIATION. The patient is normally resident in your local area and is being admitted or readmitted to your unit from another hospital (including overseas healthcare providers). This situation will normally arise when a patient is returning from tertiary or specialist care.

Item	Variable	(M)andatory / (O)ptional	Sources of Data Definition	DEFINITIONS AND GUIDANCE FOR USE
16	**ADVANCED RESPIRATORY SUPPORT DAYS**	**M4**	modified ACP	REASON FOR COLLECTION: (also *applies to organ support items 17 to 21, and items 23 and 24*). Research has demonstrated that patients can be classified into homogeneous resource requirement groups according to the number and types of organ system supported. (Note, this is not necessarily the same as the number of failing organs). These data may also be useful in analysing workloads and equipment management. As with ACP, organ support is collected as any occurrence, noted once only on each calendar day. DEFINITION: Three digit code for up to 997 days of advanced respiratory support, e.g. 000 none 001 occurred during one calendar day 030 occurred on 30 calendar days NB 998 = 998 or more days of advanced respiratory support 999 = support occurred but number of days not known. FORMAT; 000 – 999 days **Advanced Respiratory Support** • Invasive mechanical ventilatory support applied via a trans-laryngeal tracheal tube or applied via a tracheostomy. • Bi-level positive airway pressure applied via a trans-laryngeal tracheal tube or applied via a tracheostomy. • CPAP via a trans-laryngeal tracheal tube • Extracorporeal respiratory support. Note: Basic respiratory support will frequently occur prior to advanced respiratory support and should not lead to both ARS and BRS being recorded during the same calendar day. ARS supersedes BRS where this occurs.

Item	Variable	(M)andatory / (O)ptional	Sources of Data Definition	DEFINITIONS AND GUIDANCE FOR USE
17	**BASIC RESPIRATORY SUPPORT DAYS**	**M5**	Revised	DEFINITION: Three digit code for up to 997 days of basic respiratory support, e.g. 000 none 001 occurred during one calendar day 030 occurred on 30 calendar days NB 998 = 998 or more days of basic respiratory support 999 = support occurred but number of days not known FORMAT; 000 – 999 days Indicated by one or more of the following: • More than **50%** oxygen delivered by face mask. *(Note, more than 50% has been chosen to identify the more seriously ill patients in a hospital).* Short-term increases in FiO2 to facilitate procedures such as transfers or physiotherapy do not qualify. • Close observation due to the potential for acute deterioration to the point of needing advanced respiratory support. *(e.g. severely compromised airway or deteriorating respiratory muscle function).* • Physiotherapy or suction to clear secretions at least two hourly, whether via tracheostomy, minitracheostomy, or in the absence of an artificial airway. • Patients recently (within 24 hours) extubated after a period (greater than 24 hours) of mechanical ventilation via an endotracheal tube. • Mask / hood CPAP or mask / hood Bi-level positive airway pressure ventilation (non-invasive ventilation). • Patients who are intubated to protect the airway but needing no ventilatory support. • CPAP via a tracheostomy. NB The presence of a tracheostomy used for long term airway access only does not qualify for any respiratory support.

Item	Variable	(M)andatory / (O)ptional	Sources of Data Definition	DEFINITIONS AND GUIDANCE FOR USE
18	**ADVANCED CARDIOVASCULAR SUPPORT DAYS**	**M6**	Revised	DEFINITION: Three digit code for up to 997 calendar days of advanced cardiovascular support e.g. 000 none 001 occurred during one calendar day 030 occurred on 30 calendar days NB 998 = 998 or more days of advanced cardiovascular support 999 = support occurred but number of days not known. FORMAT; 000 – 999 days Advanced Cardiovascular Support: Indicated by one or more of the following: • Multiple intravenous vasoactive and/or rhythm controlling drugs when used simultaneously to support or control arterial pressure, cardiac output or organ / tissue perfusion, *(e.g. inotropes, amiodarone, nitrates). To qualify for advanced support status, at least one drug needs to be vasoactive.* • Continuous observation of cardiac output and derived indices *(e.g. pulmonary artery catheter, lithium dilution, pulse contour analyses, oesophageal Doppler, impedance and conductance methods).* • Intra aortic balloon pumping and other assist devices. ▪ Insertion of a temporary cardiac pacemaker (criteria valid for each day of therapeutic connection to a functioning external pacemaker unit). Note: Basic Cardiovascular support will frequently occur prior to Advanced Cardiovascular support and should not lead to both ACVS and BCVS being recorded at the same calendar day. ACVS supersede BCVS where this occurs.

Item	Variable	(M)andatory / (O)ptional	Sources of Data Definition	DEFINITIONS AND GUIDANCE FOR USE
19	**BASIC CARDIOVASCULAR SUPPORT DAYS**	**M7**	Revised	DEFINITION: Three digit code for up to 997 calendar days of basic cardiovascular support, e.g. 000 none 001 occurred during one calendar day 030 occurred on 30 calendar days NB 998 = 998 or more days of basic cardiovascular support 999 = support occurred but number of days not known. FORMAT; 000 – 999 days Basic Cardiovascular Support. Indicated by one or more of the following: • Use of a CVP line for monitoring of central venous pressure and /or provision of central venous access to deliver titrated fluids to treat hypovolaemia. • Use of an arterial line for monitoring the arterial pressure and/or sampling of arterial blood. • Single intravenous vasoactive drug used to support or control arterial pressure, cardiac output or organ perfusion • Single intravenous rhythm controlling drug to support or control cardiac arrhythmias

Item	Variable	(M)andatory / (O)ptional	Sources of Data Definition	DEFINITIONS AND GUIDANCE FOR USE
20	**RENAL SUPPORT DAYS**	**M8**	modified ACP	DEFINITION: Three digit code for up to 997 calendar days of renal support, e.g. 000 none 001 occurred during one calendar day 030 occurred on 30 calendar days NB 998 = 998 or more days of renal support 999 = support occurred but number of days not known. FORMAT; 000 – 999 days Renal Support. in the context of Critical Illness: Indicated by: • Acute renal replacement therapy (e.g.haemodialysis, haemofiltration etc.) or • provision of renal replacement therapy to a chronic renal failure patient who is requiring other acute organ support in a critical care bed.
21	**NEUROLOGICAL SUPPORT DAYS**	**M9**	Revised	DEFINITION; Three digit code for up to 997 calendar days of neurological support, e.g. 000 none 001 occurred during one calendar day 030 occurred on 30 calendar days NB 998 = 998 or more days of neurological support 999 = support occurred but number of days not known. FORMAT; 000 – 999 days Neurological Support. Indicated by one or more of the following: • Central nervous system depression sufficient to prejudice the airway and protective reflexes, excluding that caused by sedation prescribed to facilitate mechanical ventilation or poisoning (e.g. deliberate or accidental overdose, alcohol, drugs etc.). • Invasive neurological monitoring or treatment e.g. ICP, jugular bulb sampling, external ventricular drain.

Item	Variable	(M)andatory / (O)ptional	Sources of Data Definition	DEFINITIONS AND GUIDANCE FOR USE
				• Continuous intravenous medication to control seizures and / or continuous cerebral monitoring. -Therapeutic hypothermia using cooling protocols or devices.
22	GASTRO-INTESTINAL SUPPORT DAYS	O	New	DEFINITION; Three digit code for up to 997 calendar days gastrointestinal support, e.g. 000 none 001 occurred during one calendar day 030 occurred on 30 calendar days NB 998 = 998 or more days of gastro-intestinal support 999 = support occurred but number of days not known. FORMAT; 000 – 999 days Gastrointestinal Support Indicated by: Feeding with parenteral or enteral nutrition. (*implies methods of feeding other than normal oral intake).*
23	**DERMATOLOGICAL SUPPORT DAYS**	**M10**	New	DEFINITION; Three digit code for up to 997 calendar days of dermatological support, e.g. 000 none 001 occurred during one calendar day 030 occurred on 30 calendar days NB 998 = 998 or more days of dermatological support 999 = support occurred but number of days not known. FORMAT; 000 – 999 days Dermatological Support. Indicated by one or more of the following • Patients with major skin rashes, exfoliation or burns. *(e.g. greater than 30% body surface area affected).* • Use of complex dressings *(e.g. large skin area greater than 30% of body surface area, open abdomen, vacuum dressings or, large trauma such as multiple limb or limb and head dressings).*

Item	Variable	(M)andatory / (O)ptional	Sources of Data Definition	DEFINITIONS AND GUIDANCE FOR USE
24	**LIVER SUPPORT DAYS**	**M11**	Revised and new	DEFINITION: Three digit code for up to 997 calendar days of liver support, e.g. 000 none 001 occurred during one calendar day 030 occurred on 30 calendar days NB 998 = 998 or more days of liver support 999 = support occurred but number of days not known. FORMAT; 000 – 999 days Liver Support. Patients should fulfil one of the following categories: a) Acute on chronic Hepatocellular failure requiring management of coagulopathy and/or portal hypertension (including liver purification and detoxification techniques). or b) Primary Acute Hepatocellular failure patients who are being considered for transplantation and require management of coagulopathy and / or portal hypertension (including liver purification and detoxification techniques).
25	ORGAN SUPPORT MAXIMUM	O	ACP	REASON FOR COLLECTION: This variable is associated with the total costs of critical care but also implies severity of illness. It can be derived easily from the individual organ support incidences observed for the period between critical care start and end points. DEFINITION: Maximum number of organ systems supported at any one time, at any point in the critical care period. (NB both basic and advanced categories cannot be counted at the same time). This may not be the same as the total number or organs supported throughout the critical care admission. The minimum for this variable is **00** and the maximum is **07** for the full data set**.**

Item	Variable	(M)andatory / (O)ptional	Sources of Data Definition	DEFINITIONS AND GUIDANCE FOR USE
26	**CRITICAL CARE LEVEL 2 DAYS**	**M12**	new, using DoH / ICS levels of care	Total calendar days during which Level 2 care alone was provided during the period. FORMAT; 000 TO 999 DAYS 998 = 998 or more level 2 days 999 = one or more level 2 days occurred but number is not known.
27	**CRITICAL CARE LEVEL 3 DAYS**	**M13**	new, using DoH / ICS levels of care	Total calendar days during which level 3 care was provided during the period FORMAT; 000 TO 999 DAYS 998 = 998 or more level 3 days 999 = one or more level 3 days occurred but number is not known.
28	CRITICAL CARE DISCHARGE STATUS	O	updated (same as ICNARC v3.0)	DEFINITIONS: **01** fully ready for discharge **02** discharge for palliative care **03** early discharge due to shortage of critical care beds. **04** delayed discharge due to shortage of other ward beds **05** current level of care continuing in another location **06** more specialised care in another location **07** self discharge against medical advice. **08** patient died (no organs donated) **09** patient died (heart beating solid organ donor). **10** patient died (cadaveric tissue donor) **11** patient died (non heart beating solid organ donor).
29	CRITICAL CARE DISCHARGE DESTINATION	O	updated (same as ICNARC v 3.0)	DEFINITIONS: **01** Same NHS hospital site **02** Other NHS hospital site (can be same Trust or a different NHS Trust) **03** Independent Hospital Provider in the UK **04** Non-hospital destination within the UK (e.g. home as coded in Location) **05** Non United Kingdom destination (e.g. repatriation) **06** No discharge destination, patient died in unit.

Item	Variable	(M)andatory / (O)ptional	Sources of Data Definition	DEFINITIONS AND GUIDANCE FOR USE
30	CRITICAL CARE DISCHARGE LOCATION	O	updated (same as ICNARC v 3.0)	DEFINITIONS: The principle location that the patient is being discharged to for further care. **01** Ward **02** Recovery only (when used to provide temporary critical care facility) **03** Other intermediate care or specialised treatment area but excluding temporary visits en route, e.g. imaging, endoscopy, catheter suites and operating departments. **04** Adult level 3 critical care bed *(including care in a flexibly configured unit)* **05** Adult level 2 critical care bed *(e.g. including care in a flexibly configured unit)* **06** No discharge destination, patient died in unit **07** Obstetrics area **08** Paediatric critical care area (neonatal and paediatric care) **09** Home or other residence *(e.g. nursing home, H.M. Prison, residential care).* **10** Other non-hospital location.
31	CRITICAL CARE DISCHARGE READY DATE	O	new	REASON FOR COLLECTION: To identify and quantify significant problems in discharging patients from the unit. It is assumed for the purposes of these data that even under ideal conditions, most discharges will take a reasonable amount of time to arrange and complete. Before normal discharge can occur two conditions must be satisfied, a clinician must assess the patient as suitable for discharge and somebody has to arrange an appropriate destination. From this point onwards, the patient is awaiting discharge, usually awaiting confirmation that the bed is available. The simplest way to monitor this aspect of critical care is to allow the 'discharge period' to be derived from the raw data and to allow users to analyse the information against whichever local or national criteria prevail at the time. In order to capture the raw data a point in time has to be identified as the start of the discharge period. DEFINITION: The discharge period begins when the following conditions have been met:

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				• The patient has been declared clinically ready for discharge or transfer. • AND a formal request has been made to the hospital bed management system, (or appropriate staff with authority to admit at the intended destination). • AND the date and time of this status is recorded as such in the clinical record. (It may facilitate data collection if there is a recognized place for recording the request date and time either in the patient's notes or within the data collection system for the CCMDS). Note that discharge planning may occur in advance of and in the expectation that a patient will become fit for discharge at a certain time in the future. For the purposes of these data, the start time will remain the point at which both conditions are fully satisfied. If a discharge is deemed a premature discharge, this field should not be filled in. Thus, the discharge period is the number of hours between the start of the period and the actual time of departure from your unit as recorded elsewhere in the dataset. FORMAT; CCYY/MM/DD
32	CRITICAL CARE DISCHARGE READY TIME	O	new	REASON FOR COLLECTION; As for discharge ready date. Format; HH:MM:SS
33	**CRITICAL CARE DISCHARGE DATE**	**M14**	NHS Data Dictionary	Discharge date from Unit if alive, Date of Death or Date of declaration of brain stem death.
34	CRITICAL CARE DISCHARGE TIME	O	ICNARC	Discharge time from unit Format; HH:MM:SS