

APD Data Dictionary for Software Programmers

Version 1.1
Updated July 2010



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Introduction

ANZICS CORE Adult Patient Database (APD) receives data submissions from intensive care units (ICUs) throughout Australia, New Zealand and Hong Kong. These provide information about individual episodes of care in ICU. The information permits the calculation of length of ICU episode, a risk of death in hospital, and the outcome of hospitalisation. The data is used to benchmark standards of care against comparable units and international standards.

Data is collected using customised software supplied by the Australia & New Zealand Intensive Care Society (ANZICS) under license or from locally designed software. The data is supplied off line in batch format. From December 2001 to accord with Privacy legislation changes, individual episodes are no longer linked to hospital record numbers, but unique numbers specific to the generating database in a hospital. Thus no identifying features are sent centrally. State and territory jurisdictions are appraised of global performance in their areas. Where performance of a unit falls outside expected norms, jurisdiction health authorities will be notified.

Data is processed centrally using SAS and standardised mortality ratios calculated for units. These are observed deaths / expected deaths x 100 using the APACHE III, APACHE II and SAPS II published algorithms.

Comparative reports are then returned to contributing units. The data dictionary provides detail on the current data set required for data submission by individual sites. The data set is under continual review and development. The format followed is based on the format used in the National Health Data Dictionary. This in turn is based on the ISO/IEC Standard 11179 *Specification and Standardization of Data Elements*. Management of the data set is the responsibility of the ANZICS Center for Outcome Research and Evaluation committee (formerly known as Database Management Committee). This group is comprised of ANZICS representatives from New Zealand, each Australian state/territory and the ANZICS Board.



Chair, ANZICS CORE

Contact Details

ANZICS CORE
PO BOX 164
CARLTON SOUTH VIC 3053

For further information, please contact the ANZICS CORE Project Manager.

Ph: 03 9340 3423

Fax: 03 9340 3499

Email: anzics.core@anzics.com.au

ANZICS CORE Committee

ANZICS CORE Members (2010)

Dr Graeme Hart (Chair ANZICS CORE / CCR Co-Director)

Dr David Pilcher (APD Director / VIC)

Dr Tony Burrell (NSW)

Dr Peter Hicks (NZ / CCR Co-Director)

Dr John Moran (SA)

Dr Dan Mullany (QLD)

Dr Alan Rouse (TAS)

Dr Simon Towler (WA)

Dr Tony Slater (ANZPIC)

Dr Steve Webb (CTG Representative)

Dr. David Cook (Co-opted)

Dr Arthas Flabouris (Co-opted)

Dr Robert Herkes (AORTIC, co-opted)

Dr John Lambert (Co-opted)

Dr Imogen Mitchell (Co-opted)

Dr Randal Pascoe (Co-opted)

Dr Michael Reade (Co-opted)

Dr Dianne Stephens (Co-opted)

Dr Peter Stow (Co-opted)

ANZICS CORE Project Manager/Epidemiologist

ANZPIC Project Manager

Ms Janet Alexander

ANZICS CORE Project officer (Health Information Management System)

Marcela Forero

ANZICS CORE Project officer (Data Quality and Education)

Shaila Chavan

ANZICS CORE Project officer (computer programming)

Jostein Saethern

Introductory Notes

Export criteria for submission to Adult Patient Database

Data should be submitted to the Adult Patient Database as follows:

Inclusions

1. Excel export file (.xls) from the database that is named with clear mention of hospital name
2. Version of the .xls file should be Microsoft Excel 5-7 or Microsoft Excel 5-95
3. The Worksheet of .xls file that contains the data should be named **export2000**
4. The column names, formatting and structure of the file to be exactly the same as AORTIC export file (please refer to the AORTIC export format in Appendix F)
5. The file should include all the data variables included in Appendix A: Minimum dataset
6. Missing values should be replaced by the null values mentioned for each variable.
7. At least one year of the data should be submitted (exceptions accepted)
8. Additional variables for APACHE IV algorithm should be included at the end of export file with names mentioned in dataset specification summary on page 18

Explanatory notes:

The data submitted should include physiologic data for the first 24 hours of stay in the intensive care unit or in the one hour prior to admission to the intensive care unit. Patients transferred between ICU and HDU should be entered once only and the data for the initial 24 hours under the care umbrella submitted whether this is HDU or ICU.

The preferred export format is MS Excel file with all the data variables mentioned in minimum dataset and having the exact format.

Exclusions

The following should not be included:

1. Data variables that are collected in addition to the minimum dataset.
2. Data variables with the format that is not compliant with the minimum data set

Explanatory notes:

Stray variables with ambiguous names (eg. Dummy, field etc.) should be removed from the export file to minimise the upload time

Data set specification summary

(The variables are listed in alphabetic order. For export order refer to Appendix A:minimum dataset)

Variable Name (units of measure)	Export Field Name	Field Type	Field size	Null value	Range	Verification Rule	Page reference
Acute Renal Failure	ARF	Character	1			ARF in('Y','N')	89
Age (years)	age	Numeric	5			age > 0 AND age < 110	22
Albumin (g/L)	albumin	Numeric	2	99	5 to 65	((albumin < 65 AND albumin > 5) OR albumin = 99)	69
APACHE II (ANZICS modified) diagnosis code	AP2DIAG	Character	3			Valid APACHE II diagnosis code from Appendix B	93
APACHE II score*	APACHE2	Numeric	2	99		(APACHE2 < 71 AND APACHE2 > 0) OR APACHE2 = 99)	96
APACHE III (ANZICS modified) diagnosis code	AP3DIAG	Character	4			Valid APACHE III diagnosis code from Appendix C	94
APACHE III (ANZICS modified) diagnosis sub-code	ap3_subcode	Character	7			Valid APACHE III diagnosis code and subcode from Appendix E	95
APACHE III score*	APACHE3	Numeric	3	999		(APACHE3 < 299 AND APACHE3 > 0) OR APACHE3 = 999)	97
Arterial pH in arterial blood gas using worst acid - base disturbance: APACHE III	ap3ph	Numeric	4	9.99		((ap3ph < 8.5 AND ap3ph > 6.5) OR ap3ph = 9.99)	81
Arterial pH: APACHE II	PH	Numeric	4	9.99	6.5 to 8.5	((PH < 8.5 AND PH > 6.5) OR PH = 9.99)	77

Bicarbonate (mmol/L)	hco3	Numeric	4	99.9	2 to 60	((hco3 < 60 AND hco3 > 2) OR hco3 = 99.9)	64
Bilirubin (umol/L)	bili	Numeric	4	9999	0 to 1200	((bili < 1200 AND bili > 0) AND bili in 9999)	70
CABG Grafts	cabg_graft	Numeric	1	9		(cabg_graft < 9 AND cabg_graft > 0) OR cabg_graft = 9)	104
CABG REDO	cabg_redo	Numeric	1	9		cabg_redo in (1,2,3,9)	103
Cardiac Arrest	CardArrest	Numeric	1	9		CardArrest in (1,2,8,9)	49
Care Unit Identifier	CAREUNIT	Numeric	2	99		CAREUNIT > 0	19
Chronic Health Evaluation: APACHE II	CHRON	Character	6			CHRON in ('Y','N')	90
Chronic Health Evaluation: APACHE III, SAPS II	COMORB	Character	7			COMORB in ('Y','N')	92
Core Temperature (° Celsius)	TEMP	Numeric	4	99.9	25 to 46	((temp < 46 AND temp > 25) OR temp = 99.9)	52
Creatinine (umol/L)	creat	Numeric	4	9999	10 to 2500	((creat < 2500 AND creat > 10) OR creat = 9999)	67
Diastolic Blood Pressure (mmHg)	DIASTOLIC	Numeric	3	999	0 to 200	(DIASTOLIC < 200 AND DIASTOLIC > 0) OR DIASTOLIC = 999)	59
Elective Admission	ELECT	Character	1			ELECT in ('Y','N')	38
Emergency Response Admission	EMG_RSP_ADM	Numeric	1	9		EMG_RSP_ADM in (1,2,3,9)	46
Eye opening component Glasgow Coma Score	GCSEYE	Numeric	1	9	1 to 4	GCSEYE in (1,2,3,4,9)	62
Fraction of inspired oxygen: APACHE II, SAPS II (% ÷ 100)	FIO2	Numeric	4	9.99	21 to 100	((FIO2 <1 AND FIO2>0.21) OR FIO2 = 9.99)	73

Fraction of inspired oxygen: APACHE III (% ÷ 100)	AP3FIO	Numeric	4	9.99		((AP3FIO <1 AND AP3FIO>0.21) OR AP3FIO = 9.99)	78
Glucose (mmol/L)	GLUCOSE	Numeric	5	999.9	0 to 90	((GLUCOSE < 90 AND GLUCOSE > 0) OR GLUCOSE = 999.9)	71
Haematocrit (% ÷ 100)	hct	Numeric	4	9.99	5 to 75	((hct < 0.75 AND hct > 0.05) OR hct = 9.99)	87
Heart Rate (bpm)	hr	Numeric	3	999	0 to 300	((hr< 300 AND hr >0) OR hr = 999)	54
Height (cm)	Height	Numeric	5	999	0 to 280	(Height <280 AND Height > 0) OR Height = 999)	42
highest value for potassium concentration (mmol/L)	KHi	Numeric	4	99.9	0.05 to 12	((KHi < 12 AND KHi > 0.05) OR KHi = 99.9)	66
highest value for bicarbonate of blood (mmol/L)	hco3Hi	Numeric	4	99.9	2 to 60	((hco3Hi < 60 AND hco3Hi > 2) OR hco3Hi = 99.9)	64
highest value for Creatinine (umol/L)	creatHi	Numeric	4	9999	10 to 2500	((creatHi < 2000 AND creatHi > 10) OR creatHi = 9999)	67
highest value for diastolic bp (mmHg)	DiastolicHi	Numeric	3	999	0 to 200	(DiastolicHi < 200 AND DiastolicHi > 0) OR DiastolicHi = 999)	59
Highest value for glucose concentration (mmol/L)	gluchi	Numeric	5	999.9	0 to 90	((gluchi < 90 AND gluchi > 0) OR gluchi = 999.9)	71
highest value for Haematocrit (% ÷ 100)	hctHi	Numeric	4	9.99	5 to 75	((hctHi< 0.75 AND hctHi > 0.05) OR hctHi = 9.99)	87

highest value for patient's heart rate (bpm)	hrHi	Numeric	3	999	0 to 300	((hrHi < 300 AND hrHi > 0) OR hrHi = 999)	54
highest value for patient's MAP (mmHg)	MAPHi	Numeric	3	999	0 to 200	((MAPHi < 250 AND MAPHi > 0) OR MAPHi = 999)	53
highest value for patient's respiratory rate (bpm)	rrHi	Numeric	2	99	0 to 300	((rrHi < 80 AND rrHi > 0) OR rrHi = 99)	56
highest value for sodium concentration (mmol/L)	NaHi	Numeric	3	999	100 to 215	((NaHi < 215 AND NaHi > 100) OR NaHi = 999)	65
highest value for systolic bp (mmHg)	SystolicHi	Numeric	3	999	0 to 300	(SystolicHi < 300 AND SystolicHi > 0) OR SystolicHi = 999)	58
highest value for temperature (o Celsius)	tempHi	Numeric	4	99.9	25 to 46	((tempHi < 46 AND tempHi > 25) OR tempHi = 99.9)	52
highest value for white cell count (10 ⁹ /L)	wccHi	Numeric	5	999.9	0 to 300	((wccHi < 300 AND wccHi > 0) OR wccHi = 999.9)	88
Hospital Admission Date	HOSP_AD_DT	Date	8	9/09/9999		(HOSP_AD_DT < HOSP_DS_DT) AND (BIRTH_DATE <> 09/99/9999 AND HOSP_AD_DT > BIRTH_DATE)	25
Hospital Admission Source	HOSP_SRCE	Numeric	2	99		HOSP_SRCE in (1,2,3,4,99)	27
Hospital Admission Time	HOSP_AD_TM	Numeric	4	9999		((HOSP_AD_TM < 2359 AND HOSP_AD_TM > 0000) OR HOSP_AD_TM = 9999)	26
Hospital Discharge Date	HOSP_DS_DT	Date	8	9/09/9999		(HOSP_DS_DT > HOSP_AD_DT)	28

Hospital Discharge Time	HOSP_DS_TM	Numeric	4	9999	((HOSP_DS_TM < 2359 AND HOSP_DS_TM > 0000) OR HOSP_DS_TM = 9999)	29
Hospital Outcome	HOSP_OUTCM	Numeric	2	99	HOSP_OUTCM in (1,2,3,4,5,6,99)	30
ICU Admission Date	ICU_AD_DT	Date	8	9/09/9999	(ICU_AD_DT > HOSP_AD_DT) AND (ICU_AD_DT < HOSP_DS_DT) AND (ICU_AD_DT < ICU_DS_DT) AND (BIRTH_DATE <> 09/99/9999 AND ICU_AD_DT > BIRTH_DATE)	31
ICU Admission Source	ICU_SRCE	Numeric	2	99	ICU_SRCE in (1,2,3,4,5,6,99)	33
ICU Admission Time	ICU_AD_TM	Numeric	4	9999	((ICU_AD_TM < 2359 AND ICU_AD_TM > 0000) OR ICU_AD_TM = 9999)	32
ICU Discharge Date	ICU_DS_DT	Date	8	9/09/9999	(ICU_DS_DT > ICU_AD_DT) AND (ICU_DS_DT < HOSP_DS_DT)	34
ICU Discharge Decision Date	ICU_DS_DEC_DT	Date	8	9/09/9999	(ICU_DS_DEC_DT <=ICU_DS_DT) OR (ICU_DS_DEC_DT >= ICU_AD_DT)	35
ICU Discharge Decision Time	ICU_DS_DEC_TM	Numeric	4	9999	((ICU_DS_DEC_TM > 2359 or ICU_DS_DEC_TM < 0000) OR ICU_DS_DEC_TM = 9999)	39
ICU Discharge Time	ICU_DS_TM	Numeric	4	9999	((ICU_DS_TM < 2359 AND ICU_DS_TM > 0000) OR ICU_DS_TM = 9999)	40
ICU Length of Stay (days)	ICU_STAY	Numeric	4	9999	(ICU_STAY < 9999)	36
ICU Outcome	ICU_OUTCM	Numeric	2	99	ICU_OUTCM in (1,2,3,4,5,6,99)	37
Indigenous	Indigenous	Numeric	2	99	Indigenous in (1,2,99)	51
Intubation	INTUBATED	Character	1		INTUBATED in ('Y', 'N')	85

lowest value for bicarbonate of blood (mmol/L)	hco3Lo	Numeric	4	99.9	2 to 60	((hco3Lo < 60 AND hco3Lo > 2) OR hco3Lo = 99.9)	64
lowest value for Creatinine (umol/L)	creatLo	Numeric	4	9999	10 to 2500	((creatLo < 2000 AND creatLo > 10) OR creatLo = 9999)	67
lowest value for diastolic bp (mmHg)	DiastolicLo	Numeric	3	999	0 to 200	(DiastolicLo < 200 AND DiastolicLo > 0) OR DiastolicLo = 999)	59
Lowest value for glucose concentration (mmol/L)	gluclo	Numeric	5	999.9	0 to 90	((gluclo < 90 AND gluclo > 0) OR gluclo = 999.9)	71
lowest value for Haematocrit (% ÷ 100)	hctLo	Numeric	4	9.99	5 to 75	((hctLo < 0.75 AND hctLo > 0.05) OR hctLo = 9.99)	87
lowest value for patient's heart rate (bpm)	hrLo	Numeric	3	999	0 to 300	((hrLo < 300 AND hrLo > 0) OR hrLo = 999)	54
lowest value for patient's MAP (mmHg)	MAPLo	Numeric	3	999	0 to 200	((MAPLo < 250 AND MAPLo > 0) OR MAPLo = 999)	53
lowest value for patient's respiratory rate (bpm)	rrLo	Numeric	2	99	1 to 300	((rrLo < 80 AND rrLo > 0) OR rrLo = 99)	56
lowest value for potassium concentration (mmol/L)	KLo	Numeric	4	99.9	0.05 to 12	((KLo < 12 AND KLo > 0.05) OR KLo = 99.9)	66
lowest value for sodium concentration (mmol/L)	NaLo	Numeric	3	999	100 to 215	((NaLo < 215 AND NaLo > 100) OR NaLo = 999)	65
lowest value for systolic bp (mmHg)	SystolicLo	Numeric	3	999	0 to 300	(SystolicLo < 300 AND SystolicLo > 0) OR SystolicLo = 999)	58

lowest value for temperature (o Celsius)	tempLo	Numeric	4	99.9	25 to 46	((tempLo < 46 AND tempLo > 25) OR tempLo = 99.9)	52
lowest value for white cell count (109/L)	wccLo	Numeric	5	999.9	0 to 300	((wccLo < 300 AND wccLo > 0) OR wccLo = 999.9)	88
Mean Arterial Blood Pressure (mmHg)	map	Numeric	3	999	0 to 200	((map < 250 AND map > 0) OR map = 999)	53
Motor component Glasgow Coma Score	GCSMOTOR	Numeric	1	9	1 to 6	GCSMOTOR in (1,2,3,4,5,6,9)	61
Partial pressure of carbon dioxide in arterial blood gas using worst acid-base disturbance: APACHE III (mmHg)	AP3CO2P	Numeric	3	999		((AP3CO2P < 250 AND AP3CO2P > 5) OR AP3CO2P = 999)	83
Partial pressure of carbon dioxide in arterial blood gas using worst oxygenation: APACHE III (mmHg)	AP3CO2O	Numeric	3	999		((AP3CO2O <250 AND AP3CO2O>5) OR AP3CO2O = 999)	80
Partial pressure of carbon dioxide in arterial blood: APACHE II (mmHg)	PACO2	Numeric	3	999	5 to 250	((PACO2 <250 AND PACO2>5) OR PACO2 = 999)	76
Partial pressure of oxygen in arterial blood: APACHE II, SAPS II (mmHg)	PAO2	Numeric	3	999	15 to 720	((PAO2 <720 AND PAO2> 15) OR PAO2 = 999)	75
Partial pressure of oxygen in arterial blood: APACHE III (mmHg)	AP3PO2	Numeric	3	999		((AP3PO2 <720 AND AP3PO2> 15) OR AP3PO2 = 999)	79
Patient Identifier	PatientID	Character	12				21

Postcode	POSTCODE	Numeric	4	9999		< 4 characters	24
Potassium (mmol/L)	k	Numeric	4	99.9	0.05 to 12	((k < 12 AND k > 0.05) OR k = 99.9)	66
Pregnancy Status	PREG_STAT	Numeric	1	9		PREG_STAT in (1,2,3,4,9)	45
Respiratory Arrest	RespArrest	Numeric	1	9		RespArrest in (1,2,8,9)	50
Respiratory Rate (bpm)	rr	Numeric	2	99	0 to 80	((rr < 80 AND rr>0) OR rr = 99)	56
Risk of death: APACHE II*	ROD	Numeric	5	9.999		((ROD <1.0 AND ROD >0.0) OR ROD = 9.999)	100
Risk of death: SAPS II*	RODSAPS2	Numeric	5	9.999		((RODSAPS2 <1.0 AND RODSAPS2 >0) OR RODSAPS2 = 9.999)	101
SAPS II score*	SAPS2	Numeric	3	999		(SAPS2 > 0)	99
SAPS score*	SAPS	Numeric	2	99		(SAPS >0)	98
Sex	SEX	Character	1			SEX in ('F','M','U')	23
Smoking intensity (Pack years)	SmokingIntensity	Numeric	3	999	0 to 500	(SmokingIntensity <500 AND SmokingIntensity > 0) OR SmokingIntensity = 999)	44
Smoking status	SmokingStatus	Numeric	1	9		SmokingStatus in (1,2,3,4,9)	43
Sodium (mmol/L)	na	Numeric	3	999	100 to 215	((na < 215 AND na > 100) OR na = 999)	65
Systolic Blood Pressure (mmHg)	SYSTOLIC	Numeric	3	999	0 to 300	(SYSTOLIC < 300 AND SYSTOLIC > 0) OR SYSTOLIC = 999)	58
Thromboembolism prophylaxis	ThrombPro	Numeric	1	9		ThrombPro in (1,2,3,4,9)	48
Thrombolytic Therapy	thromb_therapy	Numeric	1	8		thromb_therapy in (1,2,8,9)	102
Total Glasgow Coma Score	gcs	Numeric	2	99	3 to 15	((gcs < 15 AND gcs > 3) OR gcs = 99)	63

Treatment Goals for Admission	TREAT_LMT	Numeric	1	9		TREAT_LMT in (1,2,3,4,5,9)	47
Type of ICU Admission	CARETYPE	Numeric	1	9		CARETYPE in (1,2,9)	20
Urea (mmol/L)	urea	Numeric	5	999.9	0.5 to 100	((urea < 100 AND urea > 0.5) OR urea = 999.9)	68
Urine output for 24 hours (ml)	URINEOP	Numeric	5	99999	0 to 30000	((URINEOP < 30000 AND URINEOP > 0) OR URINEOP = 99999)	72
Ventilation - Invasive	VENTILATED	character	1			VENTILATED in('Y','N')	86
Verbal component Glasgow Coma Score	GCSVERB	Numeric	1	9	1 to 5	GCSVERB in (1,2,3,4,5,9)	60
Weight (Kg)	Weight	Numeric	5	999.9	0 to 630	(Weight <630.0 AND Weight > 0) OR Weight = 999.9)	41
White blood cell count (10 ⁹ /L)	wcc	Numeric	5	999.9	0 to 300	((wcc < 300 AND wcc > 0) OR wcc = 999.9)	88
APACHE IV variables in addition to APACHE III J variables							
These are not in CORE APD database structure yet but will be included soon.							
Unable to assess GCS	nogcs	character	1			nogcs in('Y','N')	n/a
Readmission	readmit	character	1			readmit in('Y','N')	n/a
Internal Mammary Artery Graft	IMAGraft	character	1			IMAGraft in('Y','N')	n/a
MI during current hospitalization	MI	character	1			MI in('Y','N')	n/a
Post left ventricular ejection factor	PLVEF	Numeric	2	99	1 to 10	((PLVEF < 10 AND PLVEF > 0) OR PLVEF = 99)	n/a
CABG with other surgery	CABG_SURG	character	1			CABG_SURG in('Y','N')	n/a
Diabetes	diabetes	character	1			diabetes in('Y','N')	n/a

* Site derived scoring system values (score and Risk of death) are recalculated centrally for the issue of comparative reports.

Care Unit Identifier

Export Field Name: CAREUNIT

Admin. status: CURRENT

Revision Date: April 2003

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: A unique identifier specific for each critical care unit at an individual site.

Relational and representational attributes

Data type: NUMERIC *Representational form:* CODE

Field size: Min.1 Max. 2 *Representational layout:* NN

Data domain: If not recorded, a value of 99 should be recorded. This is a self assigned numerical value to represent each individual care unit.

Verification rules:

Comment:

Type of ICU admission*Export Field Name:* CARETYPE*Admin status:* CURRENT*Revision date:* February 2004**Identifying and definitional attributes***Version no:* 1*Data element type:* DATA ELEMENT

Definition: The type of care for which a patient is admitted. Changes in care type are not considered and only the type which was planned on the admission to the ICU should be recorded.

Relational and representational attributes*Data type:* NUMERIC *Representational form:* CODE*Field size:* Min. 1 Max. 1 *Representational layout:* N

Data domain:

1	ICU admission
2	HDU admission
9	Missing/ Null

Collection method: ICU is defined as patient under the care of an intensive care team for whom one of the following is needed:

- invasive ventilation
- inotropes
- non-invasive ventilation (> 50 % continuously > 6 h)
- needing 1:1 nursing
- continuous renal replacement therapy

HDU will be all other patients admitted as needing, in the opinion of the treating specialist, the specific expertise of the ICU/HDU environment that do not fit this criteria (excluding coronary care patients or those admitted solely for specific procedures within ICU).

*Verification rules:**Comment:*

Patient Identifier

Export Field Name: PatientID

Admin. status: CURRENT

Revision Date: March 2002

Identifying and definitional attributes

Version number: 2

Data element type: DATA ELEMENT

Definition: A unique identifier specific for each patient.
The same identifier should be used for all episodes of care.

Relational and representational attributes

Data type: CHARACTER

Representational form: CODE

Field size: Min.1 Max.12

Representational layout:

Guide for use: Individual sites may use their own alphabetic, alphanumeric or numeric coding system.

Verification rules:

Comment:

Age

Export Field Name: AGE

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Age of patient in years (+ decimal fraction)
on date of admission to ICU

Relational and representational attributes

Data type: NUMERIC *Representational form:* QUANTITATIVE
VALUE

Field size: Min.2 Max.5 *Representational layout:* NNN.N

Data domain: Unit of measure is years

Verification rules: Ages of <0 or >110 years are listed in the
centrally issued APD data quality report.

Comment: Estimate age if not known.
Calculate age and round down to one decimal place.

Sex

Export Field Name: SEX

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: The sex of the patient.

Relational and representational attributes

Data type: CHARACTER *Representational form:* CODE

Field size: Min. 1 Max. 1 *Representational layout:* A

Data domain:

M	Male
F	Female
U	Unknown

Verification rules:

Comment:

Postcode

Export Field Name: POSTCODE

Admin. status: CURRENT

Revision Date: December 2006

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: The numeric descriptor for a postal delivery area, aligned with locality, suburb or place for the address of the patient at the time of admission to the hospital.

Relational and representational attributes

Data type: NUMBER

Representational form: CODE

Field size: Min.4 Max.4

Representational layout: NNNN

Verification rules:

Comment: This variable equates to the current NHDD data element "Person (address) - Australian postcode, code"

Hospital Admission Date

Export Field Name: HOSP_AD_DT

Admin. status: CURRENT

Revision Date: July 2003

Identifying and definitional attributes

Version number: 2

Data element type: DATA ELEMENT

Definition: Date on which the patient was admitted to the hospital for the episode of care which included the current episode of ICU care.

Relational and representational attributes

Data type: NUMERIC *Representational form:* DATE

Field size: Min.8 Max.8 *Representational layout:* DD/MM/YYYY

Data domain: Valid dates
Null value = 09/09/9999

Verification rules: Right justified and zero filled.

Hospital Admission Date ≤ Hospital Discharge Date

Hospital Admission Date ≤ ICU Admission Date

Hospital Admission Date ≥ Date of Birth

Comment:

Hospital Admission Time

Export Field Name: HOSP_AD_TM

Admin. status: CURRENT

Revision Date: December 2002

Identifying and definitional attributes

Version number: 2

Data element type: DATA ELEMENT

Definition: Time at which the patient was admitted to the hospital for the episode of care which included the current episode of ICU care.

Relational and representational attributes

Data type: NUMERIC

Representational form: TIME

Field size: Min.4 Max.4

Representational layout: HHMM

Data domain: Expressed as hours and minutes using 24 hour clock
Range 0000 to 2359
Null value = 9999

Verification rules: Times of <0000 or >2359 are listed in the centrally issued APD data quality report.

Comment:

Hospital Admission Source

Export Field Name: HOSP_SRCE

Admin. status: CURRENT

Revision Date: July 2003

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Original source of admission to hospital for which this ICU episode occurred.

Relational and representational attributes

Data type: NUMERIC *Representational form:* CODE

Field size: Min. 1 Max. 2 *Representational layout:* NN

Data domain:

1	Home
2	Other Acute Hospital
3	Chronic Care Hospital (including nursing homes)
4	Other ICU
99	Null

Hospital Discharge Date

Export Field Name: HOSP_DS_DT

Admin. status: CURRENT

Revision Date: December 2002

Identifying and definitional attributes

Version number: 2

Data element type: DATA ELEMENT

Definition: Date of separation from hospital (separation includes discharge, death, statistical discharges where the patient was no longer admitted as an acute care patient to hospital, or transfer to another hospital).

Relational and representational attributes

Data type: NUMERIC *Representational form:* DATE

Field size: Min.8 Max.8 *Representational layout:* DD/MM/YYYY

Data domain: Valid Date

Null = 09/09/9999

Verification rules: Right justified and zero filled.

Hospital Discharge Date \geq Hospital Admission Date

Hospital Discharge Date \geq ICU Admission Date

Hospital Discharge Date \geq Date of Birth

Comment:

Hospital Discharge Time

Export Field Name: HOSP_DS_TM

Admin. status: CURRENT

Revision Date: July 2009

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Time of separation from hospital (separation includes discharge, death, statistical discharges where the patient was no longer admitted as an acute care patient to hospital, or transfer to another hospital).

Relational and representational attributes

Data type: NUMERIC *Representational form:* TIME

Field size: Min. 4 Max. 4 *Representational layout:* HHMM

Data domain: Expressed as hours and minutes using 24 hour clock
Range 0000 - 2359
Null value = 9999

Verification rules: Times of <0000 or >2359 are listed in the centrally issued APD data quality report.

Comment:

Hospital Outcome

Export Field Name: HOSP_OUTCM

Admin. status: CURRENT

Revision Date: February 2004

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Outcome of the hospital episode of care.

Relational and representational attributes

Data type: NUMERIC *Representational form:* CODE

Field size: Min. 1 Max. 2 *Representational layout:* NN

Data domain:

1	Still in hospital
2	Died in hospital
3	Discharged home
4	Transferred to rehab facility
5	Transferred to other ICU
6	Transferred to other acute hospital
99	Missing (Null value)

Comment:

ICU Admission Date

Export Field Name: ICU_AD_DT

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Date on which the patient was admitted to ICU unit for this episode of care.

Relational and representational attributes

Data type: NUMERIC *Representational form:* DATE

Field size: Min.8 Max.8 *Representational layout:* DD/MM/YYYY

Data domain: Valid dates
Null value = 09/09/9999

Verification rules: ICU Admission Date \geq Hospital Admission Date
ICU Admission Date \leq Hospital Discharge Date
ICU Admission Date \leq ICU Discharge Date
ICU Admission Date \geq Date of Birth

ICU Admission Time

Export Field Name: ICU_AD_TM

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Time of admission to ICU for this episode of ICU care.

Relational and representational attributes

Data type: NUMERIC *Representational form:* TIME

Field size: Min. 4 Max. 4 *Representational layout:* HHMM

Data domain: Expressed as hours and minutes using 24 hour clock
Null value = 9999

Verification rules: Times of <0000 or >2359 are listed in the centrally issued APD data quality report.

ICU Admission Source

Export Field Name: ICU_SRCE

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Source of admission to ICU for this episode of care

Relational and representational attributes

Data type: NUMERIC *Representational form:* CODE

Field size: Min. 1 Max. 2 *Representational layout:* NN

Data domain:

1	OT/recovery
2	Accident and emergency
3	Ward
4	Other ICU, same hospital
5	Other hospital
6	Other hospital ICU
99	Null value

Comment:

ICU Discharge Date

Export Field Name: ICU_DS_DT

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Date of separation from the ICU unit for this episode of care.

Relational and representational attributes

Data type: NUMERIC *Representational form:* DATE

Field size: Min.8 Max.8 *Representational layout:* DD/MM/YYYY

Data domain: Valid dates
Null value = 09/09/9999

Verification rules: ICU Discharge Date \geq ICU Admission Date
ICU Discharge Date \geq Hospital Admission Date
ICU Discharge Date \leq Hospital Discharge Date
ICU Discharge Date \geq Date of Birth

ICU Discharge Time

Export Field Name: ICU_DS_TM

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Time of separation from the ICU unit for this episode of ICU care.

Context: Provides information relating to admission patterns and ICU length of stay.

Relational and representational attributes

Data type: NUMERIC *Representational form:* TIME

Field size: Min. 4 Max. 4 *Representational layout:* HHMM

Data domain: Expressed as hours and minutes using 24 hour clock
Null value = 9999

Verification rules: Time values of <0000 or >2359 are listed in the centrally issued APD data quality report.

ICU Length of Stay

Export Field Name: ICU_STAY

Admin. status: CURRENT

Revision Date: December 2002

Identifying and definitional attributes

Version number: 2

Data element type: DATA ELEMENT

Definition: Length of time spent in ICU during this episode of care in number of days. A same day patient should be allocated a length of stay of one patient day.

Context: Provides information for analysis of admission patterns and referrals.

Relational and representational attributes

Data type: NUMERIC *Representational form:* QUANTITATIVE VALUE

Field size: Min.1 Max.4 *Representational layout:* NNNN

Data domain: Integer count of number of days
Null value = 9999

Collection method: The length of stay of an overnight stay patient is calculated by subtracting the date the patient is admitted from the date of separation. A same day patient is allocated a length of stay of one. Example: Patient admitted on 1/1/2002 and discharged on 2/1/2002. Number of days = 1. ICU Admission time and ICU Discharge time are not used in the calculation.

Comment: Lengths of stay of less than one day are rounded up to one.

ICU Outcome*Export Field Name:* ICU_OUTCM*Admin. status:* CURRENT*Revision Date:* July 2003**Identifying and definitional attributes***Version number:* 1*Data element type:* DATA ELEMENT*Definition:* Outcome of the ICU episode of care.**Relational and representational attributes***Data type:* NUMERIC *Representational form:* CODE*Field size:* Min. 1 Max. 2 *Representational layout:* NN

Data domain:

1	Still in ICU
2	Died in ICU
3	Survived ICU
4	Left ICU but returned
5	Transferred to another ICU
6	Transferred to another hospital
99	Null value

Collection method: When the patient leaves ICU, the outcome can only be 2, 3, 5 or 6. If it is 4 (left ICU but returned) then it will require updating when the patient leaves hospital.

Elective Admission

Export Field Name: ELECT

Admin. status: CURRENT

Revision Date: February 2004

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: An elective admission is a planned ICU admission for potential system failure.

Relational and representational attributes

Data type: CHARACTER *Representational form:* CODE

Field size: Min. 1 Max. 1 *Representational layout:* A

Data domain: Y Elective ICU admission
N Non elective ICU admission

Collection Method: This data element identifies those patients who come to ICU as planned admissions following surgery. However if they were having elective surgery where ICU admission was not anticipated and suffered intra-operatively some complication which necessitated admission to ICU, then their admission would not be seen as elective.

Comment:

ICU Discharge Decision Date

Export Field Name: ICU_DS_DES_DT

Admin. status: CURRENT

Revision Date: December 2006

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Date of decision for separation from the ICU unit for this episode of care.

Relational and representational attributes

Data type: NUMERIC *Representational form:* DATE

Field size: Min.8 Max.8 *Representational layout:* DD/MM/YYYY

Data domain: Valid dates
Null value = 09/09/9999

Verification rules: ICU Discharge Decision Date ≤ ICU Discharge Date
ICU Discharge Decision Date ≥ ICU Admission Date

Comment:

ICU Discharge Decision Time

Export Field Name: ICU_DS_DES_TM

Admin. status: CURRENT

Revision Date: December 2006

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: The Time of decision for separation from the ICU unit for this episode of ICU care.

Relational and representational attributes

Data type: NUMERIC *Representational form:* TIME

Field size: Min. 4 Max. 4 *Representational layout:* HHMM

Data domain: Expressed as hours and minutes using 24 hour clock
Null value = 9999

Verification rules: Time values of <0000 or >2359 are listed in the centrally issued APD data quality report.

Comment:

Weight

Export Field Name: Weight

Admin. status: CURRENT

Revision Date: December 2006

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: The weight (body mass) of a person measured in kilograms.

Relational and representational attributes

Data type: NUMERIC

Representational form: QUANTITATIVE
VALUE

Field size: Min.1 Max.5

Representational layout: NNN.N

Data domain: Unit of measure is kilograms

A continuous variable measured to the nearest 0.1 kg.

Null value 999.9

Verification rules: Time values of > 630.0 kg (excluding null value of 999.9) or < 0 kg are listed in the centrally issued APD data quality report.

Comment:

Height

Export Field Name: Height

Admin. status: CURRENT

Revision Date: December 2006

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: A person's height, measured in centimetres.

Relational and representational attributes

Data type: NUMERIC

Representational form: QUANTITATIVE
VALUE

Field size: Min.1 Max.3

Representational layout: NNN

Data domain: Unit of measure is centimetres

999 Not collected

Use this code if measured height is not collected.

Verification rules: Time values of > 280cm (excluding null value of 999)or < 0cm are listed in the centrally issued APD data quality report.

Comment:

Smoking Status

Export Field Name: SmokingStatus

Admin. status: CURRENT

Revision Date: December 2006

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: A person's current and past smoking behaviour, as represented by a code.

Relational and representational attributes

Data type: NUMERIC

Representational form: CODE

Field size: Min. 1 Max. 1

Representational layout: N

Data domain:

1	Current
2	Ex Smoker
3	Never Smoked
4	Unknown
9	Null value

Comments:

Smoking Intensity

Export Field Name: SmokingIntensity

Admin. status: CURRENT

Revision Date: December 2006

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: A person's smoking intensity, measured as pack years.

Relational and representational attributes

Data type: NUMERIC *Representational form:* CODE

Field size: Min.1 Max.3 *Representational layout:* NNN

Data domain: Unit of measure is pack years
A continuous variable measured to the nearest pack year
Null Value 999

Verification rules: Time values of > 500 (excluding null value of 999) or < 0 are listed in the centrally issued APD data quality report.

Comment:

Pregnancy Status

Export Field Name: PREG_STAT

Admin. status: CURRENT

Revision Date: 25 Oct 2006

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: A code that represents the pregnancy status of a female patient over 10 years and under 60 years of age on ICU admission.

Relational and representational attributes

Data type: Numeric *Representational form:* CODE

Field size: Min.1 Max 1 *Representational layout:* N

Data domain:

1	Currently pregnant
2	Not pregnant
3	Postpartum period
4	Unknown
9	Missing/ Null value

Verification rules: Male patients with pregnancy status recorded and female patients beyond 10 to 60 years of range with pregnancy status recorded as 1 and 3 are listed in the centrally issued APD data quality report.

Comment:

Emergency Response Admission

Export Field Name: EMG_RSP_ADM

Admin. status: CURRENT

Revision Date: 25 Oct 2006

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Code that represents whether the admission of a patient to ICU from a ward arose as a result of any emergency response including MET (Medical Emergency Team) call.

Relational and representational attributes

Data type: Numeric *Representational form:* CODE

Field size: Min. 1 Max. 1 *Representational layout:* N

Data domain:

1	MET / RRT / Code Blue call
2	No
3	Unknown
9	Missing/Null value

Treatment Goals for Admission*Export Field Name:* TREAT_LMT*Admin. status:* CURRENT*Revision Date:* 25 Oct 2006**Identifying and definitional attributes***Version number:* 1*Data element type:* DATA ELEMENT

Definition: Code that represents the goals and presence of treatment limitations at the time of a patient's admission to ICU.

Relational and representational attributes*Data type:* Numeric *Representational form:* CODE*Field size:* Min. 1 Max. 1 *Representational layout:* N

Data domain:

1	Full active management (without treatment limitation)
2	Treatment limitation order
3	Palliative care of a dying patient
4	Potential Organ donation
5	Unknown
9	Missing/Null value

Thromboembolism Prophylaxis Administration

Export Field Name: ThrombPro

Admin. status: CURRENT

Revision Date: 15 Aug 2007

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: A code that represents whether thromboembolism prophylaxis was given to the patient in ICU within the first 24 hours following admission when indicated.

Relational and representational attributes

Data type: Numeric *Representational form:* CODE

Field size: Min. 1 Max. 1 *Representational layout:* N

Data domain:

1	Yes
2	No
3	Contraindicated
4	Not Indicated
9	Missing/ Null value

Cardiac Arrest

Export Field Name: CardArrest

Admin. status: CURRENT

Revision Date: December 2006

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Whether or not the patient suffered from cardiac arrest in the 24 hours before admission to ICU

Relational and representational attributes

Data type: Numeric *Representational form:* CODE

Field size: Min. 1 Max. 1 *Representational layout:* N

Data domain:

1	Cardiac Arrest in previous 24 hours
2	No cardiac Arrest
8	Unknown
9	Missing / Null value

Respiratory Arrest

Export Field Name: RespArrest

Admin. status: CURRENT

Revision Date: December 2006

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Whether or not the patient suffered from respiratory arrest in the 24 hours before admission to ICU

Relational and representational attributes

Data type: Numeric *Representational form:* CODE

Field size: Min. 1 Max. 1 *Representational layout:* N

Data domain:

1	Respiratory Arrest in previous 24 hours
2	No respiratory Arrest
8	Unknown
9	Missing / Null value

Indigenous

Export Field Name: Indigenous

Admin. status: CURRENT

Revision Date: December 2006

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: A code that represents whether the patient belongs to an Indigenous group as defined by the hospital.

Relational and representational attributes

Data type: Numeric *Representational form:* CODE

Field size: Min. 1 Max. 2 *Representational layout:* N[N]

Data domain:

1	Indigenous
2	Non-indigenous
99	Missing / Null value

Comment:

Core Temperature*Export Field Name:* TEMP (tempHi, tempLo)*Admin. status:* CURRENT*Revision Date:* October 1998**Identifying and definitional attributes***Version number:* 1*Data element type:* DATA ELEMENT

Definition: The worst core temperature measured in degrees Celsius in the first 24 hours of the ICU admission. Core temperature sites include oral, tympanic, nasopharyngeal, rectal, oesophageal, pulmonary artery and bladder.

Relational and representational attributes

Data type: NUMERIC *Representational form:* QUANTITATIVE VALUE

Field size: Min.2 Max.4 *Representational layout:* NN.N

Data domain: If not recorded, a code of 99.9 should be entered.

Verification rules: Temperatures of < 25 degrees Celsius and > 46 degrees Celsius are queried in the data quality reports. Temperatures of < 25 degrees Celsius are set to missing and scored as normal.

<i>Variable</i>	<i>CriticalLow</i>	<i>CriticalHigh</i>	<i>NonCriticalLow</i>	<i>NonCriticalHigh</i>
<i>CoreTemp</i>	25	46	33	41

Collection method: The highest and lowest core temperatures measured in degrees Celsius in the first 24 hours of the ICU admission are recorded. The worst scoring temperature is selected using the following APACHE II weight scoring system. If only one core temperature is measured and recorded, this is considered the worst value.

High Abnormal range					Low Abnormal range			
+4	+3	+2	+1	0	+1	+2	+3	+4
≥41°	39° - 40.9°		38.5° - 38.9°	36° - 38.4°	34° - 35.9°	32° - 33.9°	30° - 31.9°	<29. 9°

Comment: Missing values are assumed to be normal and are scored accordingly.

Mean Arterial Blood Pressure

Export Field Name: map (MAPHi, MAPLo)

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: The worst mean arterial blood pressure (MAP) value measured in mmHg in the first 24 hours of the ICU admission.

Relational and representational attributes

Data type: NUMERIC Representational form: QUANTITATIVE VALUE

Field size: Min.1 Max.3 Representational layout: NNN

Data domain: If not recorded, a code of 999 should be entered. Units of measurement are mmHg.

Verification rules: A MAP of < 0 mmHg or > 200 mmHg is queried in the data quality report. A MAP value = 0 mmHg or > 250 mmHg is set to missing and scored as normal *i.e.*, no points assigned. The messages "Unconfirmed Mean Arterial Pressure = 0 mmHg set to missing" or "Unconfirmed Mean Arterial Pressure >250 mmHg set to missing" appear in the data quality report.

Variable	CriticalLow	CriticalHigh	NonCriticalLow	NonCriticalHigh
MAP	0	200	20	150

Collection method: The highest and lowest MAP measured in mmHg in the first 24 hours of the ICU admission should be recorded. The MAP is obtained from an arterial line transducer or other electronic device (Dinamap etc.). The worst scoring MAP selected using the following APACHE II weight scoring system should be reported. If only one MAP is measured and recorded, this is considered the worst value. If only the systolic and diastolic BP values are available, the following formulae can be used to calculate the MAP.

$$\text{MAP} = (\text{systolic} - \text{diastolic}) / 3 + \text{diastolic}$$

High Abnormal range					Low Abnormal range			
+4	+3	+2	+1	0	+1	+2	+3	+4
≥160	130 - 159	110- 129		70 - 109		50 - 69		≤49

Comment: Missing values are assumed to be normal and are scored accordingly.

Heart Rate

Export Field Name: hr (hrHi, hrLo)

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: The worst heart rate (HR) value measured in the first 24 hours of the ICU admission. The HR is the ventricular rate as shown on an ECG trace - not the pulse rate.

Relational and representational attributes

Data type: NUMERIC *Representational form:* QUANTITATIVE VALUE

Field size: Min.1 Max.3 *Representational layout:* NNN

Data domain: If not recorded, a code of 999 should be entered. Units of measurement are beats per minute (bpm).

Verification rules: A HR of > 300 bpm is listed in the data quality report.
If the HR is = 0 bpm, the data quality report will contain the message "Heart Rate = 0/min - cardiac arrest?"
A heart rate value equal to 0 is then nulled, set to missing and scored as normal *i.e.*, no points assigned.

<i>Variable</i>	<i>CriticalLow</i>	<i>CriticalHigh</i>	<i>NonCriticalLow</i>	<i>NonCriticalHigh</i>
<i>HeartRate</i>	0	300	20	180

Collection method: The HR is the ventricular rate as shown on an ECG trace - not the pulse rate.
The highest and lowest HRs measured in bpm in the first 24 hours of the ICU admission should be recorded. The worst scoring HR selected using the following APACHE II weight scoring system should be reported. If only one HR is measured and recorded, this is considered the worst value.
If the patient suffers a cardiorespiratory arrest or death in the first 24 hours, the values recorded should be the lowest measured values *prior* to arrest or death. It is inappropriate to record variable as zero merely because cardio respiratory arrest or death has occurred. Where an automated monitoring system is being employed then values on the preceding hour pre-arrest should be the value considered in the selection of the worst value.

e.g. if arrest at 11:35 am consider values for 11:00

High Abnormal range					Low Abnormal range			
+4	+3	+2	+1	0	+1	+2	+3	+4
≥ 180	140 - 179	110- 139		70 - 109		55 - 69	40 - 54	≤ 40

Comment: Missing values are assumed to be normal and are scored accordingly.

Respiratory Rate

Export Field Name: rr (rrHi, rrLo)

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: The worst respiratory rate value measured in the first 24 hours of the ICU admission.

Relational and representational attributes

Data type: NUMERIC

Representational form: QUANTITATIVE
VALUE

Field size: Min.1 Max.2

Representational layout: NN

Data domain: If not recorded, a code of 99 should be entered.
Units of measurement are breaths per minute (bpm).

Verification rules: A RR > 80 is listed in the data quality report.
If a RR = 0 the data quality report will contain the message "Respiratory Rate = 0/min - respiratory arrest?"
A respiratory rate (RR) value = 0 is then nulled, set to missing and scored as normal *i.e.*, no points assigned.

<i>Variable</i>	<i>CriticalLow</i>	<i>CriticalHigh</i>	<i>NonCriticalLow</i>	<i>NonCriticalHigh</i>
<i>RespRate</i>	0	80	5	50

Collection method: The highest and lowest respiratory rates in the first 24 hours of the ICU admission should be recorded.
For a ventilated patient, the respiratory rate is the combined total of patient and ventilator breaths per minute.
For a non ventilated patient the respiratory rate is the number of unassisted breaths per minute.
The worst scoring respiratory rate selected using the following APACHE II weight scoring system should be reported.
If the patient suffers a cardiorespiratory arrest or death in the first 24 hours, the values recorded should be the lowest measured values *prior* to arrest or death. It is inappropriate to record variable as zero merely because cardiorespiratory arrest or death has occurred. Where an automated monitoring system is being employed then values on the preceding hour pre-arrest should be considered

in the selection of the worst value. e.g. if arrest at 11:35 am consider values for 11:00

High Abnormal range					Low Abnormal range			
+4	+3	+2	+1	0	+1	+2	+3	+4
≥ 50	35 -49		25-34	12-24	10-11	6-9		≤ 5

Comment: Missing values are assumed to be normal and are scored accordingly.

Systolic Blood Pressure

Export Field Name: SYSTOLIC (SystolicHi, SystolicLo)

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: The worst systolic blood pressure (BP) value in the first 24 hours of the ICU admission.

Relational and representational attributes

Data type: NUMERIC *Representational form:* QUANTITATIVE VALUE

Field size: Min.1 Max.3 *Representational layout:* NNN

Data domain: If not recorded, a code of 999 should be entered. Units of measurement are mmHg.

Verification rules: A systolic BP < 0 mmHg or > 300 mmHg is listed in the data quality report for checking. If a systolic BP is equal to 0 mmHg the data quality report will contain the message "Systolic BP = 0 mmHg - cardiac arrest?"

<i>Variable</i>	<i>CriticalLow</i>	<i>CriticalHigh</i>	<i>NonCriticalLow</i>	<i>NonCriticalHigh</i>
<i>Systolic</i>	0	300	60	250

Collection method: The highest and lowest systolic BP in the first 24 hours of the ICU admission should be recorded. The worst scoring systolic BP selected using the following SAPS II weight scoring system should be reported.

High Abnormal range			Low Abnormal range		
	+2	0	+5	+13	
	≥ 200	100-199	70 - 99	< 70	

Comment: Missing values are assumed to be normal and are scored accordingly.

Diastolic Blood Pressure

Export Field Name: DIASTOLIC (DiastolicHi, DiastolicLo)

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: The diastolic blood pressure (BP) measured in mmHg that accompanied the worst systolic BP recorded during the first 24 hours of admission.

Relational and representational attributes

Data type: NUMERIC *Representational form:* QUANTITATIVE VALUE

Field size: Min.1 Max.3 *Representational layout:* NNN

Data domain: If not recorded, a code of 999 should be entered. Units of measurement are mmHg.

Verification rules: A diastolic BP of less than 0 or greater than 200 mmHg is listed in the data quality report for checking.

If a diastolic BP is equal to 0 mmHg, the data quality report will contain the message "Diastolic BP = 0 mmHg - cardiac arrest?"

<i>Variable</i>	<i>CriticalLow</i>	<i>CriticalHigh</i>	<i>NonCriticalLow</i>	<i>NonCriticalHigh</i>
<i>Diastolic</i>	0	200	0	180

Collection method: The diastolic BP measured in mmHg that accompanied the worst systolic BP recorded during the first 24 hours of admission.

Comment: Missing values are assumed to be normal and are scored accordingly.

Verbal component Glasgow Coma Score

Export Field Name: GCSVERB

Admin. status: CURRENT

Revision Date: February 2004

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: The verbal component of the lowest total Glasgow Coma Score in the first 24 hours of ICU admission.

Relational and representational attributes

Data type: NUMERIC

Representational form: QUANTITATIVE
VALUE

Field size: Min.1 Max.1

Representational layout: N

Data domain: Verbal: non-intubated

5	Orientated
4	Confused
3	Inappropriate words
2	Incomprehensible sounds
1	No response

Verbal: intubated

5	Appears orientated
3	Ability to converse in doubt
1	Generally unresponsive

9 Null Value

Verification rules: A verbal GCS of less than 1 or greater than 5 is not valid and therefore set to missing.

Collection method: Glasgow Coma Scale needs to be assessed when the admission is free from the effects of sedative and/or paralyzing or neuromuscular blocking agents. A paralysed or sedated patient is unscorable and GCS should therefore be determined from pre-anaesthetic GCS for elective and emergency surgery. In cases of transfers and retrievals, this information should be sourced from a clear medical/paramedical assessment prior to intubation for stabilization/transfer. This may be found in the admission note, transfer notes, emergency department notes or referral letter. Patients with ICU admitting diagnosis of self-overdose should have a Glasgow Coma Score determined.

Motor component Glasgow Coma Score

Export Field Name: GCSMOTOR

Admin. status: CURRENT

Revision Date: February 2004

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: The motor component of the lowest total Glasgow Coma Score in the first 24 hours of ICU admission.

Relational and representational attributes

Data type: NUMERIC *Representational form:* QUANTITATIVE
VALUE

Field size: Min.1 Max.1 *Representational layout:* N

Data domain:

6	Obeys commands
5	Localises
4	Flexion - withdrawal
3	Decorticate flexion
2	Extends
1	Nil
9	Null Value

Verification rules: A motor GCS of less than 1 or greater than 6 is not valid and therefore set to missing.

Collection method: Glasgow Coma Scales need to be assessed when the admission is free from the effects of sedative and/or paralyzing or neuromuscular blocking agents. A paralyzed or sedated patient is unscorable and GCS should therefore be determined from pre-anaesthetic GCS for elective and emergency surgery. In cases of transfers and retrievals, this information should be sourced from a clear medical/paramedical assessment prior to intubation for stabilization/transfer. This may be found in the admission note, transfer notes, emergency department notes or referral letter. Patients with ICU admitting diagnosis of self-overdose should have a Glasgow Coma Score determined.

Eye opening component Glasgow Coma Score*Export Field Name:* GCSEYE*Admin. status:* CURRENT*Revision Date:* February 2004**Identifying and definitional attributes***Version number:* 1*Data element type:* DATA ELEMENT

Definition: The eye opening component of the lowest total Glasgow Coma Score in the first 24 hours of ICU admission.

Relational and representational attributes*Data type:* NUMERIC*Representational form:* QUANTITATIVE
VALUE*Field size:* Min.1 Max.1*Representational layout:* N

Data domain:

4	Open spontaneously
3	Open to voice
2	Open to pain
1	Do not open
9	Null Value

Verification rules: An eye GCS of less than 1 or greater than 4 is not valid and therefore set to missing.

Collection method: Glasgow Coma Scales need to be assessed when the admission is free from the effects of sedative and/or paralyzing or neuromuscular blocking agents. A paralyzed or sedated patient is unscorable and GCS should therefore be determined from pre-anaesthetic GCS for elective and emergency surgery. In cases of transfers and retrievals, this information should be sourced from a clear medical/para-medical assessment prior to intubation for stabilization / transfer. This may be found in the admission note, transfer notes, emergency department notes or referral letter. Patients with ICU admitting diagnosis of self-overdose should have a Glasgow Coma Score determined.

Total Glasgow Coma Score

Export Field Name: gcs

Admin. status: CURRENT

Revision Date: February 2004

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Lowest total Glasgow Coma Score (total of verbal, motor and eye opening) in the first 24 hours of ICU admission.

Relational and representational attributes

Data type: NUMERIC *Representational form:* QUANTITATIVE VALUE

Field size: Min.1 Max.2 *Representational layout:* NN

Data domain: Range is 3 to 15. If not recorded, a code of 99 should be entered.

Verification rules: A total GCS of less than 3 or greater than 15 is not valid and therefore set to missing.

Collection method:

The total Glasgow Coma Score is calculated by adding together the three components, eye opening, motor and verbal. The total Glasgow Coma Score need to be assessed when the admission is free from the effects of sedative and / or paralyzing or neuromuscular blocking agents. A paralyzed or sedated patient is unscorable and GCS should therefore be determined from pre-anaesthetic GCS for elective and emergency surgery. In cases of transfers and retrievals, this information should be sourced from a clear medical/paramedical assessment prior to intubation for stabilization/transfer. This may be found in the admission note, transfer notes, A&E notes or referral letter. Patients with ICU admitting diagnosis of self-overdose should have a Glasgow Coma Score determined.

Bicarbonate

Export Field Name: hco3 (hco3Hi, hco3Lo)

Admin. status: CURRENT

Revision Date: May 2002

Identifying and definitional attributes

Version number: 2

Data element type: DATA ELEMENT

Definition: The worst scoring bicarbonate (HCO₃) value measured in mmol/L in the first 24 hours of the ICU admission.

Relational and representational attributes

Data type: NUMERIC

Representational form: QUANTITATIVE
VALUE

Field size: Min.1 Max.4

Representational layout: NN.N

Data domain: If not recorded, a code of 99.9 should be entered. Units of measurement are mmol/L.

Verification rules: A HCO₃ of < 5 mmol/L or > 50 mmol/L is listed in the data quality report.
A HCO₃ of < 1 mmol/L or > 100 mmol/L is then nulled, set to missing and scored as normal i.e. no points assigned.

Variable	Critical Low	Critical High	NonCritical Low	NonCriticalHigh
Bicarbonate	2	60	10	40

Collection method: The highest and lowest HCO₃ values in the first 24 hours of the ICU admission should be recorded. The specimen may be serum or plasma. The worst scoring HCO₃ value selected using the following APACHE II weight scoring system should be reported.

High Abnormal range					Low Abnormal range			
+4	+3	+2	+1	0	+1	+2	+3	+4
≥ 52	41 - 51.9		32 - 40.9	22 - 31.9		18 - 21.9	15 - 17.9	< 15

Comment: Missing values are assumed to be normal and are scored accordingly.

Sodium

Export Field Name: na (NaHi, NaLo)

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: The worst sodium (Na) value measured in mmol/L in the first 24 hours of the ICU admission.

Relational and representational attributes

Data type: NUMERIC

Representational form: QUANTITATIVE
VALUE

Field size: Min.1 Max.3

Representational layout: NNN

Data domain: If not recorded, a code of 999 should be entered.
Units of measurement are mmol/L.

Verification rules: Na values of < 100 mmol/L and > 200 mmol/L are listed on the data quality report for checking.

<i>Variable</i>	<i>CriticalLow</i>	<i>CriticalHigh</i>	<i>NonCriticalLow</i>	<i>NonCriticalHigh</i>
Na	100	215	110	170

Collection method: The highest and lowest Na values in the first 24 hours of the ICU admission should be recorded. The worst scoring Na value selected using the following APACHE II weight scoring system should be reported.

High Abnormal range					Low Abnormal range			
+4	+3	+2	+1	0	+1	+2	+3	+4
≥ 180	160 - 179	155 - 159	150-154	130- 149		120-129	111-119	≤ 110

Comment: Missing values are assumed to be normal and are scored accordingly.

Potassium*Export Field Name:* k (KHi, KLo)*Admin. status:* CURRENT*Revision Date:* October 1998**Identifying and definitional attributes***Version number:* 1*Data element type:* DATA ELEMENT*Definition:* The worst potassium (K) value measured in mmol/L in the first 24 hours of the ICU admission.**Relational and representational attributes***Data type:* NUMERIC*Representational form:* QUANTITATIVE
VALUE*Field size:* Min.1 Max.4*Representational layout:* NN.N*Data domain:* If not recorded, a code of 99.9 should be entered.
Units of measurement are mmol/L.*Verification rules:* K values of less than 1 mmol/L or greater than 12 mmol/L are listed in the data quality report. K values of greater than 12 mmol/L are set to missing in the data cleaning process.

<i>Variable</i>	<i>CriticalLow</i>	<i>CriticalHigh</i>	<i>NonCriticalLow</i>	<i>NonCriticalHigh</i>
<i>K</i>	0.05	12	2	7

Collection method: The highest and lowest K values in the first 24 hours of the ICU admission should be recorded. The specimen may be serum or plasma. The worst scoring K value is then selected using the following APACHE II weight scoring system should be reported.

High Abnormal range					Low Abnormal range			
+4	+3	+2	+1	0	+1	+2	+3	+4
≥7	6 - 6.9		5.5 - 5.9	3.5 - 5.4	3 - 3.4	2.5 - 2.9		< 2.5

Comment: Missing values are assumed to be normal and are scored accordingly.

Creatinine

Export Field Name: creat(creatHi, creatLo)

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: The worst creatinine value measured in $\mu\text{mol/L}$ in the first 24 hours of the ICU admission.

Relational and representational attributes

Data type: NUMERIC

Representational form: QUANTITATIVE
VALUE

Field size: Min.2 Max.4

Representational layout: NNNN

Data domain: If not recorded, a code of 9999 should be entered. Units of measurement are $\mu\text{mol/L}$.

Verification rules: Creatinine values of < 20 or $> 2500 \mu\text{mol/L}$ are listed in the data quality report

<i>Variable</i>	<i>CriticalLow</i>	<i>CriticalHigh</i>	<i>NonCriticalLow</i>	<i>NonCriticalHigh</i>
<i>Creatinine</i>	10	2500	20	1000

Collection method: The highest and lowest creatinine values in the first 24 hours of the ICU admission should be recorded.

The specimen may be serum or plasma.

The worst scoring creatinine value selected using the following APACHE II weight scoring system should be reported.

High Abnormal range					Low Abnormal range			
+4	+3	+2	+1	0	+1	+2	+3	+4
\geq 310	177-309	133-176		53- 132		< 53		

Comment: Missing values are assumed to be normal and are scored accordingly. The creatinine points are doubled for the APACHE scoring system where the patient also has acute renal failure. Acute renal failure is defined as the 24 hour urine output is less than 410 ml, the creatinine is $\geq 133 \mu\text{mol/L}$ and no chronic dialysis.

Urea*Export Field Name:* urea*Admin. status:* CURRENT*Revision Date:* October 1998**Identifying and definitional attributes***Version number:* 1*Data element type:* DATA ELEMENT*Definition:* The highest urea value measured in mmol/L in the first 24 hours of the ICU admission.**Relational and representational attributes***Data type:* NUMERIC*Representational form:* QUANTITATIVE
VALUE*Field size:* Min.1 Max.5*Representational layout:* NNN.N*Data domain:* If not recorded, a code of 999.9 should be entered.
Units of measurement are mmol/L.*Verification rules:* Urea values of < 1 mmol/L or > 100 mmol/L are listed on the data quality report.

<i>Variable</i>	<i>CriticalLow</i>	<i>CriticalHigh</i>	<i>NonCriticalLow</i>	<i>NonCriticalHigh</i>
<i>Urea</i>	<i>0.5</i>	<i>100</i>	<i>2.5</i>	<i>8.9</i>

Collection method: The highest urea value in the first 24 hours of the ICU admission should be reported.
The specimen may be serum or plasma.*Comment:* *Missing values are assumed to be normal and are scored accordingly.*

Albumin*Export Field Name:* albumin*Admin. status:* CURRENT*Revision Date:* February 2006**Identifying and definitional attributes***Version number:* 1*Data element type:* DATA ELEMENT*Definition:* The worst albumin value measured in g/L in the first 24 hours of the ICU admission.**Relational and representational attributes***Data type:* NUMERIC*Representational form:* QUANTITATIVE
VALUE*Field size:* Min.1 Max.2*Representational layout:* NN*Data domain:* If not recorded, a code of 99 should be entered.
Units of measurement are g/L.*Verification rules:* Albumin values of less than 5 g/L or greater than 65 g/L are listed on the data quality report.

<i>Variable</i>	<i>CriticalLow</i>	<i>CriticalHigh</i>	<i>NonCriticalLow</i>	<i>NonCriticalHigh</i>
<i>Albumin</i>	5	65	15	50

Collection method: The highest and lowest albumin values in the first 24 hours of the ICU admission should be recorded.

The specimen must be serum.

The worst albumin value selected using the APACHE III scoring system should be reported.

High Abnormal range		Low Abnormal range	
+4	0	+6	+11
> 45	25 - 44	20 - 24	≤ 19

Comment: Missing values are assumed to be normal and are scored accordingly.

Bilirubin*Export Field Name:* bili*Admin. status:* CURRENT*Revision Date:* October 1998**Identifying and definitional attributes***Version number:* 1*Data element type:* DATA ELEMENT*Definition:* The highest bilirubin value measured in $\mu\text{mol/L}$ in the first 24 hours of the ICU admission.**Relational and representational attributes***Data type:* NUMERIC*Representational form:* QUANTITATIVE
VALUE*Field size:* Min.1 Max.4*Representational layout:* NNNN*Data domain:* If not recorded, a code of 9999 should be entered.
Units of measurement are $\mu\text{mol/L}$.*Verification rules:* Bilirubin ranges of $< 5 \mu\text{mol/L}$ and $> 1200 \mu\text{mol/L}$ are queried and appear on the data quality check report.

<i>Variable</i>	<i>CriticalLow</i>	<i>CriticalHigh</i>	<i>NonCriticalLow</i>	<i>NonCriticalHigh</i>
<i>Bilirubin</i>	0	1200	0	20

Collection method: The highest bilirubin value in the first 24 hours of the ICU admission is reported.
The specimen may be serum or plasma.*Comment:* Missing values are assumed to be normal and are scored accordingly.

Glucose

Export Field Name: GLUCOSE (gluchi, gluclo)

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: The worst glucose value measured in mmol/L in the first 24 hours of the ICU admission.

Relational and representational attributes

Data type: NUMERIC

Representational form: QUANTITATIVE
VALUE

Field size: Min.1 Max.5

Representational layout: NNN.N

Data domain: If not recorded, a code of 999.9 should be entered. Units of measurement are mmol/L.

Verification rules: Glucose values of 0 mmol/L or less and greater than 90 mmol/L are listed in the data quality report. Glucose values equal to 0 are nulled and scored as normal in the comparative reports.

<i>Variable</i>	<i>CriticalLow</i>	<i>CriticalHigh</i>	<i>NonCriticalLow</i>	<i>NonCriticalHigh</i>
<i>Glucose</i>	0	90	2	40

Collection method: The highest and lowest glucose values in the first 24 hours of the ICU admission should be recorded.

The specimen may be serum or plasma.

The worst glucose value selected using the APACHE III point scoring system should be reported.

High Abnormal range			Low Abnormal range	
+5	+3	0	+9	+8
≥ 19.4	11.2 - 19.3	3.4 - 11.1	2.2 - 3.3	≤ 2.1

Comment: Missing values are assumed to be normal and are scored accordingly.

Urine output for 24 hours

Export Field Name: URINEOP

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Total urine output measured in ml in the first 24 hours of the ICU admission.

Relational and representational attributes

Data type: NUMERIC

Representational form: QUANTITATIVE
VALUE

Field size: Min.1 Max.5

Representational layout: NNNNN

Data domain: If not recorded, a code of 99999 should be entered.
Units of measurement are ml.

Verification rules: A urine output =0 or > 30,000 ml/day is listed on the data quality report. A urine output of < 200 ml/day is also listed if the creatinine is less than 200 µmol/L.

Variable	Critical Low	Critical High	NonCritical Low	NonCritical High
UrineOutput	0	30000	500	10000

Collection method: The total urine output is recorded for the first 24 hours in ICU. If there is an incomplete 24 hour urine collection, extrapolate to report a 24 hour urine output. If however, the urine collected is for a period of ≤6 hours or the patient is terminal, leave the information out and it will be treated as unknown, i.e. normal.

Comment: Missing values are assumed to be normal and are scored accordingly.

Fraction of inspired oxygen: APACHE II, SAPS II*Export Field Name:* FIO2*Admin. status:* CURRENT*Revision Date:* October 1998**Identifying and definitional attributes***Version number:* 1*Data element type:* DATA ELEMENT

Definition: Fraction of inspired oxygen (FiO₂) associated with the worst (highest) scoring arterial blood gas using the APACHE II scoring algorithm in the first 24 hours of ICU admission.

Relational and representational attributes

Data type: NUMERIC *Representational form:* QUANTITATIVE VALUE

Field size: Min.1 Max.4 *Representational layout:* N.NN

Data domain: If not recorded, a code of 9.99 should be entered. Units of measurement are %÷100. Range of values should be between 0.21 and 1.00

Verification rules: A recorded FiO₂ of less than .21 or greater than 1.0 (excluding the null value of 9.99) is listed on the data quality report. If the FiO₂ is greater than 0.70 (excluding the null value of 9.99) but there is no ventilation or intubation, the record will also be listed on the data quality report.

The calculated A-a gradient is listed on the data quality report as doubtful if ≤ 10 mmHg or > 600 mmHg.

<i>Variable</i>	<i>CriticalLow</i>	<i>CriticalHigh</i>	<i>NonCriticalLow</i>	<i>NonCriticalHigh</i>
<i>FiO2</i>	21	100	21	90

Collection method: The FiO₂ associated with the highest A-a gradient is recorded where the FiO₂ values are ≥ 0.5. If the FiO₂ values are < 0.5, the FiO₂ associated with the lowest PaO₂ is recorded. The calculation of A-a gradient uses the formula: A-a gradient = 713 x FiO₂ - PaO₂ - PaCO₂. All variables used in the calculation of the A-a gradient must come from the one blood gas sample.

For patients with assisted breathing, the fraction of inspired oxygen is read from the controlled oxygen source e.g., Venturi masks, ventilator and CPAP systems with calibrated oxygen blenders. For patients breathing unassisted, i.e., room air, the FiO_2 is recorded as 0.21.

If a patient is on an uncontrolled oxygen source, the table below allows for the conversion of oxygen flow in L/min to FiO_2 .

O_2 (L/min)	1	2	3	4	5	6	8	15	15 *Reservoir mask
FiO_2	0.2 3	0.2 5	0.2 7	.30	0.3 5	0.4 0	0.4 5	0.5 0	0.70

A reservoir mask is one that is fitted with a reservoir bag and a non-rebreathing valve.

Comment: The formula $A-a \text{ gradient} = 713 \times FiO_2 - PaO_2 - PaCO_2$ does not require correction. This was the formula used in the original APACHE II study.

Partial pressure of oxygen in arterial blood: APACHE II, SAPS II

Export Field Name: PAO2

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Partial pressure of oxygen (PaO₂) associated with the worst (highest) scoring arterial blood gas using the APACHE II scoring algorithm in the first 24 hours of ICU admission.

Relational and representational attributes

Data type: NUMERIC Representational form: QUANTITATIVE
VALUE

Field size: Min.1 Max.3 Representational layout: NNN

Data domain: If not recorded, a code of 999 should be entered.
Units of measurement are mmHg.

Verification rules: PaO₂ values of < 20 mmHg or > 560 mmHg (excluding the null value of 999) are listed on the data quality reports. PaO₂ values of < 750 mmHg (excluding the null value of 999) are set to missing.

Variable	CriticalLow	CriticalHigh	NonCriticalLow	NonCriticalHigh
PaO2	15	720	40	300

Collection method: If the FiO₂ values are < 0.5, the lowest arterial blood gas PaO₂ is recorded. If the FiO₂ values are ≥ 0.5, the PaO₂ associated with the highest A-a gradient is recorded. The formula used to calculate A-a gradient is as follows:

$$\text{A-a gradient} = 713 \times \text{FiO}_2 - \text{PaO}_2 - \text{PaCO}_2$$
 All variables used in the calculation of the A-a gradient must come from the one blood gas sample.

Comment: The formula $\text{A-a gradient} = 713 \times \text{FiO}_2 - \text{PaO}_2 - \text{PaCO}_2$ does not require correction. This was the formula was used in the original study.

Partial pressure of carbon dioxide in arterial blood: APACHE II

Export Field Name: PACO2

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Partial pressure of carbon dioxide (PaCO₂) associated with the worst (highest) scoring arterial blood gas using the APACHE II scoring algorithm in the first 24 hours of ICU admission.

Relational and representational attributes

Data type: NUMERIC Representational form: QUANTITATIVE VALUE

Field size: Min.1 Max.3 Representational layout: NNN

Data domain: If not recorded, a code of 999 should be entered. Units of measurement are mmHg.

Verification rules: PaCO₂ of < 10 or > 200 mmHg (excluding the null value of 999) are listed on the data quality report.
PaCO₂ values of > 300 mmHg (excluding the null value of 999) are set to missing.

Variable	CriticalLow	CriticalHigh	NonCriticalLow	NonCriticalHigh
PaCO2	5	250	25	70

Collection method: If the FiO₂ values are < 0.5, the PaCO₂ associated with the lowest arterial blood gas PaO₂ is recorded. If the FiO₂ values are ≥ 0.5, the PaCO₂ associated with the highest alveolar-arterial gradient is recorded.
The formula used to calculate A-a gradient is as follows:
A-a gradient = 713 x FiO₂ - PaO₂ - PaCO₂
All variables used in the calculation of the A-a gradient must come from the one blood gas sample.

Comment: The formula A-a gradient = 713 x FiO₂ - PaO₂ - PaCO₂ does not require correction. This was the formula was used in the original study.

Arterial pH: APACHE II*Export Field Name:* PH*Admin. status:* CURRENT*Revision Date:* October 1998**Identifying and definitional attributes***Version number:* 1*Data element type:* DATA ELEMENT

Definition: The worst arterial pH blood gas value using the APACHE II scoring algorithm in the first 24 hours of ICU admission.

Relational and representational attributes

Data type: NUMERIC *Representational form:* QUANTITATIVE VALUE

Field size: Min.1 Max.4 *Representational layout:* N.NN

Data domain: If not recorded, a code of 9.99 should be entered.

Verification rules: A pH value < 6.5 or >= 8 (excluding the null value of 9.99) are listed on the data quality report. Any pH value of < 6.5 or >= 8 (excluding the null value of 9.99) is then set to missing.

<i>Variable</i>	<i>CriticalLow</i>	<i>CriticalHigh</i>	<i>NonCriticalLow</i>	<i>NonCriticalHigh</i>
<i>pH</i>	6.5	8.5	7	7.8

Collection method: The worst pH value is selected using the APACHE II point scoring system.

High Abnormal range					Low Abnormal range			
+4	+3	+2	+1	0	+1	+2	+3	+4
≥ 7.7	7.6- 7.69		7.5-7.59	7.33- 7.49		7.25- 7.32	7.15- 7.24	< 7.15

Fraction of inspired oxygen: APACHE III*Export Field Name:* AP3FIO*Admin. status:* CURRENT*Revision Date:* October 1998**Identifying and definitional attributes***Version number:* 1*Data element type:* DATA ELEMENT

Definition: Fractional inspired oxygen (FiO₂) associated with the worst (highest) scoring arterial blood gas using the APACHE III oxygenation scoring algorithm in the first 24 hours of ICU admission.

Relational and representational attributes

Data type: NUMERIC *Representational form:* QUANTITATIVE VALUE

Field size: Min.1 Max.4 *Representational layout:* N.NN

Data domain: If not recorded, a code of 9.99 should be entered.

Verification rules: A recorded AP3FiO of less than .21 or greater than 1.0 (excluding null value of 9.99) is listed on the data quality report.

<i>Variable</i>	<i>CriticalLow</i>	<i>CriticalHigh</i>	<i>NonCriticalLow</i>	<i>NonCriticalHigh</i>
<i>AP3FiO</i>	21	100	21	90

Collection method: For intubated patients with FiO₂ ≥ 0.5, the FiO₂ associated with the arterial blood gas with the highest alveolar arterial (A-a) gradient is selected. The formula used for the calculation of the A-a gradient is:

$$\text{A-a gradient} = 713 \times \text{FiO}_2 - \text{PaO}_2 - \text{PaCO}_2$$

For non intubated patients or intubated patients with an FiO₂ of < 0.5, the FiO₂ associated with the lowest arterial blood gas PaO₂ is selected.

Comment: The formula $\text{A-a gradient} = 713 \times \text{FiO}_2 - \text{PaO}_2 - \text{PaCO}_2$ does not require correction. This was the formula was used in the original study.

Partial pressure of oxygen in arterial blood: APACHE III

Export Field Name: AP3PO2

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Partial pressure of oxygen (PaO₂) associated with the worst (highest) scoring arterial blood gas using the APACHE III oxygenation scoring algorithm in the first 24 hours of ICU admission.

Relational and representational attributes

Data type: NUMERIC Representational form: QUANTITATIVE
VALUE

Field size: Min.1 Max.3 Representational layout: NNN

Data domain: If not recorded, a code of 999 should be entered.
Units are mmHg.

Verification rules: AP3PO₂ values of < 20 mmHg or > 560 mmHg are listed on the data quality reports (excluding null value of 999). AP3PO₂ values of < 750 mmHg (excluding null value of 999) are set to missing.

Variable	CriticalLow	CriticalHigh	NonCriticalLow	NonCriticalHigh
AP3PO2	15	720	40	300

Collection method: For intubated patients with FiO₂ ≥ 0.5, the PaO₂ associated with the arterial blood gas with the highest alveolar arterial (A-a) gradient is recorded. The formula used for the calculation of the A-a gradient is:

$$A\text{-}a \text{ gradient} = 713 \times FiO_2 - PaO_2 - PaCO_2$$

For non-intubated patients, or intubated patients with FiO₂ of <0.5, the lowest arterial blood gas PaO₂ is recorded.

Comment: The formula $A\text{-}a \text{ gradient} = 713 \times FiO_2 - PaO_2 - PaCO_2$ does not require correction. This was the formula was used in the original study.

Partial pressure of carbon dioxide in arterial blood gas using worst oxygenation: APACHE III

Export Field Name: AP3CO2O

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Partial pressure of carbon dioxide (PaCO₂) associated with the worst (highest) scoring arterial blood gas using the APACHE III oxygenation scoring algorithm in the first 24 hours of ICU admission.

Relational and representational attributes

Data type: NUMERIC Representational form: QUANTITATIVE VALUE

Field size: Min.1 Max.3 Representational layout: NNN

Data domain: If not recorded, a code of 999 should be entered. Units are mmHg.

Verification rules: AP3CO2O of < 10 or > 200 mmHg (excluding the null value of 999) are listed on the data quality report.
AP3CO2O values of > 300 mmHg (excluding the null value of 999) are set to missing.

Variable	CriticalLow	CriticalHigh	NonCriticalLow	NonCriticalHigh
AP3CO2O	5	250	25	70

Collection method: For intubated patients with FiO₂ ≥ 0.5, the PaCO₂ associated with the arterial blood gas with the highest alveolar arterial (A-a) gradient is recorded. The formula used for the calculation of the A-a gradient is:
A-a gradient = 713 x FiO₂ - PaO₂ - PaCO₂

For non intubated patients or intubated patients with FiO₂ of < 0.5, the PaCO₂ associated with the arterial blood gas with the lowest PaO₂ is recorded.

Comment: The formula $A\text{-}a\text{ gradient} = 713 \times FiO_2 - PaO_2 - PaCO_2$ does not require correction. This was the formula used in the original study.

Arterial pH in arterial blood gas using worst acid - base disturbance: APACHE III

Export Field Name: ap3ph

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Arterial pH associated with the worst (highest) scoring arterial blood gas by the APACHE III acid base scoring algorithm in the first 24 hours of ICU admission.

Relational and representational attributes

Data type: NUMERIC Representational form: QUANTITATIVE VALUE

Field size: Min.1 Max.4 Representational layout: N.NN

Data domain: If not recorded, a code of 9.99 should be entered.

Verification rules: A ap3ph value < 6.5 or >= 8 (excluding the null value of 9.99) are listed on the data quality report. Any pH value of < 6.5 or >= 8 (excluding the null value of 9.99) is then set to missing.

Variable	CriticalLow	CriticalHigh	NonCriticalLow	NonCriticalHigh
ap3ph	6.5	8.5	7	7.8

Collection method: The arterial pH associated with the worst (highest points) acid - base scoring arterial blood gas is recorded. The point weight score is calculated using the table below.

PaCO2 pH	<25	25 - <30	30- <35	35 - <40	40 - <45	45 - <50	50 - <55	55-<60	≥ 60
<7.15	12						4		
7.15 - <7.2									
7.20 - <7.25			6		3		2		
7.25 - <7.30	9								
7.30 - <7.35							1		
7.35 - <7.40			0						
7.40 - <7.45	5						1		
7.45 - <7.50			0	2					
7.50- <7.55									

7.55 - <7.60	3		12
7.60 - <7.65	0		
≥7.65			

Partial pressure of carbon dioxide in arterial blood gas using worst acid - base disturbance: APACHE III

Export Field Name: AP3CO2P

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Partial pressure of carbon dioxide (PaCO₂) associated with the worst (highest) scoring arterial blood gas using the APACHE III acid base scoring algorithm in the first 24 hours of ICU admission.

Relational and representational attributes

Data type: NUMERIC Representational form: QUANTITATIVE VALUE

Field size: Min.1 Max.3 Representational layout: NNN

Data domain: If not recorded, a code of 999 should be entered. Units are mmHg.

Verification Rule: AP3CO2P of < 10 or > 200 mmHg (excluding the null value of 999) are listed on the data quality report.

AP3CO2P values of > 300 mmHg (excluding the null value of 999) are set to missing.

Variable	CriticalLow	CriticalHigh	NonCriticalLow	NonCriticalHigh
AP3CO2P	5	250	25	70

Collection method: The PaCO₂ associated with the worst (highest points) acid - base scoring ABG is recorded. The point weight score is calculated using the table below.

PaCO ₂ pH	<25	25 - <30	30- <35	35 - <40	40 - <45	45 - <50	50 - <55	55-<60	≥ 60
<7.15	12						4		
7.15 - <7.2									
7.20 - <7.25			6		3		2		
7.25 - <7.30	9								
7.30 - <7.35									
7.35 - <7.40			0			1			

7.40 - <7.45	5		
7.45 - <7.50		0	2
7.50- <7.55			
7.55 - <7.60	3		12
7.60 - <7.65	0		
<u>≥</u> 7.65			

Intubation

Export Field Name: INTUBATED

Admin. status: CURRENT

Revision Date: 2001

Identifying and definitional attributes

Version number: 2

Data element type: DATA ELEMENT

Definition: Intubation status of a patient at the time a recorded blood gas is taken.

Relational and representational attributes

Data type: CHARACTER

Representational form: CODE

Field size: Min.1 Max.1

Representational layout: A

Data domain:

Y	Intubated
N	Not intubated

Data collection: The intubation status of a patient at the time the worst (highest) scoring arterial blood gas using the APACHE III oxygenation scoring algorithm is taken.

Ventilation - Invasive

Export Field Name: VENTILATED

Admin. status: CURRENT

Revision Date: 2001

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Invasive ventilation status of a patient at the time a recorded blood gas is taken.

Relational and representational attributes

Data type: CHARACTER

Representational form: CODE

Field size: Min.1 Max.1

Representational layout: A

Data domain:

Y	Ventilated
N	Not ventilated

Data collection: The invasive ventilation status of a patient at the time the highest scoring arterial blood gas using the APACHE III oxygenation scoring algorithm is taken.

Haematocrit

Export Field Name: hct (hctHi, hctLo)

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Worst Haematocrit (Hct) measured in the first 24 hours of the ICU admission.

Relational and representational attributes

Data type: NUMERIC

Representational form: QUANTITATIVE
VALUE

Field size: Min.1 Max.4

Representational layout: N.NN

Data domain: If not recorded, a code of 9.99 should be entered.
The Hct % is expressed as a fraction. *i.e.*, % ÷ 100

Verification rules: A Hct of less than 0.05 or greater than 0.70 is listed on the data quality report.

<i>Variable</i>	<i>CriticalLow</i>	<i>CriticalHigh</i>	<i>NonCriticalLow</i>	<i>NonCriticalHigh</i>
<i>Haematocrit</i>	5	75	10	46

Collection method: The lowest and highest Hct values measured in the first 24 hours of the ICU admission should be recorded. The worst value according to the APACHE II weight scoring system below should be reported:

High Abnormal range					Low Abnormal range			
+4	+3	+2	+1	0	+1	+2	+3	+4
≥0.6		0.50-	0.46-	0.30-		0.29-0.20		< 0.20
0		0.59	0.49	0.45				

White blood cell count*Export Field Name:* wcc (wccHi, wccLo)*Admin. status:* CURRENT*Revision Date:* July 2002**Identifying and definitional attributes***Version number:* 2*Data element type:* DATA ELEMENT*Definition:* Worst white blood cell count measured in the first 24 hours of the ICU admission.**Relational and representational attributes***Data type:* NUMERIC*Representational form:* QUANTITATIVE VALUE*Field size:* Min.1 Max.5*Representational layout:* NNN.N*Data domain:* If not recorded, a code of 999.9 should be entered.The units of measurement are 10^9 /L*Verification rules:* White cell counts of 0, or greater than 300 10^9 /L, are listed in the data quality report.

<i>Variable</i>	<i>Critical Low</i>	<i>Critical High</i>	<i>NonCritical Low</i>	<i>NonCritical High</i>
<i>WhiteCellCount</i>	0	300	1	30

Collection method: The lowest and highest white blood cell count values measured in the first 24 hours of the ICU admission should be recorded. The worst value according to the APACHE II weight scoring system below should be reported:

High Abnormal range					Low Abnormal range			
+4	+3	+2	+1	0	+1	+2	+3	+4
≥ 40		20-39.9	15-19.9	3-14.9		1-2.9		< 1

Comment: Prior to July 2002, white cell counts of less than 1 were nulled and treated as normal. White cell counts of less than 0.1, are now nulled and treated as normal.

Acute Renal Failure

Export Field Name: ARF

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Acute renal failure is defined as present when the 24 hour urine output is < 410 ml, creatinine is ≥ 133 $\mu\text{mol} / \text{L}$ and the patient is not receiving chronic dialysis.

Relational and representational attributes

Data type: CHARACTER *Representational form:* CODE

Field size: Min.1 Max.1 *Representational layout:* A

Data domain: Y Acute renal failure
N No acute renal failure

Validation rules: If acute renal failure is recorded as yes and the creatinine is less than 200 $\mu\text{mol}/\text{L}$, the record is listed on the data quality report.

Comment:

Chronic Health Evaluation: APACHE II*Export Field Name:* CHRON*Admin. status:* CURRENT*Revision Date:* October 1998**Identifying and definitional attributes***Version number:* 1*Data element type:* DATA ELEMENT

Definition: Organ insufficiency or immuno-compromised state in evidence prior to this hospital admission and conforming to the following criteria:

Respiratory: Chronic restrictive, obstructive, or vascular respiratory disease resulting in severe exercise restriction *i.e.*, unable to climb stairs or perform household duties; or documented chronic hypoxia, hypercapnia, secondary polycythaemia, severe pulmonary hypertension (>40 mmHg), or respirator dependency.

Cardiovascular: New York Heart Association Class IV *i.e.* angina or symptoms at rest or on minimal exertion *e.g.* getting dressed or self-care.

Liver: Biopsy proven cirrhosis and documented portal hypertension: episodes of past upper GI bleeding attributed to portal hypertension; or prior episodes of hepatic failure/encephalopathy/coma

Renal: Receiving chronic dialysis

Immune suppressive disease: The patient has a disease that is sufficiently advanced to suppress resistance to infection. *e.g.*, leukaemia, lymphoma, AIDS

Immunosuppressive therapy: The patient has received therapy that suppresses resistance to infection *e.g.* Immuno-suppression, chemotherapy, radiation, long term or recent high dose steroids.

Relational and representational attributes*Data type:* CHARACTER*Representational form:* CODE*Field size:* Min.6 Max.6*Representational layout:* AAAAAA

Data domain: String of 6 ordered characters. Multiple comorbidities can be recorded for the one hospital admission.

Y Co morbidity exists

N Co morbidity does not exist

Co-morbidities are recorded in the following order.

Respiratory	Cardiovascular	Liver	Renal	Immuno-suppressive disease	Immuno-suppressive treatment
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Examples:

Code	Code represents
YNNNNN	Respiratory co morbidity exists. Cardiovascular, liver, renal, immune-suppressive disease and immunosuppressive therapy do not exist.
NYNYNN	Cardiovascular and renal comorbidities exist. Respiratory, liver, immune-suppressive disease and immunosuppressive therapy do not exist.

Verification rules: If the co morbidity for chronic renal failure is recorded as Y and the creatinine value is less than 200 µmol/L, the record will be listed on the data quality report.

Collection Method: At hospital admission, the existence of the 6 comorbidities should be recorded either as Y for exists or N does not exist. The values should be concatenated into a string of 6 characters when reported.

Respiratory	Cardiovascular	Liver	Renal	Immuno-suppressive disease	Immuno-suppressive treatment
Y / N	Y / N	Y / N	Y / N	Y / N	Y / N

Chronic Health Evaluation: APACHE III, SAPS II

Export Field Name: COMORB

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Organ insufficiency or immuno-compromised state in evidence prior to this hospital admission and conforming to the following criteria: AIDS, hepatic failure, lymphoma, metastatic cancer, leukaemia-myeloma, immunosuppressed, cirrhosis.

Relational and representational attributes

Data type: CHARACTER

Representational form: CODE

Field size: Min.7 Max.7

Representational layout: AAAAAAA

Data domain: String of 7 ordered characters. Multiple comorbidities can be recorded for the one hospital admission.

Y Co morbidity exists

N Co morbidity does not exist

Co-morbidities are recorded in the following order.

AIDS	Hepatic failure	Lymphoma	Metastatic cancer	Leukaemia-myeloma	Immunosuppressed	Cirrhosis
Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N

Examples:

Code	Code represents
YNNNNNN	AIDS co morbidity exists. Hepatic failure, lymphoma, metastatic cancer, leukaemia-myeloma, immunosuppressed and cirrhosis do not exist.
NYNYNNN	Hepatic failure and metastatic comorbidities exist. AIDS, lymphoma, leukaemia-myeloma, immunosuppressed and cirrhosis do not exist.

Collection Method: At hospital admission, the existence of the 7 comorbidities should be recorded either as Y for exists or N does not exist. The values should be concatenated into a string of 7 characters when reported.

AIDS	Hepatic failure	Lymphoma	Metastatic cancer	Leukaemia-myeloma	Immunosuppressed	Cirrhosis
Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N

APACHE II (ANZICS modified) diagnosis code

Export Field Name: AP2DIAG

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: APACHE II (ANZICS modified) diagnosis code describes the reason for the ICU admission.

Relational and representational attributes

Data type: NUMERIC

Representational form: CODE

Field size: Min.3 Max.3

Representational layout: NNN

Data domain: Three digit code. See Appendix B for a complete list.

Collection Method: The diagnostic code chosen should be that which is regarded in the opinion of the clinician, as the predominant precipitant of the ICU admission.

Verification Rule: Valid 3 digit APACHE II diagnosis codes from Appendix B

Comment: *The predominant precipitant for ICU admission, that is reported here, may not be the same as the patient's hospital admission diagnosis. If the patient is admitted from the operating theatre, recovery or post endoscopy or bronchoscopy a post operative diagnosis should be selected. Otherwise a non operative diagnosis should be selected.*

APACHE III (ANZICS modified) diagnosis code

Export Field Name: AP3DIAG

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: APACHE III (ANZICS modified) diagnosis code describes the reason for the ICU admission.

Relational and representational attributes

Data type: NUMERIC

Representational form: CODE

Field size: Min.3 Max.4

Representational layout: NNNN

Data domain: Three to four digit code. See Appendix C for a complete list.

Collection Method: The diagnostic code chosen should be that which is regarded in the opinion of the clinician, in the first 24 hours of ICU admission, as the predominant precipitant of the ICU admission.

Verification Rule: Valid 4 digit APACHE III diagnosis codes from Appendix C

Comment: *The predominant precipitant for ICU admission, that is reported here, may not be the same as the patient's hospital admission diagnosis. If the patient is admitted from the operating theatre, recovery or post endoscopy or bronchoscopy, a post-operative diagnosis should be selected. Otherwise a non-operative diagnosis should be selected.*

APACHE III (ANZICS modified) diagnosis sub-code

Export Field Name: ap3_subcode

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: APACHE III (ANZICS modified) diagnosis sub-code describes the reason for the ICU admission in detail.

Relational and representational attributes

Data type: NUMERIC

Representational form: CODE

Field size: Min.6 Max.7

Representational layout: NNNN.NN

Data domain: Five to six digit code. See Appendix E for a complete list.

Collection Method: The diagnostic sub-code chosen should be that which is regarded (in the opinion of the clinician) in the first 24 hours of ICU admission, as the predominant precipitant of the ICU admission. See Appendix E for a listing of the sub-codes.

Verification Rule: Valid APACHE III code and subcode from Appendix E

Comment: The diagnostic code associated with the sub-code, has an allocated coefficient used in the APACHE III-J algorithm calculation. The sub-codes allow the collection of greater detail on the reason for ICU admission and can assist in selecting the appropriate primary APACHE III diagnostic code for the predictive risk of death calculation.

APACHE II score

Export Field Name: APACHE2

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Composite score describing the severity of the patient's condition. The point score is generated using the APACHE II severity of disease classification system. The score is validated by a relationship between the score and the probability of death for a diagnosis.

Relational and representational attributes

Data type: NUMERIC *Representational form:* CODE

Field size: Min.1 Max.2 *Representational layout:* NN

Data domain: Null value is 99

Verification Rule: APACHE II score of < 0 and > 71 are not valid

Collection Method: The point score is generated by adding together the weight points scored from 12 acute physiological values, a chronic health evaluation at hospital admission, source of ICU admission, and age group.

APACHE III score

Export Field Name: APACHE3

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Composite score describing the severity of the patient's condition. The point score is generated using the APACHE III severity of disease classification system. The score is validated by a relationship between the score and the probability of death for a diagnosis.

Relational and representational attributes

Data type: NUMERIC

Representational form: CODE

Field size: Min.1 Max.3

Representational layout: NNN

Data domain: Null value is 999

Verification Rule: APACHE II score of < 0 and > 299 are not valid

Collection Method: The point score is generated by adding together the weight points scored from 17 acute physiological values, a chronic health evaluation at hospital admission and age group.

SAPS score

Export Field Name: SAPS

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Composite score describing the severity of the patient's condition. The point score is generated using the SAPS severity of disease classification system.

Relational and representational attributes

Data type: NUMERIC

Representational form: CODE

Field size: Min.1 Max.2

Representational layout: NN

Data domain: Null value is 99

Verification Rule: SAPS score of < 0 is not valid

SAPS II score

Export Field Name: SAPS2

Admin. status: CURRENT

Revision Date: October 1998

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Composite score describing the severity of the patient's condition. The point score is generated using the SAPS II severity of disease classification system.

Relational and representational attributes

Data type: NUMERIC *Representational form:* CODE

Field size: Min.1 Max.3 *Representational layout:* NNN

Data domain: Null value is 999.

Verification Rule: SAPS II score of < 0 is not valid

Collection Method: The SAPS II score is generated from 12 physiological variables, age, type of admission and three variables relating to AIDS, haematological malignancy and metastatic cancer.

Risk of death: APACHE II*Export Field Name:* ROD*Admin. status:* CURRENT*Revision Date:* October 1998**Identifying and definitional attributes***Version number:* 1*Data element type:* DATA ELEMENT

Definition: The probability that the patient will die (during this admission to hospital) estimated using the algorithm for the APACHE II severity scoring system.

Relational and representational attributes*Data type:* NUMERIC *Representational form:* CODE*Field size:* Min.5 Max.5 *Representational layout:* N.NNN*Data domain:* The null value is 9.999

Verification Rule: APACHE II risk of death < 0 and > 1 (excluding null value of 9.999) is not valid

Collection Method: Probability of death APACHE II calculations;
$$\begin{aligned} \text{factor} = & (\text{Apache II score} * 0.146) - 3.517 \\ & + (\text{Diagnostic category weight}) \\ & + (0.603, \text{ only if post emergency surgery}) ; \end{aligned}$$

$$\text{Risk of death} = \frac{\exp(\text{factor})}{1 + \exp(\text{factor})} ;$$

See Appendix B for the diagnostic category weights.

Risk of death: SAPS II*Export Field Name:* RODSAPS2*Admin. status:* CURRENT*Revision Date:* October 1998**Identifying and definitional attributes***Version number:* 1*Data element type:* DATA ELEMENT

Definition: The probability that the patient will die (during this admission to hospital) estimated using the algorithm for the SAPS II severity scoring system.

Relational and representational attributes*Data type:* NUMERIC*Representational form:* CODE*Field size:* Min.5 Max.5*Representational layout:* N.NNN*Data domain:* The null value is 9.999

Verification Rule: SAPS II risk of death < 0 and > 7 (excluding null value of 9.999) is not valid

Collection Method: The algorithm used to calculate the risk of death is that described by Le Gall.

$$\text{sap2logt} = -7.7631 + (0.0737 * \text{SAPS II score}) + 0.9971 * (\log(\text{SAPS II score} + 1)) ;$$

$$\text{Risk of death} = \exp(\text{sap2logt}) / (1 + \exp(\text{sap2logt})) ;$$

Thrombolytic Therapy

Export Field Name: thromb_therapy

Admin. status: CURRENT

Revision Date: 6 August 2004

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: Thrombolytic therapy is the delivery of thrombolytic treatment to a patient whose main reason for ICU admission is Acute Myocardial Infarct.

Relational and representational attributes

Data type: Numeric *Representational form:* CODE

Field size: Min.1 Max.1 *Representational layout:* N

Data domain:

1	Yes
2	No
8	Missing
9	Unknown

Collection Method: This data element describes whether a patient has received thrombolytic therapy. For patients who have received thrombolytic therapy, the value is yes, provided the thrombolytic therapy was given within the 24 hours preceding ICU or immediately following ICU admission.

Verification Rule: Codes other than those mentioned in the data domain (1, 2, 8, 9) are not valid

Comment: For the APACHE III-J scoring system, this data element is used in the hospital risk of death calculation for patients whose main reason for ICU admission is acute myocardial infarct.
Examples of therapy include:
 rTPA
 metalyse
 Streptokinase
 Urokinase

CABG REDO

Export Field Name: cabg_redo

Admin. status: CURRENT

Revision Date: 6 August 2004

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: CABG redo describes whether the coronary artery bypass graft (CABG) for which a patient has been admitted to ICU is the first or a repeat CABG.

Relational and representational attributes

Data type: Numeric *Representational form:* CODE

Field size: Min.1 Max.1 *Representational layout:* N

Data domain:

1	First CABG
2	Repeat CABG
3	NA
9	Missing

Collection Method: This data element describes whether a patient whose main reason for ICU admission is CABG (only), has previously undergone the same surgical procedure.

Verification Rule: Codes other than those mentioned in the data domain (1, 2, 3, 9) are not valid

Comment: For the APACHE III-J scoring system, this data element is used in the hospital risk of death calculation for patients whose main reason for ICU admission is coronary artery bypass grafts.

CABG Grafts

Export Field Name: cabg_graft

Admin. status: CURRENT

Revision Date: 23 November 2004

Identifying and definitional attributes

Version number: 1

Data element type: DATA ELEMENT

Definition: CABG Grafts are the number of coronary arteries with a by-pass graft in an operation leading to this admission

Relational and representational attributes

Data type: Numeric *Representational form:* QUANTITATIVE
VALUE

Field size: Min.1 Max.1 *Representational layout:* N

Data domain: If not recorded, a value of 9 should be entered.

Verification Rule: cabg_graft < 0 and > 9 are listed on the data quality report

Collection Method: This data element describes the number of coronary arteries with a by pass graft in an operation on a patient leading to this admission. This information is required where the main reason for ICU admission is coronary artery bypass graft (CABG) only. Where the reason for ICU admission is CABG, a value of 0 is invalid and will be treated as missing, and the risk of death cannot be calculated.

Appendix A: Minimum data set export layout

MS Excel spreadsheet format

field number	field name	description	field type	field width
1	PatientID	patient identifier	character	12
2	ICU_AD_DT	date of icu admission	date	8
3	ICU_AD_TM	time of icu admission	numeric	4
4	ICU_SRCE	source of admission to icu	numeric	2
5	ICU_DS_DT	date of icu discharge	date	8
6	ICU_DS_TM	time of icu discharge	numeric	4
7	ICU_STAY	stay in icu	numeric	4
8	ICU_OUTCM	outcome of icu	numeric	2
9	AGE	patient's age	numeric	5
11	TEMP	patient's temperature for score calculation	numeric	4
12	MAP	patient's MAP for score calculation	numeric	3
13	HR	patient's heart rate for score calculation	numeric	3
14	RR	patient's respiratory rate for score calculation	numeric	2
15	FIO2	fractional inspired oxygen concentration for score calculation	numeric	4
16	PAO2	partial pressure of oxygen in patient's arterial blood	numeric	3
17	PACO2	partial pressure of carbon dioxide in patient's arterial blood	numeric	3
18	PH	pH of patient's arterial blood	numeric	4
19	HCO3	bicarbonate of blood	numeric	4
20	NA	sodium concentration	numeric	3
21	K	potassium concentration	numeric	4
22	CREAT	creatinine concentration	numeric	4
23	HCT	haematocrit	numeric	4
24	WCC	white cell count	numeric	5
25	UREA	urea concentration	numeric	5
26	URINEOP	urine output for 24 hours	numeric	5
27	ALBUMIN	albumin concentration	numeric	2
28	BILI	bilirubin concentration	numeric	4
29	GLUCOSE	glucose concentration	numeric	5
30	GCSVERB	verbal component of gcs	numeric	1
31	GCSMOTOR	motor component of gcs	numeric	1
32	GCSEYE	eye component of gcs	numeric	1
33	GCS	total of gcs	numeric	2
34	ARF	is arf present (uo<410 ml)?	character	1
35	INTUBATED	is patient intubated?	character	1
36	VENTILATED	is patient ventilated?	character	1
37	APACHE2	apache 2 score	numeric	2
38	APACHE3	apache 3 score	numeric	3
39	SYSTOLIC	systolic bp for score calculation	numeric	3
40	DIASTOLIC	diastolic bp for score calculation	numeric	3
41	AP3FIO	fractional inspired oxygen concentration for Apache 3 score calculation	numeric	4

field number	field name	description	field type	field width
42	AP3PO2	partial pressure of oxygen in patient's arterial blood for apache 3 score	numeric	3
43	AP3CO2O	partial pressure of carbon dioxide in patient's arterial blood for apache 3 score using worst oxygen abg result	numeric	3
44	AP3PH	pH of patient's arterial blood for apache 3 score	numeric	4
45	AP3CO2P	partial pressure of carbon dioxide in patient's arterial blood for apache 3 score using worst pH abg result	numeric	3
46	SAPS	saps score	numeric	2
47	ROD	risk of death (apache 2)	numeric	5
48	SAPS2	saps2 score	numeric	3
49	RODSAPS2	risk of death using saps 2 score	numeric	5
50	HOSP_AD_DT	date of admission to hospital	date	8
51	HOSP_AD_TM	time of admission to hospital	numeric	4
52	HOSP_SRCE	source of admission to hospital	numeric	2
53	HOSP_DS_DT	date of hospital discharge	date	8
54	HOSP_DS_TM	time of hospital discharge	numeric	4
56	HOSP_OUTCM	Hospital outcome	numeric	2
57	SEX	patient's sex	character	1
58	POSTCODE	patient's postcode	numeric	4
59	ELECT	is this an elective admission?	character	1
60	CHRON	apache 2 chronic health evaluation	character	6
61	COMORB	apache 3 comorbidities	character	7
62	AP2DIAG	apache 2 diagnosis using anzics modified listing of diagnoses-this is a numeric value assigned to a text diagnosis	character	3
63	AP3DIAG	apache 3 diagnosis using anzics modified listing of diagnoses-this is a numeric value assigned to a text diagnosis	character	4
64	CAREUNIT	care unit identifier	numeric	2
65	CARETYPE	type of icu admission	numeric	1
66	CABG_GRAFT	Number of CABG graft arteries	numeric	1
67	CABG_REDO	type of CABG	numeric	1
68	THROMB_THERAPY	thrombolytic therapy status	numeric	1
69	AP3_SUBCODE	apache 3 diagnosis using anzics modified list of more detailed description of diagnoses- this is a numeric value assigned to a text diagnosis (optional field)	character	6
70	GLUCHI	highest value for glucose concentration	numeric	5
77	GLUCLO	lowest value for glucose concentration	numeric	5
78	PREG_STAT	pregnancy status of a female patient	numeric	1
79	EMG_RSP_ADM	emergency response admission status of a patient	numeric	1
80	TREAT_LMT	treatment goals for admission for a patient	numeric	1
81	CARDARREST	cardiac Arrest in previous 24 hours	numeric	1
82	RESPARREST	respiratory Arrest in previous 24 hours	numeric	1
83	INDIGENOUS	indigenous status	numeric	2

field number	field name	description	field type	field width
84	TEMPHI	highest value for temperature	numeric	4
85	TEMPLO	lowest value for temperature	numeric	4
86	HRHI	highest value for patient's heart rate	numeric	3
87	HRLO	lowest value for patient's heart rate	numeric	3
88	RRHI	highest value for patient's respiratory rate	numeric	2
89	RRLO	lowest value for patient's respiratory rate	numeric	2
90	SYSTOLICHI	highest value for systolic bp	numeric	3
91	SYSTOLICLO	lowest value for systolic bp	numeric	3
92	DIASTOLICHI	highest value for diastolic bp	numeric	3
93	DIASTOLICLO	lowest value for diastolic bp	numeric	3
94	MAPHI	highest value for patient's MAP	numeric	3
95	MAPLO	lowest value for patient's MAP	numeric	3
96	NAHI	highest value for sodium concentration	numeric	3
97	NALO	lowest value for sodium concentration	numeric	3
98	KHI	highest value for potassium concentration	numeric	4
99	KLO	lowest value for potassium concentration	numeric	4
100	HCO3HI	highest value for bicarbonate of blood	numeric	4
101	HCO3LO	lowest value for bicarbonate of blood	numeric	4
102	CREATHI	highest value for Creatinine	numeric	4
103	CREATLO	lowest value for Creatinine	numeric	4
104	HCTHI	highest value for Haematocrit	numeric	4
107	HCTLO	lowest value for Haematocrit	numeric	4
108	WCCHI	highest value for white cell count	numeric	5
109	WCCLLO	lowest value for white cell count	numeric	5
110	THROMBPRO	Thromboembolism prophylaxis	numeric	1
111	WEIGHT	Patient's Weight	numeric	5
112	HEIGHT	Patient's Height	numeric	3
113	SMOKINGSTATUS	Patient's smoking status	numeric	1
114	SMOKINGINTENSITY	Patient's smoking intensity in pack years	numeric	3
115	ICU_DS_DES_DT	ICU discharge decision date	date	8
116	ICU_DS_DEC_TM	ICU discharge decision time	numeric	4

Appendix B: ICU Diagnosis APACHE II**ICU Diagnosis - APACHE II (non-operative)****Cardiovascular:** [diagnosis coefficient]

109	Hypertension	[-1.798]
110	Congestive Cardiac Failure	[-0.424]
111	Haemorrhagic Shock/Hypovolaemia	[0.493]
112	Coronary Artery Disease	[-0.191]
113	Sepsis (any aetiology)	[0.113]
114	Post Cardiac Arrest (only)	[0.393]
115	Cardiogenic Shock	[-0.259]
116	Dissecting Thoracic/Abdominal Aneurysm	[0.731]
117	Rhythm Disturbance	[-1.368]

Gastrointestinal

124	Gastrointestinal Bleeding	[0.334]
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Metabolic

122	Self-poisoning/Overdose	[-3.353]
123	Diabetic Ketoacidosis	[-1.507]

Neurologic

120	Seizure Disorder	[-0.584]
121	ICH/SDH/SAH	[0.723]

Respiratory

101	Asthma/Allergy	[-2.108]
102	COPD	[-0.367]
103	Pulmonary Oedema (non-cardiogenic)	[-0.251]
104	Aspiration/Poisoning/Toxic	[-0.142]
105	Pulmonary Embolus	[-0.128]
106	Respiratory Infection	[0]
107	Respiratory Neoplasm	[0.891]
108	Post Respiratory Arrest (only)	[-0.168]

Trauma

118	Multiple Trauma	[-1.228]
119	Head Trauma Only	[-0.517]

Unclassified Diagnoses

301	Neurologic Undefined - NonOp	[-0.759]
302	Cardiovascular - Undefined -NonOp	[0.470]
303	Respiratory - Undefined - NonOp	[-0.890]
304	Gastrointestinal - Undefined - NonOp	[0.501]
305	Renal -Undefined - NonOp	[-0.885]
306	Haematologic - Undefined- NonOp No APACHE II equivalent	[.]
307	Metabolic - Undefined - NonOp	[-0.885]
308	No APACHE II equivalent	[.]
	Undefined - No Diagnosis Entered	[.]

ICU Diagnosis - APACHE II (post-operative)**Cardiovascular:**

201 Chronic Cardiovascular Disease [-1.376]
 202 Peripheral Cardiovascular Disease [-1.315]
 203 Heart Valve Surgery [-1.261]
 204 Sepsis (any aetiology) [0.113]
 205 Haemorrhagic Shock [0.68199]
 206 Post Cardiac Arrest (cardio-resp) [0.393]

Gastrointestinal

212 Gastrointestinal Bleeding [-0.617]
 213 GI Surgery for Neoplasm [-0.248]
 214 GI Perforation/Obstruction [0.060]

Neurologic

217 Craniotomy for ICH/SDH/SAH [-0.788]
 218 Craniotomy for Neoplasm [-1.245]
 219 Laminectomy/Spinal Surgery [-0.699]

Renal/Genitourinary

215 Renal Surgery for Neoplasm [-1.204]
 216 Renal Transplant Surgery [-1.042]

Respiratory

210 Respiratory Arrest (only) [-0.168]
 211 Respiratory Insufficiency Post Surgery [-0.140]
 209 Thoracic Surgery for Neoplasm [-0.802]

Trauma

207 Multiple Trauma [-1.684]
 208 Head Trauma Only [-0.955]

Unclassified diagnoses

301 Neurologic - Undefined - PostOp [-1.150]
 302 Cardiovascular - Undefined - PostOp [-0.797]
 303 Respiratory - Undefined - PostOp [-0.610]
 304 Gastrointestinal - Undefined - PostOp [-0.613]
 305 Renal - Undefined - PostOp [-0.196]
 306 Haematologic - Undefined- PostOp No APACHE II equivalent [.]
 307 Metabolic - Undefined - PostOp [-0.196]
 308 No APACHE II equivalent [.]
 Undefined - No Diagnosis Entered [.]

Appendix C: ICU Diagnosis APACHE III**ICU Diagnosis - APACHE III (non-operative)****Cardiovascular:**

101 Cardiogenic shock [0.78463]
 102 Cardiac arrest [0.552243]
 103 Aortic aneurysm [1.26578]
 104 Congestive heart failure [0]
 105 Peripheral vascular disease [0.13398]
 106 Rhythm disturbance [-0.236138]
 107 Acute myocardial infarction [0.67761]
 108 Hypertension [-0.130588]
 109 Other cardiovascular disease [-0.291881]
 110 Cardiomyopathy [1.361203]
 111 Unstable angina [-0.259457]

Gastrointestinal

301 Hepatic failure [0.296943]
 303 GI bleeding - varices [0.153806]
 305 GI bleeding - ulcer/laceration [0.021764]
 306 GI bleeding - diverticulosis [0.098954]
 307 Other GI disease [0.195821]
 308 GI perforation [-0.218601]
 309 GI obstruction [0.252631]
 310 GI vascular insufficiency [0.198405]
 311 Pancreatitis [0.088466]
 312 GI cancer [1.391097]
 313 Other GI inflammatory disease [-0.017995]

Haematological

801 Coagulopathy/ Neutropaenia/ Thrombocytopaenia [1.095134]
 802 Other haematologic disorders [0.407784]

Metabolic

701 Metabolic coma [-0.396898]
 702 Diabetic ketoacidosis [-1.919836]
 703 Drug overdose [-1.528488]
 704 Other metabolic disorders [-0.248306]

Neurological

401 Intracerebral haemorrhage [1.520735]
 402 Subarachnoid haemorrhage [1.574573]
 403 Stroke [0.879518]
 404 Neurologic infection [0.692197]
 405 Neurologic neoplasm [0.170705]
 406 Neuromuscular disease [-0.228204]
 407 Seizure [-0.513583]
 408 Other neurologic disease [0.133291]
 409 Epidural haematoma [0.639308]
 410 Coma [-0.396898]

Renal/Genitourinary

901 Renal disorders [-0.226863]
 902 Pre-eclampsia [-0.130588]
 903 Haemorrhage, post-partum [-0.291881]

Respiratory

201 Aspiration pneumonia [0.123363]
 202 Respiratory neoplasm including larynx/trachea [1.114274]
 203 Respiratory arrest [0.300772]
 204 Pulmonary oedema - non-cardiac [0.741514]
 206 Chronic obstructive pulmonary disease [0.437855]
 207 Pulmonary embolism [0.214629]

208 Mechanical airway obstruction [0.214629]
 209 Asthma [-0.738478]
 210 Parasitic pneumonia [1.240371]
 211 Other respiratory diseases [0.219583]
 212 Bacterial pneumonia [0.356565]
 213 Viral pneumonia [0.524507]

Sepsis

501 Sepsis, other than urinary [0.353941]
 502 Sepsis of urinary tract origin [-0.485673]
 503 Sepsis with shock, other than urinary [0.353941]
 504 Sepsis of urinary tract origin with shock [-0.485673] (ANZICS
 Addition)

Trauma

601 Head trauma +/- multi trauma [0.369166]
 602 Multiple trauma excluding head [-0.619483]
 603 Burns (ANZICS Addition) [-0.619483]
 604 Multi trauma with spinal injury [-0.619483] (ANZICS Addition)
 605 Isolated cervical spine injury [-0.619483] (ANZICS Addition)

Other medical disorders nos:

1002 Other medical disorders [.]

Musculoskeletal/Skin disease

1101 Musculoskeletal / skin disease [-0.130586]
 1102 Cellulitis/ soft tissue infection [0.13398]

ICU Diagnosis - APACHE III (operative)**Cardiovascular:**

1202 Peripheral vascular disease [-0.062337]
 1203 Peripheral artery bypass graft [-0.768555]
 1204 Elective AAA [-0.828717]
 1205 Carotid endarterectomy [-1.019287]
 1206 Valvular heart surgery [-0.501745]
 1207 Coronary artery bypass grafts [.] (ANZICS
 Addition)
 1208 Other cardiovascular diseases [-0.258392]
 1209 Dissecting aortic aneurysm [0.965189]
 1210 Ruptured aortic aneurysm [0.24349]
 1211 Aorto-femoral bypass graft [-0.637542]
 1212 CABG with valve repair/replacement [-0.537793]
 1213 Endoluminal aortic repair [-0.828717] (ANZICS
 Addition)

Gastrointestinal

1401 GI perforation/ rupture [0.488538]
 1403 GI bleeding [-0.297464]
 1404 GI obstruction [-0.013338]
 1405 GI neoplasm [-0.149182]
 1406 Cholecystitis/ cholangitis [-0.755966]
 1407 Liver transplant [-1.282196]
 1408 Other GI diseases [-0.236372]
 1409 Fistula/ abscess surgery [-0.254507]
 1410 GI vascular ischaemia resection surgery [0.679961]
 1411 Pancreatitis [-0.287223]
 1412 Peritonitis [-0.287223]
 1413 Other GI inflammatory disease [-0.287223]

Gynaecological

1801 Hysterectomy [-0.466038]
 1802 Pregnancy-related disorder [-0.130586]
 1803 Other gynaecological disease [-0.130586]

Neurological

1501 Intracerebral haemorrhage [1.064711]
 1502 Subdural/ epidural haematoma [0.835429]
 1503 Subarachnoid haemorrhage [0.312849]
 1504 Laminectomy/ spinal Cord Surgery [-0.150739]
 1505 Craniotomy for neoplasm [0.051966]
 1506 Other neurologic disease [0.335437]

Musculoskeletal

1902 Orthopaedic surgery [-0.130586]
 1903 Skin surgery [-0.130586]
 1904 Cellulitis/ soft tissue infection [0.13398]

Renal/Genitourinary

1701 Renal neoplasm [-0.631767]
 1703 Other renal diseases [-1.422721]
 1704 Kidney transplant [-1.422721]
 1705 Genitourinary surgery/ procedure [-0.130586]

Respiratory

1301 Respiratory infection [-0.232717]
 1302 Respiratory neoplasm - lung [-0.113698]
 1303 Respiratory neoplasm - mouth, larynx, sinus, trachea [-0.226492]
 1304 Other respiratory diseases [0.257491]

Trauma

1601 Head trauma +/- multi trauma [0.182766]
 1602 Multiple trauma excluding head [-0.508191]
 1603 Burns [-0.508191] (ANZICS Addition)
 1604 Multi trauma with spinal injury [-0.508191] (ANZICS Addition)
 1605 Isolated cervical spine injury [-0.508191] (ANZICS Addition)

Haematological

2101 Haematological disease [0.407784]

Metabolic

2201 Metabolic disease [0.407784]

Undefined

Unknown

0 No diagnosis entered [.]

Appendix D: APACHE III to APACHE II mapping

APACHE III diagnostic code	SYSTEM	APACHE III diagnostic code description	Mapped to APACHE II diagnostic code
Non-operative			
101	Cardiovascular	Cardiogenic shock	115
102	Cardiovascular	Cardiac arrest	114
103	Cardiovascular	Aortic aneurysm	116
104	Cardiovascular	Congestive heart failure	110
105	Cardiovascular	Peripheral vascular disease	302
106	Cardiovascular	Rhythm disturbance	117
107	Cardiovascular	Acute myocardial infarction	112
108	Cardiovascular	Hypertension	109
109	Cardiovascular	Other cardiovascular disease	302
110	Cardiovascular	Cardiomyopathy	110
111	Cardiovascular	Unstable angina	302
301	Gastrointestinal	Hepatic failure	304
303	Gastrointestinal	GI bleeding -varices	124
305	Gastrointestinal	GI bleeding -ulcer/laceration	124
306	Gastrointestinal	GI bleeding -diverticulosis	124
307	Gastrointestinal	Other GI disease	304
308	Gastrointestinal	GI perforation	304
309	Gastrointestinal	GI obstruction	304
310	Gastrointestinal	GI vascular insufficiency	304
311	Gastrointestinal	Pancreatitis	304
312	Gastrointestinal	GI cancer	304
313	Gastrointestinal	Other GI inflammatory disease	304
801	Haematological	Coagulopathy/ neutropaenia/ thrombocytopaenia	306
802	Haematological	Other haematologic disease	306
701	Metabolic	Metabolic coma	307
702	Metabolic	Diabetic ketoacidosis	123
703	Metabolic	Drug overdose	122
704	Metabolic	Other metabolic disorder	307
401	Neurological	Intracerebral haemorrhage	121
402	Neurological	Subarachnoid haemorrhage	121
403	Neurological	Stroke	301
404	Neurological	Neurologic infection	301
405	Neurological	Neurologic neoplasm	301
406	Neurological	Neuromuscular disease	301
407	Neurological	Seizure	120
408	Neurological	Other neurologic disease	301
409	Neurological	Epidural haematoma	121
410	Neurological	Coma	301
901	Genitourinary	Renal disorders	305
902	Genitourinary	Pre-eclampsia	305

APACHE III diagnostic code	SYSTEM	APACHE III diagnostic code description	Mapped to APACHE II diagnostic code
903	Genitourinary	Haemorrhage, postpartum (female only)	302
201	Respiratory	Aspiration pneumonia	104
202	Respiratory	Respiratory neoplasm inc larynx/trachea	107
203	Respiratory	Respiratory arrest	108
204	Respiratory	Pulmonary oedema non cardiac.	103
206	Respiratory	COPD	102
207	Respiratory	Pulmonary embolism	105
208	Respiratory	Mechanical airway obstruction	303
209	Respiratory	Asthma	101
211	Respiratory	Other respiratory diseases	303
210	Respiratory	Parasitic pneumonia	106
212	Respiratory	Bacterial pneumonia	106
213	Respiratory	Viral pneumonia	106
501	Sepsis	Sepsis other than urinary	113
502	Sepsis	Sepsis of urinary tract origin	113
503	Sepsis	Sepsis with shock other than urinary tract [ANZICS addition]	113
504	Sepsis	Sepsis of urinary tract origin with shock [ANZICS addition]	113
601	Trauma	Head trauma +/- multi trauma	119
602	Trauma	Multiple trauma excluding head	118
603	Trauma	Burns [ANZICS addition]	118
604	Trauma	Multi trauma with spinal injury [ANZICS addition]	118
605	Trauma	Isolated cervical spine injury [ANZICS addition]	118
1101	Musculoskeletal / Skin	Musculoskeletal / skin disorders	308
1102	Musculoskeletal / Skin	Cellulitis/ soft tissue infection	308
1002	Other medical disorders	Other medical disorders	308
Operative			
1202	Cardiovascular	Peripheral vascular disease	202
1203	Cardiovascular	Peripheral artery bypass graft	202
1204	Cardiovascular	Elective AA	202
1205	Cardiovascular	Carotid endarterectomy	202
1206	Cardiovascular	Valvular heart surgery	203
1207	Cardiovascular	Coronary Artery Bypass Grafts [ANZICS addition]	308
1208	Cardiovascular	Other cardiovascular diseases	302
1209	Cardiovascular	Dissecting aortic aneurysm	202
1210	Cardiovascular	Ruptured aortic aneurysm	202
1211	Cardiovascular	Aorto-femoral bypass graft	202
1212	Cardiovascular	CABG with valve repair/replacement	203
1213	Cardiovascular	Endoluminal aortic repair	202
1401	Gastrointestinal	GI perforation/rupture	214
1403	Gastrointestinal	GI bleeding	212
1404	Gastrointestinal	GI obstruction	214
1405	Gastrointestinal	GI neoplasm	213
1406	Gastrointestinal	Cholecystitis/ cholangitis	304

APACHE III diagnostic code	SYSTEM	APACHE III diagnostic code description	Mapped to APACHE II diagnostic code
1407	Gastrointestinal	Liver transplant	304
1408	Gastrointestinal	Other GI diseases	304
1409	Gastrointestinal	Fistula/ abscess surgery	304
1410	Gastrointestinal	GI vascular ischemia resection surgery	304
1411	Gastrointestinal	Pancreatitis	304
1412	Gastrointestinal	Peritonitis	304
1413	Gastrointestinal	Other GI inflammatory disease surgery	304
1801	Gynaecological	Hysterectomy	305
1802	Gynaecological	Pregnancy-related disorder	305
1803	Gynaecological	Other gynaecological disease	305
1501	Neurological	Intracerebral haemorrhage	217
1502	Neurological	Subdural/ epidural haematoma	217
1503	Neurological	Subarachnoid haemorrhage	217
1504	Neurological	Laminectomy/ spinal cord surgery	219
1505	Neurological	Craniotomy for neoplasm	218
1506	Neurological	Other neurologic disease	301
1902	Muscularskeletal/ skin	Orthopaedic surgery	308
1903	Muscularskeletal/ skin	Skin surgery	308
1904	Muscularskeletal/ skin	Cellulitis/ soft tissue infection	308
1701	Genitourinary	Renal neoplasm	215
1703	Genitourinary	Other renal diseases	305
1704	Genitourinary	Kidney transplant	216
1705	Genitourinary	Genitourinary surgery/ procedure	305
1301	Respiratory	Respiratory infection	303
1302	Respiratory	Respiratory neoplasm - lung	209
1303	Respiratory	Respiratory neoplasm - mouth/ larynx / sinus /trach	303
1304	Respiratory	Other respiratory diseases	303
1601	Trauma	Head trauma +/- multi trauma	208
1602	Trauma	Multiple trauma excluding head	207
1603	Trauma	Burns [ANZICS addition]	207
1604	Trauma	Multitrauma with spinal injury [ANZICS addition]	207
1605	Trauma	Isolated cervical spinal injury [ANZICS addition]	207
2101	Haematological	Haematological disease	306
2201	Metabolic	Metabolic disease	307

Appendix E: APACHE III-J diagnostic sub-codes

APACHE III-J Code	APACHE III-J Subcode	Description
101	101.01	Shock; cardiogenic
101	101.02	Papillary muscle rupture
102	102.01	Cardiac arrest with or without respiratory arrest; for respiratory arrest see Respiratory System
102	102.02	Poisoning, carbon monoxide, arsenic and cyanide; non-traumatic coma due to anoxia/ischemia
103	103.01	Aneurysm, dissecting aortic
104	104.01	Congestive heart failure
105	105.01	Aneurysm/ pseudoaneurysm, other
105	105.02	Thrombus, arterial
106	106.01	Rhythm disturbance (primary, <i>i.e.</i> , conduction defect)
107	107.01	Infarction, acute myocardial (MI)
108	108.01	Hypertension, uncontrolled (for cerebrovascular accident- See Neurological System)
109	109.01	Anaphylaxis
109	109.02	Angina, stable (asymptomatic or stable pattern of symptoms with meds)
109	109.03	Cardiovascular medical, other
109	109.04	Chest pain, atypical (non-cardiac chest pain)
109	109.05	Effusion, pericardial
109	109.06	Endocarditis
109	109.07	Haematomas
109	109.08	Haemorrhage (for gastrointestinal bleeding GI-see GI system) (for trauma see Trauma)
109	109.09	Hypovolemia (including dehydration. Do NOT include shock states)
109	109.10	MI admitted > 24 hr after onset of ischemia
109	109.11	Monitoring, hemodynamic (pre-operative evaluation)
109	109.12	Pericarditis
109	109.13	Tamponade, pericardial
109	109.14	Thrombosis, vascular (deep vein)
109	109.15	Toxicity, drug (<i>i.e.</i> digoxin, theophylline, dilantin, etc.)
109	109.16	Vascular medical, other
110	110.01	Cardiomyopathy
111	111.01	Angina, unstable (angina interferes w/quality of life or meds are tolerated poorly)
201	201.01	Pneumonia, aspiration, toxic, chemical pneumonitis
202	202.01	Cancer of the following: laryngeal, lung, oral, tracheal,
203	203.01	Arrest, respiratory (without cardiac arrest)
204	204.01	ARDS-adult respiratory distress syndrome, non-cardiogenic pulmonary edema
206	206.01	Emphysema/bronchitis
207	207.01	Embolus, pulmonary
208	208.01	Obstruction-airway (<i>I.e.</i> , acute epiglottitis, post-extubation edema, foreign body, etc.)
209	209.01	Asthma
210	210.01	Pneumonia, fungal
210	210.02	Pneumonia, parasitic (<i>i.e.</i> Pneumocystis pneumonia)
211	211.01	Apnea, sleep
211	211.02	Atelectasis
211	211.03	Effusions, pleural
211	211.04	Hemorrhage/haemoptysis, pulmonary
211	211.05	Hemothorax

APACHE III-J Code	APACHE III-J Subcode	Description
211	211.06	Hypertension-pulmonary, primary/idiopathic
211	211.07	Near drowning accident
211	211.08	Pneumothorax
211	211.09	Respiratory-medical, other
211	211.10	Restrictive lung diseases (i.e. sarcoidosis, pulmonary fibrosis)
211	211.11	Smoke inhalation
211	211.12	Weaning from mechanical ventilation (transfer from other unit or hospital only)
212	212.01	Pneumonia, bacterial
212	212.02	Pneumonia, other
213	213.01	Pneumonia, viral
301	301.01	Acute hepatic failure
301	301.02	Hepatic encephalopathy
301	301.03	Hepato-renal syndrome
301	301.04	Liver transplant rejection
303	303.01	Bleeding, GI from oesophageal varices/portal hypertension
305	305.01	Bleeding, GI- location unknown
305	305.02	Bleeding, upper GI
306	306.01	Bleeding, lower GI
307	307.01	GI medical, other
307	307.02	Haemorrhage, intra/ retroperitoneal
307	307.03	Ulcer disease, peptic
307	307.04	Adrenal neoplasm (including pheochromocytoma)
307	307.05	Chest pain, epigastric
308	308.01	GI perforation/rupture
309	309.01	GI obstruction
310	310.01	GI vascular insufficiency
311	311.01	Pancreatitis
312	312.01	Cancer of the colon/rectal
312	312.02	Cancer of the oesophagus
312	312.03	Cancer of the pancreas
312	312.04	Cancer of the stomach
312	312.05	Cancer of other GI
313	313.01	Cholangitis
313	313.02	Diverticular disease
313	313.03	GI abscess/cyst
313	313.04	Inflammatory bowel disease
313	313.05	Peritonitis
401	401.01	Haemorrhage/ haematoma, intracranial
402	402.01	Subarachnoid haemorrhage/ arteriovenous malformation
402	402.02	Subarachnoid haemorrhage/ intracranial aneurysm
403	403.01	CVA, cerebrovascular accident/ stroke
404	404.01	Abscess, neurologic
404	404.02	Encephalitis
404	404.03	Meningitis
405	405.01	Neoplasm, neurologic
406	406.01	Amyotrophic lateral sclerosis
406	406.02	Guillain-Barre syndrome
406	406.03	Myasthenia gravis
406	406.04	Neuromuscular medical, other
407	407.01	Seizures (primary-no structural brain disease)
408	408.01	Hydrocephalus, obstructive
408	408.02	Neurologic medical, other
408	408.03	Palsy, cranial nerve
409	409.01	Haematoma, epidural

APACHE III-J Code	APACHE III-J Subcode	Description
409	409.02	Haematoma, subdural
410	410.01	Coma/change in level of consciousness (not hepatic, diabetic or CA related)
501	501.01	Sepsis, cutaneous/ soft tissue
501	501.02	Sepsis, GI
501	501.03	Sepsis, gynaecologic
501	501.04	Sepsis, other
501	501.05	Sepsis, pulmonary
501	501.06	Sepsis, unknown
502	502.01	Sepsis, renal/ UTI (including bladder)
503	503.01	Sepsis with shock, not urinary tract
504	504.01	Sepsis with shock, urinary tract
601	601.01	Head (CNS) only trauma
601	601.02	Head/ abdomen trauma
601	601.03	Head/ chest trauma
601	601.04	Head/ extremity trauma
601	601.05	Head/ face trauma
601	601.06	Head/ multiple trauma
601	601.07	Head/ pelvis trauma
601	601.08	Head/ spinal trauma
602	602.01	Abdomen only trauma
602	602.02	Abdomen/ extremity trauma
602	602.03	Abdomen/ face trauma
602	602.04	Abdomen/ multiple trauma
602	602.05	Abdomen/ pelvis trauma
602	602.06	Chest/ abdomen trauma
602	602.07	Chest/ extremity trauma
602	602.08	Chest/ face trauma
602	602.09	Chest/ multiple trauma
602	602.10	Chest/ pelvis trauma
602	602.11	Chest/ thorax trauma
602	602.12	Extremity only trauma
602	602.13	Extremity/ face trauma
602	602.14	Extremity/ multiple trauma
602	602.15	Face only trauma
602	602.16	Face/ multiple trauma
602	602.17	Pelvis/ extremity trauma
602	602.18	Pelvis/ face trauma
602	602.19	Pelvis/ hip only trauma
602	602.20	Pelvis/ multiple trauma
602	602.21	Trauma medical, other
603	603.01	Burns
604	604.01	Abdomen/ spinal trauma
604	604.02	Chest/ spinal trauma
604	604.03	Pelvis/ spinal trauma
604	604.04	Spinal/ extremity trauma
604	604.05	Spinal/ face trauma
604	604.06	Spinal/ multiple trauma
605	605.01	Isolated cervical spine injury
701	701.01	Diabetic hyperglycaemic hyperosmolar nonketotic coma (HHNC)
701	701.02	Encephalopathies (excluding hepatic)
702	702.01	Diabetic ketoacidosis
703	703.01	Alcoholic withdrawal
703	703.02	Drug withdrawal
703	703.03	Overdose, self inflicted
704	704.01	Acid-Base electrolyte disturbance
704	704.02	Addisons disease/ hypoadrenal crisis

APACHE III-J Code	APACHE III-J Subcode	Description
704	704.03	Cushing's Syndrome/disease
704	704.04	Heat exhaustion/ stroke
704	704.05	Hyperthermia
704	704.06	Hyperthyroid storm/ crisis
704	704.07	Hypoglycaemia
704	704.08	Hypothermia
704	704.09	Hypothyroid/ myxedema
704	704.10	Metabolic/ endocrine medical, other
704	704.11	Thyroid neoplasm
801	801.01	Coagulopathy
801	801.02	Neutropaenia
801	801.03	Pancytopenia
801	801.04	Thrombocytopenia
802	802.01	Anaemia
802	802.02	Blood transfusion reaction
802	802.03	Leukaemia; ALL
802	802.04	Leukaemia; AML
802	802.05	Leukaemia; CLL
802	802.06	Leukaemia; CML
802	802.07	Lymphoma, Hodgkins
802	802.08	Lymphoma, non-Hodgkins
802	802.09	Sickle cell crisis
901	901.01	Genitourinary medical, other
901	901.02	Renal bleeding
901	901.03	Renal failure, acute
901	901.04	Renal infection/ abscess
901	901.05	Renal neoplasm, cancer
901	901.06	Renal obstruction
901	901.07	Kidney transplant
902	902.01	Pre-eclampsia/ eclampsia (female only)
903	903.01	Haemorrhage, postpartum (female only)
1002	1002.01	Other medical disorders : nos
1101	1101.01	Arthritis, rheumatoid
1101	1101.02	Arthritis, septic
1101	1101.03	Connective tissue disease (mixed)
1101	1101.04	Musculoskeletal medical, other
1101	1101.05	Lupus, systemic
1101	1101.06	Myositis, viral
1101	1101.07	Rhabdomyolysis without acute renal failure
1101	1101.08	Scleroderma
1101	1101.09	Vasculitis
1102	1102.01	Cellulitis and localized soft tissue infections
1202	1202.01	Dilation (with general anaesthesia)
1202	1202.02	Dilation (without general anaesthesia)
1202	1202.03	Embolectomy (with general anaesthesia)
1202	1202.04	Embolectomy (without general anaesthesia)
1202	1202.05	Grafts, all other bypass (except renal)
1202	1202.06	Grafts, all renal bypass
1202	1202.07	Thrombectomy (with general anaesthesia)
1202	1202.08	Thrombectomy (without general anaesthesia)
1203	1203.01	Graft, aorto-iliac bypass
1203	1203.02	Graft, femoral-popliteal bypass
1204	1204.01	Aneurysm, abdominal aortic
1204	1204.02	Aneurysm, throacic
1205	1205.01	Endarterectomy, carotid
1206	1206.01	Valve, double; repair/ replacement
1206	1206.02	Valve, redo, single
1206	1206.03	Valve, single; repair/ replacement

APACHE III-J Code	APACHE III-J Subcode	Description
1206	1206.05	Valve, triple, repair/ replacement
1207	1207.01	CABG alone, coronary artery bypass grafting
1207	1207.02	CABG alone, redo
1207	1207.03	CABG with other operation (not valve repair/ replacement)
1208	1208.01	Ablation or mapping of cardiac conduction pathway
1208	1208.02	Aneurysm repair, ventricular
1208	1208.03	Aneurysms, repair of other (except ventricular)
1208	1208.04	Anomaly, cardiac congenital i.e. atrial septal defect, ventricular septal defect, Tetralogy of Fallot
1208	1208.05	CABG, Minimally invasive; Mid-CABG
1208	1208.06	Cardiovascular surgery, other
1208	1208.07	Complications of prev. peripheral vascular surgery
1208	1208.08	Complications of prev. open-heart surgery, surgery for i.e. bleeding, infection, mediastinal rewire
1208	1208.09	Defibrillator, automatic implantable cardiac; insertion of
1208	1208.10	Endarterectomy (other vessels)
1208	1208.11	Graft for dialysis, insertion of
1208	1208.12	Grafts, removal of infected vascular
1208	1208.13	Pericardial effusion/ tamponade
1208	1208.14	Pericardieomy (total/ subtotal)
1208	1208.15	Tumour removal, intracardiac
1208	1208.16	Vascular surgery, other
1208	1208.17	Vena cava clipping
1208	1208.18	Vena cava filter insertion
1209	1209.01	Aneurysm, abdominal aortic; with dissection
1209	1209.02	Aneurysm, thoracic aortic; with dissection
1210	1210.01	Aneurysm, abdominal aortic; with rupture
1210	1210.02	Aneurysm, thoracic aortic; with rupture
1211	1211.01	Graft, aorto-femoral bypass
1211	1211.02	Graft, femoral-femoral bypass
1212	1212.01	CABG redo with valve repair/ replacement
1212	1212.02	CABG with double valve repair/ replacement
1212	1212.03	CABG with single valve repair/ replacement
1213	1213.01	Aneurysm, abdominal aortic endoluminal repair
1213	1213.02	Aneurysm, thoracic aortic endoluminal repair
1301	1301.01	Infection/abscess, other surgery for
1301	1301.02	Thoracotomy for thoracic/ respiratory infection
1302	1302.01	Thoracotomy for benign tumour (i.e. mediastinal chest wall mass, thymectomy)
1302	1302.02	Thoracotomy for lung cancer
1302	1302.03	Thoracotomy for other malignancy in chest
1303	1303.01	Cancer oral/ sinus surgery for
1303	1303.02	Cancer-laryngeal/tracheal, surgery for
1304	1304.01	Apnea-sleep; surgery for (i.e. UPPP-uvulopalatopharyngoplasty)
1304	1304.02	Biopsy, open lung
1304	1304.03	Bullectomy
1304	1304.04	Facial surgery (if related to trauma, see Trauma)
1304	1304.05	Respiratory surgery, other
1304	1304.06	Thoracotomy for bronchopleural fistula
1304	1304.07	Thoracotomy for lung reduction
1304	1304.08	Thoracotomy for other reasons
1304	1304.09	Thoracotomy for pleural disease
1304	1307.10	Tracheostomy
1401	1401.01	GI Perforation/ rupture, surgery for

APACHE III-J Code	APACHE III-J Subcode	Description
1403	1403.01	Bleeding-lower GI, surgery for
1403	1403.02	Bleeding-other GI, surgery for
1403	1403.03	Bleeding-upper GI, surgery for
1403	1403.04	Bleeding-variceal, surgery for (excluding vascular shunting-see surgery for portosystemic shunt)
1404	1404.01	GI obstruction, surgery for (including lysis of adhesions)
1405	1405.01	Thoracotomy for eosophageal cancer
1405	1405.02	Cancer-colon/ rectal, surgery for (including abdominoperineal resections)
1405	1405.03	Cancer - oesophageal, surgery for (abdominal approach)
1405	1405.04	Cancer-other GI tract, surgery for (i.e. hepatoma, gallbladder etc.)
1405	1405.05	Cancer-small intestinal, surgery for
1405	1405.06	Cancer-stomach, surgery for
1405	1405.07	Whipple surgery for pancreatic cancer
1406	1406.01	Cholecystectomy/ cholangitis, surgery for (gallbladder removal)
1407	1407.01	Liver transplant
1408	1408.01	Appendectomy
1408	1408.02	CAPD catheter insertion
1408	1408.03	Complications of previous GI surgery; surgery for anastomotic leak, bleeding, abscess, infection etc
1408	1408.04	Oesophageal surgery, other
1408	1408.05	Gastrostomy
1408	1408.06	GI surgery, other
1408	1408.07	Henia-hiatal, oesophageal surgery for
1408	1408.08	Herniorrhaphy
1408	1408.09	Obesity-morbid, surgery for
1408	1408.10	Peritoneal lavage
1408	1408.11	Shunt, peritoneal-venous; surgery for
1408	1408.12	Shunt, portosystemic, surgery for
1408	1408.13	Splenectomy
1409	1409.01	Fistula/abscess, surgery for (not inflammatory bowel disease)
1409	1409.02	GI abscess/cyst-primary, surgery for (for complications of GI surgery, see 1408.13)
1410	1410.01	GI vascular ischaemia, surgery for (resection)
1411	1411.01	Pancreatitis, surgery for
1412	1412.01	Peritonitis, surgery for
1413	1413.01	Diverticular disease, surgery for
1413	1413.02	Inflammatory bowel disease, surgery for
1501	1501.01	Haemorrhage/ haematoma - intracranial, surgery for
1502	1502.01	Haematoma, epidural, surgery for
1502	1502.02	Haematoma, subdural, surgery for
1503	1503.01	Arteriovenous malformation, surgery for
1503	1503.02	Subarachnoid haemorrhage/ intracranial aneurysm, surgery for
1504	1504.01	Complications of previous spinal cord surgery, surgery for
1504	1504.02	Devices for spine fracture/ dislocation
1504	1504.03	Fusion-spinal/ Harrington rods
1504	1504.04	Neoplasm-spinal cord surgery or other related procedures
1504	1504.05	Spinal cord surgery, other
1504	1504.06	Sympathectomy
1505	1505.01	Neoplasm-cranial, surgery for (excluding

APACHE III-J Code	APACHE III-J Subcode	Description
		transphenoidal)
1505	1505.02	Transphenoidal surgery
1506	1506.01	Abscess/ infection-cranial, surgery for
1506	1506.02	Anastomosis, vascular
1506	1506.03	Biopsy, brain
1506	1506.04	Burr hole placement
1506	1506.05	Cerebrospinal fluid leak, surgery for
1506	1506.06	Cranioplasty and complications from previous craniotomies
1506	1506.07	Neurologic surgery, other
1506	1506.08	Siezes-intractable, surgery for
1506	1506.09	Shunts and revisions
1506	1506.10	Stereotactic procedure
1506	1506.11	Ventriculostomy
1601	1601.01	Head (CNS) only trauma, surgery for
1601	1601.02	Head/ abdomen trauma, surgery for
1601	1601.03	Head/ chest trauma, surgery for
1601	1601.04	Head/ extremity trauma, surgery for
1601	1601.05	Head/ face trauma, surgery for
1601	1601.06	Head/ multiple trauma, surgery for
1601	1601.07	Head/ pelvis trauma, surgery for
1601	1601.08	Head/ spinal trauma, surgery for
1602	1602.01	Abdomen only trauma, surgery for
1602	1602.02	Abdomen/ extremity trauma, surgery for
1602	1602.03	Abdomen/ face trauma, surgery for
1602	1602.04	Abdomen/ multitrauma, surgery for
1602	1602.05	Abdomen/ pelvis trauma, surgery for
1602	1602.06	Chest/ abdomen trauma, surgery for
1602	1602.07	Chest/ extremity trauma, surgery for
1602	1602.08	Chest/ face trauma, surgery for
1602	1602.09	Chest/ multiple trauma, surgery for
1602	1602.10	Chest/ pelvis trauma, surgery for
1602	1602.11	Chest/ thorax only trauma, surgery for
1602	1602.12	Extremity only trauma, surgery for
1602	1602.13	Extremity/ face trauma, surgery for
1602	1602.14	Extremity/ multiple trauma, surgery for
1602	1602.15	Face only trauma, surgery for
1602	1602.16	Face/ multiple trauma, surgery for
1602	1602.17	Pelvis/ extremity trauma, surgery for
1602	1602.18	Pelvis/ face trauma, surgery for
1602	1602.19	Pelvis/ hip trauma, surgery for
1602	1602.20	Pelvis/ multiple trauma, surgery for
1602	1602.21	Trauma surgery, other
1603	1603.01	Burns
1604	1604.01	Abdomen/ spinal trauma, surgery for
1604	1604.02	Chest/ spinal trauma, surgery for
1604	1604.03	Spinal/ extremity trauma, surgery for
1604	1604.04	Spinal/ face trauma, surgery for
1604	1604.05	Spinal/ multiple trauma, surgery for
1605	1605.01	Spinal cord only trauma, surgery for
1701	1701.01	Cystectomy for neoplasm
1701	1701.02	Nephrectomy for neoplasm
1701	1701.03	Prostatectomy, suprapubic: for cancer
1701	1701.04	TURP, transurethral prostate resection for cancer
1703	1703.01	Bladder repair for perforation/ rupture
1703	1703.02	Cystectomy (other reasons)
1703	1703.03	Nephrectomy (other reasons)
1703	1703.04	Obstruction due to nephrolithiasis, surgery for

APACHE III-J Code	APACHE III-J Subcode	Description
		(with or without ileal-conduit)
1703	1703.05	Obstruction /other, surgery for (with or without ileal-conduit)
1703	1703.06	Orchiectomy with/without pelvic lymph node dissection
1703	1703.07	Prostatectomy, suprapubic; for benign prostatic hypertrophy
1703	1703.08	TURP, transurethral prostate resection for benign prostatic hypertrophy
1704	1704.01	Kidney transplant
1705	1705.01	Exenteration, pelvic-male
1705	1705.02	Exenteration, pelvic-female
1705	1705.03	Genitourinary surgery, other
1705	1705.04	Lymph node dissection, pelvic or retroperitoneal (female)
1705	1705.05	Lymph node dissection, pelvic or retroperitoneal (male)
1705	1705.06	Pelvic relaxation (cystocele, rectocele, etc.)
1801	1801.01	Hysterectomy for cancer with or without lymph node dissection
1801	1801.02	Hysterectomy for other benign neoplasm/fibroids
1802	1802.01	Caesarean section
1802	1802.02	Ectopic pregnancy (all)
1803	1803.01	Cyst, ruptured ovarian
1803	1803.02	Oophorectomy with/without salpingectomy with/without lymph node dissection
1902	1902.01	Amputation (non-traumatic)
1902	1902.02	Fracture-pathological, non-union, non-traumatic
1902	1902.03	Hip replacement (non-traumatic)
1902	1902.04	Knee replacement (non-traumatic)
1902	1902.05	Orthopedic surgery, other
1903	1903.01	Cosmetic surgery (all)
1903	1903.02	Grafting skin (all)
1903	1903.03	Skin surgery, other
1904	1904.01	Cellulitis and localized soft tissue infections, surgery for
2101	2101.01	Haematologic surgery, other
2101	2101.02	Lymphoma, Hodgkins, surgery for (including staging)
2101	2101.03	Lymphoma, non-Hodgkins, surgery for (including staging)
2201	2201.01	Adrenalectomy
2201	2201.02	Metabolic/endocrine surgery, other
2201	2201.03	Parathyroidectomy
2201	2201.04	Thyroidectomy and parathyroidectomy
2201	2201.05	Thyroidectomy

Appendix F: Sample AORTIC 9.0.4 Export File

PatientID	ICU_AD_DT	ICU_AD_TM	ICU_SRCE	ICU_DS_DT	ICU_DS_TM
133	28/09/2000	1220	2	29/09/2000	1620
222	22/08/2000	1631	2	30/08/2000	1931
285	14/07/2000	1352	3	16/07/2000	1647
320	09/10/2001	0104	2	09/10/2001	1034
ICU_STAY	ICU_OUTCM	age	TEMP	map	hr
1	3	18.6	37.0	120	80
8	3	5.3	37.6	107	130
2	3	93.7	37.4	60	155
1	6	15.7	36.8	61	92
rr	FIO2	PAO2	PACO2	PH	hco3
8	0.21	68	37	7.22	15
44	0.21	53	39	7.32	20
32	0.21	99	39	7.39	20
18	0.21	55	41	7.34	22
na	k	creat	hct	wcc	urea
135	4.7	270	0.41	17.2	29.0
128	4.3	40	0.4	17.4	4.1
138	3.6	100	0.4	27.7	11.1
139	3.6	80	0.4	5.0	41.0
URINEOP	albumin	bili	GLUCOSE	GCSVERB	GCSMOTOR
800	42	21	26.0	1	5
3000	37	120	11.4	5	6
800	40	80	6.0	5	6
1500	42	100	5.0	5	6
GCSEYE	gcs	ARF	INTUBATED	VENTILATED	APACHE2
2	8	N	Y	Y	24
4	15	N	N	N	21
4	15	N	N	N	14
4	15	N	N	N	5
APACHE3	SYSTOLIC	DIASTOLIC	AP3FIO	AP3PO2	AP3CO2O
67	200	80	0.21	68	37
51	160	80	0.21	53	39
82	90	45	0.21	99	39
46	82	50	0.21	55	41
ap3ph	AP3CO2P	SAPS	ROD	SAPS2	RODSAPS2
7.22	37	99	0.448	40	0.247

7.55	39	99	0.350	19	0.033
7.39	39	99	0.086	50	0.461
7.34	41	99	0.092	25	0.065
HOSP_AD_DT	HOSP_AD_TM	HOSP_SRCE	HOSP_DS_DT	HOSP_DS_TM	HOSP_OUTCM
28/09/2000	1110	1	09/09/9999	1220	99
22/08/2000	1431	2	04/09/2000	1631	6
14/07/2000	0433	1	09/09/9999	1352	99
08/10/2001	0005	1	09/10/2001	0104	6
SEX	POSTCODE	ELECT	CHRON	COMORB	AP2DIAG
F	2850	N	NYNNNN	NNNYNNN	302
M	3629	Y	YNNNYN	NNNYNNN	1308
M	3741	N	NNNNNN	NNNNNNN	307
M	3342	N	NNNNNN	NNNNNNN	304
AP3DIAG	CAREUNIT	CARETYPE	cabg_graft	cabg_redo	thromb_therapy
107	1	1	9	9	1
1207	1	2	2	1	9
601	1	2	9	9	9
601	1	1	9	9	9
ap3_subcode	gluchi	gluclo	Weight	Height	SmokingIntensity
	26.0	10.0	70.8	168	30
	11.4	7.2	999.9	999	999
	6.0	5.0	100	155	999
	5.0	4.9	999.9	999	999
ICU_DS_DEC_DT	ICU_DS_DEC_TM	PREG_STAT	EMG_RSP_ADM	TREAT_LMT	CardArrest
29/09/2000	1620	2	9	5	2
30/08/2000	1931	9	3	9	2
16/07/2000	1647	4	1	3	2
09/10/2001	1034	9	9	9	2
RespArrest	Indigenous	tempHi	tempLo	hrHi	hrLo
2	2	37.0	36.0	80	80
2	2	37.6	36.2	130	120
2	2	37.4	36.3	155	90
2	2	36.8	36.8	92	76
rrHi	rrLo	SystolicHi	SystolicLo	DiastolicHi	DiastolicLo
20	8	200	150	80	90
44	27	160	130	80	50
32	17	150	90	80	45

18	12	120	82	90	50
MAPHi	MAPLo	NaHi	NaLo	KHi	KLo
120	110	135	135	4.7	4.0
107	77	130	128	4.3	3.5
103	60	138	138	3.6	3.6
100	61	139	139	3.6	3.6
hco3Hi	hco3Lo	creatHi	creatLo	hctHi	hctLo
20	15	270	270	0.41	0.35
32	20	80	40	0.4	0.4
20	20	100	100	0.4	0.4
22	22	80	80	0.4	0.4
wccHi	wccLo	IDDM	SmokingStat us	ThrombPro	
17.2	12.0	1	1	1	
17.4	11.1	2	9	3	
27.7	27.7	2	4	9	
5.0	5.0	1	9	4	

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