Bi-national Minimum Dataset (BMDS) for Australia and New Zealand

Core Data Items

Data Dictionary

Version 1.1

July 2010

Preliminary note

This document is based on the initial draft of the Bi-national Minimum Dataset which was completed in 2010. It has been modified slightly to account for changes in terminology over time as the BMDS has continued to evolve, and to remove repeated or redundant information. Even so, this document may not accurately represent the fields, field definitions or other syntax relating to the most current version of the BMDS. Also, some of the comments made in the opening pages regarding issues associated with data capture, and registry use of data may become redundant, misleading or incorrect with time. As a result, this document has been denoted as an 'historical draft'.

In particular, I would like to acknowledge and thank the wider trauma community, both across Australasia and worldwide, for their continued interest in standardising trauma monitoring. It is hoped that making this document publicly available will contribute towards this goal.

Cameron Palmer

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Foreword

This dictionary was created by Cameron Palmer on behalf of the Trauma Quality Improvement Sub-Committee of the Royal Australasian College of Surgeons Trauma Committee. The dataset was derived from the work performed by the National Minimum Dataset Working Party of the National Trauma Registry Consortium (2005-2008). Membership of the named committees, without whose work this dataset and data dictionary would not have been realised, are listed below.

RACS Trauma Quality Improvement Sub-Committee (formerly the RACS Systems Performance Improvement and Registries Committee), 2008-2010

Cliff Pollard *(Chair to 2009)*

Russell Gruen *(Chair, 2009-2010)*

Robert Atkinson	Patrick Bade	Daniel Cass
Rangi Dansey	Peter Danne	Arthas Flabouris
James Hamill	Anthony Joseph	Leslie Lambert
Mary Langcake	Rod McClure	Len Notaras
Cameron Palmer	Sudhakar Rao	Michael Schuetz
Ron Somers	Daryl Wall	Stephen Wilkinson

National Trauma Registry Consortium (Australia & New Zealand) Executive and Steering Committees, 2005-2008

Cliff Pollard *(Chair)*

Leanne Aitken	Robert Atkinson	Patrick Bade
Nicholas Bellamy	Peter Cameron	Daniel Cass
Peter Danne	Tamzyn Davey	Mark Fitzgerald
William Griggs	James Hamill	James Harrison
Leslie Lambert	Patricia McDougall	Frank Plani
Sudhakar Rao	Drew Richardson	Ron Somers

National Trauma Registry Consortium National Minimum Dataset Working Party, 2005-2007

Cameron Palmer *(Chair)*

Tamzyn Davey *(NTRC Project Officer)*

Christine Allsopp	Lynn Ashton	Maxine Burrell
Erica Caldwell	Rangi Dansey	Rachael Henson
Carolyn James	Jennifer Leslie	David Martens
Deirdre McDonagh	Susan McLellan	Helen Naylor
Ian Rowbottom	Rebecca Weir	

Comment on registry purposes

The Australian Commission on Safety and Quality in Healthcare released their Operating Principles and Technical Standards for Australian Clinical Quality Registries (ACQR) in late 2008. While this may not provide the template ultimately used in the development of a binational trauma registry (B/NTR) as other standards may be or have been developed in Australia or New Zealand, it at least provides substantial food for thought regarding the design and implementation both of a B/NTR, and the BMDS it uses.

In order to qualify as an ACQR, a future B/NTR should use routinely collected electronic data where possible. While this lowers cost, the use of an Injury Severity Score (ISS) threshold (derived from assigned Abbreviated Injury Scale [AIS] codes) requires at least a proportion of data to be collected manually (IE, from written hospital records). An ACQR is felt to be practical only in situations where "differences in quality can have major impacts on quality of life or cost" (p20); as a result, the estimated benefit of a future B/NTR (based on current evidence of differences in outcome across different regions in Australia and New Zealand, or between these countries and the rest of the world) should be carefully assessed. Alternatively, the the potential utility of alternate data sources should be assessed. An example is ICD coding, which can in theory be mapped to AIS equivalents instead of using expensive manual AIS coding. However, the limitations of such data 'shortcuts' should be recognised. Current ICD maps offer outdated severity estimates compared to the current (2008) AIS; in addition, while similar patient numbers may be identified by this method there will be substantial differences in the actual group of patients identified.

While the elements of a BMDS can be to some extent developed independently (based on considerations such as completeness and ease of collection), the composition of a BMDS must also be governed by the population to be assessed by a future B/NTR (IE, inclusion and exclusion thresholds) as well as the outcomes which are felt to be of relevance to that population. For severe injury, death has historically been regarded as a standard outcome measure; secondary outcomes may include the length of hospital treatment, and the discharge destination (other than death). It is compelling, though, that the ACQR principles and standards document specifically mentions trauma in this context. Based on the results of the Victorian State Trauma Registry, the document states that "in the case of severe trauma a six month follow-up is needed for clinical stability to be measured"(p20). The cost associated with collection of medium- to long-term follow-up data would likely render a B/NTR unfeasible. A case could be made that as overseas standards at national level comprise discharge destination, discharge Glasgow Outcome Score or 30-day mortality that these represent acceptable international standards; equally, though, this could be seen as indicative of the generally poor quality of trauma outcomes evaluation worldwide.

Inclusion and exclusion criteria

Consideration should be given to the inclusion criteria which would be employed by a B/NTR employing the BMDS, as to some extent these will determine the particular relevance of fields within the BMDS (and hence their inclusion in the BMDS). While registries from a sole hospital, and to a lesser extent regional or state registries benefit from broad patient capture, at a national or international level only patients with injuries which are deemed significant (by some definition) should be included. The comparatively small proportion of patients which will meet assigned inclusion criteria should fit within the funding and time constraints which are imposed, particularly on smaller hospitals or regions without local data collection previously in place. It is therefore reasonable to limit inclusion in a B/NTR to patients meeting specified criteria for major trauma.

While not exhaustive, Appendix 1 provides representative summaries of major trauma, inclusion and exclusion criteria in place within Australia. For comparison, the criteria suggested or employed by other national and international trauma registries are provided in a second table. Although the threshold of an ISS >15 has been a widely accepted major trauma definition since the mid-1980s, it has not been validated in over 20 years; during this time substantive changes have taken place in injury diagnosis and treatment which would be expected to produce differences in outcomes across a population. With the adoption of the current (2008) update of the AIS in the majority of Australasian registries the number of patients classified as major trauma will decrease by an estimated 15-25% compared with previous (1998 and 1990) AIS versions. However, the majority of Australian and New Zealand registries currently have not indicated any intention to change their major trauma definitions. With this in mind, major trauma (and the inclusion criterion for a B/NTR) is currently best defined at a national level as:

Any patient dying after a trauma event, or admitted after trauma with an Injury Severity Score of greater than 15, calculated using the 2005 or Update 2008 versions of the Abbreviated Injury Scale. This excludes:

- *patients with delayed admissions greater than 7 days after injury;*
- *poisoning or drug ingestion;*
- *isolated neck of femur fracture;*
- *admissions where injuries occurred due to other pathology; and*
- *admissions where management of injuries is not the primary reason for admission.*

Dataset definition sources

Dataset fields should offer substantial levels of international comparability while still providing usefulness for the specific local requirements of the registry. At the same time, ease of collection (in terms of time required or cost) is essential, particularly in order to obtain data from centres which do not currently have trauma data collection (and hence are more likely to be resource-poor).

Where possible, BMDS fields should be based on standard definitions created by authoritative Australian or New Zealand bodies, or (in the absence of such definitions) pre-existing comparable or contributing datasets.

The default standard sought for each field is a definition from the Australian Institute of Health and Welfare's Australian National Health Data Dictionary (METeOR). A number of METeOR standards are in turn based on, derived from or compatible with routinely collected International Classification of Diseases (ICD) codes. In order to maximise international dataset comparability, definitions used in established registries or agreed templates (the European Utstein template, American National Trauma Data Bank [NTDB] or Canadian National Trauma Registry [NTR]) have also been considered. Reporting guidelines may also be taken from or based on these sources, as well as the data dictionaries of existing Australian state trauma registries.

Where no METeOR standard is felt to apply to a field as conventionally defined in existing trauma datasets, best matches are provided, and note made that METeOR fields may require future development. It is recognised that use of METeOR terms carries an implication that a future B/NTR will be held within, or have public funding sought from within Australia.

Within the data dictionary, reference is made to the use of a particular field, or a field providing similar information to all or part of the relevant field in one or more of the Utstein template, NTDB or Canadian NTR.

A brief summary of the BMDS fields is contained in Appendix 2.

BMDS
Field Definitions

1.01 Institution

Specification

Collection	Essential		
Definition	The identifier for the hospital in which definitive (final)care was provided.		
Definition Source	METeOR ID: 269973: ***Establishment - organisation identifier (Australian)***		
Database Name	institut	**Data Type**	String
Field Size	9	**Layout**	NNX[X]NNNNN
Location	Main Table		
Reporting	Each separately administered health care establishment (hospital) should have a unique identifier at the national or binational level. Field is derived (concatenated) from other metadata fields for state/territory, sector, region and state/territory organisation Additional codes may require development in order to encompass New Zealand hospitals.		

Compatibility

Utstein	None
NTDB	None
NTR	Comparable: ***Institution***

1.02 Trauma Number

Specification

Collection	Essential		
Definition	A person identifier unique to the establishment where the person received definitive (final) care.		
Definition Source	METeOR ID: 290046: ***Person - person identifier***		
Database Name	traumano	**Data Type**	String
Field Size	20	**Layout**	XXXXXX[X(14)]
Location	Main Table		
Reporting	This field may be a hospital medical record (UR) number, or a local trauma registry case number.		

Compatibility

Utstein	None
NTDB	None
NTR	Comparable: ***Trauma number***

1.03 Incident number

Specification

Collection	Essential		
Definition	An identifier which is unique to a specific trauma event for a specific person.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	incident	**Data Type**	Numeric
Field Size	10	**Layout**	NNNNNN[NNNN]
Location	Main Table		
Reporting	This field is only for use within a proposed national or binational trauma registry, and should be assigned at national level. This field may be dependent (derived from) or independent of date of incident, region or submitting institution.		

Compatibility

Utstein	None
NTDB	None
NTR	Comparable: ***Unique personal identifier***

2.01 Date of birth

Specification

Collection	Desirable		
Definition	The date of birth of the person.		
Definition Source	METeOR ID: 287007 ***Person - date of birth***		
Database Name	datbirth	**Data Type**	Date/Time
Field Size	8	**Layout**	DDMMYYYY
Location	Main Table		
Reporting	If year of birth is known (but date of birth is not) use the date, 0101YYYY of the birth year to estimate age (where YYYY is the year of birth). If person is aged under 2 years, date of birth should be estimated to the nearest three month period, ie 0101, 0104, 0107 or 0110 of the estimated year of birth.		

Compatibility

Utstein	None
NTDB	Comparable: ***Date of birth***
NTR	None

2.02 Age

Specification

Collection Essential

Definition The age of the patient on the date of the injury event, measured as a number of years (with fractional component expressed as a decimal). If both data items are available, this should be derived as a calculated field.

Definition Source If both data fields are available - calculated value:

(3.01 Date & Time of Injury) - (2.01 Date of birth)

If either data field is unavailable:

METeOR ID: 303794:

Person - age, total years

Database Name	age	**Data Type**	Numeric
Field Size	6	**Layout**	[NN]N.NN
Location	Main Table		

Reporting If age cannot be calculated, is not stated and cannot be estimated, value 999 should be used.

Whole years are commonly used (cf METeOR standard); data from this field can be accurately aggregated to the METeOR standard if required.

Compatibility

Utstein Partially comparable:

Age

Exception: less specific; decimal part used for age <1 year only.

NTDB Partially comparable:

Age

Exception: less specific; unit of measure changes with age <1 year.

NTR Partially comparable:

Age

Exception: less specific; whole years used only.

2.03 Sex

Specification

Collection	Essential		
Definition	The age of the patient on the date of the injury event, measured as a number of years (with fractional component expressed as a decimal). If both data items are available, this should be derived as a calculated field.		
Definition Source	METeOR ID: 287316: ***Person - sex***		
Database Name	sex	**Data Type**	Numeric
Field Size	1	**Layout**	N
Location	Main Table		
Reporting	Permissible values include male, female, intersex or indeterminate, and unknown.		

Compatibility

Utstein	Comparable: ***Sex***
NTDB	Comparable: ***Gender***
NTR	Comparable: ***Sex***

2.04 Pre-injury comorbidities

Specification

Collection	Desirable		
Definition	The effect of any condition or conditions which pre-existed the injury incident, and which affect management of the injuries.		
Definition Source	**No comparable field currently exists within METeOR.** Related field: METeOR ID: 391322: ***Episode of care - additional diagnosis, code (ICD-10-AM 7th edn)***		
Database Name	comorbid	**Data Type**	Numeric
Field Size	1	**Layout**	N
Location	Main Table		
Reporting	This field may be expressed in a number of ways. Ideally, the American Society of Anesthesiologists' scale should be used.		

Compatibility

Utstein	Comparable: ***Pre-injury ASA Physical Status Classification***
NTDB	Comparable: ***Co-morbid conditions***
NTR	None

3.01 Date & Time of Injury

Specification

Collection	Essential		
Definition	The date and time the person received the injuries requiring hospitalisation.		
Definition Source	**No comparable field currently exists within METeOR.** Related field: METeOR ID: 270544: ***Patient - diagnosis date***		
Database Name	injdate	**Data Type**	Date/Time
Field Size	14	**Layout**	DDMMCCYY HH:NN
Location	Main Table		
Reporting	If time is not accurately known, the best estimate should be used. Must be less than or equal to: ***4.02 Time of Ambulance Arrival at Patient (if used);*** ***4.05 Time of Arrival at Referring Hospital (if used);*** ***4.06 Time of Departure from Referring Hospital (if used); and*** ***5.01 Date & Time of Arrival at Definitive Care Hospital*** Midnight should be entered as 00:01 of the following date (00:00 and 24:00 are not accepted).		

Compatibility

Utstein	None
NTDB	Comparable; formed using: ***Injury Incident Date*** ***Injury Incident Time***
NTR	Partially comparable: ***Date of injury***

3.02 Injury Cause (Mechanism)

Specification

Collection	Essential		
Definition	The single environmental event, circumstance or condition (external factor) which was the primary circumstance or cause of the trauma event.		
Definition Source	METeOR ID: 391330: ***Injury event - external cause, code (ICD-10-AM 7th edn)***		
Database Name	injcause	**Data Type**	String
Field Size	6	**Layout**	ANN{.N[N]}
Location	Main Table		
Reporting	If two or more cause categories are judged to be equally important, select the one that comes first in the code list This field may be expressed in a number of ways. Existing numerical codesets used for similar fields may be mapped to or from this field, or the definition source of this field may change over time (necessitating the creation of a new METeOR code).		

Compatibility

Utstein	Comparable: ***Mechanism of Injury***
NTDB	Comparable: ***Primary E-Code***
NTR	Comparable: ***Injury etiology (E-code)***

3.03 Dominant Injury Type

Specification

Collection	Desirable		
Definition	The dominant type of injury produced by the trauma event.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	injtype	**Data Type**	Numeric
Field Size	1	**Layout**	N
Location	Main Table		
Reporting	If this field is not collected at local level, data may be imputed from: ***3.02 Injury Cause (mechanism); or*** ***7.01 AIS Injury Codes***		

Compatibility

Utstein	Comparable: ***Dominating type of injury***
NTDB	Comparable: ***Trauma type***
NTR	Partially comparable: ***Injury type*** *Exception: related primarily to anatomical injury.*

3.04 Postcode of Injury

Specification

Collection	Desirable		
Definition	The postcode where the trauma event occurred.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	injpcode	**Data Type**	Numeric
Field Size	5	**Layout**	NNNN(N)
Location	Main Table		
Reporting	May be derived (concatenated) from local postcode as well as a country identifier.		

Compatibility

Utstein	None
NTDB	Comparable: ***Injury Location Zip Code***
NTR	Comparable: ***Regional identifier of incident location (GEOCODE)***

3.05 Injury Intent

Specification

Collection	Desirable		
Definition	The most likely role of human intent in the occurrence of the trauma event		
Definition Source	METeOR ID: 268944: ***Injury event - human intent of injury***		
Database Name	injintnt	**Data Type**	String
Field Size	2	**Layout**	NN
Location	Main Table		
Reporting	If two or more categories are judged to be equally appropriate, select the one that comes first in the code list.		

Compatibility

Utstein	Comparable: ***Intention of Injury***
NTDB	Comparable: ***Injury Intentionality***
NTR	None

3.06 Place of Injury Occurrence

Specification

Collection	Desirable		
Definition	The type of location where the trauma event occurred.		
Definition Source	METeOR ID: 391334: ***Injury event - place of occurrence, code (ICD-10-AM 7th edn)***		
Database Name	injplace	**Data Type**	String
Field Size	6	**Layout**	ANN[.N[N]}
Location	Main Table		
Reporting	If two or more place categories are judged to be equally important, select the one that comes first in the code list This field may be expressed in a number of ways. Existing numerical codesets used for similar fields may be mapped to or from this field, or the definition source of this field may change over time (necessitating the creation of a new METeOR code).		

Compatibility

Utstein	None
NTDB	Comparable: ***Location E-Code***
NTR	Comparable: ***Place of incident***

3.07 Activity Engaged in when Injured

Specification

Collection	Desirable		
Definition	The type of activity the person was engaged in at the time of the trauma event.		
Definition Source	METeOR ID: 391320: ***Injury event - activity type, code (ICD-10-AM 7th edn)***		
Database Name	injactiv	**Data Type**	String
Field Size	5	**Layout**	ANNNN
Location	Main Table		
Reporting	If two or more activity categories are judged to be equally important, select the one that comes first in the code list This field may be expressed in a number of ways. Existing numerical codesets used for similar fields may be mapped to or from this field, or the definition source of this field may change over time (necessitating the creation of a new METeOR code).		

Compatibility

Utstein	None
NTDB	Partially comparable: ***Work-related*** *Exception: fields are specific to particular activities only.*
NTR	Partially comparable: ***Sports/Recreational Activity Code*** ***Work-Related Code*** *Exception: fields are specific to particular activities only.*

3.08 Injury Description

Specification

Collection	Desirable		
Definition	Text description of the trauma event.		
Definition Source	METeOR ID: 268946:		
	Injury event - external cause, text		
Database Name	injtext	**Data Type**	String
Field Size	100	**Layout**	[X(100)]
Location	Main Table		
Reporting	Text description should include information relating to the circumstances prior to and surrounding the trauma event (including place of injury and activity), and what 'went wrong' to cause the trauma event.		

Compatibility

Utstein	None
NTDB	None
NTR	None

3.09 Safety Devices Used

Specification

Collection	Desirable		
Definition	The use (or lack of use) of safety equipment relevant to the injury cause.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	injsafe	**Data Type**	String
Field Size	2	**Layout**	NN
Location	Main Table		
Reporting	This field will require the development of appropriate code lists. Relevant options for this field may be derived from one or more of: ***3.02 Injury Cause (mechanism);*** ***3.06 Place of Injury Occurrence (if used) and*** ***3.06 Activity Engaged in when Injured (if used)***		

Compatibility

Utstein	None
NTDB	Comparable: ***Protective devices*** ***Child specific restraint*** *(partially comparable)* ***Airbag deployment****(partially comparable)*
NTR	Comparable: ***Protective Devices***

4.01 Mode of Transport from Scene

Specification

Collection	Essential		
Definition	The type of transport by which the person left the scene of the trauma event.		
Definition Source	**No comparable field currently exists within METeOR.** Related field: METeOR ID: 270000: ***Non-admitted patient emergency department service episode - transport mode (arrival)***		
Database Name	prhsctpt	**Data Type**	Numeric
Field Size	1	**Layout**	N
Location	Main Table		
Reporting	The current related METeOR field does not have sufficient specificity.		

Compatibility

Utstein	Partially comparable: ***Type of transportation*** *Exception: not specific enough; dependent on whether patient was transferred from another hospital.*
NTDB	Partially comparable: ***Transport mode*** *Exception: not specific enough; dependent on whether patient was transferred from another hospital.*
NTR	Comparable: ***Mode of transport from scene***

4.02 Time of Ambulance Arrival at Patient

Specification

Collection	Desirable		
Definition	If a person was transported by ambulance service from the scene, the time the first ambulance service reached the person.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	prhambar	**Data Type**	Date/Time
Field Size	14	**Layout**	DDMMCCYY HH:NN
Location	Main Table		
Reporting	Must be greater than or equal to: ***3.01 Date & Time of Injury*** Must be less than or equal to: ***4.05 Time of Arrival at Referring Hospital (if used);*** ***4.06 Time of Departure from Referring Hospital (if used); and*** ***5.01 Date & Time of Arrival at Definitive Care Hospital*** Whether or not this field is relevant may be imputed from: ***4.01 Mode of Transport from Scene*** Midnight should be entered as 00:01 of the following date (00:00 and 24:00 are not accepted).		

Compatibility

Utstein	None
NTDB	Partially comparable; formed using: ***EMS unit arrival time at scene or transferring facility*** ***EMS unit arrival time at scene or transferring facility*** *Exception: not specific enough; dependent on whether patient was transferred from another hospital.*
NTR	None

4.03 Transfer from Other Hospital?

Specification

Collection	Essential		
Definition	Whether the person was treated at or presented to another acute-care hospital prior to arrival at the definitive care hospital.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	prhtrans	**Data Type**	Numeric
Field Size	**1**	**Layout**	N
Location	Main Table		
Reporting	This field will require the development of appropriate code lists. May be true, false or unknown; alternatively may be used to specify whether the hospital submitting data was the hospital providing definitive care.		

Compatibility

Utstein	Comparable: ***Inter-Hospital Transfer***
NTDB	Comparable: ***Inter-facility transfer***
NTR	Comparable: ***Direct admission***

4.04 Referring Hospital

Specification

Collection	Essential		
Definition	The identifier for the hospital from which the person was transferred.		
Definition Source	METeOR ID: 269973:		
	Establishment - organisation identifier (Australian)		
Database Name	prhinst	**Data Type**	String
Field Size	9	**Layout**	NNX[X]NNNNN
Location	Main Table		
Reporting	Whether or not this field is relevant may be imputed from:		
	4.03 Transfer from Other Hospital?		
	If the person attended multiple hospitals prior to arriving at the hospital of definitive care, the last transferring hospital should be given.		
	Each separately administered health care establishment should have a unique identifier at the national or binational level.		
	Field is derived (concatenated) from other metadata fields for state/territory, sector, region and state/territory organisation		
	Additional codes may require development in order to encompass New Zealand hospitals.		

Compatibility

Utstein	None
NTDB	None
NTR	None

4.05 Time of Arrival at Referring Hospital

Specification

Collection	Desirable		
Definition	The date and time patient was first registered, triaged or assessed (whichever comes first), by clerical officer, nurse or doctor at the hospital from which they were transferred to the definitive care hospital.		
Definition Source	Formed using: METeOR ID: 270393 ***Health service event - presentation date*** METeOR ID: 270080 ***Health service event - presentation time***		
Database Name	prharriv	**Data Type**	Date/Time
Field Size	14	**Layout**	DDMMCCYY HH:NN
Location	Main Table		
Reporting	Must be greater than or equal to: ***3.01 Date & Time of Injury*** ***4.02 Time of Ambulance Arrival at Patient (if used);*** Must be less than or equal to: ***4.06 Time of Departure from Referring Hospital (if used); and*** ***5.01 Date & Time of Arrival at Definitive Care Hospital*** Whether or not this field is relevant may be imputed from: ***4.03 Transfer from Other Hospital?*** Midnight should be entered as 00:01 of the following date (00:00 and 24:00 are not accepted).		

Compatibility

Utstein	None
NTDB	None
NTR	None

4.06 Time of Departure from Referring Hospital

Specification

Collection Desirable

Definition The date and time patient departed from the hospital from which they were transferred to the definitive care hospital.

Definition Source **No comparable field currently exists within METeOR.**

Related comparable field may be formed using:

METeOR ID: 322597

Emergency department stay—physical departure date

METeOR ID: 322610

Emergency department stay—physical departure time

Database Name	prhdept	**Data Type**	Date/Time
Field Size	14	**Layout**	DDMMCCYY HH:NN

Location Main Table

Reporting The current related METeOR fields specify person is either admitted or an emergency department stay, but not either.

Must be greater than or equal to:

3.01 Date & Time of Injury;

4.02 Time of Ambulance Arrival at Patient (if used); and

4.05 Time of Arrival at Referring Hospital (if used)

Must be less than or equal to:

5.01 Date & Time of Arrival at Definitive Care Hospital

Whether or not this field is relevant may be imputed from:

4.03 Transfer from Other Hospital?

Midnight should be entered as 00:01 of the following date (00:00 and 24:00 are not accepted).

If the patient is transferred by ambulance service, the time the patient is loaded into the transferring ambulance may be used.

Compatibility

Utstein None

NTDB None

NTR None

4.07 Mode of Transport from Referring Hospital to Definitive Care Hospital

Specification

Collection Desirable

Definition The type of transport by which the person was transferred from another hospital to the definitive care hospital.

Definition Source **No comparable field currently exists within METeOR.**

Related field:

METeOR ID: 270000:

Non-admitted patient emergency department service episode - transport mode (arrival)

Database Name	prhtrtpt	**Data Type**	Numeric
Field Size	1	**Layout**	N

Location Main Table

Reporting The current related METeOR field does not have sufficient specificity.

Whether or not this field is relevant may be imputed from:

4.03 Transfer from Other Hospital?

Compatibility

Utstein Comparable:

Type of Transportation

NTDB Comparable:

Transport mode

NTR None

4.08 Pre-hospital Blood Transfusion?

Specification

Collection	Desirable		
Definition	Whether the person was administered any blood products prior to arrival at the definitive care hospital.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	prhblood	**Data Type**	Numeric
Field Size	1	**Layout**	N
Location	Main Table		
Reporting	This field will require the development of appropriate code lists. May be true, false or unknown.		

Compatibility

Utstein	None
NTDB	None
NTR	None

4.09 Pre-hospital CPR?

Specification

Collection	Desirable		
Definition	Whether the person received cardiopulmonary resuscitation at any stage prior to arrival at the definitive care hospital.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	prhcpr	**Data Type**	Numeric
Field Size	1	**Layout**	N
Location	Main Table		
Reporting	This field will require the development of appropriate code lists. May be true, false or unknown. This field requires data quality evaluation compared with the quality of field: ***4.10 Pre-Hospital Cardiac Arrest?***		

Compatibility

Utstein	None
NTDB	None
NTR	None

4.10 Pre-hospital Cardiac Arrest?

Specification

Collection	Desirable		
Definition	Whether the person suffered a cardiac arrest at any stage prior to arrival at the definitive care hospital.		
Definition Source	**No comparable field currently exists within METeOR.** Related field: METeOR ID: 285123 ***Person - heart rate, total beats per minute***		
Database Name	prharest	**Data Type**	Numeric
Field Size	1	**Layout**	N
Location	Main Table		
Reporting	This field will require the development of appropriate code lists. May be true, false or unknown. Current related METeOR field contains cardiac arrest as a supplementary value. Consequently, a value for this field may be imputed from: ***4.11 First Pulse*** Cardiac arrest requires the absence of a detectable pulse, unresponsiveness, and apnoea. This field requires data quality evaluation compared with the quality of field: ***4.09 Pre-Hospital CPR?***		

Compatibility

Utstein	Comparable: ***Pre-hospital Cardiac Arrest***
NTDB	None
NTR	None

4.11 First Pulse

Specification

Collection	Desirable		
Definition	The first recorded heart rate measured at the scene of trauma, or (if unavailable or presented directly to referring hospital), the first recorded pulse measured at a referring hospital.		
Definition Source	METeOR ID: 285123 ***Person - heart rate, total beats per minute***		
Database Name	prhpulse	**Data Type**	Numeric
Field Size	3	**Layout**	N[NN]
Location	Main Table		
Reporting	If the person is in cardiac arrest at the time of first measurement, value 997 should be used. If the person's heart rate cannot be measured, value 999 should be used.		

Compatibility

Utstein	None
NTDB	Partially comparable: ***Initial field pulse rate*** *Exception: more specific; requires measurement at scene.*
NTR	None

4.12 First Systolic BP

Specification

Collection	Desirable		
Definition	The first recorded systolic blood pressure measured at the scene of trauma, or (if unavailable or presented directly to referring hospital), the first recorded systolic blood pressure measured at a referring hospital.		
Definition Source	METeOR ID: 270073 ***Person - blood pressure (systolic)***		
Database Name	prhsysbp	**Data Type**	Numeric
Field Size	3	**Layout**	NN[N]
Location	Main Table		
Reporting	Must be in millimetres of mercury (mmHg). If the systolic blood pressure is not or cannot be measured, value 999 should be used.		

Compatibility

Utstein	Partially comparable: ***Systolic Blood Pressure upon arrival of EMS personnel at scene*** *Exception: more specific; requires measurement at scene.*
NTDB	Partially comparable: ***Initial field systolic blood pressure*** *Exception: more specific; requires measurement at scene.*
NTR	None

4.13 First Spontaneous Respiratory Rate

Specification

Collection	Desirable		
Definition	The first recorded unassisted rate of respiration measured at the scene of trauma, or (if unavailable or presented directly to referring hospital), the first recorded unassisted rate of respiration measured at a referring hospital.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	prhresps	**Data Type**	Numeric
Field Size	3	**Layout**	N[NN]
Location	Main Table		
Reporting	If the person is in respiratory arrest at the time of first measurement, value 997 should be used. If the person has been intubated at the time of first measurement, value 998 should be used. If the respiratory rate is not or cannot be measured, value 999 should be used.		

Compatibility

Utstein	Partially comparable: ***Respiratory Rate upon arrival of EMS personnel at scene*** *Exception: more specific; requires measurement at scene.*
NTDB	Partially comparable: ***Initial field respiratory rate*** *Exception: more specific; requires measurement at scene.*
NTR	None

4.14 First Temperature

Specification

Collection	Desirable		
Definition	The first recorded body temperature measured at the scene of trauma, or (if unavailable or presented directly to referring hospital), the first recorded body temperature measured at a referring hospital.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	prhtemp	**Data Type**	Numeric
Field Size	3	**Layout**	NN[.N]
Location	Main Table		
Reporting	Must be in degrees Celsius. If the temperature is not or cannot be measured, value 99.9 should be used.		

Compatibility

Utstein	None
NTDB	None
NTR	None

4.15 First GCS Eye

Specification

Collection	Desirable		
Definition	The first recorded Indication of the responsiveness to stimuli by eye opening at the scene of trauma, or (if unavailable or presented directly to referring hospital), the first recorded Indication of the responsiveness to stimuli by eye opening measured at a referring hospital.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	prhgcsey	**Data Type**	Numeric
Field Size	1	**Layout**	N
Location	Main Table		
Reporting	Field is used as a component of: ***4.18 First Total GCS***		

Compatibility

Utstein	None
NTDB	Partially comparable: ***Initial field GCS - eye*** *Exception: more specific; requires measurement at scene.*
NTR	None

4.16 First GCS Voice

Specification

Collection	Desirable		
Definition	The first recorded Indication of the level of verbal response at the scene of trauma, or (if unavailable or presented directly to referring hospital), the first recorded Indication of the level of verbal response measured at a referring hospital.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	prhgcsvo	**Data Type**	Numeric
Field Size	1	**Layout**	N
Location	Main Table		
Reporting	Field is used as a component of: ***4.18 First Total GCS***		

Compatibility

Utstein	None
NTDB	Partially comparable: ***Initial field GCS - verbal*** *Exception: more specific; requires measurement at scene.*
NTR	None

4.17 First GCS Motor

Specification

Collection	Desirable		
Definition	The first recorded Indication of the level of motor response at the scene of trauma, or (if unavailable or presented directly to referring hospital), the first recorded Indication of the level of motor response measured at a referring hospital.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	prhgcsmo	**Data Type**	Numeric
Field Size	1	**Layout**	N
Location	Main Table		
Reporting	Field is used as a component of: ***4.18 First Total GCS***		

Compatibility

Utstein	Partially comparable: ***Glasgow Coma Scale Motor Component upon arrival of EMS personnel at scene*** *Exception: more specific; requires measurement at scene.*
NTDB	Partially comparable: ***Initial field GCS - motor*** *Exception: more specific; requires measurement at scene.*
NTR	None

4.18 First Total GCS

Specification

Collection	Desirable		
Definition	The first recorded total Glasgow Coma Scale score at the scene of trauma, or (if unavailable or presented directly to referring hospital), the first recorded total Glasgow Coma Scale score measured at a referring hospital.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	prhgcs	**Data Type**	Numeric
Field Size	2	**Layout**	N[N]
Location	Main Table		
Reporting	If the person has been intubated at the time of first measurement, or is otherwise sedated or paralysed due to drug administration, value -2 should be used. If the total GCS is not or cannot be measured, value -1 should be used. This field may be entered directly (particularly where individual component scores are unavailable, or calculated using: ***4.15 First GCS Eye*** ***4.16 First GCS Voice*** ***4.17 First GCS Motor***		

Compatibility

Utstein	Partially comparable: ***Glasgow Coma Scale Score upon arrival of EMS personnel at scene*** *Exception: more specific; requires measurement at scene.*
NTDB	Partially comparable: ***Initial field GCS - total*** *Exception: more specific; requires measurement at scene.*
NTR	None

5.01 Date & Time of Arrival at Definitive Care Hospital

Specification

Collection Essential

Definition The date and time patient was first registered, triaged or assessed (whichever comes first), by clerical officer, nurse or doctor.

Definition Source Formed using:

METeOR ID: 270393

Health service event - presentation date

METeOR ID: 270080

Health service event - presentation time

Database Name	dcharriv	**Data Type**	Date/Time
Field Size	14	**Layout**	DDMMCCYY HH:NN

Location Main Table

Reporting Must be greater than or equal to:

3.01 Date & Time of Injury;

4.02 Time of Ambulance Arrival at Patient (if used);

4.05 Time of Arrival at Referring Hospital (if used); and

4.06 Time of Departure from Referring Hospital (if used);

Must be less than or equal to:

5.18 ED Discharge Date & Time

7.02 Date & Time of Discharge;

Midnight should be entered as 00:01 of the following date (00:00 and 24:00 are not accepted).

Compatibility

Utstein None

NTDB Comparable; formed using:

ED/Hospital Arrival Date

ED/Hospital Arrival Time

NTR Partially comparable:

Date of arrival at trauma centre

Exception: incomplete; time component is missing.

5.02 Pulse on Arrival

Specification

Collection	Essential		
Definition	The first recorded heart rate measured following arrival at the definitive care hospital.		
Definition Source	METeOR ID: 285123		
	Person - heart rate, total beats per minute		
Database Name	dchpulse	**Data Type**	Numeric
Field Size	3	**Layout**	N[NN]
Location	Main Table		
Reporting	If the person is in cardiac arrest at the time of first measurement, value 997 should be used. If the person's heart rate cannot be measured, value 999 should be used.		

Compatibility

Utstein	None
NTDB	Comparable: ***Initial ED/hospital pulse rate***
NTR	None

5.03 Systolic BP on Arrival

Specification

Collection	Essential		
Definition	The first recorded systolic blood pressure measured following arrival at the definitive care hospital.		
Definition Source	METeOR ID: 270073 ***Person - blood pressure (systolic)***		
Database Name	dchsysbp	**Data Type**	Numeric
Field Size	3	**Layout**	NN[N]
Location	Main Table		
Reporting	Must be in millimetres of mercury (mmHg). If the systolic blood pressure is not or cannot be measured, value 999 should be used.		

Compatibility

Utstein	Comparable: ***Systolic Blood Pressure upon arrival in ED / hospital***
NTDB	Comparable: ***Initial ED/hospital systolic blood pressure***
NTR	Comparable: ***Systolic blood pressure on arrival at trauma centre***

5.04 First Spontaneous Respiratory Rate

Specification

Collection	Essential		
Definition	The first recorded unassisted rate of respiration measured following arrival at the definitive care hospital.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	dchresp	**Data Type**	Numeric
Field Size	3	**Layout**	N[NN]
Location	Main Table		
Reporting	If the person is in respiratory arrest at the time of first measurement, value 997 should be used. If the person has been intubated at the time of first measurement, value 998 should be used. If the respiratory rate is not or cannot be measured, value 999 should be used.		

Compatibility

Utstein	Comparable: ***Respiratory rate upon arrival in ED / hospital***
NTDB	Comparable: ***Initial ED/hospital respiratory rate***
NTR	Comparable: ***Unassisted respiratory rate on arrival at trauma centre***

5.05 Temperature on Arrival

Specification

Collection	Desirable		
Definition	The first recorded body temperature measured following arrival at the definitive care hospital.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	dchtemp	**Data Type**	Numeric
Field Size	3	**Layout**	NN[.N]
Location	Main Table		
Reporting	Must be in degrees Celsius. If the temperature is not or cannot be measured, value 99.9 should be used.		

Compatibility

Utstein	None
NTDB	Comparable: ***Initial ED/hospital temperature***
NTR	None

5.06 GCS Eye on Arrival

Specification

Collection	Desirable		
Definition	The first recorded Indication of the responsiveness to stimuli by eye opening following arrival at the definitive care hospital.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	dchgcsey	**Data Type**	Numeric
Field Size	1	**Layout**	N
Location	Main Table		
Reporting	Field is used as a component of: ***5.09 Total GCS on Arrival***		

Compatibility

Utstein	None
NTDB	Comparable: ***Initial ED/hospital GCS - eye***
NTR	Comparable: ***GCS - Eye opening on arrival at trauma centre***

5.07 GCS Voice on Arrival

Specification

Collection	Desirable		
Definition	The first recorded Indication of the level of verbal response following arrival at the definitive care hospital.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	dchgcsvo	**Data Type**	Numeric
Field Size	1	**Layout**	N
Location	Main Table		
Reporting	Field is used as a component of: ***5.09 Total GCS on Arrival***		

Compatibility

Utstein	None
NTDB	Comparable: ***Initial ED/hospital GCS - verbal***
NTR	Comparable: ***GCS - Verbal response on arrival at trauma centre***

5.08 GCS Motor on Arrival

Specification

Collection	Desirable		
Definition	The first recorded Indication of the level of motor response following arrival at the definitive care hospital.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	dchgcsmo	**Data Type**	Numeric
Field Size	1	**Layout**	N
Location	Main Table		
Reporting	Field is used as a component of: ***5.09 Total GCS on Arrival***		

Compatibility

Utstein	Comparable: ***Glasgow Coma Scale Motor Component upon arrival in ED/hospital***
NTDB	Comparable: ***Initial ED/hospital GCS - motor***
NTR	Comparable: ***GCS - Motor response on arrival at trauma centre***

5.09 Total GCS on Arrival

Specification

Collection	Essential		
Definition	The first recorded total Glasgow Coma Scale score following arrival at the definitive care hospital.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	dchgcs	**Data Type**	Numeric
Field Size	2	**Layout**	N[N]
Location	Main Table		
Reporting	If the person has been intubated at the time of first measurement, or is otherwise sedated or paralysed due to drug administration, value -2 should be used. If the total GCS is not or cannot be measured, value -1 should be used. This field may be entered directly (particularly where individual component scores are unavailable, or calculated using: ***5.06 GCS Eye on Arrival*** ***5.07 GCS Voice on Arrival*** ***5.08 GCS Motor on Arrival***		

Compatibility

Utstein	Comparable: ***Glasgow Coma Scale Score upon arrival in ED /hospital***
NTDB	Comparable: ***Initial ED/hospital GCS - total***
NTR	Comparable: ***Total GCS on arrival at trauma centre***

5.10 CPR on arrival?

Specification

Collection	Desirable		
Definition	Whether the person received cardiopulmonary resuscitation at any stage within 24 hours of arrival at the definitive care hospital.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	dchcpr	**Data Type**	Numeric
Field Size	1	**Layout**	N
Location	Main Table		
Reporting	This field will require the development of appropriate code lists. May be true, false or unknown.		

Compatibility

Utstein	None
NTDB	None
NTR	None

5.11 Blood Transfusion on Arrival?

Specification

Collection	Desirable		
Definition	Whether the person was administered any blood products at any stage within 24 hours of arrival at the definitive care hospital.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	dchblood	**Data Type**	Numeric
Field Size	1	**Layout**	N
Location	Main Table		
Reporting	This field will require the development of appropriate code lists. May be true, false or unknown.		

Compatibility

Utstein	None
NTDB	None
NTR	None

5.12 Patient Intubated?

Specification

Collection	Essential		
Definition	Whether the person was intubated at any stage of their care, whether prior to or at the definitive care hospital.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	intubate	**Data Type**	Numeric
Field Size	1	**Layout**	N
Location	Main Table		
Reporting	This field will require the development of appropriate code lists. May be true, false or unknown.		

Compatibility

Utstein	Partially comparable: ***Type of Pre-Hospital Airway Management*** *Exception: more specific; pre-hospital only.*
NTDB	None
NTR	Partially comparable: ***Intubation code on arrival at trauma centre*** *Exception: more specific; definitive care hospital arrival only.*

5.13 Date & Time Patient Intubated

Specification

Collection	Desirable		
Definition	The date and time patient was first intubated - at any stage of their care, whether prior to or at the definitive care hospital.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	intubdat	**Data Type**	Date/Time
Field Size	14	**Layout**	DDMMCCYY HH:NN
Location	Main Table		
Reporting	Must be greater than or equal to: ***3.01 Date & Time of Injury*** Must be less than or equal to: ***7.02 Date & Time of Discharge*** Midnight should be entered as 00:01 of the following date (00:00 and 24:00 are not accepted).		

Compatibility

Utstein	None
NTDB	None
NTR	None

5.14 Respiratory Qualifier on Arrival

Specification

Collection	Essential		
Definition	Whether respiratory assistance was required at the time the respiratory rate was recorded on arrival at the definitive care hospital.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	dchrespq	**Data Type**	Numeric
Field Size	1	**Layout**	N
Location	Main Table		
Reporting	This field will require the development of appropriate code lists. This field may be redundant depending on formatting of null options for: ***5.04 First Spontaneous Respiratory Rate*** If this field is not collected at local level, data may be imputed from: ***5.12 Patient Intubated?; and*** ***5.13 Date & Time Patient Intubated***		

Compatibility

Utstein	None
NTDB	Comparable: ***Initial ED/hospital respiratory assistance***
NTR	Partially comparable: ***Intubation code on arrival at trauma centre*** *Exception: imputed value; must be inferred from status of other field.*

5.15 Blood Alcohol Concentration on Arrival

Specification

Collection	Desirable		
Definition	The first blood alcohol concentration result recorded on arrival at the definitive care hospital.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	dchalco	**Data Type**	Numeric
Field Size	4	**Layout**	N.NN
Location	Main Table		
Reporting	Must be in gm%' can be converted from mmol/L by dividing by 217.1. Must be taken within the first 24 hours following arrival at the definitive care hospital.		

Compatibility

Utstein	None
NTDB	Partially comparable: ***Alcohol use indicator*** *Exception: less specific; categorical field (none/trace/high).*
NTR	Comparable: ***Blood alcohol concentration***

5.16 First Measured Arterial Base Excess

Specification

Collection	Desirable		
Definition	The first recorded arterial base excess result following arrival at the definitive care hospital.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	dchartbe	**Data Type**	Numeric
Field Size	2	**Layout**	N[N]
Location	Main Table		
Reporting	Must be in mmol/L. Must be taken within the first 24 hours following arrival at the definitive care hospital. If the arterial base excess is not or cannot be measured, value 99 should be used.		

Compatibility

Utstein	Comparable: ***Arterial Base Exces***
NTDB	None
NTR	None

5.17 First Measured INR

Specification

Collection	Desirable		
Definition	The first recorded prothrombin time INR result following arrival at the definitive care hospital.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	dchinr	**Data Type**	Numeric
Field Size	4	**Layout**	[N]N.N
Location	Main Table		
Reporting	Must be in mmol/L. Must be taken within the first 24 hours following arrival at the definitive care hospital. If the INR is not or cannot be measured, value 99.9 should be used.		

Compatibility

Utstein	Comparable: ***Coagulation: INR***
NTDB	None
NTR	None

5.18 ED Discharge Date & Time

Specification

Collection Essential

Definition The date and time patient left the emergency department at the definitive care hospital, or (if dying in the emergency department) the time of death.

Definition Source Formed using:

METeOR ID: 322597

Emergency department stay - physical departure date

METeOR ID: 322610

Emergency department stay - physical departure time

Database Name	dcheddep	**Data Type**	Date/Time
Field Size	14	**Layout**	DDMMCCYY HH:NN

Location Main Table

Reporting Must be greater than or equal to:

5.01 Date & Time of Arrival at Definitive Care Hospital

Must be less than or equal to:

7.02 Date & Time of Discharge;

If a patient goes directly to another area in the hospital on hospital arrival (such as ICU or OR), this should be the same as:

5.01 Date & Time of Arrival at Definitive Care Hospital

Midnight should be entered as 00:01 of the following date (00:00 and 24:00 are not accepted).

Compatibility

Utstein None

NTDB Comparable; formed using:

ED discharge date

ED discharge time

NTR None

5.19 Disposition After ED

Specification

Collection	Desirable		
Definition	The first location for which the patient departed on leaving the emergency department at the definitive care hospital.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	dcheddis	**Data Type**	Numeric
Field Size	2	**Layout**	N[N]
Location	Main Table		
Reporting	This field will require the development of appropriate code lists.		

Compatibility

Utstein	None
NTDB	Comparable: ***ED discharge disposition***
NTR	None

6.01 Diagnosis made >24 hours after arrival?

Specification

Collection	Desirable		
Definition	Whether the specified injury was diagnosed more than 24 hours after arrival at the definitive care hospital.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	injdelay	**Data Type**	Numeric
Field Size	1	**Layout**	N
Location	Injuries Table		
Reporting	This field will require the development of appropriate code lists. May be true, false or unknown.		

Compatibility

Utstein	None
NTDB	None
NTR	None

6.02 Date & Time CT Performed

Specification

Collection	Desirable		
Definition	The date and time patient received a CT scan - at any stage of their care, whether prior to or at the definitive care hospital.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	ctdate	**Data Type**	Date/Time
Field Size	14	**Layout**	DDMMCCYY HH:NN
Location	CT Table		
Reporting	May be limited to CT performed at the definitive care hospital. May be limited to CT performed within 24 hours of arrival at the definitive care hospital. Must be greater than or equal to: ***3.01 Date & Time of Injury*** Must be less than or equal to: ***7.02 Date & Time of Discharge*** Midnight should be entered as 00:01 of the following date (00:00 and 24:00 are not accepted).		

Compatibility

Utstein	Partially comparable: ***Time until First CT Scan*** *Exception: more specific; definitive care hospital only.*
NTDB	None
NTR	None

6.03 CT type

Specification

Collection	Desirable		
Definition	The body region on which the specified CT scan was performed.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	ct type	**Data Type**	Numeric
Field Size	2	**Layout**	N[N]
Location	CT Table		
Reporting	This field will require the development of appropriate code lists. May be limited to CT performed at the definitive care hospital. May be limited to CT performed within 24 hours of arrival at the definitive care hospital.		

Compatibility

Utstein	None
NTDB	None
NTR	None

6.04 Operative Procedures in OR or ED

Specification

Collection Desirable

Definition Operative intervention undertaken - at any stage of their care, whether prior to or at the definitive care hospital.

Definition Source **No comparable field currently exists within METeOR.**

Related field:

METeOR ID: 391349:

Episode of admitted patient care - procedure, code (ACHI 7th edn)

Database Name	operproc	**Data Type**	Numeric
Field Size	2	**Layout**	N[N]

Location Operations Table

Reporting This field will require the development of appropriate code lists.

Limited to interventions for severe or potentially severe injuries only.

May be limited to interventions performed at the definitive care hospital.

May be limited to interventions performed within 24 hours of arrival at the definitive care hospital.

Compatibility

Utstein Partially comparable:

Type of First Key Emergency Intervention

Exception: more specific; first procedure only.

NTDB Comparable:

Hospital procedures

NTR Comparable:

Operative procedures

6.05 Operation Date & Time

Specification

Collection Desirable

Definition The date and time operative intervention was undertaken - at any stage of their care, whether prior to or at the definitive care hospital.

Definition Source **No comparable field currently exists within METeOR.**

Related field:

METeOR ID: 270298:

Episode of admitted patient care (procedure) - procedure commencement date

Database Name	operdate	**Data Type**	Date/Time
Field Size	14	**Layout**	DDMMCCYY HH:NN

Location Operations Table

Reporting Limited to interventions for severe or potentially severe injuries only.

May be limited to interventions performed at the definitive care hospital.

May be limited to interventions performed within 24 hours of arrival at the definitive care hospital.

Must be greater than or equal to:

3.01 Date & Time of Injury

Must be less than or equal to:

7.02 Date & Time of Discharge

Midnight should be entered as 00:01 of the following date (00:00 and 24:00 are not accepted).

Compatibility

Utstein Partially comparable:

Time until First Key Emergency Intervention

Exception: more specific; valid for first procedure only; imputed value; must be inferred from other fields.

NTDB Comparable; formed using:

Hospital procedure start date

Hospital procedure start time

NTR None

6.06 Number of days on ventilator

Specification

Collection	Desirable		
Definition	The total number of days (whole or partial) on which mechanical ventilation was used.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	dchvent	**Data Type**	Numeric
Field Size	3	**Layout**	[NN]N
Location	Main Table		
Reporting	Integer value, with partial days rounded up. Field allows for multiple "start" and "stop" dates and calculates total days spent (in part or in whole) on a mechanical ventilator (excluding during an OR procedure). If mechanical ventilation was used at the definitive care hospital, value must be 1 or more. Exception is when the only mechanical ventilation used occurs during an OR procedure.		

Compatibility

Utstein	Comparable: ***Number of Days on Ventilator***
NTDB	Partially comparable: ***Total Ventilator Days*** *Exception: specifically excludes OR-associated ventilation time.*
NTR	Partially comparable: ***Number of days ventilated*** *Exception: specifically excludes BIPAP and CPAP.*

7.01 AIS Injury Codes

Specification

Collection	Essential		
Definition	The assigned Abbreviated Injury Scale codes for each injury sustained by the patient.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	injais	**Data Type**	String
Field Size	8	**Layout**	NNNNNN.N
Location	Injuries Table		
Reporting	Abbreviated Injury Scale codes using 2008 Update of 2005 AIS version. If earlier AIS versions are used, mapping may be necessary to obtain comparable 2008 AIS estimates. If AIS coding is not used, mapping from International Classification of Diseases (ICD) codes may be necessary to obtain comparable AIS estimates.		

Compatibility

Utstein	Comparable: ***Abbreviated Injury Scale***
NTDB	Comparable: ***AIS predot code*** ***AIS severity***
NTR	Comparable: ***Severity Codes***

7.02 Date & Time of Discharge

Specification

Collection Essential

Definition The date and time patient was discharged from the definitive care hospital, or (if dying in hospital) the time of death.

Definition Source Formed using:

METeOR ID: 270025

Episode of admitted patient care - separation date

METeOR ID: 270026

Episode of admitted patient care - separation time

Database Name	outdate	**Data Type**	Date/Time
Field Size	14	**Layout**	DDMMCCYY HH:NN

Location Main Table

Reporting Must be greater than or equal to:

5.01 Date & Time of Arrival at Definitive Care Hospital

5.18 ED Discharge Date & Time

Midnight should be entered as 00:01 of the following date (00:00 and 24:00 are not accepted).

Compatibility

Utstein None

NTDB Comparable; formed using:

Hospital discharge date

Hospital discharge time

NTR Partially comparable:

Date of discharge

Exception: less specific; date only

7.03 Discharge Destination from Acute Care

Specification

Collection	Desirable		
Definition	The location to which the patient was discharged from the definitive care hospital.		
Definition Source	METeOR ID: 270094 ***Episode of admitted patient care - separation mode***		
Database Name	outdest	**Data Type**	Numeric
Field Size	2	**Layout**	N[N]
Location	Main Table		
Reporting	This field will require the development of appropriate code lists.		

Compatibility

Utstein	Comparable: ***Discharge Destination***
NTDB	Comparable: ***Hospital discharge disposition***
NTR	Comparable: ***Discharge disposition***

7.04 Injury Severity Score

Specification

Collection	Essential
Definition	The calculated Injury Severity Score based on the entered Abbreviated Injury Scale codes.
Definition Source	**No comparable field currently exists within METeOR.**

Database Name	outiss	**Data Type**	Numeric
Field Size	2	**Layout**	[N]N
Location	Main Table		
Reporting	A non-zero integer number calculated using: ***7.01 AIS Injury Codes***		

Compatibility

Utstein	None *Comment: could be imputed using:* ***Abbreviated Injury Scale***
NTDB	Comparable: ***Injury Severity Score; or*** ***Locally calculated ISS***
NTR	Comparable: ***Injury Severity Score (ISS)***

7.05 New Injury Severity Score

Specification

Collection	Essential
Definition	The calculated New Injury Severity Score based on the entered Abbreviated Injury Scale codes.
Definition Source	**No comparable field currently exists within METeOR.**

Database Name	outniss	**Data Type**	Numeric
Field Size	2	**Layout**	[N]N
Location	Main Table		
Reporting	A non-zero integer number calculated using: ***7.01 AIS Injury Codes***		

Compatibility

Utstein	None *Comment: could be imputed using:* ***Abbreviated Injury Scale***
NTDB	None *Comment: could be imputed using combination of:* ***AIS predot code*** ***AIS severity***
NTR	None *Comment: could be imputed using:* ***Severity Codes***

7.06 Length of Stay

Specification

Collection Essential

Definition The calculated length of stay in the definitive care hospital, measured as a number of days (with fractional component expressed as a decimal), rather than bed days.

Definition Source **No comparable field currently exists within METeOR.**

Related field:

METeOR ID: 329889:

Episode of admitted patient care - length of stay (including leave days)

Database Name	outlos	**Data Type**	Numeric
Field Size	6	**Layout**	[NN]N.NN

Location Main Table

Reporting A non-zero number expressed in days.

Value is calculated using:

5.01 Date & Time of Discharge

7.02 Date & Time of Arrival at Definitive Care Hospital

If patient dies within the first 7 minutes of care, should automatically adjust to 0.01. (IE, if calculated value <0.005 days, default to 0.01 days).

Bed days or whole days are commonly used (cf METeOR standard 329889 : *Episode of admitted patient care—length of stay (including leave days)*), but this gives rise to data inaccuracies; data from this field can be accurately aggregated to this standard if required.

Compatibility

Utstein Partially comparable:

Length of Stay in Reporting Hospital

Exception: less specific; measured in whole days.

NTDB Partially comparable:

Total Length of Hospital Stay

Exception: less specific; stay < 1 day rounded up to 1 day.

NTR Partially comparable:

Length of stay (LOS)

Exception: less specific; measured in whole bed days.

7.07 Length of ICU Stay

Specification

Collection	Essential		
Definition	The calculated length of stay in the intensive care unit at the definitive care hospital, measured as a number of days (with fractional component expressed as a decimal), rather than bed days.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	outiclos	**Data Type**	Numeric
Field Size	6	**Layout**	[NN]N.NN
Location	Main Table		
Reporting	A non-zero number expressed in days. Bed days or whole days are commonly used, but this gives rise to data inaccuracies; data from this field can be accurately aggregated to this standard if required.		

Compatibility

Utstein	None
NTDB	Partially comparable: ***Total ICU length of Stay*** *Exception: less specific; stay < 1 day rounded up to 1 day.*
NTR	None

7.08 Severe Complications?

Specification

Collection	Desirable		
Definition	Whether a condition arising following the injury event had a substantial effect on the management, progress or eventual outcome of the patient.		
Definition Source	**No comparable field currently exists within METeOR.**		
Database Name	outcomp	**Data Type**	Numeric
Field Size	1	**Layout**	N
Location	Main Table		
Reporting	This field requires substantial refinement and may require data type modification. Potentially, mapping from ICD codes may offer a practical solution in some settings. At present, this field may require the development of appropriate code lists. May be true, false or unknown.		

Compatibility

Utstein	None
NTDB	Partially comparable: ***Hospital complications*** *Exception: less specific; all complications listed.*
NTR	Partially comparable: ***Complications*** *Exception: less specific; multiple complications listed.*

Appendix 1

National and international major trauma and registry inclusion criteria

Table 1. Summary of major trauma, inclusion and exclusion criteria of prominent Australian trauma registries with published annual reports.

Region	Major trauma criteria	Additional registry inclusion criteria	Registry exclusion criteria
Victoria (VSTR)	**Death after injury** **ISS >15** **ICU stay >24 hours with mechanical ventilation** **Urgent surgery for torso/head injury (<48 hours)**	Transferred patients Total LOS >3 days	Isolated # neck of femur (Non-major) Isolated, closed limb # or dislocation (Non-major) Burns <10% BSA (Non-major) Isolated soft tissue injuries (Non-major) Isolated injuries distal to wrist or ankle
New South Wales (ITIM)	**Death after injury** **ISS >15** **ICU admission**		(If death) Isolated # neck of femur Admission >14 days after injury Admission to trauma service outside NSW
Queensland (QTR)	**Death after injury** **ISS >15**	Admission via ED or transferred patient Allergy or poisoning if <15 years old Abuse or neglect if <15 years old	Spontaneous or pathological injury Injury occurring in-hospital Treatment for medical or psychiatric condition Treatment for complication of injury Admission for convalescence or social reason
Western Australia	**ISS >15**	Admission for >24 hours Death within 24 hours of injury	Drowning, hypoxia or inhalation injury Poisoning or drug overdose Admission to major hospital >7 days after injury

Table 1. Summary of major trauma, inclusion and exclusion criteria of prominent Australian trauma registries with published annual reports (ctnd).

Region	Major trauma criteria	Additional registry inclusion criteria	Registry exclusion criteria
Royal Perth Hospital	**ISS >15**	Admission at RPH >24 hours	Poisoning or drug overdose
		Death after injury	Admission >7 days after injury
South West Sydney region	**Death after injury**	Admission to SWSAHS hospital	
	ISS >15		
	Injury to multiple body regions		
	Loss of consciousness		
	Significant burns		
	Laparoscopy, laparotomy or DPL		
	Tibia or fibula # above ankle level		
	Head, neck or torso # or internal organ injury		

sources:

Victorian State Trauma Registry 2007-08: Annual report

The NSW Trauma Registry Profile of Serious to Critical Injuries 2007

2007 Description of Serious Injury Throughout Queensland

Inaugural Report of the West Australian Trauma Registry 2003

Royal Perth Hospital Trauma Services Report - 2007

South Western Sydney Regional Trauma Registry: Trauma 10-Year Report 1995-2004

Table 2. Summary of major trauma, inclusion and exclusion criteria of prominent international registries and datasets.

Dataset	Major trauma criteria	Additional registry inclusion criteria	Registry exclusion criteria
Utstein template (Europe)	**NISS >15**		Asphyxia or drowning Isolated burn injury or admission to burn unit Death prior to hospital arrival Admission >24 hours after injury
NTDB (United States)	**ISS >15**	Hospital admission or transfer Death after injury	Admission for late effects of injury Isolated superficial injuries Isolated foreign bodies
NTR (Canada)	**ISS >12**		(Conceptually) Injury not resulting from energy transfer Poisoning or drug overdose Envenomation Complications and late effects of injury
TARN (UK)	**Unspecified**	Death after injury ICU or HDU admission Transferred patients Total LOS >72 hours	Isolated # neck of femur and age >65 years Isolated # single pubic ramus and age >65 years Isolated burns <10% BSA Isolated soft tissue injuries Isolated # or dislocation to upper limb Isolated # or dislocation to lower leg or foot Isolated simple facial #

sources: The Utstein Trauma Template for Uniform Reporting of Data following Major Trauma: Data Dictionary - Version: 1.1.1

National Trauma Data Standard: Data Dictionary - Version 1.2.5

2006 Report: Major Injury in Canada (includes 2004-2005 Data) - National Trauma Registry

Trauma Audit & Research Network: Procedures manual, updated November 2009

Appendix 2

Bi-national Minimum Dataset for Australia and New Zealand

Table 1: Summary of current BMDS data fields, grouped by phases of patient care.

Field Number	Dataset field names (* = Essential data items)
IDENTIFICATION	
1.01	Institution *
1.02	Trauma Number *
1.03	Incident Number *
DEMOGRAPHICS	
2.01	Date of birth
2.02	Age *
2.03	Sex *
2.04	Pre-injury Comorbidities
INJURY EVENT DATA	
3.01	Date & Time of Injury *
3.02	Injury Cause *
3.03	Dominant Injury Type
3.04	Postcode of Injury
3.05	Injury Intent
3.06	Place of Injury Occurrence
3.07	Activity Engaged in When Injured
3.08	Injury Event Description
3.09	Safety Devices Used
PRE DEFINITIVE CARE HOSPITAL MANAGEMENT	
4.01	Mode of Transport from Scene *
4.02	Time of Ambulance Arrival at Patient
4.03	Transfer from Other Hospital ? *
4.04	Referring Hospital *
4.05	Date & Time of Arrival at Referring Hospital
4.06	Date & Time of Departure from Referring Hospital
4.07	Mode of Transport from Referring Hospital to Definitive Care Hospital
4.08	Pre-hospital Blood Transfusion ?
4.09	Pre-hospital CPR ?

Field Number	Dataset field names (* = Essential data items)
4.10	Pre-hospital Cardiac Arrest ?
4.11	First Pulse
4.12	First Systolic BP
4.13	First Spontaneous Respiratory Rate
4.14	First Temperature
4.15	First GCS Eye
4.16	First GCS Voice
4.17	First GCS Motor
4.18	First Total GCS
5.	**DEFINITIVE CARE HOSPITAL MANAGEMENT - ED**
5.01	Date & Time of Arrival at Definitive Care Hospital *
5.02	Pulse on Arrival *
5.03	Systolic BP on Arrival *
5.04	Respiratory Rate on Arrival *
5.05	Temperature on Arrival
5.06	GCS Eye on Arrival
5.07	GCS Voice on Arrival
5.08	GCS Motor on Arrival
5.09	Total GCS on Arrival *
5.10	CPR on Arrival ?
5.11	Blood Transfusion on Arrival ?
5.12	Patient Intubated ? *
5.13	Date & Time Patient Intubated
5.14	Respiratory Qualifier on Arrival
5.15	Blood Alcohol Concentration on Arrival
5.16	First Measured Arterial Base Excess
5.17	First Measured INR
5.18	ED Discharge Date & Time *
5.19	Disposition after ED
6.	**OTHER DEFINITIVE CARE HOSPITAL MANAGEMENT**
6.01	Diagnosis Made >24 hours after Arrival?
6.02	Date & Time CT Performed
6.03	CT Type
6.04	Operative Procedures in OR
6.05	Operation Date & Time

Field Number	Dataset field names (* = Essential data items)
6.06	Number of Days on Ventilator
7. OUTCOME	
7.01	Abbreviated Injury Scale Injury Codes *
7.02	Date & Time of Discharge from Definitive Care *
7.03	Discharge Destination from Acute Care *
7.04	Injury Severity Score *
7.05	New Injury Severity Score *
7.06	Length of Stay *
7.07	Length of ICU Stay *
7.08	Severe Complications ?