Bi-National Trauma Minimum Dataset (BNTMDS) Australia and New Zealand

Core Data Items Data Dictionary

Version 2.0

November 2021

(To be implemented from date of injury 1 July 2022)

Approved by the ATR Board, February 2022

AUSTRALIA NEW ZEALAND TRAUMA REGISTRY

Current Data Dictionary Update:

Date	Version	Description of Modification
Nov 2021	2.0	Data Elements 2.04 Comorbidity/Severe Complications Qualifier NEW 2.06 Ethnicity – NEW 2.07 Residential Postcode – NEW 2.08 Occupation - NEW 3.10 Injury Latitude - NEW 3.11 Injury Longitude - NEW 4.11-4.18 Scene Observations (formerly First Observations) 4.19-4.26 Referring Hospital Observations – NEW 5.12 Patient Intubated? – additional options 5.16 First Measured Venous Base Excess (formerly First Measured Arterial Base Excess) 5.20 Trauma Call - NEW 5.21 Tertiary Survey – NEW 5.22 Pregnancy - NEW 6.04 Critical Procedures Performed (formerly Operative Procedures in OR) 6.05 Critical Procedures Performed Date & Time (formerly Operation Date Time) 6.06 Number of Ventilation Days – adding the value '0' as a permissible value 6.07 Unplanned Return to OT within 48 hours NEW 6.08 Unplanned Admission to ICU NEW 7.02 Date & Time of Discharge from Acute Care (formerly Date & Time of Discharge from Definitive Care) 7.06 Acute Length of Stay (formerly Length of Stay) 7.07 Length of ICU Stay – adding the value '0' as a permissible value 7.09 ICD Diagnosis Codes - NEW 7.10 Diagnostic Related Group - NEW 7.11 Primary Cause of Death – NEW 7.12 Rockwood Clinical Frailty Score - NEW **General Items** • Branding per ATR not AusTQIP p1,2 • Change to Exclusion criteria – addition of drowning, hanging, and elderly patients who die with superficial injury only and/or co-existing disease (advanced frailty by Rockwood Clinical Frailty Score) that precipitates injury. • ICD10AM Guide for Inclusion Exclusion Criteria, p9 • Guide to Obligation updated p11 • Added Metadata International, National and State groups. p12 • Consistent Terminology in Validation Rules of Element Definitions etc. Appendix – Supplemental Guides – NEW • 2.05 Guide to Pre-injury Co-morbidities – NEW • 6.04 Guide to Critical Procedures - NEW 7.08 Complications – NEW

Contents

Abbreviations

ACHI	Australian Classification of Health Interventions (ACHI) 7th edition
ACSQH	Australian Commission on Safety and Quality in Healthcare
AIHW	Australian Institute of Health and Welfare
AIS	Abbreviated Injury Scale
ASA	American Society of Anaesthetists
ATR	Australia New Zealand Trauma Registry
ATS	Australasian Trauma Society
AusTQIP	Australian Trauma Quality Improvement Program
BNTMDS	Bi-National Trauma Minimum Dataset of Australia and New Zealand
CPR	Cardiopulmonary Resuscitation
CT	Computed Tomography
ED	Emergency Department
GCS	Glasgow Coma Score
ICD-10-AM	International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification
ICU	Intensive Care Unit
INR	International Normalised Ratio
ISS	Injury Severity Score
METeOR	Metadata Online Registry
NISS	New Injury Severity Score
NTDB	National Trauma Data Bank
NTR	National Trauma Registry
NTRC	National Trauma Registry Consortium
OR	Operating Room
OTR	Ontario Trauma Registry
RACS	Royal Australasian College of Surgeons
RTS	Revised Trauma Score
TDWG	AusTQIP Trauma Data Working Group
TRISS	Trauma and Injury Severity Score
Utstein	The Utstein Trauma Template for Uniform Reporting of Data following Major Trauma Data Dictionary, Version 1.1.1, May 19 2009.

Foreword

This data dictionary was originally 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.

National Trauma Registry Consortium (Australia & New Zealand) Executive and Steering Committees, 2003-2008

Cliff Pollard *(Chair)*

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

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

Cameron Palmer *(Chair)*

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

RACS Trauma Quality Improvement Sub-Committee (formerly the RACS Systems Performance Improvement and Registries Committee), 2008-2011

Cliff Pollard *(Chair to 2009)*

Russell Gruen *(Chair, 2009-2011)*

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

Bi-National Trauma Registry National Minimum Dataset Committee, 2018-current (Sep 2021)

Peter Cameron *(Chair)*

Maxine Burrell	Ben Gardiner	Emily McKie	Hardeep Singh
Claire Collins	Michael Handy	Susan McLellan	Nicole Kelly
Ian Civil	Siobhan Isles	Rebecca Brown	Jacelle Warren
Jane Ford	Huat Lim	Gerard O'Reilly	Olivia Zheng
Kellie Gumm	Kathleen McDermott	Cameron Palmer	

Bi-National Trauma Minimum Dataset (BNTMDS) - A Brief History

1992	Royal Australasian College of Surgeons (RACS) Trauma Committee workshop, Melbourne	
1993	National Road Trauma Advisory Council report RACS Trauma Committee workshop, Albury- Wodonga	
1999	Australasian Trauma Registry Amalgamation	
2001	Exercise (ATRAX)	
2001	RACS Trauma Committee workshop, Melbourne	
2003	MOTA meeting, Brisbane; National Trauma Registry Consortium (NTRC) established	
2005	Invitations to participate in the NTRC National Minimum Dataset Working Party	
2006	Dataset documents assembly	
	Responses via teleconferences	(98 Data fields)
	Initial draft	(54 Data fields)
	Feedback request	(54 Data fields)
	Consideration of quality indicators, Second draft	(58 Data fields)
2009	Australasian Trauma Society meeting, Auckland	(69 Data fields)
	Australasian Trauma Nurses list survey	(67 Data fields)
2010	AusTQIP launched with a Bi-National Minimum Dataset (BMDS)	
2018	Data Working Group reformed	(67 Data Fields)
2019-2021	Data Working Group developed and recommended update	(90 Data Fields)

Inclusion and exclusion criteria

While single-hospital (and to a lesser extent regional) 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 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 the ATR to patients meeting specified criteria for major trauma.

Although the threshold of an ISS >15 has been a widely accepted major trauma definition since the mid-1980s[1], it has never been validated. During this time substantial 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 a more contemporary (2008) version of the AIS across Australasian registries, it has been established that the number of patients classified as major trauma will decrease by between 15% and 25% when compared with populations coded using earlier (1990 and 1998) AIS versions.

The use of a lower ISS threshold in conjunction with the 2008 AIS version is able to satisfactorily compensate for lower ISS scores within a population. More specifically, an ISS >12 threshold appears to both maintain overall major trauma numbers, as well as closely adhering to the 10% mortality level which formed part of the original rationale behind the use of ISS >15.[1,2] With this in mind, major trauma (and the inclusion criterion for the ATR) is currently best defined at a b i - national level as:

Inclusions

All patients of any age admitted to hospital with either:

- Injury Severity Score (ISS) >12 (based on AIS 2005 Update 2008) or
- Death following injury

Exclusions

- Patients with delayed admissions greater than 7 days after injury
- Poisoning or drug ingestion that do not cause injury
- Foreign bodies that do not cause injury
- Injuries secondary to medical procedures
- Isolated neck of femur fracture
- Pathology directly resulting in isolated injury
- Elderly patients who die with superficial injury only (contusions, abrasions, or lacerations) and/or have co-existing disease that precipitates injury or is precipitant to death (e.g. stroke, renal failure, heart failure, malignancy, advanced frailty by Rockwood Clinical Frailty Score).
- Drowning
- Hanging

[1] Boyd CR, Tolson MA, Copes WS. Evaluating trauma care: the TRISS method. Trauma Score and the Injury Severity Score. J Trauma 1987;27(4):370–8.

[2] Palmer CS, Gabbe BJ, Cameron PC. Defining major trauma using the 2008 Abbreviated Injury Scale. Injury 2016;47(1):109-15.

Suggested ICD10-AM Codes For Patient Inclusion

When unclear the previous page overwrites the following supplemental information.

INCLUSIONS

Injury Severity Score (ISS) >12 (based on AIS 2005 Update 2008) with patient presentations to Emergency Departments and Hospital Admissions where ICD-10-AM diagnosis code with S, T and G codes as below, and/or where external Cause ICD-10-AM with V, X or Y from the list below is present.

- All deaths where an external cause inclusion criterion is met.

Category Description

S00-S09 Injuries to the head
S10-S19 Injuries to the neck
S20-S29 Injuries to the thorax
S30-S39 Injuries to the abdomen, lower back, lumbar spine and pelvis
S40-S49 Injuries to the shoulder and upper arm
S50-S59 Injuries to the elbow and forearm
S60-S69 Injuries to the wrist and hand
S70-S79 Injuries to the hip and thigh
S80-S89 Injuries to the knee and lower leg
S90-S99 Injuries to the ankle and foot
T00-T07 Injuries involving multiple body regions
T08-T14 Injuries to unspecified part of trunk, limb or body region
T20-T31 Burns
T66-T78 Other and unspecified effects of external causes
T79 Certain early complications of trauma
T89 Other complications of trauma not elsewhere classified
G93.1 Anoxic brain damage, not elsewhere identified (Extension of T71)

Inclusion External Causes Code

Category Description

V01-X59 Accidents
X60-X84 Intentional Self Harm
X85-Y09 Assault
Y10-Y34 Event of undetermined intent
Y35-Y36 Legal intervention and operations of war
Y85-Y86 Sequelae of Transport Accidents
Y87 .1-Y87.2 Sequelae of assault or events of undetermined intent
Y89 Sequelae of other external causes
Y96 Work-related condition (where above diagnosis code is present)

EXCLUSIONS

- Previous page exclusion criteria
- Emergency Presentations which did not wait for treatment.
- Where ICD-10-AM code is only/exclusively one of the following category descriptions
    - Y40-Y84 Complications of Medical and Surgical Care
    - T80-T88 Complications of surgical and medical care, not elsewhere classified

Dataset definition sources

Dataset items ('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, BNTMDS 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 have also been considered. These include but are not limited to the European Utstein template, American National Trauma Data Bank [NTDB] or Canadian National Trauma Registry [NTR]. 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.

An estimate of field collectability amongst Australian and New Zealand trauma registries will be provided in future versions of this dictionary. The data will be collated from a sample of hospitals, regional and statewide registries across the two countries. Data fields are felt to be readily available ('Ready') if more than 80% of respondent registries currently collect the field; 'Near ready' if more than 70% of registries collect or could collect the field with current resources; and 'Not ready' if less than 70% of registries are currently capable of collecting the field.

Guide to using this data dictionary

Development of the BTNMDS data dictionary is based on existing national health data standards where available. The national health metadata standards is overseen by the Australian Institute of Health and Welfare (AIHW) and is hosted online at the Metadata Online Registry (METeOR) website. For more information about METeOR, please go to:

http://meteor.aihw.gov.au/content/index.phtml/itemId/181162

The format of the following data dictionary is based on the ISO/IEC International Standard 11179- 3:2003 (Information Technology - Metadata Registries - Part 3: Registry metamodel and basic attributes), as interpreted by AIHW. The following guide provides an overview of the types of data attributes and their definitions used for each of the BTNMDS data items.

Dates and times are in accordance to the recommendations of ISO 8601:2004 (Data fields and interchange formats - Information interchange - Representation of dates and times)

Guide to Meaning of Categories and Headings

Identifying and definitional attributes

Definition	A concise statement that expresses the essential nature of a data field and its differentiation from all other data fields.
Justification	The reason for collecting the data field.

Obligation

Minimum dataset variables are submitted by contributing sites and registries. However, there are a select group of 'mandatory' fields required in order to be considered valid for ATR submission. These mandatory fields are listed within the dictionary under 'Obligation'. It is understood that not all sites and registries collect all the variables of the minimum dataset, however if it is collected, it is expected that it will be provided to the ATR.

Representational attributes

Data domain	The set of possible values for the data field. This may take the form of a code set, or a description of the possible values. Domain values are only specified where size of the code set is small enough to be reasonably reproduced in the document. In other instances the domain may be indicated by reference to a source document.
Guide for use	These are comments designed to assist in further defining aspects of the data domain.
Validation rules	These are included to assist in reducing input error. Where validation rules are known to exist, they have been included.
Related data field	Other data fields in this data dictionary that have some direct relationship with the data fields being described. This will generally specify fields which may be derived from, or may contribute to deriving the value of the field being defined.
Data type	The type of symbol or character, or other designation used to represent the data field, for example, alphanumeric values are text, numbers or Date/Time.
Representation class	Describes whether the valid values for the data field take the form of a code set or free text. If the form is described as 'Code' the relevant code set or sets will be specified in the Data Domain section.
Maximum field size	The maximum number of characters allowable to represent the data field values.
Format	A generic example of what the data field should look like in the unit record. It is a template for the presentation of values, including specification and layout of permitted characters. For example, dates should be represented in the format of DDMMYYYY where DD represents the day, MM represents the month, and YYYY represents the four-digit numeric for the year
Unit of Measure	The standard unit utilised in the collection of the data.
Column location/name	The mandated location and name of the column which contains the data field in the file format template.
Correspondence	The relationship of the data field (one: one or one: many) to the *primary key* in a database which is based on or

using the BNTMDS. The default primary key for the BNTMDS is the field ***1.03 Incident Number***, although alternate primary keys may be used. If a field has *single* correspondence, there is only one value per field per primary key; if a field has *multiple* correspondence, there may be one or many (or no) values per field per primary key.

Additional information

References	Documents listed here have been used as references when designing the specified field. Also listed are names of the organisations that developed the source document or provided advice on the data field.
Related metadata	Relationship between other metadata fields.
International	WHOTR World Health Organisation Trauma Registry, 2018
	Utstein The Utstein Trauma Template, Ringdal et al 2008
ANZ National	METeOR http://meteor.aihw.gov.au/
	NZNMD NZ Major Trauma National Minimum Dataset v 1.4
Other	OTRC Ontario Trauma Registry Comprehensive Data Set
ANZ State group	VSTORM Victorian State Trauma Outcomes Registry Monitoring
	VAED Victorian Admitted Episodes Dataset
	QHIK Queensland Health Information Knowledgebase

Format values and their associated meanings

Value	Valid character range
A	Alphabetic character set: contains the letters a-z and A-Z and may contain special characters*, but not numeric characters.
N	Numeric character set: contains whole and decimal numbers and may contain special characters, but not alphabetic characters.
X	Alphanumeric character set: contains alphabetic and numeric characters and may contain blank characters.
D	A numeric character representing a number of days
M	A numeric character representing a number of months
Y	A numeric character representing a number of years
[ ]	The string within the square brackets is optional in any ordered combination (eg. [XXX] indicates 0, 1, 2 or 3 alphanumeric characters (i.e. blank, X, XX or XXX)).
( )	The character preceding the round brackets (parentheses) is repeated the number of times specified (eg. X(9) indicates 9 alphanumeric characters).

* A special character is a character which has a visual representation and is neither a letter, number, ideogram, or blank. For example, punctuation marks and mathematical symbols

Approval and Limitations

This version of the data dictionary has been approved by the ATR Board and AusTQIP Steering Committee. Work on the dataset and data dictionary is an on-going iterative process. Readers will need to be aware of certain limitations in the current version that do not affect the intended purpose or definitions for each of the data fields.

Glossary of Terms

Certain terms referred to throughout this dictionary are commonly used in the clinical vernacular for trauma care. However, for the purposes of this data dictionary and also to help standardise definitions and data collection, the following definitions are used.

Definitive Care Hospital
The hospital at the highest service level within the trauma system structure where the patient was treated. This is usually a tertiary hospital that is able to provide leadership and total care for all aspects of the injury from prevention through to rehabilitation.

Referring Hospital
An acute care hospital from which the patient has been transferred following separation, to the Definitive Care Hospital. This usually occurs in an effort to move the injured patient to a higher level of care with the resources needed to optimise treatment. In some instances, there may be multiple referring hospitals prior to a patient's arrival at a definitive care hospital.

First Hospital
An acute care hospital to which the patient was transported initially following the injury event. This may not be the Referring Hospital, as defined above, but the first in a series of transferring hospitals.

Pre-hospital
Refers to any event that occurred prior to a patient arriving at the Definitive Care Hospital. These include scene, transfer and any referring hospital/hospitals.

Data Definitions

1.01 Institution

Identifying and definitional attributes

Definition	The identifier for the establishment in which the episode of definitive (final) care occurred. Each separately administered health care establishment has a unique identifier at the national level. Establishment IDs for 696 Australian hospitals can be located in table AS.1: 'Public hospitals included in AIHW hospitals databases, 2017–18' of the Supplementary tables: https://www.aihw.gov.au/reports/hospitals/hospital-resources-2017-18-ahs/data
Justification	Collected for administrative purposes, to assist in service provider identification.
Obligation	Mandatory

Representational attributes

Data domain	Identifier
Guide for use	Concatenation of: • Australian state/territory identifier (character position 1); • Sector (character position 2); • Region identifier (character positions 3-4); and • Organisation identifier (state/territory), (character positions 5-9).
Validation rules	Field cannot be blank Valid Identifier
Related data field	
Data type	Text
Representational class	Identifier
Field size maximum	9
Format	NNX[X]NNNNN
Column location	ATR#_site_time-period_INC.csv
Column name	InstitutionId
Correspondence	Single

Administrative information

References	
Related metadata	METeOR ID:269973, NZNMDv1.7:1.01, QHIK:041826, WHO:FacilityID

1.02 Trauma Number

Identifying and definitional attributes

Definition	A person identifier unique to the establishment or agency where the person received definitive (final) care.
Justification	Collected for administrative purposes, to assist in service provider identification.

Representational attributes

Data domain	Identifier
Guide for use	Individual agencies, establishments or collection authorities may use their own alphabetic, numeric or alphanumeric coding systems. This field may be a hospital medical record (UR) number, or a local trauma registry case number.
Validation rules	Field should not be blank Valid Identifier
Related data field	
Data type	Text
Representational class	Identifier
Field size maximum	20
Format	XXXXXX[X(14)]
Column location	ATR#_site_time-period_INC.csv
Column name	TraumaNo
Correspondence	Single

Administrative information

References	
Related metadata	METeOR ID:290046, NZNMDv1.7:1.02, QHIK:040007

1.03 Incident number

Identifying and definitional attributes

Definition	An identifier which is unique to a specific trauma event for a specific person.
Justification	Collected for administrative purposes, to assist in the identification of the same episode of care for a trauma incident.
Obligation	Mandatory

Representational attributes

Data domain	Identifier
Guide for use	Individual agencies, establishments or collection authorities may use their own alphabetic, numeric or alphanumeric coding systems. The unique event identifier may be generated by the system or site and may equate to an admission number.
Validation rules	Field cannot be blank Valid Identifier
Related data field	
Data type	Text
Representational class	Identifier
Field size maximum	10
Format	XXXXXX[X(4)]
Column location	ATR#_site_time-period_INC.csv
Column name	IncidentNo
Correspondence	Primary key[1]

Administrative information

References	
Related metadata	VSTORM v6.0:4.1, VAED v1.0: p146, WHO:RegistryCaseID

[1] Within the current specification of the ATR, this field has single correspondence with the 'Australasian Trauma Registry number' which serves as the primary key for this database.

2.01 Date of birth

Identifying and definitional attributes

Definition	The date of birth of the person.
Justification	Collected for administrative purposes, to assist in individual identification and for derivation of age in demographic analyses.

Representational attributes

Data domain	Date
Guide for use	If date of birth is not known or cannot be obtained, provision should be made to collect or estimate age. 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.
Validation rules	Less than all other dates Valid Date
Related data field	• 2.02 Age
Data type	Text
Representational class	Date
Field size maximum	8
Format	DDMMYYYY
Column location	ATR#_site_time-period_INC.csv
Column name	DOB
Correspondence	Single

Administrative information

References	
Related metadata	METeOR ID:287007, NZNMDv1.7:2.01, QHIK:0404163, WHO:DateofBirth

2.02 Age

Identifying and definitional attributes

Definition	The age of the patient on the date of the injury event, measured as a number of years.
Justification	Age is a core data field as a predictive measure of trauma treatment and outcomes.
Obligation	Mandatory

Representational attributes

Data domain	**Code**	**Description**
	0-130	Valid Age
	999	Unknown/not stated
Guide for use	Age in single years (if aged under one year, record as zero). Can be derived from: • 3.01 Date of Birth; and • 2.01 Date & Time of Injury If both data fields are available, this should be derived as a calculated field. If age cannot be calculated, is not stated and cannot be estimated, value 999 should be used.	
Validation rules	Permissible values: 0 - 130, 999	
Related data field	• 2.01 Date of Birth • 3.01 Date & Time of Injury	
Data type	Number	
Representational class	Total	
Field size maximum	3	
Format	N[NN]	
Column location	ATR#_site_time-period_INC.csv	
Column name	Age	
Correspondence	Single	

Administrative information

References	
Related metadata	METeOR ID:303794, NZNMDv1.7:2.02, QHIK:041753, WHO:Age, Utstein v1.1.1:1

2.03 Sex

Identifying and definitional attributes

Definition	The biological distinction between male and female.
Justification	Collected to determine sex-specific treatment. It is also a core field in a wide range of social, labour and demographic statistics.
Obligation	Mandatory

Representational attributes

Data domain	**Code**	**Description**
	1	Male
	2	Female
	3	Intersex or indeterminate
	9	Unknown/Not Stated
Guide for use	Diagnosis and procedure codes should be checked against the national ICD-10-AM sex edits, unless the person is undergoing, or has undergone a sex change or has a genetic condition resulting in a conflict between sex and ICD-10-AM code. Intersex or indeterminate refers to a person, who because of a genetic condition was born with reproductive organs or sex chromosomes that are not exclusively male or female, or whose sex has not yet been determined for whatever reason. Intersex or indeterminate, should be confirmed if reported for people aged 90 days or greater.	
Validation rules	Field cannot be blank Permissible values: 1-3, 9	
Related data field		
Data type	Number	
Representational class	Code	
Field size maximum	1	
Format	N	
Column location	ATR#_site_time-period_INC.csv	
Column name	Sex	
Correspondence	Single	

Administrative information

References	ICD10AM: International Statistical Classification of Diseases and Related Health Problems, Australian Modification.
Related metadata	METeOR ID:287316, NZNMDv1.7:2.03, QHIK:044308, WHO:Gender, Utstein v1.1.1:2

2.04 Comorbidity/Severe Complications Qualifier

Identifying and definitional attributes

Definition	To qualify whether sites have collected ICD-10 codes for comorbidites or severe complications, and if so whether relevant codes are available.
Justification	To assist in determining data completeness.

Representational attributes

Data domain	**Code**	**Description**
	1	Patients with no ICD codes submitted
	2	Patients with ICD codes submitted but no relevant codes for comorbitities/complications
	3	Patients with ICD codes submitted including relevant codes for comorbidities OR complications OR both.
	9	Unknown/Not Stated
Guide for use	1 and 2 do not require any ICD coding to be provided in 2.04 Pre-injury Co-morbidities or 7.08 Severe Complications.	
	3 requires 2.04 Pre-injury Co-morbidities and/or 7.08 Severe Complications to be completed	
Validation rules	Field cannot be blank	
	Permissible values: 1-3, 9	
Related data field		
Data type	Number	
Representational class	Code	
Field size maximum	1	
Format	N	
Column location	ATR#_site_time-period_INC.csv	
Column name	ICDQualifier	
Correspondence	Single	

Administrative information

References

Related metadata

2.05 Pre-injury Co-morbidities

Identifying and definitional attributes

Definition	Significant condition, conditions or complaint which pre-existed the injury incident, and which affect management of the patient and their injuries.
Justification	Co-morbidities may affect patient treatment and outcome.

Representational attributes

Data domain	ICD10-AM code
Guide for use	Record all diagnosis codes existing prior to the episode of care for the injury incident, in accordance with the ICD-10-AM Australian Coding Standards. The diagnosis can include a disease, condition, previous injury, poisoning, sign, symptom, abnormal finding, complaint, or other factor influencing health status. ICD-10 AM Australian Coding Standards diagnosis codes can be used to map to specified co-morbidity groups such as the American Society of Anaesthesiologists' scale. See also Appendix Supplemental Guide.
Validation rules	Valid ICD10-AM code
Related data field	
Data type	Text
Representational class	Code
Field size maximum	6
Format	ANN{.N[N]}
Column location	ATR#_site_time-period_INC.csv
Column name	Comorb
Correspondence	Multiple

Administrative information

References	ICD10AM: International Statistical Classification of Diseases and Related Health Problems, Australian Modification.
Related metadata	WHO:MajorMedicalComorbidities, DrugUse, Utstein v1.1.1:6

2.06 Ethnicity

Identifying and definitional attributes

Definition	An ethnic group is a social group whose members have one or more of the following: - they share a sense of common origins - they claim a common and distinctive history and destiny - they possess one or more dimensions of collective cultural individuality - they feel a sense of unique collective solidarity.
Justification	Information on ethnicity is collected for monitoring injury patterns across different ethnic groups; ethnic group codes are key variables for determining the characteristics of the population who suffer from major trauma.

Representational attributes

Data domain	**Code**	**Description**
	1	Pakeha / NZ European
	2	Māori
	3	Pacific Island
	4	Asian
	5	Other
	21	Aboriginal but not Torres Strait Islander origin
	22	Torres Strait Islander but not Aboriginal origin
	23	Both Aboriginal and Torres Strait Islander origin
	24	Neither Aboriginal nor Torres Strait Islander origin
	99	Not stated/ Inadequately described
	Ethnicity is a self-identified characteristic.	
Guide for use	New Zealand Use Codes (as per the MOH Level 1 ethnicity codes) 1-5, 99 Australian Use Codes 21-24, 99	
Validation rules	Permissible values: 1-5, 21-24, 99	
Related data field		
Data type	Number	
Representational class	Code	
Field size maximum	2	
Format	N[N]	
Column location	ATR#_site_time-period_INC.csv	
Column name	Ethnicity	
Correspondence	Single	

Administrative information

References	
Related metadata	METeOR ID:291036, QHIK:040290

2.07 Residential Postcode

Identifying and definitional attributes

Definition	The primary residential location by postal code of the injured patient. Postcode of the patients' main residential address, if known. The numeric descriptor for a postal delivery area, aligned with town, locality, or place for the address of a person.
Justification	Used in the analysis of geographical socioeconomic factors. Where individual street addresses are available, postcodes can be mapped to more accurate Australian Standard Geographical Classification codes (ASGC) codes (e.g. SLAs).

Representational attributes

Data domain	Postcode
Guide for use	If place of residence is outside Australia or New Zealand use the 4-digit code: 8888 If place of residence is unknown or no place of residence use the 4-digit code: 9999
Validation rules	Permissible values: Valid Postcode, 8888, 9999
Related data field	
Data type	Number
Representational class	Code
Field size maximum	4
Format	{NNNN}
Column location	ATR#_site_time-period_INC.csv
Column name	ResidPcode
Correspondence	Single

Administrative information

References	
Related metadata	METeOR ID:429894, QHIK:040395, WHO:Residence

2.08 Occupation

Identifying and definitional attributes

Definition	The primary occupation of the patient prior to the incident occuring as per classifiation Australia New Zealand Standard Classification of Occupations (ANZSCO) First Edition Revision 1. Indicate patient's usual or principal work or business to earn a living.
Justification	Injury impact on the individual ability to return to employment

Representational attributes

Data domain ANZSCO

Code	Description
0	Unknown
1	Managers
2	Professionals
3	Technicians and Trades Workers
4	Community and Personal Service Workers
5	Clerical and Administrative Workers
6	Sales Workers
7	Machinery Operators and Drivers
8	Labourers
9	Unemployed / Pensioner / Retired
10	Child/Student

Guide for use	Utilisation of the ABS 1220.0 - ANZSCO - Australian and New Zealand Standard Classification of Occupations, First Edition, Revision 1 reference list to occupation to classification should be utilised as a guide to groupings.
Validation rules	Permissible values: 0-9
Related data field	
Data type	Number
Representational class	Code
Field size maximum	2
Format	{NN}
Column location	ATR#_site_time-period_INC.csv
Column name	Occupation
Correspondence	Single

Administrative information

References	https://www.abs.gov.au/ Australia New Zealand Standard Classification of Occupations (ANZSCO) First Edition Revision 1
Related metadata	WHO:Occupation

3.01 Date & Time of Injury

Identifying and definitional attributes

Definition	The date and time the person received the injuries requiring hospitalisation.
Justification	To identify the episode of injury by the date and time. Date is used to calculate the age at date of injury. Time is used to calculate the time to treatment and also report on the most common time of injury.
Obligation	Mandatory

Representational attributes

Data domain	Date Time
Guide for use	Valid Date Time If time is not accurately known, the best estimate should be used. Midnight should be entered as 00:01 of the following date (00:00 and 24:00 are not accepted). Example, midnight 25th November 2011 should be reported as 25112011T0001. Where the date and time is unknown, enter as: • 01011900T0000 Where date in known but time is unknown, enter actual date: • DDMMYYYYT0000 Where the time is known but date is unknown, enter actual time as: • 01011900Thhmm
Validation rules	Valid Date Time Must be less than or equal to: • 4.02 Date & Time of Ambulance Arrival at Patient (if used); • 4.05 Date & Time of Arrival at Referring Hospital (if used); • 4.06 Date & Time of Departure from Referring Hospital (if used); and • 5.01 Date & Time of Arrival at Definitive Care HospitalMust be less than or equal to: Must be greater than or equal to: • 2.01 Date of Birth (if used);
Related data field	• 2.01 Date of Birth • 2.02 Age
Data type	Date/Time
Representational class	Date/Time
Field size maximum	13
Format	DDMMYYYYThhmm
Column location	ATR#_site_time-period_INC.csv
Column name	DOIJ
Correspondence	Single

Administrative information

References	
Related metadata	NZNMDv1.7:3.01, VSTORM v6.0:2.1 & 2.2, QHIK:040796, WHO:InjuryDate InjuryTime

3.02 Injury Cause

Identifying and definitional attributes

Definition	The single environmental event, circumstance or condition (external factor) which was the primary circumstance or cause of the trauma event.
Justification	Enables categorisation of injury cause and identify trends in defining and monitoring cause of injuries.

Representational attributes

Data domain	ICD10-AM code
Guide for use	This code must be used in conjunction with an injury or poisoning code and can be used with other disease codes. The external cause should be coded to the complete ICD-10-AM classification. If two or more cause categories are judged to be equally important, select the one that comes first in the code list. An external cause code should be sequenced following the related injury or poisoning code, or following the group of codes, if more than one injury or condition has resulted from this external cause. Provision should be made to record more than one external cause if appropriate. External cause codes must include a place of occurrence code.
Validation rules	Valid ICD10-AM code Field cannot be blank if following not blank: • 3.06 Place of Injury Occurance; • 3.07 Activity Engaged in When Injured;
Related data field	• 3.03 Dominant Injury Type; • 3.06 Place of Injury Occurance; • 3.07 Activity Engaged in When Injured;
Data type	Text
Representational class	Code
Field size maximum	6
Format	ANN{.N[N]}
Column location	ATR#_site_time-period_INC.csv
Column name	InjuryCause
Correspondence	Single

Administrative information

References	ICD10AM: International Statistical Classification of Diseases and Related Health Problems, Australian Modification.
Related metadata	METeOR ID:699733, 641415, NZNMDv1.7:3.02, QHIK:041647, WHO:InjuryMechanisim, Utstein v1.1.1:4

3.03 Dominant Injury Type

Identifying and definitional attributes

Definition	The dominant type of injury produced by the trauma event.
Justification	Collected to determine trends and calculation of TRISS (blunt and penetrating only).

Representational attributes

Data domain	**Code**	**Description**
	1	Blunt
	2	Penetrating
	3	Burn
	8	Other trauma
	9	Not stated/inadequately described

Guide for use

In most instances, determination of the dominant injury type will be based on the mechanism of injury, and relate directly to:

• 3.02 Injury Cause

Blunt injuries generally occur from mechanisms such as motor vehicle collisions, pedestrian impacts, falls and sports injuries.

Penetrating injuries, require skin penetration by an external force as the principal component of injury. Examples include stab and gunshot wounds, glass-related injuries and impalements. Examples include stab and gunshot wounds, bomb fragments, glass-related injuries and impalements. This excludes compound fractures where the bone breaks the skin, but includes compound fractures where an external object travels through the skin and into the bone.

Burn injuries are caused by exposure to electrical, thermal or corrosive agents such as flames, hot substances, chemicals or radiation. Examples include situations where electricity has primarily damaged soft tissues (electrical burns).

Other trauma includes hangings, near drowning and electrocution injuries. Examples include cases where electricity has resulted in more diffuse injuries involving other body systems (ie. electrocution) such as cardiac arrest, neurological injuries, fractures and compartment syndrome.

Not stated/inadequately described - type of injury cannot be determined.

In some cases, the dominant injury type will not be readily apparent. For example, a patient injured in a severe motor vehicle collision (which generally result in blunt injuries) may have additional penetrating injuries. When compared with blunt injuries sustained in such an injury event, such penetrating injuries may be minor (as in superficially embedded glass from a broken window) or major (as in impalement on an object within the vehicle). In such cases, the dominant injury type may be established by additional review of:

• 3.08 Injury event description; and

• 7.01 AIS Injury Codes

Where an injury event results in both blunt and non-blunt trauma of equal AIS severity, the non-blunt injury type should be used. Where an electrocution event causes burn and internal ('Other trauma') injuries, the injury with the higher AIS.

Validation rules

Should not be blank

Permissisble values: 1-3, 8, 9

Related data field

• 3.02 Injury Cause;
• 3.08 Injury event description;
• 7.01 AIS Injury Codes

Data type	Number
Representational class	Code
Field size maximum	1
Format	N
Column location	ATR#_site_time-period_INC.csv
Column name	InjuryType
Correspondence	Single

Administrative information

References	https://www.cdc.gov/nchs/injury/injury_matrices.htm
Related metadata	NZNMDv1.7:3.03, VSTORM v6.0:2.7, Utstein v1.1.1:3

3.04 Postcode of Injury

Identifying and definitional attributes

Definition	The postcode where the trauma event occurred.
Justification	Used in the analysis of injury incident on a geographical basis. Where individual street addresses are available, postcodes can be mapped to more accurate Australian Standard Geographical Classification codes (ASGC) codes (e.g. SLAs).

Representational attributes

Data domain	Postcode
Guide for use	If place of injury is outside Australia or New Zealand use the 4-digit code: 8888 If place of injury is unknown use the 4-digit code: 9999
Validation rules	Permissible values: Valid Postcode, 8888, 9999 Institution ID will allow for the identification of region, so for patients with an unknown postcode of injury, the institution ID will allow for identification of the jurisdiction eg New South Wales, Western Australia, New Zealand
Related data field	
Data type	Number
Representational class	Code
Field size maximum	4
Format	{NNNN}
Column location	ATR#_site_time-period_INC.csv
Column name	InjuryPcode
Correspondence	Single

Administrative information

References	
Related metadata	METeOR ID:429894, NZNMDv1.7:3.04, QHIK:041836, WHO:InjuryLocation

3.05 Injury Intent

Identifying and definitional attributes

Definition	The most likely role of human intent in the occurrence of the trauma event as determined by a clinician's assessment.
Justification	Used for injury surveillance.

Representational attributes

Data domain	**Code**	**Description**
	1	Accidental or unintentional - injury not intended
	2	Intentional self-harm
	3	Sexual assault
	4	Maltreatment by parent (including neglect)
	5	Maltreatment by spouse or partner (including domestic violence)
	6	Other and unspecified assault
	7	Event of undetermined intent
	8	Legal intervention (including police),
		Incl: operations of war or acts of terrorism
	9	Adverse effect or complications of medical and surgical care
	10	Other specified intent
	11	Intent not specified
Guide for use	Select the code which best characterises the role of intent in the occurrence of the injury, on the basis of the information available at the time it is recorded.	
	If two or more categories are judged to be equally appropriate, select the one that comes first in the code list.	
Validation rules	Should not be blank	
	Permissisble values: 1-11	
Related data field		
Data type	Number	
Representational class	Code	
Field size maximum	2	
Format	N[N]	
Column location	ATR#_site_time-period_INC.csv	
Column name	InjuryIntent	
Correspondence	Single	

Administrative information

References	
Related metadata	METeOR ID:268944, NZNMDv1.7:3.05, WHO:InjuryIntent, Utstein v1.1.1:5

3.06 Place of Injury Occurrence

Identifying and definitional attributes

Definition	The type of location where the trauma event occurred.
Justification	To identify trends of injury and for injury prevention and control.

Representational attributes

Data domain	ICD10-AM code
Guide for use	This code must be used in conjunction with an injury or poisoning code and can be used with other disease codes. The external cause should be coded to the complete ICD-10-AM classification. If two or more cause categories are judged to be equally important, select the one that comes first in the code list. An external cause code should be sequenced following the related injury or poisoning code, or following the group of codes, if more than one injury or condition has resulted from this external cause. Provision should be made to record more than one external cause if appropriate. External cause codes must include a place of occurrence code. Existing numerical codesets used for similar fields may be mapped to this field.
Validation rules	Valid ICD10-AM code Field cannot be blank if following not blank: • 3.02 Injury Cause; • 3.07 Activity Engaged in When Injured;
Related data field	
Data type	Text
Representational class	Code
Field size maximum	6
Format	{ANN[.N[N]}
Column location	ATR#_site_time-period_INC.csv
Column name	InjuryPlace
Correspondence	Single

Administrative information

References	ICD10AM: International Statistical Classification of Diseases and Related Health Problems, Australian Modification.
Related metadata	METeOR ID:589028, 641422, NZNMDv1.7:3.06, QHIK:041836, WHO:InjurySetting

3.07 Activity Engaged in when Injured

Identifying and definitional attributes

Definition	The type of activity the person was engaged in at the time of the trauma event.
Justification	To identify trends of injury and for injury prevention and control. The basis for identifying work-related and sport-related injuries.

Representational attributes

Data domain	ICD10-AM code
Guide for use	This code must be used in conjunction with an injury or poisoning code and can be used with other disease codes. The external cause should be coded to the complete ICD-10-AM classification. If two or more cause categories are judged to be equally important, select the one that comes first in the code list. An external cause code should be sequenced following the related injury or poisoning code, or following the group of codes, if more than one injury or condition has resulted from this external cause. Provision should be made to record more than one external cause if appropriate. External cause codes must include an activity code. Existing numerical codesets used for similar fields may be mapped to this field.
Validation rules	Valid ICD10-AM code Field cannot be blank if following not blank: • 3.02 Injury Cause; • 3.06 Place of Injury Occurrence;
Related data field	
Data type	Text
Representational class	Code
Field size maximum	6
Format	{ANN[.N[N]}
Column location	ATR#_site_time-period_INC.csv
Column name	ActEngaged
Correspondence	Single

Administrative information

References	ICD10AM: International Statistical Classification of Diseases and Related Health Problems, Australian Modification.
Related metadata	METeOR ID:589002, 641383, NZNMDv1.7:3.07, QHIK:041649, WHO:InjuryActivity

3.08 Injury Event Description

Identifying and definitional attributes

Definition	A textual description of the environmental event, circumstance or condition as the cause of injury
Justification	The narrative of the injury event is very important as it identifies features of the event not revealed by coded data.

Representational attributes

Data domain	Text
Guide for use	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. Write a brief description of how the injury occurred. It should indicate: • What went wrong (the breakdown event) • The mechanism by which this event led to injury • The object(s) or substance(s) most important in the event • The type of place at which the event occurred • The activity of the person who was injured
Validation rules	Should not be blank
Related data field	• 3.03 Dominant Injury Type
Data type	Text
Representational class	Text
Field size maximum	1000
Format	[X(1000)]
Column location	ATR#_site_time-period_INC.csv
Column name	InjuryEvent
Correspondence	Single

Administrative information

References	
Related metadata	METeOR ID:268946, NZNMDv1.7:3.08

3.09 Safety Devices Used

Identifying and definitional attributes

Definition	The use (or lack of use) of safety equipment relevant to the injury cause.
Justification	To monitor the deployment and efficacy of safety devices, and to inform future safety initiatives.

Representational attributes

Data domain	**Code** **Description** 1 No safety device 2 Seatbelt 3 Child car restraint 4 Safety protection 5 Helmet 6 Personal Floatation Device 7 Safety harness 8 Airbag deployed 9 Other 10 Not worn or used 11 Not deployed 99 Not stated/inadequately described
Guide for use	Seatbelt include lap, shoulder and sash seatbelts. Child car restraint examples include booster seat, child car seat, infant capsule. Safety Protection examples include protective clothing (such as padded leather pants, industrial clothing), protective non-clothing (such as shin guard, knee or elbow pads) and eye protection (such as goggles, safety glasses). Helmet examples include bicycle, skiing, motorcycle, rock climbing. Code 10 – Not worn or used, if safety devices for codes 2- 7 available but not used or worn. Code 11 – Not deployed, if code 8 available but has not deployed
Validation rules	Permissible values: 1-11, 99
Data type	Number
Representational class	Code
Field size maximum	2
Format	N[N]
Column location	ATR#_site_time-period_INC.csv
Column name	SafetyDevice
Correspondence	Multiple

Administrative information

References	
Related metadata	NZNMDv1.7:3.09, WHO:InjuryProtective, OTRC 2014: p38

3.10 Injury Latitude

Identifying and definitional attributes

Definition	The Latitude/Longitude geocode where the trauma event occurred. Where Place of Injury Occurrence is equal to ICD-10 code Y92.4x (street and highway) and Injury Intent is equal to Accidental or unintentional.
Justification	Used in the analysis of injury incident on a geographical basis. Where available geocodes provide Latitude and Longitude of location of Injury. Spatial representation in numerical coordinates for identificationof injury location analysis. Where not available and individual street addresses are available, geocode can be mapped. ie. Latitude eg Lat = -27.960

Representational attributes

Data domain	Geocode
Guide for use	The format XN[NN][.N(3)] allows for 1, 2 and 3 digit latitudes (ie.degree values) with the option of 0 to 3 decimal places (i.e. decimal degrees) which will show to within 100m of the injury place. The 'X' in the latitude format symbolises the designator symbol “+” or “- ” and should be placed prior to the first number. Latitudes north of the equator are positive and shall be designated by use of the plus sign (+), latitudes south of the equator are negative and shall be designated by use of the minus sign (-). The equator shall be designated by use of the plus sign (+).Where not available and individual street addresses are available, geocode can be mapped. The intent is to collect the geocode for accidental road trauma. Geocodes are excluded where the Place of Injury Occurrence ICD-10 code is Y92.0x (Home), or 3.05 Injury Intent is not equal to 1. Accidental or unintentional.
Validation rules	Valid Geocode to only three decimal places May be blank if geocode not known
Related data field	• 3.04 Postcode of Injury
Data type	Alphanumeric
Representational class	Code
Field size maximum	7
Format	AN[NN][.N(3)]
Column location	ATR#_site_time-period_INC.csv
Column name	InjuryLat
Correspondence	Single

Administrative information

References	
Related metadata	METeOR ID:430445

3.11 Injury Longitude

Identifying and definitional attributes

Definition	The Latitude/Longitude geocode where the trauma event occurred. Where Place of Injury Occurrence is equal to ICD-10 code Y92.4x (street and highway) and Injury Intent is equal to Accidental or unintentional.
Justification	Used in the analysis of injury incident on a geographical basis. Where available geocodes provide Latitude and Longitude of location of Injury. Spatial representation in numerical coordinates for identificationof injury location analysis. Where not available and individual street addresses are available, geocode can be mapped. ie. Longitude eg Lon= 153.385954

Representational attributes

Data domain	Geocode
Guide for use	The format XN[NN][.N(3)] allows for 1, 2 and 3 digit longitudes (ie.degrees) with the option of 0 to 3 decimal places (i.e. decimal degrees) which will show to within 100m of the injury place. The 'A' in the longitude format symbolises the designator symbol “+” or “-” and should be placed prior to the first number. “The designator symbol for longitudes east of Greenwich are positive and shall be designated by use of the plus sign (+), while longitudes west of Greenwich are negative and shall be designated by use of the minus sign (-). The Prime Meridian shall be designated by use of the plus sign (+). The 180th meridian shall be designated by use of the minus sign (-). The intent is to collect the geocode for accidental road trauma. Geocodes are excluded where the Place of Injury Occurrence ICD-10 code is Y92.0x (Home), or 3.05 Injury Intent is not equal to 1. Accidental or unintentional. Where not available and individual street addresses are available, geocode can be mapped. May be blank if geocode not known.
Validation rules	Valid Geocode to only three decimal places May be blank if geocode not known
Related data field	• 3.04 Postcode of Injury
Data type	Alphanumeric
Representational class	Code
Field size maximum	7
Format	AN[NN][.N(3)]
Column location	ATR#_site_time-period_INC.csv
Column name	InjuryLong
Correspondence	Single

Administrative information

References	
Related metadata	METeOR ID:430469

4.01 Mode of Transport from Scene

Identifying and definitional attributes

Definition	The type of transport by which the person left the scene of the trauma event for transportation to hospital.
Justification	To monitor patterns and modes of transportation used.
Obligation	Mandatory

Representational attributes

Data domain	**Code**	**Description**
	1	Road Ambulance
	2	Helicopter Ambulance
	3	Fixed-wing Ambulance
	4	Private/Public Vehicle/Taxi/Walk-in
	5	Interstate Ambulance
	6	Private Ambulance
	7	Police/Prison Vehicle
	8	Other
	9	Not stated/inadequately described
Guide for use	Use of air ambulance services will take precedence in this field. For example, in the event that a patient requires road ambulance transport from the scene of an incident to a nearby helicopter, or from a helipad to a nearby hospital, the mode of transport is ‘Helicopter’, not ‘Road’.	
Validation rules	Field cannot be blank	
	Permissible values: 1-9	
Related data field	• 4.02 Date & Time of Ambulance Arrival at Patient	
Data type	Number	
Representational class	Code	
Field size maximum	1	
Format	N	
Column location	ATR#_site_time-period_INC.csv	
Column name	TranspMode	
Correspondence	Single	

Administrative information

References	
Related metadata	VSTORM v6.0:3.5, QHIK:040977, WHO:ArrivalMode, Utstein v1.1.1:27

4.02 Date & Time of Ambulance Arrival at Patient

Identifying and definitional attributes

Definition	The date and time the first ambulance service reached the person at the scene of injury.
Justification	To monitor patterns of transfer and mode of transportation used.

Representational attributes

Data domain	Date Time
Guide for use	If a person was transported by ambulance service from the scene, the date and time the first ambulance service reached the person. Midnight should be entered as 00:01 of the following date (00:00 and 24:00 are not accepted). Midnight should be entered as 00:01 of the following date (00:00 and 24:00 are not accepted). Example, midnight 25th November 2011 should be reported as 25112011T0001. Where the date and time is unknown, enter as: • 1011900T0000 Where date in known but time is unknown, enter actual date: • DDMMYYYYT0000 Where the time is known but date is unknown, enter actual time as: • 01011900Thhmm
Validation rules	Valid Date Time Must be greater than or equal to: • 3.01 Date & Time of Injury Must be less than or equal to: • 4.05 Date & Time of Arrival at Referring Hospital (if used); • 4.06 Date & Time of Departure from Referring Hospital (if used); and • 5.01 Date & Time of Arrival at Definitive Care Hospital
Related data field	• 4.01 Mode of Transport from Scene
Data type	Date/Time
Representational class	Date/Time
Field size maximum	13
Format	DDMMYYYYThhmm
Column location	ATR#_site_time-period_INC.csv
Column name	AmbulanceArrTime
Correspondence	Single

Administrative information

References	
Related metadata	VSTORM v6.0:3.9

4.03 Transfer from Other Hospital?

Identifying and definitional attributes

Definition	Whether the person was treated at another acute-care hospital prior to arrival at the definitive care hospital.
Justification	To identify the treatment pathway and outcomes.
Obligation	Mandatory

Representational attributes

Data domain	**Code**	**Description**
	1	Yes
	2	No
	9	Not stated/inadequately described
Guide for use		
Validation rules	Permissible values: 1, 2, 9.	
Related data field	• 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 Number	
Data type		
Representational class	Code	
Field size maximum	1	
Format	N	
Column location	ATR#_site_time-period_INC.csv	
Column name	OtherHospTransfer	
Correspondence	Single	

Administrative information

References	
Related metadata	WHO:FacilityTransfers, Utstein v1.1.1:30

4.04 Referring Hospital

Identifying and definitional attributes

Definition	The identifier for the establishment from which the person was transferred. Each separately administered health care establishment has a unique identifier at the national level. Establishment IDs for 696 Australian hospitals can be located in table AS.1: 'Public hospitals included in AIHW hospitals databases, 2017–18' of the Supplementary tables: https://www.aihw.gov.au/reports/hospitals/hospital-resources-2017-18- ahs/data
Justification	To identify the referring health service provider for patient tracking.

Representational attributes

Data domain	Identifier
Guide for use	Concatenation of: • Australian state/territory identifier (character position 1) • Sector (character position 2) • Region identifier (character positions 3-4) • Organisation identifier (state/territory), (character positions 5-9) If the person attended multiple hospitals (and previous records are unavailable) prior to arriving at the hospital of definitive care, record the last transferring hospital.
Validation rules	Valid Identifier Must be completed if the following collected: • 4.03 Transfer from Other Hospital? 1 = Yes
Related data field	• 4.03 Transfer from Other Hospital?
Data type	Text
Representational class	Identifier
Field size maximum	9
Format	NNX[X]NNNNN
Column location	ATR#_site_time-period_INC.csv
Column name	RefHospId1, RefHospId2, RefHospId3
Correspondence	Multiple

Administrative information

References	
Related metadata	METeOR ID:269973, NZNMDv1.7:5.01, QHIK:041826

4.05 Date & Time of Arrival at Referring Hospital

Identifying and definitional attributes

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.
Justification	Enables calculation of transfer time from referring hospital to definitive care hospital.

Representational attributes

Data domain	Date Time
Guide for use	Midnight should be entered as 00:01 of the following date (00:00 and 24:00 are not accepted). Example, midnight 25th November 2011 should be reported as 25112011T0001. Where the date and time is unknown, enter as: • 01011900T0000 Where date in known but time is unknown, enter actual date: • DDMMYYYYT0000 Where the time is known but date is unknown, enter actual time as: • 01011900Thhmm If not collected, can be concatenated if the following data is collected at the referring hospital: • Health service event - presentation date • Health service event - presentation time
Validation rules	Valid Date Time Must be completed if the following collected: • 4.03 Transfer from Other Hospital? 1 = Yes Must be greater than or equal to: • 3.01 Date & Time of Injury; and • 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
Related data field	• 4.03 Transfer from Other Hospital?
Data type	Date/Time
Representational class	Date/Time
Field size maximum	9
Format	DDMMYYYYThhmm
Column location	ATR#_site_time-period_INC.csv
Column name	RefHospArrDateTime1, RefHospArrDateTime2, RefHospArrDateTime3
Correspondence	Multiple

Administrative information

References	
Related metadata	METeOR ID:270393, 270080

4.06 Date & Time of Departure from Referring Hospital

Identifying and definitional attributes

Definition	The date and time patient departed from the hospital from which they were transferred to the definitive care hospital.
Justification	Enables length of stay at referring hospital to be calculated.

Representational attributes

Data domain	Date Time
Guide for use	Midnight should be entered as 00:01 of the following date (00:00 and 24:00 are not accepted). Example, midnight 25th November 2011 should be reported as 25112011T0001. Where the date and time is unknown, enter as: • 01011900T0000 Where date is known but time is unknown, enter actual date: • DDMMYYYYT0000 Where the time is known but date is unknown, enter actual time as: • 01011900Thhmm If the patient is transferred by ambulance service, the time the patient is loaded into the transferring ambulance may be used.
Validation rules	Valid Date Time Must be completed if the following collected: • 4.03 Transfer from Other Hospital? 1 = Yes Must be greater than or equal to: • 3.01 Date & Time of Injury; • 4.02 Date & Time of Ambulance Arrival at Patient (if used); and • 4.05 Date &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
Related data field	• 4.03 Transfer from Other Hospital?
Data type	Date/Time
Representational class	Date/Time
Field size maximum	9
Format	DDMMYYYYThhmm
Column location	ATR#_site_time-period_INC.csv
Column name	RefHospDeptDateTime1, RefHospDeptDateTime2, RefHospDeptDateTime3
Correspondence	Multiple

Administrative information

References	
Related metadata	METeOR ID:270025, 270026, 621829, 621816

4.07 Mode of Transport from Referring Hospital to Definitive Care Hospital

Identifying and definitional attributes

Definition	The type of transport by which the person was transferred from another hospital to the definitive care hospital.
Justification	To monitor patterns of transfer and modes of transportation used.

Representational attributes

Data domain	**Code**	**Description**
	1	Ground Ambulance
	2	Helicopter Ambulance
	3	Fixed-wing Ambulance
	4	Private/Public Vehicle/Taxi/Walk-in
	5	Interstate Ambulance
	6	Private Ambulance
	7	Police
	8	Other
	9	Not stated/inadequately described
Guide for use	Use of air ambulance services will take precedence in this field. For example, in the event that a patient is flown by the Royal Flying Doctor Service from Mt Isa to Townsville, lands at the airstrip in Townsville, is then loaded into an ambulance and taken to The Townsville Hospital, the mode of transport is 'Fixed Wing', not 'Road'. This applies to most fixed wing transfers, where transport to the hospital will be by road car from the airport, and some helicopter transfers where a road ambulance may (for example) transport a patient from a hospital to a nearby helipad.	
Validation rules	Permissible values: 1-9 Must be completed if the following collected: • 4.03 Transfer from Other Hospital? 1 = Yes	
Related data field	• 4.03 Transfer from Other Hospital?	
Data type	Number	
Representational class	Code	
Field size maximum	1	
Format	N	
Column location	ATR#_site_time-period_INC.csv	
Column name	RefHospTranspMode1, RefHospTranspMode2, RefHospTranspMode3	
Correspondence	Multiple	

Administrative information

References	
Related metadata	NZNMDv1.7:5.13, VSTORM v6.0:3.5, QHIK:040977, Utstein v1.1.1:27

4.08 Pre-hospital Blood Transfusion?

Identifying and definitional attributes

Definition	Whether the person was administered any blood products prior to arrival at the definitive care hospital.
Justification	Administration of blood is an indication of the hypovolaemic status of a patient and may be used in the evaluation of quality of care.

Representational attributes

Data domain	**Code**	**Description**
	1	Yes
	2	No
	9	Not stated/inadequately described
Guide for use		
Validation rules	Permissible values: 1, 2, 9.	
Related data field		
Data type	Number	
Representational class	Code	
Field size maximum	1	
Format	N	
Column location	ATR#_site_time-period_INC.csv	
Column name	PreHospBloodTransf	
Correspondence	Single	

Administrative information

References

Related metadata

4.09 Pre-hospital CPR?

Identifying and definitional attributes

Definition	Whether the person received cardiopulmonary resuscitation at any stage prior to arrival at the definitive care hospital.
Justification	CPR is an indicator of cardiac arrest. Cardiac arrest is a predictor of adverse outcome and survival.

Representational attributes

Data domain	**Code**	**Description**
	1	Yes
	2	No
	9	Not stated/inadequately described
Guide for use	Refer to ambulance, emergency services, first responders or transferring hospital clinical notes for evidence of whether or not CPR was administered.	
Validation rules	Permissible values: 1, 2, 9.	
	Should not be blank if Pre-hospital Cardiac Arrest is not blank.	
Related data field	• 4.10 Pre-Hospital Cardiac Arrest?	
Data type	Number	
Representational class	Code	
Field size maximum	1	
Format	N	
Column location	ATR#_site_time-period_INC.csv	
Column name	PreHospCPR	
Correspondence	Single	

Administrative information

References

Related metadata

4.10 Pre-hospital Cardiac Arrest?

Identifying and definitional attributes

Definition	Whether the person suffered a cardiac arrest at any stage prior to arrival at the definitive care hospital.
Justification	Cardiac arrest is a predictor of adverse outcome and survival.

Representational attributes

Data domain	**Code**	**Description**
	1	Yes
	2	No
	9	Not stated/inadequately described
Guide for use	Cardiac arrest requires the absence of a detectable pulse, unresponsiveness and apnoea.	
Validation rules	Permissible values: 1, 2, 9.	
Related data field	• 4.09 Pre-Hospital CPR?	
Data type	Number	
Representational class	Code	
Field size maximum	1	
Format	N	
Column location	ATR#_site_time-period_INC.csv	
Column name	PreHospCardArrest	
Correspondence	Single	

Administrative information

References	
Related metadata	VCOR v 1.4 : 2.3.2, Utstein v1.1.1:7

4.11 Scene Pulse

Identifying and definitional attributes

Definition	The first recorded heart rate measured at the scene of trauma.
Justification	Used as a proxy to assess injury severity.

Representational attributes

Data domain	**Code**	**Description**
	0-300	Heart beats per minute
	996	Not applicable
	997	Cardiac arrest
	998	Not recorded
	999	Not stated/inadequately described
Guide for use	First measurement taken by any any first responder prior to definitive care hospital.	
	Where the person's first presentation is at a definitive care hospital, code 996 – Not applicable	
	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, code 999 - Not stated/inadequately described.	
Validation rules	Permissible values: 0 - 300, 996-999	
Related data field		
Data type	Number	
Representational class	Total	
Field size maximum	3	
Format	N[NN]	
Unit of Measure	Beats per minute	
Column location	ATR#_site_time-period_INC.csv	
Column name	ScenePulse	
Correspondence	Single	

Administrative information

References	
Related metadata	METeOR ID:285123, NZNMDv1.7:4.02, QHIK:043853

4.12 Scene Systolic BP

Identifying and definitional attributes

Definition	The first recorded systolic blood pressure measured at the scene of trauma.
Justification	Used in several scoring systems including TRISS and is one assessment of patient acuity.

Representational attributes

Data domain	**Code**	**Description**
	0-300	Millimetre of mercury (mmHg)
	996	Not applicable
	997	Cardiac arrest
	998	Not recorded
	999	Unrecordable/Not stated/inadequately described
Guide for use	First measurement taken by any any first responder prior to hospital care. Must be in millimetres of mercury (mmHg). Where the person's first presentation is at a definitive care hospital, value 996, should be used. If the person is in cardiac arrest at the time of first measurement, value 997, should be used. If the person's vital sign cannot be measured, code 999, should be used. Measurement protocol for resting blood pressure: The systolic blood pressure is one component of a routine blood pressure measurement (i.e. systolic/diastolic) and reflects the maximum pressure to which the arteries are exposed.	
Validation rules	Permissible values: 0 - 300, 996-999	
Related data field		
Data type	Number	
Representational class	Total	
Field size maximum	3	
Format	N[NN]	
Unit of Measure	Millimetre of mercury (mmHg)	
Column location	ATR#_site_time-period_INC.csv	
Column name	SceneSystolic	
Correspondence	Single	

Administrative information

References	
Related metadata	METeOR ID:270073, NZNMDv1.7:4.03, QHIK:043849, Utstein v1.1.1:12a

4.13 Scene Spontaneous Respiratory Rate

Identifying and definitional attributes

Definition	The first recorded unassisted rate of respiration measured at the scene of trauma.
Justification	Used in several scoring systems including TRISS and is one assessment of patient acuity.

Representational attributes

Data domain	**Code**	**Description**
	0-100	Number per minute
	996	Not applicable
	997	Respiratory arrest
	998	Intubated
	999	Not stated/inadequately described
Guide for use	First measurement taken by any first responder prior to hospital care. Where the person's first presentation is at a definitive care hospital, code 996 – Not applicable. 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.	
Validation rules	Permissible values: 0 - 100, 996-999	
Related data field	• 6.06 Number of Days on Ventilator	
Data type	Number	
Representational class	Total	
Field size maximum	3	
Format	N[NN]	
Unit of Measure	Number per minute	
Column location	ATR#_site_time-period_INC.csv	
Column name	SceneRespiRate	
Correspondence	Single	

Administrative information

References	
Related metadata	NZNMDv1.7:4.04, VSTORM v6.0:4.16, QHIK:043856, Utstein v1.1.1:14a

4.14 Scene Temperature

Identifying and definitional attributes

Definition	The first recorded body temperature measured at the scene of trauma
Justification	Useful in the measurement of a patient vital status. Very high and low temperatures can be an indication of organ decomposition for an injured patient. Hypothermia can present a significant management problem.

Representational attributes

Data domain	Code	Description
	20.0 – 50.0	Temperature in Celsius
	99.6	Not applicable
	99.9	Not stated/inadequately described
Guide for use	First measurement taken by any first responder prior to hospital care. Must be in degrees Celsius. Where the person's first presentation is at a definitive care hospital, code 99.6 – Not applicable. If the temperature is not or cannot be measured, value 99.9 should be used.	
Validation rules	Permissible values: 20.0 – 50.0, 99.6, 99.9	
Related data field		
Data type	Decimals	
Representational class	Total	
Field size maximum	4	
Format	NN[.N]	
Unit of Measure	Celsius	
Column location	ATR#_site_time-period_INC.csv	
Column name	SceneTemp	
Correspondence	Single	

Administrative information

References	
Related metadata	VSTORM v6.0:4.20, QHIK:043847

4.15 Scene GCS Eye

Identifying and definitional attributes

Definition	The first recorded Indication of the responsiveness to stimuli by eye opening at the scene of trauma.
Justification	GCS components are combined and used as an important component in a number of outcome prediction models and provide an indication of the patient's initial neurological status prior to arrival at definitive care. Required for RTS and TRISS.

Representational attributes

Data domain	**Code**	**Description (Adult-Child-Infant)**
	1	None-No Response-No Response
	2	Pain-Pain-Pain
	3	Voice-Verbal Stimuli-Verbal Stimuli
	4	Spontaneous-Spontaneous-Spontaneous
	8	Not applicable
	9	Not stated/inadequately described
Guide for use	First measurement taken by any first responder prior to hospital care. Where the person's first presentation is at a definitive care hospital, value 8, should be used. If the measure cannot or is not measured, value 9 should be used.	
Validation rules	Permissible values: 1 - 4, 8, 9	
Related data field	• 4.18 First Total GCS	
Data type	Number	
Representational class	Code	
Field size maximum	1	
Format	N	
Column location	ATR#_site_time-period_INC.csv	
Column name	SceneGCSEye	
Correspondence	Single	

Administrative information

References	http://www.glasgowcomascale.org/
Related metadata	NZNMDv1.7:4.05, VSTORM v6.0:4.22, QHIK:043809 (a), 043810 (c), 043811 (i)

4.16 Scene GCS Voice

Identifying and definitional attributes

Definition	The first recorded Indication of the level of verbal response at the scene of trauma.
Justification	GCS components are combined and used as an important component in a number of outcome prediction models and provide an indication of the patient's initial neurological status prior to arrival at definitive care. Required for RTS and TRISS.

Representational attributes

Data domain	**Code**	**Description (Adult-Child-Infant)**
	1	None-No Response-No Response
	2	Incomprehensible words- Incomprehensible words, cries- Moans to pain
	3	Inappropriate words- Inappropriate words- Cries to pain
	4	Confused- Confused –Irritable, cries
	5	Oriented- Oriented –Coos, babbles
	8	Not applicable
	9	Not stated/inadequately described
Guide for use	First measurement taken by any first responder prior to hospital care. Where the person's first presentation is at a definitive care hospital, value 8, should be used. If the measure cannot or is not measured, value 9 should be used.	
Validation rules	Permissible values: 1 - 5, 8, 9	
Related data field	• 4.18 First Total GCS	
Data type	Number	
Representational class	Code	
Field size maximum	1	
Format	N	
Column location	ATR#_site_time-period_INC.csv	
Column name	SceneGCSVoice	
Correspondence	Single	

Administrative information

References	http://www.glasgowcomascale.org/
Related metadata	NZNMDv1.7:4.06, VSTORM v6.0:4.23, QHIK:043809 (a), 043810 (c), 043811 (i)

4.17 Scene GCS Motor

Identifying and definitional attributes

Definition	The first recorded Indication of the level of motor response at the scene of trauma.
Justification	GCS components are combined and used as an important component in a number of outcome prediction models, and provide an indication of the patient's initial neurological status prior to arrival at definitive care. The GCS motor component alone may be useful as an independent predictor of outcome. Required for RTS/TRISS.

Representational attributes

Data domain	**Code**	**Description (Adult-Child-Infant)**
	1	None-No Response-No Response
	2	Extension to pain- Extension to pain- Decerebrate posturing to pain
	3	Flexion to pain- Flexion to pain- Decorticate posturing to pain
	4	Withdraws to pain- Withdraws to pain– Withdraws to pain
	5	Localises pain- Localises painful stimulus–Withdraws to touch
	6	Obeys commands- Obeys commands– Moves spontaneously
	8	Not applicable
	9	Not Stated/inadequately described
Guide for use	First measurement taken by any first responder prior to hospital care. Where the person's first presentation is at a definitive care hospital, code 8 – Not applicable.	
Validation rules	Permissible values: 1 - 6, 8, 9	
Related data field	• 4.18 First Total GCS	
Data type	Number	
Representational class	Code	
Field size maximum	1	
Format	N	
Column location	ATR#_site_time-period_INC.csv	
Column name	SceneGCSMotor	
Correspondence	Single	

Administrative information

References	http://www.glasgowcomascale.org/
Related metadata	NZNMDv1.7:4.07, VSTORM v6.0:4.24, QHIK:043809 (a), 043810 (c), 043811 (i), Utstein v1.1.1:9

4.18 Scene Total GCS

Identifying and definitional attributes

Definition	The first recorded total Glasgow Coma Scale score at the scene of trauma.
Justification	Used in several scoring systems including TRISS and required for the assessment of coma and impaired consciousness.

Representational attributes

Data domain	**Code**	**Description**
	3- 15	Total GCS
	96	Not applicable
	98	Intubated / sedated or paralysed due to drugs
	99	Invalid / cannot be measured
Guide for use	First measurement taken by any first responder prior to definitive care hospital. If the person has been intubated at the time of first measurement, or is otherwise sedated or paralysed due to drug administration, value 96 should be used. Where the person's first presentation is at a definitive care hospital, code 98 – Not applicable. If the total GCS is not or cannot be measured, value 99 should be used.	
Validation rules	Permissible values: 3 - 15, 96, 98, 99	
Related data field	• 4.15 First GCS Eye • 4.16 First GCS Voice • 4.17 First GCS Motor • 6.06 Number of Days on Ventilator	
Data type	Number	
Representational class	Total	
Field size maximum	2	
Format	N[N]	
Column location	ATR#_site_time-period_INC.csv	
Column name	SceneTotalGCS	
Correspondence	Single	

Administrative information

References	http://www.glasgowcomascale.org/
Related metadata	NZNMDv1.7:4.08, VSTORM v6.0:4.25, QHIK:043808, Utstein v1.1.1:8

4.19 Referring Hospital Pulse

Identifying and definitional attributes

Definition	The first recorded heart rate measured at a initial or referring hospital, before definitive care hospital.
Justification	Used as a proxy to assess injury severity.

Representational attributes

Data domain	**Code**	**Description**
	0-300	Heart beats per minute
	996	Not applicable
	997	Cardiac arrest
	998	Not recorded
	999	Not stated/inadequately described
Guide for use	First measurement taken at initial or referring hospital prior to definitive care hospital. This should be within the first 30min of arrival. Where the person's first presentation is at a definitive care hospital, code 996 – Not applicable 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, code 999 - Not stated/inadequately described.	
Validation rules	Permissible values: 0 - 300, 996, 997, 999	
Related data field		
Data type	Number	
Representational class	Total	
Field size maximum	3	
Format	N[NN]	
Unit of Measure	Beats per minute	
Column location	ATR#_site_time-period_INC.csv	
Column name	RefHospPulse1, RefHospPulse2, RefHospPulse3	
Correspondence	Multiple	

Administrative information

References	
Related metadata	METeor ID:285123, NZNMDv1.7:5.03, QHIK:043853

4.20 Referring Hospital Systolic BP

Identifying and definitional attributes

Definition	The first recorded systolic blood pressure measured at a initial or referring hospital, before definitive care hospital..
Justification	Used in several scoring systems including TRISS and is one assessment of patient acuity.

Representational attributes

Data domain	**Code Description** 0-300 Millimetre of mercury (mmHg) 996 Not applicable 997 Cardiac arrest 998 Not recorded 999 Not stated/inadequately described
Guide for use	First measurement taken by any of ambulance, retrieval team or other pre-hospital care prior to hospital care. This should be within the first 30min of arrival. Must be in millimetres of mercury (mmHg). Where the person's first presentation is at a definitive care hospital, value 996, should be used. 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, code 999, should be used. Measurement protocol for resting blood pressure: The systolic blood pressure is one component of a routine blood pressure measurement (i.e. systolic/diastolic) and reflects the maximum pressure to which the arteries are exposed.
Validation rules	Permissible values: 0 - 300, 996, 997, 999
Related data field	
Data type	Number
Representational class	Total
Field size maximum	3
Format	N[NN]
Unit of Measure	Millimetre of mercury (mmHg)
Column location	ATR#_site_time-period_INC.csv
Column name	RefHospSystolic1, RefHospSystolic2, RefHospSystolic3
Correspondence	Multiple

Administrative information

References	
Related metadata	METeor ID:270073, NZNMDv1.7:5.04, QHIK:043849

4.21 Referring Hospital Respiratory Rate

Identifying and definitional attributes

Definition	The first recorded unassisted rate of respiration measured at a initial or referring hospital, before definitive care hospital.
Justification	Used in several scoring systems including TRISS and is one assessment of patient acuity.

Representational attributes

Data domain	**Code**	**Description**
	0-100	Number per minute
	996	Not applicable
	997	Respiratory arrest
	998	Intubated
	999	Not stated/inadequately described
Guide for use	First measurement taken at initial or referrring hospital prior to definitive care hospital. This should be within the first 30min of arrival. Where the person's first presentation is at a definitive care hospital, code 996 – Not applicable. 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.	
Validation rules	Permissible values: 0 - 100, 996, 997, 999	
Related data field	• 6.06 Number of Days on Ventilator	
Data type	Number	
Representational class	Total	
Field size maximum	3	
Format	N[NN]	
Unit of Measure	Number per minute	
Column location	ATR#_site_time-period_INC.csv	
Column name	RefHospRespiRate1, RefHospRespiRate2, RefHospRespiRate3	
Correspondence	Multiple	

Administrative information

References	
Related metadata	NZNMDv1.7:5.05, VSTORM v6.0:4.16, QHIK:043856

4.22 Referring Hospital Temperature

Identifying and definitional attributes

Definition	The first recorded body temperature measured at a initial or referring hospital, before definitive care hospital.
Justification	Useful in the measurement of a patient vital status. Very high and low temperatures can be an indication of organ decomposition for an injured patient. Hypothermia can present a significant management problem.

Representational attributes

Data domain	**Code**	**Description**
	20.0 – 50.0	Temperature in Celsius
	99.6	Not applicable
	99.9	Not stated/inadequately described
Guide for use	First measurement taken at initial or referrring hospital prior to definitive care hospital. This should be within the first 30min of arrival.	
	Must be in degrees Celsius.	
	Where the person's first presentation is at a definitive care hospital, code 99.6 – Not applicable.	
	If the temperature is not or cannot be measured, value 99.9 should be used.	
Validation rules	Permissible values: 20.0 – 50.0, 99.6, 99.9	
Related data field		
Data type	Decimals	
Representational class	Total	
Field size maximum	4	
Format	NN[.N]	
Unit of Measure	Celsius	
Column location	ATR#_site_time-period_INC.csv	
Column name	RefHospTemp1, RefHospTemp2, RefHospTemp3	
Correspondence	Multiple	

Administrative information

References	
Related metadata	NZNMDv1.7:5.06, VSTORM v6.0:4.20, QHIK:043847

4.23 Referring Hospital GCS Eye

Identifying and definitional attributes

Definition	The first recorded Indication of the responsiveness to stimuli by eye opening at a initial or referring hospital, before definitive care hospital.
Justification	GCS components are combined and used as an important component in a number of outcome prediction models and provide an indication of the patient's initial neurological status prior to arrival at definitive care. Required for RTS and TRISS.

Representational attributes

Data domain	**Code**	**Description (Adult-Child-Infant)**
	1	None-No Response-No Response
	2	Pain-Pain-Pain
	3	Voice-Verbal Stimuli-Verbal Stimuli
	4	Spontaneous-Spontaneous-Spontaneous
	8	Not applicable
	9	Not stated/inadequately described
Guide for use	First measurement taken at initial or referrring hospital prior to definitive care hospital. This should be within the first 30min of arrival. Where the person's first presentation is at a definitive care hospital, code 8 – Not applicable. If the measure cannot or is not measured, value 9 should be used.	
Validation rules	Permissible values: 1 - 4, 8, 9	
Related data field	• 4.18 First Total GCS	
Data type	Number	
Representational class	Code	
Field size maximum	1	
Format	N	
Column location	ATR#_site_time-period_INC.csv	
Column name	RefHospGCSEye1, RefHospGCSEye2, RefHospGCSEye3	
Correspondence	Multiple	

Administrative information

References	http://www.glasgowcomascale.org/
Related metadata	NZNMDv1.7:5.07, VSTORM v6.0:4.22, QHIK:043809 (a), 043810 (c), 043811 (i)

4.24 Referring Hospital GCS Voice

Identifying and definitional attributes

Definition	The first recorded Indication of the level of verbal response at a initial or referring hospital, before definitive care hospital..
Justification	GCS components are combined and used as an important component in a number of outcome prediction models and provide an indication of the patient's initial neurological status prior to arrival at definitive care. Required for RTS and TRISS.

Representational attributes

Data domain	**Code**	**Description (Adult-Child-Infant)**
	1	None-No Response-No Response
	2	Incomprehensible words- Incomprehensible words, cries- Moans to pain
	3	Inappropriate words- Inappropriate words- Cries to pain
	4	Confused- Confused –Irritable, cries
	5	Oriented- Oriented –Coos, babbles
	8	Not applicable
	9	Not stated/inadequately described
Guide for use	First measurement taken by any of ambulance, retrieval team or other pre-hospital care prior to hospital care. This should be within the first 30min of arrival. Where the person's first presentation is at a definitive care hospital, code 8 – Not applicable. If the measure cannot or is not measured, value 9 should be used.	
Validation rules	Permissible values: 1 - 5, 8, 9	
Related data field	• 4.18 First Total GCS	
Data type	Number	
Representational class	Code	
Field size maximum	1	
Format	N	
Column location	ATR#_site_time-period_INC.csv	
Column name	RefHospGCSVoice1, RefHospGCSVoice2, RefHospGCSVoice3	
Correspondence	Multiple	

Administrative information

References	http://www.glasgowcomascale.org/
Related metadata	NZNMDv1.7:5.08, VSTORM v6.0:4.23, QHIK:043809 (a), 043810 (c), 043811 (i)

4.25 Referring Hospital GCS Motor

Identifying and definitional attributes

Definition	The first recorded Indication of the level of motor response at a initial or referring hospital, before definitive care hospital..
Justification	GCS components are combined and used as an important component in a number of outcome prediction models, and provide an indication of the patient's initial neurological status prior to arrival at definitive care. The GCS motor component alone may be useful as an independent predictor of outcome. Required for RTS/TRISS.

Representational attributes

Data domain	**Code**	**Description (Adult-Child-Infant)**
	1	None-No Response-No Response
	2	Extension to pain- Extension to pain- Decerebrate posturing to pain
	3	Flexion to pain- Flexion to pain- Decorticate posturing to pain
	4	Withdraws to pain- Withdraws to pain– Withdraws to pain
	5	Localises pain- Localises painful stimulus–Withdraws to touch
	6	Obeys commands- Obeys commands– Moves spontaneously
	8	Not applicable
	9	Not Stated/inadequately described
Guide for use	First measurement taken at initial or referrring hospital prior to definitive care hospital. This should be within the first 30min of arrival. Where the person's first presentation is at a definitive care hospital, code 8 – Not applicable. If the measure cannot or is not measured, value 9 should be used.	
Validation rules	Permissible values: 1 - 6, 8, 9	
Related data field	• 4.18 First Total GCS	
Data type	Number	
Representational class	Code	
Field size maximum	1	
Format	N	
Column location	ATR#_site_time-period_INC.csv	
Column name	RefHospGCSMotor1, RefHospGCSMotor2, RefHospGCSMotor3	
Correspondence	Multiple	

Administrative information

References	http://www.glasgowcomascale.org/
Related metadata	NZNMDv1.7:5.09, VSTORM v6.0:4.24, QHIK:043809 (a), 043810 (c), 043811 (i)

4.26 Referring Hospital Total GCS

Identifying and definitional attributes

Definition	The first recorded total Glasgow Coma Scale score at a initial or referring hospital, before definitive care hospital..
Justification	Used in several scoring systems including TRISS and required for the assessment of coma and impaired consciousness.

Representational attributes

Data domain	**Code**	**Description**
	3- 15	Total GCS
	96	Not applicable
	98	Intubated / sedated or paralysed due to drugs
	99	Invalid / cannot be measured
Guide for use	First measurement taken at initial or referrring hospital prior to definitive care hospital. This should be within the first 30min of arrival. If the person has been intubated at the time of first measurement, or is otherwise sedated or paralysed due to drug administration, value 96 should be used. Where the person's first presentation is at a definitive care hospital, code 98 – Not applicable. If the total GCS is not or cannot be measured, value 99 should be used.	
Validation rules	Permissible values: 3 - 15, 96, 98, 99	
Related data field	• 4.15 First GCS Eye • 4.16 First GCS Voice • 4.17 First GCS Motor • 6.06 Number of Days on Ventilator	
Data type	Number	
Representational class	Total	
Field size maximum	2	
Format	N[N]	
Column location	ATR#_site_time-period_INC.csv	
Column name	RefHospTotalGCS1, RefHospTotalGCS2, RefHospTotalGCS3	
Correspondence	Multiple	

Administrative information

References	http://www.glasgowcomascale.org/
Related metadata	NZNMDv1.7:5.10, VSTORM v6.0:4.25, QHIK:043808

5.01 Date & Time of Arrival at Definitive Care Hospital

Identifying and definitional attributes

Definition	The date and time patient was first registered, triaged or assessed (whichever comes first), by clerical officer, nurse or doctor at the definitive care hospital.
Justification	Enables calculation of transfer time from referring hospital to definitive care hospital (if applicable), time spent in ED, time to CT scan and time to operations and procedures. This field is also required for length of stay calculation.
Obligation	Mandatory

Representational attributes

Data domain	Date Time
Guide for use	Midnight should be entered as 00:01 of the following date (00:00 and 24:00 are not accepted). Example, midnight 25th November 2011 should be reported as 25112011T0001. Where the date and time is unknown, enter as: • 01011900T0000 Where date in known but time is unknown, enter actual date: • DDMMYYYYT0000 Where the time is known but date is unknown, enter actual time as: • 01011900Thhmm If not collected, can be concatenated if the following data is collected at the definitive care hospital: • Health service event - presentation date • Health service event - presentation time
Validation rules	Valid Date Time 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; and • 7.02 Date & Time of Discharge
Related data field	• 7.06 Length of Stay
Data type	Date/Time
Representational class	Date/Time
Field size maximum	13
Format	DDMMYYYYThhmm
Column location	ATR#_site_time-period_INC.csv
Column name	ArrivalDateTime
Correspondence	Single

Administrative information

References	
Related metadata	METeOR ID:270393, 270080, WHO:ArrivalDate, ArrivalTime

5.02 Pulse on Arrival

Identifying and definitional attributes

Definition	The first recorded heart rate measured following arrival at the definitive care hospital.
Justification	Used as a proxy to assess injury severity.
Obligation	Mandatory

Representational attributes

Data domain	**Code**	**Description**
	0-300	Heart beats per minute
	997	Cardiac arrest
	998	Not recorded
	999	Not stated/inadequately described
Guide for use	If the person is in cardiac arrest at the time of first measurement, value 997 should be used. If the person's heart rate was not recorded, code 998 - Not Recorded should be used. If the person's heart rate cannot be measured, code 999 - Not stated/inadequately described.	
Validation rules	Permissible values: 0 - 300, 997, 998, 999	
Related data field		
Data type	Number	
Representational class	Total	
Field size maximum	3	
Format	N[NN]	
Unit of Measure	Beats per minute	
Column location	ATR#_site_time-period_INC.csv	
Column name	ArrivalPulse	
Correspondence	Single	

Administrative information

References	
Related metadata	METeor ID:285123, NZNMDv1.7:6.02, QHIK:043853, WHO:InitialHR

5.03 Systolic BP on Arrival

Identifying and definitional attributes

Definition	The first recorded systolic blood pressure measured following arrival at the definitive care hospital.
Justification	Used in several scoring systems including TRISS and is one assessment of patient acuity
Obligation	Mandatory

Representational attributes

Data domain	**Code**	**Description**
	0-250	Millimetre of mercury (mmHg)
	997	Cardiac arrest
	999	Not stated/inadequately described
Guide for use	Must be in millimetres of mercury (mmHg).	
	If the person is in cardiac arrest at the time of first measurement, value 997 should be used	
	If the systolic blood pressure is not or cannot be measured, value 999 should be used.	
	Measurement protocol for resting blood pressure: The systolic blood pressure is one component of a routine blood pressure measurement (i.e. systolic/diastolic) and reflects the maximum pressure to which the arteries are exposed.	
Validation rules	Permissible values: 0 - 250, 997, 999	
Related data field		
Data type	Number	
Representational class	Total	
Field size maximum	3	
Format	N[NN]	
Unit of Measure	Millimetre of mercury (mmHg)	
Column location	ATR#_site_time-period_INC.csv	
Column name	ArrivalSystolic	
Correspondence	Single	

Administrative information

References	
Related metadata	METeor ID:270073, NZNMDv1.7:6.03, QHIK:043849, WHO:InitialSBP, Utstein v1.1.1:13a

5.04 Respiratory Rate on Arrival

Identifying and definitional attributes

Definition	The first recorded unassisted rate of respiration measured following arrival at the definitive care hospital.
Justification	Used in several scoring systems including TRISS and is one assessment of patient acuity.
Obligation	Mandatory

Representational attributes

Data domain	**Code**	**Description**
	0-100	Number per minute
	997	Respiratory arrest
	998	Intubated
	999	Not stated/inadequately described
Guide for use	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.	
Validation rules	Permissible values: 0 - 100, 997, 998, 999	
Related data field	• 5.14 Respiratory Qualifier on Arrival	
	• 6.06 Number of Days on Ventilator	
Data type	Number	
Representational class	Total	
Field size maximum	3	
Format	N[NN]	
Unit of Measure	Number per Minute	
Column location	ATR#_site_time-period_INC.csv	
Column name	ArrivalRespiRate	
Correspondence	Single	

Administrative information

References	
Related metadata	NZNMDv1.7:6.04, VSTORM v6.0:4.16, QHIK:043856, WHO:InitialSpontaneousRR, Utstein v1.1.1:15a

5.05 Temperature on Arrival

Identifying and definitional attributes

Definition	The first recorded body temperature measured following arrival at the definitive care hospital.
Justification	Useful in the measurement of a patient vital status. Very high and low temperatures can be an indication of organ decomposition for an injured patient. Hypothermia can present a significant management problem.
Obligation	Mandatory

Representational attributes

Data domain	**Code**	**Description**
	20.0 – 50.0	Temperature in Celsius
	99.9	Not stated/inadequately described
Guide for use	Must be in degrees Celsius.	
	First measurement on arrival to the definitive hospital care.	
	If the temperature is not or cannot be measured, value 99.9 should be used.	
Validation rules	Permissible values: 20.0 – 50.0, 99.9	
Related data field		
Data type	Decimals	
Representational class	Total	
Field size maximum	4	
Format	NN[.N]	
Unit of Measure	Celsius	
Column location	ATR#_site_time-period_INC.csv	
Column name	ArrivalTemp	
Correspondence	Single	

Administrative information

References	
Related metadata	NZNMDv1.7:6.05, VSTORM v6.0:4.20, QHIK:043847

5.06 GCS Eye on Arrival

Identifying and definitional attributes

Definition	The first recorded Indication of the responsiveness to stimuli by eye opening following arrival at the definitive care hospital.
Justification	GCS components are combined and used as an important component in a number of outcome prediction models, and provide an indication of the patient's neurological status on arrival at the definitive care hospital. Required for RTS/TRISS.
Obligation	Mandatory

Representational attributes

Data domain	**Code**	**Description (Adult-Child-Infant)**
	1	None-No Response-No Response
	2	Pain-Pain-Pain
	3	Voice-Verbal Stimuli-Verbal Stimuli
	4	Spontaneous-Spontaneous-Spontaneous
	9	Not stated/inadequately described
Guide for use	First measurement taken on arrival a definitive care hospital. Where the person's first presentation is at a definitive care hospital, code 8 – Not applicable. If the measure cannot or is not measured, value 9 should be used.	
Validation rules	Permissible values: 1 - 4, 9	
Related data field	• 5.09 Total GCS on Arrival	
Data type	Number	
Representational class	Code	
Field size maximum	1	
Format	N	
Column location	ATR#_site_time-period_INC.csv	
Column name	ArrivalGCSEye	
Correspondence	Single	

Administrative information

References	http://www.glasgowcomascale.org/
Related metadata	NZNMDv1.7:6.06, VSTORM v6.0:4.22, QHIK:043809 (a), 043810 (c), 043811 (i), WHO:InitialGCSe

5.07 GCS Voice on Arrival

Identifying and definitional attributes

Definition	The first recorded Indication of the level of verbal response following arrival at the definitive care hospital.
Justification	GCS components are combined and used as an important component in a number of outcome prediction models, and provide an indication of the patient's neurological status on arrival at the definitive care hospital. Required for RTS/TRISS.
Obligation	Mandatory

Representational attributes

Data domain	**Code**	**Description (Adult-Child-Infant)**
	1	None-No Response-No Response
	2	Incomprehensible words- Incomprehensible words, cries- Moans to pain
	3	Inappropriate words- Inappropriate words- Cries to pain
	4	Confused- Confused –Irritable, cries
	5	Oriented- Oriented –Coos, babbles
	8	Not applicable
	9	Not stated/inadequately described
Guide for use	First measurement taken on arrival a definitive care hospital. Where the person's first presentation is at a definitive care hospital, code 8 – Not applicable. If the measure cannot or is not measured, value 9 should be used.	
Validation rules	Permissible values: 1 - 5, 9	
Related data field	• 5.09 Total GCS on Arrival	
Data type	Number	
Representational class	Code	
Field size maximum	1	
Format	N	
Column location	ATR#_site_time-period_INC.csv	
Column name	ArrivalGCSVoice	
Correspondence	Single	

Administrative information

References	http://www.glasgowcomascale.org/
Related metadata	NZNMDv1.7:6.07, VSTORM v6.0:4.23, QHIK:043809 (a), 043810 (c), 043811 (i), WHO:InitialGCSv

5.08 GCS Motor on Arrival

Identifying and definitional attributes

Definition	The first recorded Indication of the level of motor response following arrival at the definitive care hospital.
Justification	GCS components are combined and used as an important component in a number of outcome prediction models, and provide an indication of the patient's initial neurological status on arrival at definitive care. The GCS motor component alone may be useful as an independent predictor of outcome. Required for RTS/TRISS.
Obligation	Mandatory

Representational attributes

Data domain	**Code**	**Description (Adult-Child-Infant)**
	1	None-No Response-No Response
	2	Extension to pain- Extension to pain- Decerebrate posturing to pain
	3	Flexion to pain- Flexion to pain- Decorticate posturing to pain
	4	Withdraws to pain- Withdraws to pain– Withdraws to pain
	5	Localises pain- Localises painful stimulus–Withdraws to touch
	6	Obeys commands- Obeys commands– Moves spontaneously
	8	Not applicable
	9	Not Stated/inadequately described
Guide for use	First measurement taken on arrival a definitive care hospital. Where the person's first presentation is at a definitive care hospital, code 8 – Not applicable. If the measure cannot or is not measured, value 9 should be used.	
Validation rules	Permissible values: 1 - 6, 9	
Related data field	• 5.09 Total GCS on Arrival	
Data type	Number	
Representational class	Code	
Field size maximum	1	
Format	N	
Column location	ATR#_site_time-period_INC.csv	
Column name	ArrivalGCSMotor	
Correspondence	Single	

Administrative information

References	http://www.glasgowcomascale.org/
Related metadata	NZNMDv1.7:6.08, VSTORM v6.0:4.24, QHIK:043809 (a), 043810 (c), 043811 (i), WHO:InitialGCSm, Utstein v1.1.1:11

5.09 Total GCS on Arrival

Identifying and definitional attributes

Definition	The first recorded total Glasgow Coma Scale score following arrival at the definitive care hospital.
Justification	Used in several scoring systems including TRISS and required for the assessment of coma and impaired consciousness.
Obligation	Mandatory

Representational attributes

Data domain	**Code**	**Description**
	3- 15	Total GCS
	98	Intubated / sedated or paralysed due to drugs
	99	Invalid / cannot be measured
Guide for use	If the person has been intubated at the time of first measurement, or is otherwise sedated or paralysed due to drug administration, value 98 should be used. If the total GCS is not or cannot be measured, value 99 should be used.	
Validation rules	Permissible values: 3 - 15, 98, 99	
Related data field	• 5.06 GCS Eye on Arrival • 5.07 GCS Voice on Arrival • 5.08 GCS Motor on Arrival • 6.06 Number of Days on Ventilator	
Data type	Number	
Representational class	Total	
Field size maximum	2	
Format	N[N]	
Column location	ATR#_site_time-period_INC.csv	
Column name	ArrivalTotalGCS	
Correspondence	Single	

Administrative information

References	http://www.glasgowcomascale.org/
Related metadata	NZNMDv1.7:6.09, VSTORM v6.0:4.25, QHIK:043808, WHO:InitialGCSt, Utstein v1.1.1:10

5.10 CPR on arrival?

Identifying and definitional attributes

Definition	Whether the person received cardiopulmonary resuscitation at any stage within 24 hours of arrival at the definitive care hospital.
Justification	CPR is a determinant of Cardiac arrest. Cardiac arrest is a predictor of adverse outcome / survival.

Representational attributes

Data domain	**Code**	**Description**
	1	Yes
	2	No
	9	Not stated/inadequately described
Guide for use	CPR occuring within 24hrs of arrival.	
Validation rules	Permissible values: 1, 2, 9	
Related data field		
Data type	Number	
Representational class	Code	
Field size maximum	1	
Format	N	
Column location	ATR#_site_time-period_INC.csv	
Column name	ArrivalCPR	
Correspondence	Single	

Administrative information

References

Related metadata

5.11 Blood Transfusion on Arrival?

Identifying and definitional attributes

Definition	Whether the person was administered any blood products at any stage within 24 hours of arrival at the definitive care hospital.
Justification	Administration of blood is an indication of the hypovolaemic status of a patient and may be used in the evaluation of quality of care.

Representational attributes

Data domain	**Code**	**Description**
	1	Yes
	2	No
	9	Not stated/inadequately described
Guide for use	Any blood products administered within 24 hours of arrival at the definitive care hospital.	
Validation rules	Permissible values: 1, 2, 9	
Related data field		
Data type	Number	
Representational class	Code	
Field size maximum	1	
Format	N	
Column location	ATR#_site_time-period_INC.csv	
Column name	ArrivalBloodTransf	
Correspondence	Single	

Administrative information

References

Related metadata

5.12 Patient Intubated?

Identifying and definitional attributes

Definition	Whether the person was intubated at any stage of their care, whether prior to or at the definitive care hospital.
Justification	Identifies patients requiring definitive airway management and may be used in the evaluation of quality of care.
Obligation	Mandatory

Representational attributes

Data domain	**Code**	**Description**
	1	Yes, Unspecified
	2	No
	3	Yes – prior to definitive care hospital
	4	Yes – at the definitive care hospital
	9	Not stated/inadequately described
Guide for use	If the person was intubated in the pre-hospital setting or at a referring hospital, use 1 – prior to definitive care hospital.	
Validation rules	Permissible values: 1-4, 9	
Related data field	• 5.14 Respiratory Qualifier on Arrival, • 5.13 Date & Time Patient Intubated	
Data type	Number	
Representational class	Code	
Field size maximum	1	
Format	N	
Column location	ATR#_site_time-period_INC.csv	
Column name	ArrivalPatIntubated	
Correspondence	Single	

Administrative information

References	
Related metadata	NZNMDv1.7:7.01, Utstein v1.1.1:26a

5.13 Date & Time Patient Intubated

Identifying and definitional attributes

Definition	The date and time patient was first intubated - at any stage of their care, whether prior to or at the definitive care hospital.
Justification	To calculate time to intubation.

Representational attributes

Data domain	Date Time
Guide for use	Midnight should be entered as 00:01 of the following date (00:00 and 24:00 are not accepted). Example, midnight 25th November 2011 should be reported as 25112011T0001. Where the date and time is unknown, enter as: • 01011900T0000 Where date in known but time is unknown, enter actual date: • DDMMYYYYT0000 Where the time is known but date is unknown, enter actual time as: • 01011900Thhmm
Validation rules	Valid Date Time Must be completed if the following collected: • 5.12 Patient intubated? 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 from Acute Care
Related data field	• 5.12 Patient Intubated? • 5.14 Respiratory Qualifier on Arrival
Data type	Date/Time
Representational class	Date/Time
Field size maximum	13
Format	DDMMYYYYThhmm
Column location	ATR#_site_time-period_INC.csv
Column name	ArrivalPatIntubatedDateTime
Correspondence	Single

Administrative information

References	
Related metadata	NZNMDv1.7:7.02

5.14 Respiratory Qualifier on Arrival

Identifying and definitional attributes

Definition	Whether respiratory assistance was required at the time the respiratory rate was recorded on arrival at the definitive care hospital.
Justification	Provides documentation of assessment and care. Used in quality management for the evaluation of care.
Obligation	Mandatory

Representational attributes

Data domain	**Code**	**Description**
	1	Unassisted respiratory rate or no intervention – respiration rate is not assisted by any mechanical or assisted ventilation
	2	Assisted respiratory rate – includes Mechanical Ventilation (patient is intubated and receiving mechanical ventilation by ventilator and Bag Mask Ventilation (BMV); patient is receiving assisted ventilation by bag/mask device eg. face mask, bag and mask, guedel or naso, laryngeal mask, endotracheal tube, prior ETT.
	8	Other
	9	Not stated/inadequately described
Guide for use		
Validation rules	Permissible values: 1, 2, 8, 9 Must be completed if any of the following collected: • 5.04 Respiratory Rate on Arrival; • 5.12 Patient Intubated?; or • 5.13 Date & Time Patient Intubated	
Related data field	• 5.04 Respiratory Rate on Arrival • 5.12 Patient Intubated?; • 5.13 Date & Time Patient Intubated • 6.06 Number of Days on Ventilator	
Data type	Number	
Representational class	Code	
Field size maximum	1	
Format	N	
Column location	ATR#_site_time-period_INC.csv	
Column name	ArrivalRespiQualifier	
Correspondence	Single	

Administrative information

References	
Related metadata	VSTORM v6.0:4.17, Utstein v1.1.1:26b

5.15 Blood Alcohol Concentration on Arrival

Identifying and definitional attributes

Definition	The first blood alcohol concentration result recorded on arrival at the definitive care hospital to establish recent ethanol ingestion, measured in mmol/L.
Justification	Alcohol affects the Glasgow Coma Scale.

Representational attributes

Data domain	**Code**	**Description**
	0-120	Blood alcohol concentration (mmol/L)
	999	Not stated/inadequately described
Guide for use	Following arrival at the definitive care hospital Blood Alcohol Level (BAL) should be taken within first 4hrs of arrival (if known) or first day of presentation if time unknown. If the blood alcohol concentration is not or cannot be measured, value 999 should be used.	
Validation rules	Permissible values: 0-120, 999	
Related data field		
Data type	Number	
Representational class	Total	
Field size maximum	3	
Format	NNN	
Unit of Measure	mmol/L	
Column location	ATR#_site_time-period_INC.csv	
Column name	ArrivalBloodAlcoholCon	
Correspondence	Single	

Administrative information

References	
Related metadata	NZNMDv1.7:6.12, WHO:AlcoholUse

5.16 First Measured Venous Base Excess

Identifying and definitional attributes

Definition	The first recorded venous base excess result following arrival at the definitive care hospital.
Justification	Clinical assessment of patient's condition on arrival at definitive care hospital which may indicate the need for additional treatment. Identify complication of trauma.

Representational attributes

Data domain	**Code**	**Description**
	-300.0 – + 300.0	Base excess value (mmol/L)
	999	Not stated/inadequately described
Guide for use	Unit of measurement is mmol/L.	
	Following arrival at the definitive care hospital first measured base excess should be taken within first 4hrs of arrival (if known) or first day of presentation if time unknown. Report the first measured venous value, not the worst value.	
	If the base excess is not or cannot be measured, value 99 should be used.	
Validation rules	Permissible values: -300 to +300, 999	
Related data field		
Data type	Number	
Representational class	Total	
Field size maximum	6	
Format	[A][NN]N.[N]	
Unit of Measure	mmol/L	
Column location	ATR#_site_time-period_INC.csv	
Column name	FirstBaseExcess	
Correspondence	Single	

Administrative information

References	
Related metadata	NZNMDv1.7:6.13, Utstein v1.1.1:16

5.17 First Measured INR

Identifying and definitional attributes

Definition	The first recorded prothrombin time INR result following arrival at the definitive care hospital.
Justification	Clinical assessment of patient's condition on arrival at definitive care hospital which may indicate the need for additional treatment. Identify complication or comorbidity.

Representational attributes

Data domain	**Code**	**Description**
	0.0 – 10.0	INR value (mmol/L)
	99.9	Not stated/inadequately described
Guide for use	Unit of measurement is mmol/L.	
	Following arrival at the definitive care hospital INR should be taken within first 4hrs of arrival (if known) or first day of presentation if time unknown. Report the first measured value, not the worst value.	
	If the INR is not or cannot be measured, value 99.9 should be used.	
Validation rules	Permissible values: 0.0 – 10.0, 99.9	
Related data field		
Data type	Number	
Representational class	Total	
Field size maximum	4	
Format	[N]N.N	
Unit of Measure	mmol/L	
Column location	ATR#_site_time-period_INC.csv	
Column name	FirstINR	
Correspondence	Single	

Administrative information

References	
Related metadata	NZNMDv1.7:6.14, Utstein v1.1.1:17

5.18 ED Discharge Date & Time

Identifying and definitional attributes

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.
Justification	Calculation of total length of ED stay.
Obligation	Mandatory

Representational attributes

Data domain	Date Time
Guide for use	Midnight should be entered as 00:01 of the following date (00:00 and 24:00 are not accepted). Example, midnight 25th November 2011 should be reported as 25112011T0001. Where date and time is unknown, enter as: • 01011900T0000 Where date in known but time is unknown, enter actual date: • DDMMYYYYT0000 Where the time is known but date is unknown, enter actual time as: • 01011900Thhmm If a patient is a direct admission and 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 If not collected, can be concatenated if the following data is collected at the definitive care hospital: •Emergency department stay - physical departure date •Emergency department stay - physical departure time
Validation rules	Valid Date Time 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 from Acute Care
Related data field	• 5.19 Disposition after ED?
Data type	Date/Time
Representational class	Date/Time
Field size maximum	13
Format	DDMMYYYYThhmm
Column location	ATR#_site_time-period_INC.csv
Column name	EDDischargeDateTime
Correspondence	Single

Administrative information

References	
Related metadata	METeOR ID:621816, 621829, NZNMDv1.7:6.16, WHO:EUDispoDate, EUDispoTime

5.19 Disposition After ED

Identifying and definitional attributes

Definition	The first location for which the patient departed on leaving the emergency department at the definitive care hospital.
Justification	To monitor the status and location of patients on departure from the ED.

Representational attributes

Data domain	**Code**	**Description**
	1	Ward
	2	Intensive Care Unit (ICU)
	3	High Dependency Unit (HDU)
	4	Operating Room (OR)
	5	OR to Ward
	6	OR to ICU
	7	OR to HDU
	8	OR then transfer to another hospital for acute care
	9	Transfer to another hospital for acute care
	10	Home
	11	Death in ED
	12	Other (eg. jail, institutional care, mental health, etc.)
	96	Not Applicable

Guide for use	If a patient is a direct admission and goes directly to another area in the hospital on hospital arrival (such as ICU or OR), code the unit or department where the patient was admitted to.
Validation rules	Permissible values: 1-12, 96 If a patient is a direct admission and goes directly to another area in the hospital on hospital arrival (such as ICU or OR), ED Discharge Date & Time should be the same as: • 5.01 Date & Time of Arrival at Definitive Care Hospital
Related data field	• 5.18 ED Discharge Date & Time
Data type	Number
Representational class	Code
Field size maximum	2
Format	N[N]
Column location	ATR#_site_time-period_INC.csv
Column name	EDDisposition
Correspondence	Single

Administrative information

References	
Related metadata	NZNMDv1.7:6.17, VSTORM v6.0:4.33, WHO:EUDispo

5.20 Trauma Call

Identifying and definitional attributes

Definition	Whether a trauma team was activated at the definitive care hospital.
Justification	Trauma team activation generates the resource availability allowing the efficient and effective assessment and initial treatment of a major trauma patient. Ideally all major trauma patients should be admitted with a trauma response.

Representational attributes

Data domain	**Code**	**Description**
	1	Yes
	2	No
	8	Not applicable
	9	Not Stated/Inadequately described
Guide for use	If no Trauma Team process is in place at the health service, value 8 should be used	
Validation rules	Permissible values: 1, 2, 8, 9	
Related data field		
Data type	Number	
Representational class	Code	
Field size maximum	1	
Format	N	
Column location	ATR#_site_time-period_INC.csv	
Column name	TraumaCall	
Correspondence	Single	

Administrative information

References	
Related metadata	NZNMDv1.7:6.11, VSTORM v6.0:4.14, Utstein v1.1.1:29

5.21 Tertiary Survey

Identifying and definitional attributes

Definition	Whether the person received a tertiary survey at any stage after arrival at the definitive care hospital.
Justification	A tertiary survey is a comprehensive general physical re-examination and review of all investigations, including imaging and blood results. It is an accepted quality indicator for recognising missed injuries which are known to increase morbidity. As there are genuine reasons why a tertiary survey may not be performed within a desired timeframe or the time may not be recorded, the definition has been left without a required timeframe.

Representational attributes

Data domain	**Code**	**Description**
	1	Yes
	2	No
	8	Not applicable
	9	Not Stated/Inadequately described
Guide for use		
Validation rules	Permissible values: 1, 2, 8, 9	
Related data field		
Data type	Number	
Representational class	Code	
Field size maximum	1	
Format	N	
Column location	ATR#_site_time-period_INC.csv	
Column name	TertSurvey	
Correspondence	Single	

Administrative information

References	
Related metadata	NZNMDv1.7:7.10

5.22 Pregnancy

Identifying and definitional attributes

Definition	Indication of the possibility of the patients' history of current pregnancy pre-existing the injury event.
Justification	Pregnancy provides significant complications regarding the treatment of the injured.

Representational attributes

Data domain	**Code**	**Description**
	1	Trimester 1 (week 1 to the end of week 12)
	2	Trimester 2 (week 13 to the end of week 26)
	3	Trimester 3 (week 27 to the end of the pregnancy)
	4	Trimester Unspecified
	5	Negative B-hCG / Clinical Evidence
	6	Not applicable eg Male, pre/post -menopausal
	8	Not known
	9	Not documented
Guide for use	Positive B-hCG or documented Clinical Evidence of pregnancy status. Where indicated the trimester should be specified.	
Validation rules	Permissible values: 1, 6, 8, 9	
Related data field		
Data type	Number	
Representational class	Code	
Field size maximum	1	
Format	N	
Column location	ATR#_site_time-period_INC.csv	
Column name	PregnancyStatus	
Correspondence	Single	

Administrative information

References	Royal Australasian College of Surgeons Trauma Verification Document.
Related metadata	WHO:PregnancyQ

6.01 Diagnosis made >24 hours after arrival?

Identifying and definitional attributes

Definition	Whether any injury was diagnosed more than 24 hours after arrival at the definitive care hospital.
Justification	Represents the time required to initiate, report on and assess the results of key in-hospital diagnostic tests, and may be seen as a measure of the efficiency of the trauma system.

Representational attributes

Data domain	**Code**	**Description**
	1	Yes
	2	No
	9	Not stated/inadequately described
Guide for use	This field may be used as a global indicator of delayed diagnosis (of any injury) for a given patient.	
Validation rules	Permissible values: 1, 2, 9	
Related data field		
Data type	Number	
Representational class	Code	
Field size maximum	1	
Format	N	
Column location	ATR#_site_time-period_INC.csv	
Column name	IsDiag24hr	
Correspondence	Single	

Administrative information

References

Related metadata

6.02 Date & Time CT Performed

Identifying and definitional attributes

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.
Justification	Represents the time required to initiate key diagnostic tests, and may be seen as a measure of the efficiency of the trauma system.
Obligation	Mandatory

Representational attributes

Data domain	Date Time
Guide for use	Midnight should be entered as 00:01 of the following date (00:00 and 24:00 are not accepted). Example, midnight 25th November 2011 should be reported as 25112011T0001. Where the date and time is unknown, enter as: • 01011900T0000 Where date in known but time is unknown, enter actual date: • DDMMYYYYT0000 Where the time is known but date is unknown, enter actual time as: • 01011900Thhmm May be limited to CT performed at the definitive care hospital.
Validation rules	Valid Date Time 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 from Acute Care
Related data field	• 6.03 CT Type
Data type	Date/Time
Representational class	Date/Time
Field size maximum	13
Format	DDMMYYYYThhmm
Column location	ATR#_site_time-period_CT.csv
Column name	CTDateTime
Correspondence	Multiple

Administrative information

References	
Related metadata	NZNMDv1.7:6.15, Utstein v1.1.1:34

6.03 CT type

Identifying and definitional attributes

Definition	The body region on which the specified CT scan was performed.
Justification	Diagnostic tool to evaluate the nature and extent of injuries and provides an indication for treatment.
Obligation	Mandatory

Representational attributes

Data domain	**Code**	**Description**
	1	Brain
	2	Head/Face
	3	Orbits
	4	Neck
	5	Chest
	6	Spine - Cervical
	7	Spine - Thoracic
	8	Spine - Lumbar
	9	Limbs
	10	Abdomen
	11	Pelvis
	12	Angiogram
	13	Other
	98	Not performed
	99	Not stated/inadequately described
Guide for use	May be limited to CT performed at the definitive care hospital.	
Validation rules	Permissible values: 1 – 13, 98, 99	
	Field cannot be blank	
Related data field	• 6.02 Date and Time CT Performed	
Data type	Number	
Representational class	Code	
Field size maximum	2	
Format	N[N]	
Column location	ATR#_site_time-period_CT.csv	
Column name	CTType	
Correspondence	Multiple	

Administrative information

References	
Related metadata	

6.04 Critical Procedures Performed

Identifying and definitional attributes

Definition	Procedural intervention undertaken for resusative intervention within first 24 hours of arrival at definitive care hospital.
Justification	Used to characterise critical procedures used to treat specific injury types to enable analysis of triage and treatment.

Representational attributes

Data domain	Australian Classification of Health Interventions (ACHI)
Guide for use	Operative and/or essential procedures is defined as procedures performed in the Operating Room or other specified procedural area for resusative intervention. Procedures performed for the purpose of resusitative intervention, eg Craniotomy, Thoracotomy, Laparatomy, Extracorporeal membrane oxygenation (ECMO), interventional radiology (IR) eg stenting of bleeding vessel, Resuscitative Endovascular Balloon Occlusion of the Aorta (REBOA). Limited to interventions for severe or potentially severe injuries only. Refer to Appendix Suplemental Guides.
Validation rules	Valid ACHI Code Field cannot be blank
Related data field	• 6.05 Procedures Performed Date & Time
Data type	Text
Representational class	Code
Field size maximum	8
Format	NNNNN-NN
Column location	ATR#_site_time-period_OPPROC.csv
Column name	OperativeProc
Correspondence	Multiple

Administrative information

References	Australian Classification of Health Interventions (ACHI)
Related metadata	METeOR ID:391349, 699716, NZNMDv1.7:7.02 (indirect), WHO:InpatientInterventions, OTUtilisation, Utstein v1.1.1:28

6.05 Critical Procedure Performed Date & Time

Identifying and definitional attributes

Definition	The date and time a critical procedural intervention undertaken for resusative intervention within the first 24 hours of arrival at definitive care.
Justification	Allows time to procedure to be calculated.

Representational attributes

Data domain	Date Time
Guide for use	Start time is the time anaesthesia is administered. Midnight should be entered as 00:01 of the following date (00:00 and 24:00 are not accepted). Example, midnight 25th November 2011 should be reported as 25112011T0001. Start time is the time anaesthesia is administered.Where the date and time is unknown, enter as: • 01011900T0000 Where date in known but time is unknown, enter actual date: • DDMMYYYYT0000 Where the time is known but date is unknown, enter actual time as: • 01011900Thhmm Limited to interventions for severe or potentially severe injuries only. May be limited to interventions performed at the definitive care hospital.
Validation rules	Valid Date Time 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 from Acute Care
Related data field	• 6.04 Procedures Performed
Data type	Date/Time
Representational class	Date/Time
Field size maximum	13
Format	DDMMYYYYThhmm
Column location	ATR#_site_time-period_OPPROC.csv
Column name	OperationDateTime
Correspondence	Multiple

Administrative information

References	
Related metadata	METeOR ID:270298, NZNMDv1.7:7.03, WHO:InpatientInterventionDate, FirstOTDate, First OTTime

6.06 Number of days on ventilator

Identifying and definitional attributes

Definition	The total number of days (whole or partial) on which mechanical ventilation was used. Excluding ventilation exclusively for procedures eg operations.
Justification	Ventilation increases risk of complications, such as Ventilator Association Pneumonia, and may lead to potentially poorer outcomes.

Representational attributes

Data domain	Code	Description
	0	No Ventilator days
	1-400	Valid days
	999	Not stated/inadequately described
Guide for use	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 Operating Room 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 Operating Room procedure. Mechanical ventilation does not include non-invasive methods of ventilatory support, such as CPAP or BiPAP. Refer to Australian Coding Standard 1006 Ventilatory Support and the Management of continuous ventilatory support ACHI codes for guidance.	
Validation rules	Permissible values: 0 - 400, 999 Must be completed if the following collected: • 5.12 Patient intubated?	
Related data field	• 5.14 Respiratory Rate Qualifier	
Data type	Number	
Representational class	Total	
Field size maximum	3	
Format	N[NN]	
Column location	ATR#_site_time-period_INC.csv	
Column name	VentDays	
Correspondence	Single	

Administrative information

References	Australian Coding Standard, Ventilatory Support and the Management of continuous ventilatory support.
Related metadata	METeOR ID:479010, 652006, NZNMDv1.7:7.07 (indirect), QHIK:041654, WHO:VentDays, Utstein v1.1.1:18

6.07 Unplanned return to Theatre within 48 hrs

Identifying and definitional attributes

Definition	The unplanned operative procedure or return to the operating room/theatre within 48hrs after initial operation management of a related previous operative procedure.
Justification	To deterimine if major trauma patients are having unplanned returns to the Operating Theatre (OT).

Representational attributes

Data domain	**Code**	**Description**
	1	Unplanned operative procedure
	2	No unplanned return to OT
	8	Not applicable
	9	Unknown if returned to OT or time of return to OT

Guide for use	Ideally all operations will be anticipated and planned following Emergency Department assessment. Unplanned operations include return to operating theatre for post-operative haemorrhage, unexpected surgery for missed injuries, or unexpected deterioration of patient's condition. Selection of option 2 indicates that all operations were planned. Option 8 – Not applicable would include no operation unplanned operative procedure or return to the operating room within 48hrs after initial operation management of a related previous operative procedure. See also Appendix Supplemental Guide.
Validation rules	Field cannot be blank Permissible values: 1, 2, 8, 9
Related data field	
Data type	Number
Representational class	Code
Field size maximum	1
Format	N
Column location	ATR#_site_time-period_INC.csv
Column name	UnplannedOT
Correspondence	Single

Administrative information

References	NTDB (2020)
Related metadata	

6.08 Unplanned admission to ICU

Identifying and definitional attributes

Definition	The unplanned admission to ICU
Justification	To deterimine if major trauma patients are having unplanned admissions to the ICU.

Representational attributes

Data domain	**Code**	**Description**
	1	Admitted to ICU – unplanned
	2	Admitted to ICU – planned
	3	Admitted to ICU – not known whether planned or unplanned
	8	Not applicable (no ICU admissions)
	9	ICU admissions unknown

Guide for use

This refers to those patients that were transferred to the ward and whose condition deteriorated requiring prompt admission/re-admission to the Intensive Care Unit (ICU). It includes patients who were:

- transferred from ICU to the ward and back to ICU,
- transferred from Emergency Department to a ward then ICU,
- transferred from the ED to theatre and were intended to go to the ward from Recovery but were admitted to ICU.

Selection of option 2 indicates that all ICU episodes were anticipated and planned. Option 8 – Not applicable would include no admissions to ICU.

Validation rules	Field cannot be blank Permissible values: 1-3, 8, 9
Related data field	
Data type	Number
Representational class	Code
Field size maximum	1
Format	N
Column location	ATR#_site_time-period_INC.csv
Column name	UnplannedICU
Correspondence	Single

Administrative information

References	NTDB (2020)
Related metadata	

7.01 AIS Injury Codes

Identifying and definitional attributes

Definition	The assigned Abbreviated Injury Scale anatomical scoring codes for each injury sustained by the patient.
Justification	The main purpose is to calculate the overall injury severity of the patient which can be used for TRISS and outcome analysis.
Obligation	Mandatory

Representational attributes

Data domain	AIS 2005 Update 2008 codes
Guide for use	Abbreviated Injury Scale codes AIS 2005 Update 2008.[1] If earlier AIS versions are used, these codes will need to be mapped to the comparable 2008 AIS estimates.[2] If AIS coding is not used, it will be necessary to map from International Classification of Diseases (ICD) injury codes to obtain comparable AIS estimates. As yet, no map has been agreed upon at a binational level, although several have been developed
Validation rules	Field cannot be blank
Related data field	• 3.03 Dominant Injury Type • 7.04 Injury Severity Score • 7.05 New Injury Severity Score
Data type	Text
Representational class	Code
Field size maximum	8
Format	NNNNNN.N
Column location	ATR#_site_time-period_INC.csv
Column name	AISCode
Correspondence	Multiple

Administrative information

References	1 Gennarelli TA, Wodzin E. , (Eds) The Abbreviated Injury Scale 2005 - Update 2008. Barrington, IL: Association for the Advancement of Automotive Medicine; 2008. 2 Palmer CS, Franklyn M, Read-Allsopp C, McLellan S, Niggemeyer LE. Development and validation of a complementary map to enhance the existing 1998 to 2008 Abbreviated Injury Scale map. Scand J Resus Emerg Med 2011;19:29.
Related metadata	NZNMDv1.7:7.05, VSTORM v6.0:5.2, WHO:Condition InjuryAnatomicLocation, Utstein v1.1.1:23

7.02 Date & Time of Discharge from Acute Care

Identifying and definitional attributes

Definition	The date and time patient was first discharged from acute care at the definitive hospital, or (if died in hospital) the time of death during initial acute care. Acute care is defined as the highest level of care received at the definitive hospital. Change in episode of care to a Australian National Sub-acute and Non-Acute Patient (AN-SNAP) classification is considered discharge from acute care. If follow on care is received off-site, then discharge date and time from the definitive hospital is used.
Justification	To calculate length of stay of acute care at the definitive care hospital.
Obligation	Mandatory

Representational attributes

Data domain	Date Time
Guide for use	The following is excluded from the definition of acute care as per the Australian National Sub-acute and Non-Acute Patient (AN-SNAP) classification types i.e. palliative care, rehabilitation care, psychogeriatric care, geriatric evaluation and management or maintenance care. Midnight should be entered as 00:01 of the following date (00:00 and 24:00 are not accepted). Example, midnight 25th November 2011 should be reported as 25112011T0001. Where the date and time is unknown, enter as: • 01011900T0000 Where date in known but time is unknown, enter actual date: • DDMMYYYYT0000 Where the time is known but date is unknown, enter actual time as: • 01011900Thhmm It is the date of separation from the definitive care hospital. If not collected, can be concatenated if the following data is collected at the definitive care hospital: • Episode of admitted patient care - separation date • Episode of admitted patient care - separation time
Validation rules	Valid Date Time Must be greater than or equal to: • 5.01 Date & Time of Arrival at Definitive Care Hospital; and • 5.18 ED Discharge Date & Time
Related data field	• 7.06 Length of Stay
Data type	Date/Time
Representational class	Date/Time
Field size maximum	13
Format	DDMMYYYYThhmm
Column location	ATR#_site_time-period_INC.csv
Column name	DischargeDateTime
Correspondence	Single

Administrative information

References	Eagar K. et al (1997). The Australian National Sub-acute and Non-acute Patient Classification (AN-SNAP): Report of the National Sub-acute and Non-acute Casemix Classification Study. Centre for Health Service Development, University of Wollongong.
Related metadata	METeOR ID:270025, 270026, NZNMDv1.7:7.13, WHO:FaciltiyDispoDate

7.03 Discharge Destination from Acute Care

Identifying and definitional attributes

Definition	The location to which the patient was discharged from acute care in the definitive care hospital. Acute care is defined as the highest level of care received at the definitive hospital. Change in episode of care to a Australian National Sub-acute and Non-Acute Patient (AN-SNAP) classification is considered discharge from acute care. If follow on care is received off-site, then discharge date and time from the definitive hospital is used.
Justification	To determine the outcome status of patients.
Obligation	Mandatory

Representational attributes

Data domain	**Code**	**Description**
	1	Home
	2	Rehabilitation
	3	Residential aged care service or nursing home not the usual place of residence
	4	Special accommodation (includes prisons, hostels and group homes providing primarily welfare services) that is not the usual place of residence
	5	Hospital for convalescence
	6	Left against medical advice/discharge at own risk
	7	Death
	8	Other
	9	Acute hospital for further definitive care
	99	Not stated/inadequately described

Guide for use	If the patient is discharged back to the usual or original place of residence such as a nursing home, aged care facility or special accommodation, code 1 – Home. The following is excluded from the definition of acute care as per the Australian National Sub-acute and Non-Acute Patient (AN-SNAP) classification types i.e. palliative care, rehabilitation care, psychogeriatric care, geriatric evaluation and management or maintenance care.
Validation rules	Permissible values: 1 – 9, 99 Must be greater than or equal to : • 5.01 Date & Time of Arrival at Definitive Care Hospital; • 5.18 ED Discharge Date & Time
Related data field	• 7.02 Date & Time of Discharge from Acute Care
Data type	Number
Representational class	Code
Field size maximum	2
Format	N[N]
Column location	ATR#_site_time-period_INC.csv
Column name	DischargeDest
Correspondence	Single

Administrative information

References	Eagar K. et al (1997). The Australian National Sub-acute and Non-acute Patient Classification (AN-SNAP): Report of the National Sub-acute and Non-acute Casemix Classification Study. Centre for Health Service Development, University of Wollongong.
Related metadata	METeOR ID:270094, NZNMDv1.7:7.12, QHIK:041743, WHO:FacilityDispo, Utstein v1.1.1:20

7.04 Injury Severity Score

Identifying and definitional attributes

Definition	The calculated Injury Severity Score based on the entered Abbreviated Injury Scale codes at discharge. ISS is an anatomical scoring system that provides an overall score for patients with multiple injuries.
Justification	To determine severity of injury for multiple trauma patients. Used to characterise patients and hospital outcomes based upon the presence, severity and type of injury.
Obligation	Mandatory

Representational attributes

Data domain	**Code**	**Description**
	1 - 75	ISS codes
	99	Not stated/inadequately described
Guide for use	A non-zero integer number calculated based on AIS codes. If AIS codes are available, this should be derived as a calculated field. If an injury is assigned an AIS severity of 6 (unsurvivable injury), the ISS score is automatically assigned 75.	
Validation rules	Permissible values: 1 – 75, 99 Field cannot be blank	
Related data field	• 7.01 AIS Injury Codes	
Data type	Number	
Representational class	Code	
Field size maximum	2	
Format	N[N]	
Column location	ATR#_site_time-period_INC.csv	
Column name	ISS	
Correspondence	Single	

Administrative information

References	Baker SP, O'Neill B, Haddon W, Jr., Long WB. The injury severity score: a method for describing patients with multiple injuries and evaluating emergency care. J Trauma 1974;14:187-96
Related metadata	NZNMDv1.7:7.06, VSTORM v6.0:5.5

7.05 New Injury Severity Score

Identifying and definitional attributes

Definition	The calculated New Injury Severity Score based on the entered Abbreviated Injury Scale codes at discharge.
Justification	To determine severity of injury for multiple trauma patients. Used to characterise patients and hospital outcomes based upon the presence, severity and type of injury.

Representational attributes

Data domain	**Code** **Description** 1 - 75 NISS codes 99 Not stated/inadequately described
Guide for use	A non-zero integer number calculated based on AIS codes. If AIS codes are available, this should be derived as a calculated field. If an injury is assigned an AIS severity of 6 (unsurvivable injury), the NISS score is automatically assigned 75.
Validation rules	Permissible values: 1 - 75, 99
Related data field	• 7.01 AIS Injury Codes
Data type	Number
Representational class	Code
Field size maximum	2
Format	N[N]
Column location	ATR#_site_time-period_INC.csv
Column name	NISS
Correspondence	Single

Administrative information

References	Osler T, Baker SP, Long W: A modification of the injury severity score that both improves accuracy and simplifies scoring. J Trauma 1997;43:922–925.
Related metadata	

7.06 Acute Length of Stay

Identifying and definitional attributes

Definition	The total number of hospital days spent for Acute Care in the definitive care hospital from date of admission to date of discharge or death. Acute care is defined as the highest level of care received at the definitive hospital. Change in episode of care to a Australian National Sub-acute and Non-Acute Patient (AN-SNAP) classification is considered discharge from acute care. If follow on care is received off-site, then discharge date and time from the definitive hospital is used.
Justification	Length of stay can be associated with increased risk of complications and poorer outcomes. Length of stay also reflects the use of hospital resources.
Obligation	Mandatory

Representational attributes

Data domain	Code	Description
	0.01-400.00	Valid days
	999.99	Not stated/inadequately described
Guide for use	Calculated length of stay in the definitive care hospital, measured as a fractional component expressed as a decimal. Round up the decimal component to two decimal points, for example, if death or discharge occurs within 14 minutes i.e. < 0.01 days. Bed days or whole days are commonly used, as per METeOR ID 329889 – Episode of admitted patient care—length of stay (including leave days, but this gives rise to data inaccuracies. n be calculated from: • 5.01 Date & Time of Arrival at Definitive Care Hospital; and • 7.02 Date & Time of Discharge from Acute Care If both data fields are available, this should be derived as a calculated field. The following is excluded from the definition of acute care as per the Australian National Sub-acute and Non-Acute Patient (AN-SNAP) classification types i.e. palliative care, rehabilitation care, psychogeriatric care, geriatric evaluation and management or maintenance care.	
Validation rules	Permissible values: 0.01 - 400.00, 999.99 Field cannot be blank Must be completed if the following collected: • 5.01 Date & Time of Arrival at Definitive Care Hospital; and • 7.02 Date & Time of Discharge from Acute Care	
Related data field	• 5.01 Date & Time of Arrival at Definitive Care Hospital • 7.02 Date & Time of Discharge from Acute Care	
Data type	Number	
Representational class	Total	
Field size maximum	6	
Format	[NN]N.NN	
Column location	ATR#_site_time-period_INC.csv	
Column name	LOS	
Correspondence	Single	

Administrative information

References	Eagar K. et al (1997). The Australian National Sub-acute and Non-acute Patient Classification (AN-SNAP): Report of the National Sub-acute and Non-acute Casemix Classification Study. Centre for Health Service Development, University of Wollongong.
Related metadata	METeOR ID:329889, NZNMDv1.7:7.08, Utstein v1.1.1:19

7.07 Length of ICU Stay

Identifying and definitional attributes

Definition	The total number of hospital days spent in the Intensive Care Unit (ICU) at the definitive care hospital.
Justification	An important measure of the patient care process.
Obligation	Mandatory

Representational attributes

Data domain	**Code**	**Description**
	0	No ICU stay
	0.01-400.00	Valid days
	999.99	Not stated/inadequately described
Guide for use	Calculated length of stay in the intensive care unit (excluding HDU High Depenancy Unit) at the definitive care hospital, measured as a (with fractional component expressed as a decimal), rather than bed days. Round up the decimal component to two decimal points, for example, if death or discharge occurs within 14 minutes i.e. < 0.01 days. The hours of length of stay in ICU calculated for Activity Based Funding purposes can be used as a guide. If a patient was not admitted to ICU, code 0.	
Validation rules	Permissible values: 0.00 - 400.00, 999.99 Field cannot be blank Must be less than or equal to: • 7.06 Length of Stay	
Related data field		
Data type	Number	
Representational class	Total	
Field size maximum	6	
Format	[NN]N.NN	
Column location	ATR#_site_time-period_INC.csv	
Column name	ICULOS	
Correspondence	Single	

Administrative information

References	
Related metadata	METeOR ID:471553, NZNMDv1.7:7.09

7.08 Severe Complications

Identifying and definitional attributes

Definition	Whether a condition arising following the injury event had a substantial effect on the management, progress or eventual outcome of the patient. Complication refers to condition/s that develops after the injury, affecting the progress or outcome of the patient that requires management and/or treatment.
Justification	Significant complications are associated with poorer outcomes and may potentially lead to an increased length of hospital stay.

Representational attributes

Data domain	ICD10-AM code
Guide for use	ICD-10 AM Australian Coding Standards diagnosis codes can be used to map to specified severe complications groups. See also Appendix Supplemental Guide.
Validation rules	Valid ICD10-AM code
Data type	Text
Representational class	Code
Field size maximum	6
Format	ANN{.N[N]}
Column location	ATR#_site_time-period_INC.csv
Column name	SevereComp
Correspondence	Multiple

Administrative information

References	ICD10AM: International Statistical Classification of Diseases and Related Health Problems, Australian Modification.
Related metadata	METeOR ID:588981, WHO:Complications

7.09 ICD Diagnosis Codes

Identifying and definitional attributes

Definition	Diagnosis relevant to the episode of care in accordance with the International statistical classification of diseases and related health problems, Australian modification (ICD-10-AM) Australian Coding Standards.
Justification	Diagnoses give information on the conditions that are significant in terms of treatment required, investigations needed and resources used during the episode of care.

Representational attributes

Data domain	ICD10-AM code
Guide for use	Diagnoses should be interpreted as conditions that significantly affect patient management in terms of requiring any of the following: • commencement, alteration or adjustment of therapeutic treatment, • diagnostic procedures, • increased clinical care In accordance with the Australian Coding Standards, a condition may be documented by the treating clinician/team due to its 'clinical significance', however some conditions are not normally coded as additional diagnoses in certain circumstances.
Validation rules	Valid ICD10-AM code
Data type	Text
Representational class	Code
Field size maximum	6
Format	ANN{.N[N]}
Column location	ATR#_site_time-period_INC.csv
Column name	DiagCode
Correspondence	Multiple

Administrative information

References	ICD10AM: International Statistical Classification of Diseases and Related Health Problems, Australian Modification.
Related metadata	METeOR:699606, WHO:StandardDx

7.10 Diagnostic Related Group

Identifying and definitional attributes

Definition	Australian Refined Diagnosis Related Groups (AR-DRGs) is an Australian admitted patient classification system which provides a clinically meaningful way of relating the number and type of patients treated in a hospital (known as hospital casemix) to the resources required by the hospital. Each AR-DRG represents a class of patients with similar clinical conditions requiring similar hospital services.
Justification	Comparability of diagnosis groups for hospital benchmarking utilised in both Australia and New Zealand.

Representational attributes

Data domain	**Code**	**Description**
	A13-Z66	Codes for AR-DRG
Guide for use	A single code provided after clinical coding completed for hospital coding systems.	
Validation rules	Valid DRG code	
Data type	Alphanumeric	
Representational class	Code	
Field size maximum	3	
Format	ANN	
Column location	ATR#_site_time-period_INC.csv	
Column name	DRG	
Correspondence	Single	

Administrative information

References	https://www.ihpa.gov.au/admitted-acute-care/ar-drg-classification-system
	National Centre for Classification in Health
Related metadata	METeOR:391295

7.11 Primary Cause of Death

Identifying and definitional attributes

Definition	The clinical cause of death.
Justification	To provide context to the primary cause of death. The cause of death trends provide insight to the quality of patient care. The disease or injury which initiated the train of morbid events leading directly to a person's death or the circumstances of the accident or violence which produced the fatal injury, as represented by a code.

Representational attributes

Data domain	**Code**	**Description**
	1	Central Nervous System (CNS)
	2	Hypovolaemia (Haemorrhage)
	3	Central Cardiovascular Injury (Arrest)
	4	Cardiovascular Failure, other
	5	Respiratory System Failure (eg Pulmonary Embolism, Aspiration, Infection)
	6	Organ Failure (Incl MOF)
	7	Infection (Sepsis)
	8	Medical (eg Metabolic, Coagulopathy)
	9	Other specified pre-existing condition (eg comorbidity)
	10	Other specified
	99	Unknown
Guide for use	If a patient dies following admission to either the referring or definitive care hospital prior to hospital discharge the type of death should be recorded. Refer to the death certificate primary cause of death issued by a medical officer. If two or more categories are judged to be equally appropriate, select the one that comes first in the code list.	
Validation rules	Permissible values: 1 - 10, 99	
Related data field	• 5.19 Disposition After ED = 11 Death, 12 Death in ED • 7.03 Discharge Destination from Acute Care = 7 Death	
Data type	Number	
Representational class	Code	
Field size maximum	2	
Format	N[N]	
Column location	ATR#_site_time-period_INC.csv	
Column name	DeathCause	
Correspondence	Single	

Administrative information

References	Australian Bureau of Statistics 2004. Information Paper: Cause of death certification. Catalogue no. 1205.0.55.001. Australian Bureau of Statistics, Canberra.

Oyeniyi, B, et. al., 2017. Trends in 1029 Trauma Deaths at a Level 1 Trauma Centre. Injury, Jan

7.12 Rockwood Clinical Frailty Score

Identifying and definitional attributes

Definition	The Rockwood Clinical Frailty Score (CFS) is a global clinical measure of a person's level of vulnerability to poor outcomes.
Justification	In the setting of trauma, identification of frailty on admission predicts mortality and discharge disposition in elderly trauma patients over the age of 65 years.

Representational attributes

Data domain	Code	Description
	1	Very Fit
	2	Well
	3	Managing Well
	4	Vulnerable
	5	Mildly Frail
	6	Moderately Frail
	7	Severely Frail
	8	Very Severely Frail
	9	Terminally Ill
	99	Unknown

Guide for use	The CFS is only validated for people aged ≥ 65. It should not be used in younger people, people with stable long-term disabilities (for example, cerebral palsy), learning disability or autism and an individualised assessment is recommended.
Validation rules	Permissible values: 1 - 9, 99
Related data field	N/A
Data type	Number
Representational class	Code
Field size maximum	2
Format	N[N]
Column location	ATR#_site_time-period_INC.csv
Column name	Frailty
Correspondence	Single

Administrative information

References	Rockwood K, Song X, MacKnight C, Bergman H, Hogan DB, McDowell I, Mitnitski A. A global clinical measure of fitness and frailty in elderly people, CMAJ 2005;173(5)489-95.
Related metadata	

APPENDIX: Development references

The BNTMDS have been compared to other international trauma datasets to ensure high compatibility and alignment where possible although modified to suit an Australian and New Zealand context.

These resources are:

1. European Utstein template (Utstein)

   Reference: The Utstein Trauma Template for Uniform Reporting of Data following Major Trauma Data Dictionary, Version 1.1.1, May 19 2009.

2. American National Trauma Data Bank (NTDB)

   Reference: National Trauma Data Standard, Data Dictionary 2011 Admissions, February 2011.

3. Canadian National Trauma Registry (NTR)

   Reference: National Trauma Registry Comprehensive Data Set (NTR CDS) Data Element List, December 2001.

4. Ontario Trauma Registry (OTR)

   Reference: Ontario Trauma Registry Comprehensive Data Set (OTR CDS) Data Dictionary, May 2014

5. Ontario Trauma Registry (OTR)

   Reference: Ontario Trauma Registry Comprehensive Data Set (OTR CDS) Data Dictionary, May 2014

APPENDIX: Supplemental Guides

2.04 Guide to Pre-injury Co-morbidities

Guide for use Inclusive of values collected within the Charlson Comorbidity Index (CCI)[3], [4].

Utilisation of Clinical Coded ICD10AM Data is a suggested methodology of collection.

Comorbidities	ICD-10
Obesity BMI	E66.9x
Anaemia	D46.x; D47.0, D47.1; D50.x-D53.x; D55.x-D61.x; D63.x- D64.x; D69.6-9; O99.0x
Bleeding Disorders	T81.0 R58 D68.8
Pregnancy	O00.x, Z33
Myocardial infarction	I21.x, I22.x, I25.2
Congestive heart failure	I09.9, I11.0, I13.0, I13.2, I25.5, I42.0, I42.5-I42.9, I43.x, I50.x, P29.0
Peripheral vascular disease	I70.x, I71.x, I73.1, I73.8, I73.9, I77.1, I79.0, I79.2, K55.1, K55.8, K55.9, Z95.8, Z95.9
Cerebrovascular disease	G45.x, G46.x, H34.0, I60.x-I69.x
Dementia	F00.x-F03.x, F05.1, G30.x, G31.1
Chronic pulmonary disease	I27.8, I27.9, J40.x-J47.x, J60.x-J67.x, J68.4, J70.1, J70.3
Rheumatic disease	M05.x, M06.x, M31.5, M32.x-M34.x, M35.1, M35.3, M36.0
Peptic ulcer disease	K25.x-K28.x
Mild liver disease	B18.x, K70.0-K70.3, K70.9, K71.3-K71.5, K71.7, K73.x, K74.x, K76.0, K76.2-K76.4, K76.8, K76.9, Z94.4
Diabetes without chronic complication	E10.0, E10.l, E10.6, E10.8, E10.9, E11.0, E11.1, E11.6, E11.8, E11.9, E12.0, E12.1, E12.6, E12.8, E12.9, E13.0, E13.1, E13.6, E13.8, E13.9, E14.0, E14.1, E14.6, E14.8, E14.9
Diabetes with chronic complication	E10.2-E10.5, E10.7, E11.2-E11.5, E11.7, E12.2-E12.5, E12.7, E13.2-E13.5, E13.7, E14.2-E14.5, E14.7
Hemiplegia or paraplegia	G04.1, G11.4, G80.1, G80.2, G81.x, G82.x, G83.0-G83.4, G83.9
Renal disease	I12.0, I13.1, N03.2-N03.7, N05.2-N05.7, N18.x, N19.x, N25.0, Z49.0-Z49.2, Z94.0, Z99.2
Any malignancy, including lymphoma and leukemia, except malignant neoplasm of skin	C00.x-C26.x, C30.x-C34.x, C37.x-C41.x, C43.x, C45.x-C58.x, C60.x-C76.x, C81.x-C85.x, C88.x, C90.x-C97.x
Moderate or severe liver disease	I85.0, I85.9, I86.4, I98.2, K70.4, K71.1, K72.1, K72.9, K76.5, K76.6, K76.7
Metastatic solid tumour	C77.x-C80.x
AIDS/HIV	B20.x-B22.x, B24.x

[4] Quan H, Sundararajan V, Halfon P, et al. Coding algorithms for defining Comorbidities in ICD-9-CM and ICD-10 administrative data. Med Care. 2005 Nov; 43(11): 1130-9.

6.04 Guide to Critical Procedures

Guide for use

Operative and/or essential procedures are defined as procedures performed in the Operating Room or other specified procedural area for resuscitative intervention.

The list below is a non-exhaustive list of such procedures, as identified using the Australian Classification for Health Interventions codes.

Key Critical Procedures

Procedures performed for the purpose of resusitative intervention, eg Craniotomy, Thoracotomy, Laparatomy, Extracorporeal membrane oxygenation (ECMO), interventional radiology (IR) eg stenting of bleeding vessel, Resuscitative Endovascular Balloon Occlusion of the Aorta (REBOA).

16520-01	Emergency classical caesarean section
16520-03	Emergency lower segment caesarean section
16520-05	Emergency caesarean section, not elsewhere classified
30235-00	Repair of ruptured muscle, not elsewhere classified
30320-00	Exploration of mediastinum via mediastinotomy
30373-00	Exploratory laparotomy
30375-20	Splenotomy
30375-21	Other procedures on spleen
30422-00	Repair of traumatic superficial laceration of liver
30425-00	Repair of traumatic deep, multiple lacerations of liver
30515-03	Ileocolic resection with anastomosis
30515-05	Ileocolic resection with formation of stoma
30560-00	Repair of oesophageal perforation
30565-00	Resection of small intestine with formation of stoma
30566-00	Resection of small intestine with anastomosis
30583-00	Distal pancreatectomy
30593-00	Pancreatectomy
30593-01	Pancreatectomy with splenectomy
30596-00	Partial splenectomy
30596-01	Splenorrhaphy
30597-00	Splenectomy
30600-00	Repair of traumatic diaphragmatic hernia
32000-01	Right hemicolectomy with formation of stoma
32003-01	Right hemicolectomy with anastomosis
32004-00	Subtotal colectomy with formation of stoma
32004-01	Extended right hemicolectomy with formation of stoma
32005-00	Subtotal colectomy with anastomosis
32005-01	Extended right hemicolectomy with anastomosis
32006-00	Left hemicolectomy with anastomosis
32006-01	Left hemicolectomy with formation of stoma
32009-00	Total colectomy with ileostomy
32012-00	Total colectomy with ileorectal anastomosis
32015-00	Total proctocolectomy with ileostomy
33145-00	Replacement of ruptured thoraco-aortic aneurysm with graft
33148-00	Replacement of ruptured thoraco-abdominal aneurysm with graft
33151-00	Replacement of ruptured suprarenal abdominal aortic aneurysm with graft
33154-00	Replacement of ruptured infrarenal abdominal aortic aneurysm with tube graft
33157-00	Replacement of ruptured infrarenal aortic aneurysm with bifurcation graft to iliac arteries
33160-00	Replacement of ruptured infrarenal abdominal aortic aneurysm with bifurcation graft to femoral arteries
33163-00	Replacement of ruptured iliac artery aneurysm with graft
33166-00	Excision and repair of ruptured visceral artery aneurysm with direct anastomosis
33166-01	Replacement of ruptured visceral artery aneurysm with graft
33169-00	Interruption of ruptured visceral artery aneurysm without restoration of continuity
33172-00	Replacement of other major artery aneurysm with graft
33175-00	Repair of ruptured aneurysm in extremity
33178-00	Repair of ruptured aneurysm in neck
33181-00	Repair of ruptured intra-abdominal aneurysm
35321-02	Transcatheter embolisation of intracranial arteries, not elsewhere classified

35321-03	Transcatheter embolisation of blood vessels, face and neck
35321-04	Transcatheter embolisation of blood vessels, chest
35321-05	Transcatheter embolisation of blood vessels, abdomen
35321-06	Transcatheter embolisation of blood vessels, pelvis
35321-07	Transcatheter embolisation of blood vessels of limbs
35321-08	Transcatheter embolisation of intracranial veins, not elsewhere classified
35321-10	Transcatheter embolisation of other blood vessels
35321-11	Transcatheter embolisation of aorta
37004-03	Repair of ruptured bladder
38362-00	Percutaneous insertion of intra-aortic balloon pump
38418-00	Exploratory thoracotomy
38440-00	Wedge resection of lung
38447-00	Pericardiectomy, subtotal or complete
38447-01	Thoracoscopic pericardiectomy, subtotal or complete
38450-00	Transthoracic drainage of pericardium
38450-01	Thoracoscopic drainage of pericardium
38452-00	Subxyphoid drainage of pericardium
38456-14	Other intrathoracic procedures on ventricle of heart without cardiopulmonary bypass
38456-19	Other intrathoracic procedures on arteries of heart without cardiopulmonary bypass
38509-00	Repair of ventricular septal rupture
38550-00	Repair of ascending thoracic aorta
38553-00	Repair of ascending thoracic aorta with aortic valve repair
38553-01	Repair of ascending thoracic aorta with aortic valve replacement
38556-00	Repair of ascending thoracic aorta with aortic valve repair and implantation of coronary arteries
38556-01	Repair of ascending thoracic aorta with aortic valve replacement and implantation of coronary arteries
38559-00	Repair of aortic arch and ascending thoracic aorta
38562-00	Repair of aortic arch and ascending thoracic aorta with aortic valve repair
38562-01	Repair of aortic arch and ascending thoracic aorta with aortic valve replacement
38565-00	Repair of aortic arch and ascending thoracic aorta with aortic valve repair and implantation of coronary arteries
38565-01	Repair of aortic arch and ascending thoracic aorta with aortic valve replacement and implantation of coronary arteries
38568-00	Repair of descending thoracic aorta
38571-00	Repair of descending thoracic aorta with shunt
38572-00	Operative management of acute rupture or dissection of thoracic aorta
38603-00	Cardiopulmonary bypass, peripheral cannulation
38609-00	Insertion of intra-aortic balloon pump by arteriotomy
38615-00	Insertion of left ventricular assist device
38615-01	Insertion of right ventricular assist device
38618-00	Insertion of left and right ventricular assist device
38627-03	Adjustment of cannula for extracorporeal membrane oxygenation
38653-00	Other intrathoracic procedures on heart with cardiopulmonary bypass
38653-02	Other intrathoracic procedures on ventricle of heart with cardiopulmonary bypass
38653-03	Other intrathoracic procedures on septum with cardiopulmonary bypass
38653-04	Other intrathoracic procedures on aortic valve with cardiopulmonary bypass
38653-08	Other intrathoracic procedures on arteries of heart with cardiopulmonary bypass
38706-00	Repair of aorta
38706-01	Repair of aorta with anastomosis
38712-00	Repair of aortic interruption
38715-02	Other repair of main pulmonary artery
38721-01	Repair of vena cava by direct anastomosis
38727-00	Repair of intrathoracic vessels
38727-01	Repair of intrathoracic vessels with anastomosis
38763-00	Left ventricular myectomy
39009-00	Tap for subdural haemorrhage
39012-00	Burr holes
39600-00	Drainage of intracranial haemorrhage
39603-00	Removal of intracranial haematoma via osteoplastic craniotomy
39603-01	Removal of intracranial haematoma with craniectomy
39606-00	Elevation of closed skull fracture
39606-01	Reduction of closed skull fracture

39609-00	Debridement of compound skull fracture
39609-01	Elevation of compound skull fracture
39609-02	Reduction of compound skull fracture
39612-00	Elevation of compound skull fracture with repair of dura and brain
39612-01	Reduction of compound skull fracture with repair of dura and brain
39615-00	Repair of dura of brain via craniotomy
39615-01	Repair of dura of brain via craniotomy with cranioplasty
40300-00	Discectomy, 1 level
40300-01	Discectomy, 2 or more levels
40330-00	Decompression of spinal nerve roots
40331-00	Decompression of cervical spinal cord, 1 level
40332-00	Decompression of cervical spinal cord with anterior fusion, 1 level
40334-00	Decompression of cervical spinal cord, 2 or more levels
40335-00	Decompression of cervical spinal cord with anterior fusion, 2 or more levels
40345-00	Decompression of thoracic spinal cord via costotransversectomy
40348-00	Decompression of thoracic spinal cord via thoracotomy
40351-00	Anterior decompression of thoracolumbar spinal cord
41880-00	Percutaneous tracheostomy
41881-00	Open tracheostomy, temporary
41884-00	Cricothyrostomy
43810-00	Repair of small intestine with single anastomosis
43810-01	Repair of small intestine with multiple anastomoses
43816-02	Other repair of large intestine
44328-00	Amputation through forearm
44328-01	Amputation through upper arm
44334-00	Interscapulothoracic amputation
44361-01	Amputation of ankle through malleoli of tibia and fibula
44364-00	Midtarsal amputation
44367-00	Amputation above knee
44367-02	Amputation below knee
44370-00	Amputation at hip
44373-00	Hindquarter amputation
45054-00	Escharotomy
47483-00	External fixation of fracture of pelvis
47486-00	Open reduction of fracture of pelvis with internal fixation of anterior segment
47489-00	Open reduction of fracture of pelvis with internal fixation of posterior segment
47489-01	Open reduction of pelvic fracture with internal fixation of anterior and posterior segments
47492-00	Immobilisation of fracture of acetabulum
47495-00	Traction of fracture of acetabulum
47498-00	Internal fixation of fracture of acetabulum
47501-00	Open reduction of fracture of acetabulum with internal fixation
47513-00	Internal fixation of disruption of sacro-iliac joint
47528-00	Open reduction of fracture of femur
47528-01	Open reduction of fracture of femur with internal fixation
47531-00	Closed reduction of fracture of femur with internal fixation
47534-00	Internal fixation of intra-articular fracture of femoral condyle
90173-00	Other repair of lung or pleura
90176-00	Repair of chest wall
90210-00	Repair of subclavian artery by direct anastomosis
90210-01	Repair of innominate artery by direct anastomosis
90210-02	Repair of aorta by direct anastomosis
90225-01	Extracorporeal membrane oxygenation [ECMO]
90225-02	Extracorporeal carbon dioxide removal [ECCOR] [ECCO2R]
90230-00	Embolectomy or thrombectomy of other artery
90325-00	Other repair of pancreas
90326-00	Other procedures on pancreas
90535-00	Disarticulation at elbow
90567-00	Fasciotomy for upper limb ischaemia
90567-01	Fasciotomy for lower limb ischaemia
90579-00	Fasciectomy, not elsewhere classified

7.9 Guide to Complications

Guide for use

ICD-10 AM Australian Coding Standards diagnosis codes can be used to map to specified severe complications groups. For diagnoses which can fall within either comorbidity or severe complication, the availability of a 'condition onset flag' can assist with the correct categorisation comorbidities or complications.

Key complications (see below) may be reported as a minimum. Comparable codes used by other national registries are indicated in the right-hand columns.

Key Complications

Group	ICD10AM	Description	WHO	NTDS	NTR	TARN	DGU	JTDB
Cerebral	I64	Stroke/ CVA/TIA	Y	Y	Y			
Respiratory	J18.x	Pneumonia	Y		Y			Y
	J95.82	Pneumonia – Ventilator Assoc.		Y				Y
	I26.0	Pulmonary Embolism	Y	Y	Y	Y		Y
Cardiac	I46	Cardiac Arrest with CPR	Y	Y	Y			Y
	I21.x	Myocardial Infarction	Y	Y	Y			Y
Circulation	I80.20	Deep Vein Thrombosis (DVT) – Lower Limb	Y	Y	Y	Y		
	I80.42	Deep Vein Thrombosis (DVT) – Upper Limb	Y	Y	Y	Y		
	L89.x	Pressure Ulcer (Stage II-V)	Y	Y	Y			Y
Haematology	D68.x	Coagulopathy			Y			Y
	D62	Acute Post Haemorrhagic anaemia						
Organs	S37.0	Acute Kidney Injury	Y	Y	Y			
	N17.9	Acute Kidney Failure						Y
	T81.4x	Deep Surgical Site Infection		Y	Y			Y
	N39.0	Catheter-Associated Urinary Tract Infection	Y		Y			Y
Infection	R65.1	Severe Sepsis	Y	Y	Y		Y	
	R57.2	Septic Shock						Y
	A41	Central Line Associated Bloodstream Infection						Y
	M86.1x	Osteomyelitis						Y
Post procedural	R58	Bleeding post-surgery	Y		Y			
	K56.7	Ileus						Y
	T86.86	Graft or flap failure	Y		Y			
Syndromes	F10.3	Alcohol Withdrawal Syndrome	Y		Y			
	J80	Acute Respiratory Distress Syndrome	Y	Y	Y			Y
	F19.3	Drug Withdrawal Syndrome	Y		Y			
	R19.81	Abdominal Compartment Syndrome			Y			Y
	I99	Extremity Compartment Syndrome	Y	Y	Y			Y
	R65	Multiple organ dysfunction syndrome				Y	Y	Y
Other	Y65.8	Facility defined sentinel event	Y					

References

WHO World Health Organisation Trauma Registry 2018

NTDS National Trauma Data Standard Data Dictionary 2017 Admissions (USA), National Trauma Data Bank.

NTR National Trauma Registry Comprehensive Data Set – Data Dictionary, 2012 EN version, Canadian Institute for Health Information Standards and Data Submission.

TARN Trauma Audit and Research Network, Standard Dataset Standard Specification, 2014, United Kingdom

DGU Guide to Completion data entry form Trauma Register TR-DGU® (GERMANY) version 1.0 for V2015 , © 2016 – AUC - Akademie der Unfallchirurgie GmbH /Sektion NIS

JTDB Japan Trauma Data Bank, Japan Trauma Data Bank entry list, https://www.jtcrjatec.org/traumabank/dataroom/data/Trauma%20registryDataDefinition_031118xls.pdf , Accessed Jan 2017.