Te Rēhita Whētuki o Aotearoa
New Zealand Trauma Registry

New Zealand

Major Trauma National Minimum Dataset

National Trauma Network

Core Items

Version 1.6

October 2020

Contents

Version Control

Date	Version	Status	Key changes
November 2013	1.2	Endorsed and implemented	Original NMDS
July 2015	1.3	Endorsed and implemented	Change to AIS 2005 (with 2008 revisions) and associated lowering of ISS threshold to ISS≥13
June 2019	1.4	Changes endorsed, pending release 1 July 2019	Inclusion of • Tertiary survey • Trauma team activation Inclusion of first, last name in line with practice.
June 2020	1.5	Endorsed by NZTR Data Governance Group, and by the National Trauma Network Operations Group	Inclusion of contact details Removal of 'not applicable' from specific fields Changes to NZ Trauma Registry and new logo
October 2020	1.6	Endorsed	Changes to: • Sex for 'gender diverse' • D/T observations at referral and definitive care hospital changed to ''arrival'

Background

In June 2012 the Ministry of Health and the Accident Compensation Corporation established and jointly funded the Major Trauma National Clinical Network (the 'Network'). The role of the Network is to establish a contemporary trauma system that assures a planned and consistent approach to the provision of major trauma services across New Zealand. The Network has membership from nominated sector representatives across a range of clinical disciplines and relevant organisations. A key objective of the Network is to lead the development and implementation of a national major trauma database, the New Zealand Trauma Registry (NZTR).

In 2013 a data subcommittee was convened to assist in the specifications and data components of NZTR. With this foundation in place and the addition of subsequent revisions, this document reports the fields to be included in National Major Trauma Minimum Dataset for data collection and submission to a NZTR.

This dataset was determined with due consideration of the Bi-National Trauma Minimum Dataset (BNTMDS) for Australia and New Zealand, used for the Australian Trauma Registry. The BNTMDS has been endorsed by the Australians following a decade's worth of consultation with trauma stakeholders in Australia and New Zealand. To ensure alignment and potential for future comparison and collaboration, the New Zealand minimum dataset is identical or similar to the BNTMDS wherever possible.

The data dictionary describes the fields to be collected from all hospitals across New Zealand that currently care for major trauma patients. The data set for each patient will be submitted by the final treating hospital, the definitive care hospital, to the NZTR at a national level. New Zealand hospitals are free to collect additional trauma data elements for hospital, DHB or regional purposes, and are not restrained to the minimum data set described here.

A national dataset on all major trauma patients in New Zealand provides a consistent and comprehensive description of severely injured patients in New Zealand, allowing for the monitoring of trends and patterns of injury. This dataset forms an invaluable resource for trauma research, guidelines and policy.

This updated version of the National Trauma Minimum Dataset has been endorsed by the NZTR Data Governance Group, and the National Trauma Operations Group.

Guide for Use

This data dictionary has been designed to follow the patient journey, from the scene of injury to the referring hospital (where applicable), the definitive care hospital, and any subsequent acute care. In some instances, the scene and referring hospital fields may not be applicable; however fields applying to the definitive care hospital should always be answerable.

Data to be transferred from the pre-hospital service and referring hospitals will include both scene-specific and referring hospital-specific fields, i.e. fields 4.01-4.09 and 5.01-5.11 respectively. Additionally, data from the referring hospitals is required for the fields which refer to either "first" hospital or for fields which may span across referring and definitive hospitals. For example, 7.08 Total Length of Stay, refers to the sum of length of hospital stay in all referring and definitive care hospitals (where applicable).

All fields are mandatory, none more important than others. Where the value for the field is not known and has not been recorded, an option for "unknown" is provided. Further, when the field option does not apply, for example 4.02 Scene Pulse, when a patient's first presentation is to the hospital emergency department, a non-applicable option is provided. Thus, no field should be left blank.

Glossary of terms

Definitive Care Hospital

In general, the definitive hospital is the largest hospital the patient has been managed in. This is usually a tertiary hospital that is able to provide leadership and total care for most aspects of the injury.

However, if a patient has been transferred from one tertiary hospital to another, then the last tertiary hospital is the definitive care hospital. This is expected to be an exception.

Referring Hospitals

The acute care hospital from which the patient has been transferred from (to the definitive care hospital), usually to move the injured patient to a higher level of care where necessary resources optimise recovery.

Pre-hospital

Refers to any event that occurred prior to a patient arriving at the first presenting hospital. This includes scene and transfer and staging, but does not include referring hospital care.

Infant

Refers to a child aged 0 – 12 months of age

Guide to meaning of categories and headings

DATA ELEMENT NAME

Identifying and definitional attributes

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

Representational attributes

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.
Data type	The type of symbol or character, or other designation used to represent the data element, for example, String, Number, Date/Time.
Maximum field size	The maximum number of characters allowable to represent the data item values. Where multiple field options are allowed, this will be represented as the total field size, followed by depiction of this as an addition of two fields. For example, in 2.04 Ethnicity, where each field option is two characters, a maximum of two ethnicities may be selected allowing for a field size of 4 (2+2).
Data domain	The set of possible values for the data item. 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.

Inclusion-exclusion criteria

While registries from a sole hospital or 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 will meet assigned inclusion criteria should fit within the funding and time constraints which are imposed, particularly on smaller hospitals or regions without local data collection previously in place. It is therefore reasonable to limit inclusion to patients meeting specified criteria for major trauma.

Major trauma (and the inclusion criterion for the NZTR) is defined at a 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 (including deaths in ED)

Even where patients meet all the inclusion criteria, the following patients will be excluded:

EXCLUSIONS

- Patients with delayed admissions more 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 (e.g. comorbidity requiring anticoagulation and a subdural haematoma without a clear history of a fall in less than 7 days prior to hospital admission)
- Elderly (≥65 years of age) 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).
- Hangings
- Drownings

Data Definitions

1.01   Definitive Care Hospital Code

Identifying and definitional attributes

Definition	The identifier for the establishment in which the episode of definitive care occurred. Each hospital code will align to the Ministry of Health Hospital Code.
Justification	Collected for administrative purposes; to assist in service provider identification; to allow tracking of the patient journey; to allow for determination of hospital patient volumes and injury demographic comparisons across different hospitals.

Representational attributes

Guide for use	Use the code assigned to the facility.
Validation rules	Code must not be the same as 5.02 Referring Hospital
Data type	String
Field size maximum	

Data domain	**Code**	**Description**
	3260	Auckland City Hospital
	4011	Christchurch Hospital
	4211	Dunedin Hospital
	3411	Gisborne Hospital
	5911	Greymouth Base Hospital
	3612	Hawkes Bay Hospital
	5812	Hutt Hospital
	3214	Middlemore Hospital
	3911	Nelson hospital
	3215	North Shore Hospital
	4311	Palmerston North Hospital
	5312	Rotorua Hospital
	4511	Southland Hospital
	4711	Taranaki Base Hospital
	4911	Tauranga Hospital
	4411	Timaru Hospital
	5311	Waikato Hospital
	5511	Wairarapa Hospital

5811	Wellington Hospital
3311	Whakatane Hospital
5711	Whanganui Hospital
4111	Whangarei Hospital

If the facility code is not found here, refer to the full codes found at: http://www.health.govt.nz/nz-health-statistics/data-references/code-tables/common-code-tables/facility-code-table

1.02 Incident number

Identifying and definitional attributes

Definition   An identifier which is unique to a specific trauma event for a specific person (an incident-specific not person-specific number).

Justification   Collected for administrative purposes, to assist in the identification of the same episode of care for a trauma incident;

Representational attributes

Guide for use   The code will be automatically generated by the Registry. Each incident number must be unique and not re-used over time within the establishment.

This field cannot be an identifying number, such as the NHI number.

Validation rules   Must not be identical to any other incident number

Data type   String

Field size maximum   10

Data domain

1.03   National Health Index

Identifying and definitional attributes

Definition   A unique combination of letters and numbers that is assigned by the Ministry of
                                  Health to each person using health and disability support services.

Justification   Collected for administrative purposes, to assist in the identification of the same
                                  patient who potentially could cross between administrative boundaries, and to
                                  enable analysis across services.

Representational attributes

Guide for use   The code is available on the patient notes. Sometimes a temporary NHI may be
                                  assigned to a patient particularly when they NHI cannot be found. If a temporary
                                  NHI is assigned, it will need to be merged with the original once known. The original
                                  NHI must be used in the registry.

Validation rules   3 Alpha 4 Numeric. Must adhere to NHI coding protocol

Data type   String

Field size maximum   10

Data domain

Refer to the following link for further information

http://www.health.govt.nz/our-work/health-identity/national-health-index/nhi-information-health-consumers/national-health-index-questions-and-answers#whatis

1.04 Patient first and last name

Identifying and definitional attributes

Definition   The first name and last name of the patient as it appears on the hospital Patient Management System.

Justification   Collected for administrative purposes, to assist in the identification of the same patient.

Representational attributes

Guide for use   The code is available on the patient notes.

Validation rules

Data type   Text

Field size maximum   First name 30, Last name 50

Data domain

2.01 Date of birth

Identifying and definitional attributes

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

Representational attributes

Guide for use	If date of birth is not known or cannot be obtained, *Unknown* should be recorded and provision should be made to collect or estimate 2.02 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).
Validation rules	Less than all other dates
Data type	Date/Time
Field size maximum	8

Data domain

Value	Description
dd/mm/yyyy	Valid Date
?	Unknown

2.02   Age

Identifying and definitional attributes

Definition   The age of the patient on the date of the injury event

Justification   Age is a core data element as a predictive measure of trauma treatment and
                                   outcomes; for demographic analyses.

Representational attributes

Guide for use   Age is automatically calculated in the registry based on the date of birth and date
                                   and time of injury.

Validation rules

Data type   Number

Field size maximum   3

Data domain   Value   Description

                                   0-130   Automatically calculated once date of injury has been

                                                        entered

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 element in a wide
                             range of social, labour and demographic statistics.

Representational attributes

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.

Validation rules

Data type   Number

Field size maximum   1

Data domain

Code	Description
1	Male
2	Female
3	Not known
4	Gender diverse

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2.04 Ethnicity

Identifying and definitional attributes

Definition

As defined by the Ministry of Health, 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 in New Zealand.

Representational attributes

Guide for use

Ethnicity is a self-identified characteristic in New Zealand. Ethnicity to be recorded as per Ethnicity Data Protocols for the Health and Disability Sector (1). This protocol allows for multiple levels of recording (1-4 with level 4 being the most specific). The NZTR requires coding at level 2 as a minimum, as per the protocol requirements. The data domain provided is for level 2 coding. A maximum of two ethnicities may be recorded.

Validation rules

Data type
String

Field size maximum
4 (2+2)

Data domain

Code	Description
1.	European not further defined
2.	NZ European / Pakeha
3.	Other European
4.	Maori
5.	Pacific Island not defined
6.	Samoan
7.	Cook Island Maori
8.	Tongan
9.	Niuean
10.	Tokelauan
11.	Fijian
12.	Pacific Indian

13. Pacific Islander

14. Other Pacific

15. Asian not further defined

16. South East Asian

17. Chinese

18. Indian

19. Other Asian

20. Middle Eastern

21. Latin American/Hispanic

22. African

23. Other

24. Sri Lankan

?   Unknown

/.   Not stated

(1) Ministry of Health. 2004. *Ethnicity Data Protocols for the Health and Disability Sector*. Wellington: Ministry of Health

2.05 Weight

Identifying and definitional attributes

Definition   The weight of the person if ≤ 15 years of age on admission to the definitive care
                               hospital, measured in kilograms.

Justification

Representational attributes

Guide for use   If not recorded to be estimated by a treating clinician

Validation rules

Data type   Number

Field size maximum   3

Data domain

Value	Description
1-999 + decimal	Weight (kilograms) to one decimal place
?	Unknown
/.	Not applicable

2.06   Contact phone number

Identifying and definitional attributes

Definition	Maximum two phone numbers, as they appear on the hospital Patient Management System. Alpha text may also be used to indicate who the phone number belongs to, for example, 021 xxx xxxx Mother
Justification	Collected for administrative purposes, to assist in the contact of patients for the Patient Experience Long Term Outcomes work which is to monitor and evaluate the trauma system.

Representational attributes

Guide for use	Provide as much information as available on the Patient Management System. Include area code for phone number.
Validation rules	
Data type	Text
Field size maximum	2 x 30
Data domain	

2.07   Contact email

Identifying and definitional attributes

Definition   Patient's email address, as it appears on the hospital Patient Management System.

Justification   Collected for administrative purposes, to assist in the contact of patients for the Patient Experience Long Term Outcomes work which is to monitor and evaluate the trauma system.

Representational attributes

Guide for use   Provide as much information as available on the Patient Management System.

Validation rules

Data type   Text

Field size maximum   30

Data domain

2.08   Contact postal address

Identifying and definitional attributes

Definition   Patient's postal address, as it appears on the hospital Patient Management System.

Justification   Collected for administrative purposes, to assist in the contact of patients for the Patient Experience Long Term Outcomes work which is to monitor and evaluate the trauma system.

Representational attributes

Guide for use   Provide as much information as available on the Patient Management System.

Validation rules

Data type   Text

Field size maximum   30

Data domain

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.

Representational attributes

Guide for use	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 25/11/11 00:01.

Validation rules   Must be less than or equal to:

- 4.01 Date & Time of Observations at Scene
- 5.03 Date & Time of Arrival at Referring Hospital;
- 5.12 Date & Time of Departure from Referring Hospital; and
- 6.01 Date & Time of Arrival at Definitive Care Hospital

Date must be greater than or equal to:

- 2.01 Date of Birth

Data type   Date and Time

Field size maximum

Data domain

Value	Description
dd/mm/yyyy	Valid Date
00:00	Valid Time

3.02   Injury Cause

Identifying and definitional attributes

Definition	The ICD10 v11 code which best describes 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

Guide for use	This code must be used in conjunction with an injury code and can be used with other disease codes. The external cause should be coded to the complete ICD-10-AM v11 classification.
	If two or more cause categories are judged to be equally important, select the one that comes first in the code list.
Validation rules	
Data type	String
Field size maximum	6
Data domain	International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification 11th edition

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

Guide for use

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

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, bomb fragments, lacerations from a single sharp instrument, glass-related injuries and impalements. This excludes closed contusions, 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).

Unknown - 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 results 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
- 7.05 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.

Validation rules

Data type   String

Field size maximum   1

Data domain

Code	Description
1	Blunt
2	Penetrating
3	Burns

? Unknown

3.04 Place of Injury (Domicile) Code

Identifying and definitional attributes

Definition   The official New Zealand domicile code where the trauma event occurred.

Justification   Used in the analysis of injury incident on a geographical level.

Representational attributes

Guide for use   The domicile code should be derived from the address of injury where possible.

Where the domicile code is not derivable from the description of the location of injury, it should be approximated as best as possible.

Where no information is given other than the town or city where the injury event occurred, *Unknown* should be used. For example if the injury occurred somewhere in Auckland but the domicile code cannot be approximated, *Unknown* should be used and not a generic city code.

If the injury occurs in a location in which a New Zealand domicile code is not applicable, such as on a boat, plane or at an overseas location, code *Not Applicable* should be used.

Validation rule

Data type   Number

Field size maximum   4

Data domain

Value	Description
	Valid domicile code
?	Unknown
/.	Not applicable

The MoH provides software to DHBs to access domicile codes. Refer to the following link for further information
http://www.health.govt.nz/our-work/health-identity/addressing-and-geocoding

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

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. Intent refers to the **intention to cause injury**, rather than the intention to perform an action which may or may not directly result in injury. For example, punching a hard surface in anger may result in injury but this was not the direct intention of the action, which was to express anger.
	If two or more categories are judged to be equally appropriate, select the one that comes first in the code list.

Validation rules

Data type	String	
Field size maximum	1	
Data domain	**Value**	**Meaning**
	1	Unintentional (injury)
	2	Self-inflicted
	3	By other
	?	Not known

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

Guide for use   ICD-10-AM code to be used, using the top-level codes described below.   If two or more categories are judged to be equally appropriate, select the one that comes first in the code list.

Data domain described as per ICD-10-AM International Statistical Classification of Diseases and Related data element Health Problems, Australian Modification

Validation rules

Data type   String

Field size maximum   1

Data domain

Value	Meaning
Y92.09	Home
Y92.19	Residential institution
Y92.29	School, other institution and public administrative area
Y92.39	Sports and athletics area
Y92.49	Street and highway
Y92.59	Trade and service area
Y92.69	Industrial and construction area
Y92.7	Farm
Y92.88	Other specified place of occurrence
Y92.99	Unspecified place

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

Guide for use

ICD-10-AM code to be used, using the top-level codes described below.   If two or more categories are judged to be equally appropriate, select the one that comes first in the code list.

There are a number of subtleties in this coding system. Firstly there is no option for "travel", so if a person is injured in a road traffic accident the reason for their travel should be documented; were they travelling to/for work (code as while working for income), or on holiday (code as engaged in sports or leisure).Further, if a professional rugby player is injured while playing rugby (and working for an income), the 'While engaged in sports and leisure' code should be used.

Validation rules

Data type   String

Field size maximum   1

Data domain

Value	Meaning
U70.8	While engaged in sports or leisure
U73.09	While working for income
U73.1	While engaged in other types of work
U73.2	While resting, sleeping, eating or engaging in other vital activities
U73.8	While engaged in other specified activities
U73.9	During unspecified activity

Data domain described as per ICD-10-AM International Statistical Classification of Diseases and Related data element Health Problems, Australian Modification

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 important as it identifies features of the event not necessarily revealed by coded data.

Representational attributes

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, and any environmental factors.

Validation rules

Data type   Text

Field size maximum 1000

Data domain

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

Representational attributes

Guide for use   *Seatbelt* refers to the conventional car restraints used for adults; lap belts go over the waist and attach at two points, whereas sash-lap belts attach at 3 points, with one strap sitting diagonally from one shoulder to the opposite hip, and additionally across the waist.

Child car restraint applies to structures used specifically for small children; a child seat is for infants and smaller children and has an inbuilt harness system while a booster seat is for larger children to help ensure the conventional adult seatbelt sits properly across their bodies.

Helmet examples include bicycle, skiing, motorcycle, rock climbing.

Airbag deployed refers to the deployment of an airbag which directly protects, or attempts to protect, the person from injury. An airbag that deploys in the driver's seat which does not serve to protect the injured person who is travelling in the back seat should not be recorded as airbag deployed.

Other Personal Protection Equipment refers to any other safety equipment which was in use at the time of injury, such as harnesses, protective clothing etc.

Up to two categories may be selected, for example airbag deployed and seatbelt: sash-lap may both apply.

Validation rules

Data type   Number

Field size maximum   2 (1+1)

Data domain

Code	Description
1	No safety device
2	Seatbelt: sash-lap
3	Seatbelt: lap only
4	Child car restraint: child seat
5	Child car restraint: booster
6	Airbag deployed
7	Helmet
8	Other Personal Protection Equipment

/.   Not applicable

?   Not stated/inadequately described

4.01　Date & Time of Observations at Scene

Identifying and definitional attributes

Definition	The date and time the Scene Observations (4.02 – 4.08) were recorded at the scene of injury.
Justification	Date and time of observations used as a proxy for time of arrival of ambulance at scene and thus enables calculation of transfer time from scene to first hospital; provides a time-stamp for observations which is important in time sensitive conditions such as major trauma.

Representational attributes

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 25/11/2011 00:01

If 4.09 Mode of Transport from Scene is completed as either: 1 Road Ambulance, 2 Helicopter Ambulance, then should be completed even in the absence of any recorded Scene observations (4.02-4.08) to allow use as proxy for time of arrival at Scene.

Where the person's first presentation is at either referring or definitive care hospital, code as *Not Applicable*. It is likely that if any of the scene fields (4.01-4.08) are recorded as *Not Applicable*, that this field should also be recorded as *Not Applicable*. Further, if any scene field is recorded as anything other than *Not Applicable*, it is likely that none of the scene fields should be recorded as *Not Applicable* (exceptions exist, for example if a blind person is the patient 4.05 Scene GCS Eye may be recorded as *Not Applicable*, yet all other scene fields are applicable).

Validation rules

Must not be completed as *Not Applicable* if *any* Scene Observations (4.02-4.08) completed.

Must not be completed as *Not Applicable* if 4.09 Mode of Transport from Scene is completed as either: 1 Road Ambulance, 2 Helicopter Ambulance,

Must be greater than or equal to:

- 3.01 Date & Time of Injury

Must be less than or equal to:

- 5.03 Date & Time of Arrival at Referring Hospital (if applicable)
- 5.12 Date & Time of Departure from Referring Hospital (if applicable)
- 6.01 Date & Time of Arrival at Definitive Care Hospital
- 6.13 Date & Time Index CT performed (if applicable)
- 6.14 ED Discharge Date & Time (if applicable)
- 7.14 Date & Time of Discharge from Definitive Care

Data type　　　　　Date/Time

Field size maximum 4

Data domain	Value	Description
	dd/mm/yyyy	Valid Date
	00:00	Valid Time
	?	Unknown
	/.	Not applicable

dd/mm/yyyy

4.02   Scene Pulse

Identifying and definitional attributes

Definition	The first recorded heart rate measured at the scene of trauma event , measured in beats per minute.
Justification	Used as a proxy to assess injury severity.

Representational attributes

Guide for use
First measurement taken by any ambulance or retrieval team at the scene of the injury.

Where the person's first presentation is at either referring or definitive care hospital, code *Not Applicable*. If 4.01 Date & Time of Observations at Scene recorded as *Not Applicable,* then should be recorded as *Not Applicable*. It is likely that if any of the scene fields (4.01-4.08) are recorded as *Not Applicable*, that this field should also be recorded as *Not Applicable*. Further, if any scene field is recorded as anything other than *Not Applicable*, it is likely that none of the scene fields should be recorded as *Not Applicable* (exceptions exist, for example if a blind person is the patient 4.05 Scene GCS Eye may be recorded as not applicable, yet all other scene fields are applicable).

If the person is in cardiac arrest at the time of first measurement, code 997 – *Cardiac arrest*

If the person's heart rate cannot be measured, code *Unknown*

Validation rules

Data type   Number

Field size maximum   3

Data domain

Value	Description
0-300	Heart beats per minute
/.	Not applicable
?	Unknown

4.03 Scene Systolic BP

Identifying and definitional attributes

Definition The first recorded systolic blood pressure measured at the scene of trauma, measured in mmHg

Justification Used in several scoring and is one assessment of patient acuity.

Representational attributes

Guide for use First measurement taken by any ambulance or retrieval team at the scene of injury.

Where the person's first presentation is at referring or definitive care hospital, code *Not Applicable*. If 4.01 Date & Time of Observations at Scene recorded as *Not Applicable*, then should be recorded as *Not Applicable*. It is likely that if any of the scene fields (4.01-4.08) are recorded as *Not Applicable*, that this field should also be recorded as *Not Applicable*. Further, if any scene field is recorded as anything other than *Not Applicable*, it is likely that none of the scene fields should be recorded as *Not Applicable* (exceptions exist, for example if a blind person is the patient 4.05 Scene GCS Eye may be recorded as not applicable, yet all other scene fields are applicable).

If the systolic blood pressure is not or cannot be measured, *Unknown* 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

Data type Number

Field size maximum 3

Data domain

Value	Description
0-300	Millimetre of mercury (mmHg)
/.	Not applicable
?	Unknown

4.04   Scene Spontaneous Respiratory Rate

Identifying and definitional attributes

Definition   The first recorded unassisted rate of respiration measured at the scene of trauma, measured in number per minute.

Justification   Used in several scoring systems and is one assessment of patient acuity.

Representational attributes

Guide for use   First measurement taken by any ambulance or retrieval team prior to hospital.

Where the person's first presentation is at a referring or definitive care hospital, code *Not Applicable*. If 4.01 Date & Time of Observations at Scene recorded as *Not Applicable*, then should be recorded as *Not Applicable*. It is likely that if any of the scene fields (4.01-4.08) are recorded as *Not Applicable*, that this field should also be recorded as *Not Applicable*. Further, if any scene field is recorded as anything other than *Not Applicable*, it is likely that none of the scene fields should be recorded as *Not Applicable*, (exceptions exist, for example if a blind person is the patient 4.05 Scene GCS Eye may be recorded as *Not Applicable*, yet all other scene fields are applicable).

If the person is in respiratory arrest at the time of first measurement, value 997 should be used.

If the respiratory rate is not or cannot be measured, *Unknown* should be used.

Validation rules

Data type   Number

Field size maximum   3

Data domain

Value	Description
0-100	Number per minute
/.	Not applicable
?	Unknown

4.05 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 hospital.

Representational attributes

Guide for use First measurement taken by any ambulance or retrieval team prior hospital.

Where the person's first presentation is at a referring or definitive care hospital, code *Not Applicable*. If 4.01 Date & Time of Observations at Scene recorded as *Not Applicable*, then should be recorded as *Not Applicable*. It is likely that if any of the scene fields (4.01-4.08) are recorded as *Not Applicable*, that this field should also be recorded as *Not Applicable*. Further, if any scene field is recorded as anything other than *Not Applicable*, it is likely that none of the scene fields should be recorded as *Not Applicable* (exceptions exist, for example if a blind person is the patient 4.05 Scene GCS Eye may be recorded as *Not Applicable*, yet all other scene fields are applicable).

If eye response cannot be reliably assessed, record as *'Unknown'*.

Validation rules

Data type Number

Field size maximum 1

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
/.	Not applicable
?	Unknown

4.06   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.

Representational attributes

Guide for use   First measurement taken by any ambulance or retrieval team prior to hospital.

Where the person's first presentation is at a referring or definitive care hospital, code *Not Applicable*. If 4.01 Date & Time of Observations at Scene recorded as *Not Applicable*, then should be recorded as *Not Applicable*. It is likely that if any of the scene fields (4.01-4.08) are recorded as *Not Applicable*, that this field should also be recorded as *Not Applicable*. Further, if any scene field is recorded as anything other than *Not Applicable*, it is likely that none of the scene fields should be recorded as *Not Applicable* (exceptions exist, for example if a blind person is the patient 4.05 Scene GCS Eye may be recorded as *Not Applicable*, yet all other scene fields are applicable).

Validation rules

Data type   Number

Field size maximum   1

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
/.	Not applicable
?	Unknown

4.07   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 referring or definitive care. The GCS motor component alone may be useful as an independent predictor of outcome.

Representational attributes

Guide for use   First measurement taken by any ambulance or retrieval team prior hospital.

Where the person's first presentation is at a referring or definitive care hospital, code *Not Applicable*. If 4.01 Date & Time of Observations at Scene recorded as *Not Applicable*, then should be recorded as *Not Applicable*. It is likely that if any of the scene fields (4.01-4.08) are recorded as *Not Applicable*, that this field should also be recorded as *Not Applicable*. Further, if any scene field is recorded as anything other than *Not Applicable*, it is likely that none of the scene fields should be recorded as *Not Applicable* (exceptions exist, for example if a blind person is the patient 4.05 Scene GCS Eye may be recorded as *Not Applicable*, yet all other scene fields are applicable).

Validation rules

Data type   Number

Field size maximum 1

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
/.	Not applicable
?	Unknown

4.08 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 and required for the assessment of coma and impaired consciousness.

Representational attributes

Guide for use   First measurement taken by any ambulance or retrieval team prior to hospital.

Where the person's first presentation is at a referring or definitive care hospital, code *Not Applicable*. If 4.01 Date & Time of Observations at Scene recorded as *Not Applicable*, then should be recorded as *Not Applicable*. It is likely that if any of the scene fields (4.01-4.08) are recorded as *Not Applicable*, that this field should also be recorded as *Not Applicable*. Further, if any scene field is recorded as anything other than *Not Applicable*, it is likely that none of the scene fields should be recorded as *Not Applicable* (exceptions exist, for example if a blind person is the patient 4.05 Scene GCS Eye may be recorded as *Not Applicable*, yet all other scene fields are applicable).

If the total GCS is not or cannot be measured, *Unknown* should be used.

Validation rules

Data type   Number

Field size maximum   2

Data domain

Code	Description
3- 15	Total GCS
/.	Not applicable
?	Unknown

4.09 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.

Justification   To monitor patterns of transfer and mode of transportation used.

Representational attributes

Guide for use   If two modes of transport are used in the transfer of a patient from scene to the first hospital, the mode that received the patient from the scene of injury is to be recorded.

Validation rules

Data type   String

Field size maximum   1

Data domain

Code	Description
1	Road Ambulance
2	Helicopter Ambulance
3	Private/Public Vehicle/Taxi/Walk-in
4	Police/Prison/Fire Vehicle
/.	Not applicable
?	Unknown

5.01   Referring Hospitals

Identifying and definitional attributes

Definition	The identifier for the establishment or establishments from which the person was transferred from. Each hospital code will align to the Ministry of Health Hospital Code.
Justification	To identify the referring health service providers for patient tracking.

Representational attributes

Guide for use

As described in Guide for Use, this data dictionary is designed to be completed by the definitive hospital, allowing capture of all treatment and patient care along the patient journey. It is the responsibility of the definitive care hospital to capture the identity and relevant information recorded at a referring hospital for submission to the national registry, including the fields related to "first hospitals" 6.10-6.13.

There may be more than one Referring Hospital. The data from each referring hospital must be entered into the registry as a new facility tab.

Validation rules

If 5.02 Date & Time of Arrival at Referring Hospital recorded as *Not Applicable*, must be recorded as *Not Applicable*.

Data type   String

Field size maximum

Data domain

Code	Description
Refer to 1.01 for hospital codes	
?	Unknown

5.02   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), at the referring hospital.
Justification	Enables calculation of transfer time from referring hospital to definitive care hospital; provides a time-stamp which is important in time sensitive conditions such as major trauma.

Representational attributes

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 25/11/2011 00:01.

Validation rules

If 5.02 Referring Hospital recorded as *Not Applicable*, must be recorded as *Not Applicable.*

Must be greater than or equal to:

- 3.01 Date & Time of Injury
- 4.01 Date & Time of Observations at scene (if applicable)

Must be less than or equal to:

- 5.12 Date & Time of Departure from Referring Hospital
- 6.01 Date & Time of Arrival at Definitive Care Hospital
- 6.14 ED Discharge Date & Time (if applicable)
- 7.14 Date & Time of Discharge from Definitive Care

Data type	Date/Time	
Field size maximum	13	
Data domain	**Value**	**Description**
	dd/mm/yyyy	Valid Date
	00:00	Valid Time

5.03   Referring Hospital Pulse

Identifying and definitional attributes

Definition   The first recorded heart rate measured following arrival at the referring hospital, measured in beats per minute.

Justification   Used as a proxy to assess injury severity.

Representational attributes

Guide for use

If the person is in cardiac arrest at the time of first measurement, value 997 should be used.

Record the pulse as it is regardless of any interventions (such as drugs) which could potentially impact the pulse rate.

If the person's heart rate cannot be measured, code *Unknown*.

Validation rules

Data type   Number

Field size maximum   3

Data domain

Value	Description
0-300	Heart beats per minute
?	Unknown

5.04 Referring Hospital Systolic BP

Identifying and definitional attributes

Definition   The first recorded systolic blood pressure measured following arrival at the referring hospital, measured in mmHg.

Justification   Used in several scoring systems including TRISS and is one assessment of patient acuity.

Representational attributes

Guide for use

Record the systolic blood pressure as it is, regardless of any interventions (such as drugs), which could potentially impact the systolic blood pressure.

If the systolic blood pressure is not or cannot be measured, *Unknown* 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

Data type   Number

Field size maximum   3

Data domain

Value	Description
0-300	Millimetre of mercury (mmHg)
?	Unknown

5.05   Referring Hospital Respiratory Rate

Identifying and definitional attributes

Definition   The first recorded rate of respiration measured following arrival at the referring hospital, measured in number per minute.

Justification   Used in several scoring systems including TRISS and is one assessment of patient acuity.

Representational attributes

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, record the ventilator respiratory rate and complete 5.11 and 7.01.

If the respiratory rate is not or cannot be measured, *Unknown* should be used.

Validation rules

Data type   Number

Field size maximum   3

Data domain

Value	Description
0-100	Number per minute
?	Unknown

5.06   Referring Hospital Temperature

Identifying and definitional attributes

Definition   The first recorded body temperature measured following arrival at the referring hospital, measured in degrees Celsius.

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

Guide for use

If the temperature is not or cannot be measured, *Unknown* should be used.

Validation rules

Data type   Number

Field size maximum 4

Data domain

Value	Description
20.0 – 50.0	Temperature in Celsius
?	Unknown

5.07　Referring Hospital GCS Eye

Identifying and definitional attributes

Definition　　　　The first recorded indication of the responsiveness to stimuli by eye opening at the referring 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 hospital. Required for RTS and TRISS.

Representational attributes

Guide for use

If eye response has not been recorded use Unknown.

If eye response cannot be reliably assessed, such as if a blind person is the patient, record as Not Applicable.

Validation rules

Data type　　　　Number

Field size maximum　1

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
	/.	Not applicable
	?	Unknown

5.08 Referring Hospital GCS Voice

Identifying and definitional attributes

Definition   The first recorded indication of the level of verbal response at the referring 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

Guide for use

If patient is intubated or is otherwise unable to respond by voice, record as '1' (*no response*), and complete 5.11 and 7.01.

If voice response has not been recorded use Unknown.

If voice response cannot be reliably assessed, such as if a mute person is the patient, record as Not Applicable.

Validation rules

Data type   Number

Field size maximum   1

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
/.	Not applicable
?	Unknown

5.09 Referring Hospital GCS Motor

Identifying and definitional attributes

Definition The first recorded indication of the level of motor response at the referring 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 referring or definitive care. The GCS motor component alone may be useful as an independent predictor of outcome. Required for RTS/TRISS.

Representational attributes

Guide for use

If patient is paralysed and/or sedated, record as 1 - *No response*, and complete 5.11.

If motor response has not been recorded use Unknown.

If motor response cannot be reliably assessed, such as if the patient is double amputee, record as Not Applicable.

Validation rules

Data type Number

Field size maximum 1

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
/.	Not applicable
?	Unknown

5.10 Referring Hospital Total GCS

Identifying and definitional attributes

Definition   The first recorded total Glasgow Coma Scale score at the referring hospital.

Justification   Used in several scoring systems including TRISS and required for the assessment of coma and impaired consciousness.

Representational attributes

Guide for use

If the total GCS is not or cannot be measured, *Unknown* should be used.

Validation rules

Data type   Number

Field size maximum   2

Data domain

Code	Description
3- 15	Total GCS
/.	Not applicable
?	Unknown

5.11   Referring Hospital Vital Sign Qualifiers

Identifying and definitional attributes

Definition	Factors which may impact on vital signs and Glasgow Coma Scale score are recorded.
Justification	To enable consistent analysis of vital sign measurements.

Representational attributes

Guide for use   Of the following factors, record as many as are applicable at the time of measurement.

- Intubation (refer also to 7.01)
- Sedation
- Paralytic agents
- Respiration assisted

Validation rules

Data type   Text

Field size maximum   3

Data domain

Code	Description
Yes	Factor is present
No	Factor is not present
?	Unknown

5.12 Date & Time of Departure from Referring Hospital

Identifying and definitional attributes

Definition	The date and time patient departed from the referring hospital for transfer to the definitive care hospital.
Justification	Enables length of stay at referring hospital to be calculated.

Representational attributes

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 25/11/2011 00:01

Validation rules

Has to be completed if the following collected:

- 5.02 Referring Hospital (unless patient was taken direct to definitive care)

Must be greater than or equal to:

- 3.01 Date & Time of Injury
- 4.01 Date & Time of Observations at scene (if used)
- 5.03 Date & Time of Arrival at Referring Hospital

Must be less than or equal to:

- 6.01 Date & Time of Arrival at Definitive Care Hospital

Data type	Date/Time
Field size maximum	13

Data domain

Value	Description
dd/mm/yyyy	Valid Date
00:00	Valid Time
?	Unknown

5.13   Mode of Transport to Definitive Care Hospital

Identifying and definitional attributes

Definition   The type of transport by which the patient was transferred from either the referring
                               hospital (if applicable) or from the scene, to the definitive care hospital.

Justification   To monitor patterns of transfer and mode of transportation used.

Representational attributes

Guide for use   If a patient is transferred from the scene to the referring hospital in a road
                               ambulance but the mode of transport from the referring hospital to the definitive
                               care centre is not recorded, this should be coded as unknown

Validation rules

Data type   String

Field size maximum   1

Data domain

Code	Description
1	Fixed-wing Air Ambulance
2	Helicopter Ambulance
3	Private/Public Vehicle/Taxi/Walk-in
4	Road Ambulance
5	Police/Prison vehicle/fire
6	Other
?	Unknown

6.01 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), 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.

Representational attributes

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 25/11/2011 00:01

Validation rules   Must be greater than or equal to:

- 3.01 Date & Time of Injury

- 4.01 Date & Time of Observations at scene (if used)

- 5.03 Date & Time of Arrival at Referring Hospital (if used)

- 5.12 Date & Time of Departure from Referring Hospital (if used)

Must be less than or equal to

- 7.12 Date & Time of Discharge from Definitive Care

Data type	Date/Time
Field size maximum	13
Data domain	Valid Date and Time
	dd/mm/yyyy Valid Date
	00:00 Valid Time

6.02   Definitive Care Hospital Pulse

Identifying and definitional attributes

Definition   The first recorded heart rate measured following arrival at the definitive care hospital, measured as beats per minute

Justification   Used as a proxy to assess injury severity.

Representational attributes

Guide for use   If the person is in cardiac arrest at the time of first measurement, value 997 should be used.

Record the pulse as it is regardless of any interventions (such as drugs) which could potentially impact the pulse rate.

If the person's heart rate cannot be measured, code *Unknown.*

Validation rules

Data type   Number

Field size maximum 3

Data domain

Value	Description
0-300	Heart beats per minute
?	Unknown

6.03   Definitive Care Hospital Systolic BP

Identifying and definitional attributes

Definition   The first recorded systolic blood pressure measured following arrival at the definitive care hospital, measured in mmHg.

Justification   Used in several scoring systems including TRISS and is one assessment of patient acuity.

Representational attributes

Guide for use   If the systolic blood pressure is not or cannot be measured, *Unknown* 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.

Record the systolic blood pressure as it is, regardless of any interventions (such as drugs) which could potentially impact the systolic blood pressure.

Validation rules

Data type   Number

Field size maximum   3

Data domain

Value	Description
0-300	Millimetres of mercury (mmHg)
?	Unknown

6.04   Definitive Care Hospital Respiratory Rate

Identifying and definitional attributes

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

Representational attributes

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, use the ventilator respiratory rate and complete 6.10 and 7.01.

If the respiratory rate is not or cannot be measured, *Unknown* should be used.

Validation rules

Data type   Number

Field size maximum   3

Data domain

Value	Description
0-100	Number per minute
?	Unknown

6.05   Definitive Care Hospital Temperature

Identifying and definitional attributes

Definition	The first recorded body temperature measured following arrival at definitive care hospital, measured in degrees Celsius.
Justification	Useful in the measurement of a patient vital status. Very high and low temperatures can be an indication of major physiologic compromise in an injured patient. Hypothermia can present a significant management problem.

Representational attributes

Guide for use	If the temperature is not or cannot be measured, unknown should be used.
Validation rules	
Data type	Number
Field size maximum	4

Data domain

Value	Description
20.0 – 50.0	Temperature in Degrees Celsius
?	Unknown

6.06   Definitive Care Hospital GCS Eye

Identifying and definitional attributes

Definition	The first recorded indication of the responsiveness to stimuli by eye opening 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 prior to arrival at hospital. Required for RTS and TRISS.

Representational attributes

Guide for use	If eye response cannot be reliably assessed, record as *'Unknown'*
	Not Applicable option only to be used in instances where the field is truly not applicable, such as for blind patients.
Validation rules	
Data type	Number
Field size maximum	1

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
/.	Not applicable
?	Unknown

6.07   Definitive Care Hospital GCS Voice

Identifying and definitional attributes

Definition   The first recorded indication of the level of verbal response 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 prior to arrival at definitive care. Required for RTS and TRISS.

Representational attributes

Guide for use   *Not Applicable* option only to be used in instances where the field is truly not
                                applicable, such as for mute patients.

                                If patient is intubated or is otherwise unable to respond by voice, record as '1' (*no
                                response*), and complete 6.10 and 7.01.

Data type   Number

Field size maximum   1

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
/.	Not applicable
?	Unknown

6.08 Definitive Care Hospital GCS Motor

Identifying and definitional attributes

Definition   The first recorded indication of the level of motor response 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 prior to arrival at referring or definitive care. The GCS motor component alone may be useful as an independent predictor of outcome. Required for RTS/TRISS.

Representational attributes

Guide for use   If patient is paralysed and/or sedated, record as *1 -No response*, and complete 6.10.

Not Applicable option only to be used in instances where the field is truly not applicable.

Validation rules

Data type   Number

Field size maximum 1

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
/.	Not applicable
?	Unknown

6.09 Definitive Care Hospital Total GCS

Identifying and definitional attributes

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

Representational attributes

Guide for use If the total GCS is not or cannot be measured, *Unknown* should be used.

Validation rules

Data type Number

Field size maximum 2

Data domain

Code	Description
3- 15	Total GCS
/.	Not applicable
?	Unknown

6.10   Definitive Hospital Vital Sign Qualifiers

Identifying and definitional attributes

Definition   Factors which may impact on vital signs and Glasgow Coma Scale score.

Justification   To enable consistent analysis of vital sign measurement.

Representational attributes

Guide for use   Of the following factors, record as many as are applicable at the time of measurement.

- Intubation
- Sedation
- Paralytic agents
- Respiration assisted

Validation rules

Data type   Text

Field size maximum   3

Data domain

Code	Description
Yes	Factor is applicable
No	Factor is not present
?	Unknown

6.11   Trauma Call on arrival

Identifying and definitional attributes

Definition	Whether or not the patient had a trauma response (Trauma Call) activated at the first hospital (whether referring or definitive care hospital) within 30 minutes of patient's arrival. Trauma Calls outside of 30 minutes of patient arrival are not recorded as a trauma call as it does not denote a timely response.
Justification	A trauma response 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 and the percentage that do is a KPI for the Major Trauma Network.

Representational attributes

Guide for use	Should be completed using whatever evidence available that this occurred (e.g. ambulance run sheet, ED record, telephonists log, and medical notes).
Validation rules	Must be recorded as Y or N or unknown or not applicable
Data type	String
Field size maximum	1

Data domain

Code	Description
1	No
2	Yes
?	Unknown
/.	Not applicable

6.12 Blood Alcohol Concentration on Arrival

Identifying and definitional attributes

Definition   The first blood alcohol concentration result recorded at the first presenting hospital (whether referring or definitive care hospital), measured in mmolL^{-1}.

Justification   Alcohol affects the Glasgow Coma Scale.

Representational attributes

Guide for use   Must be taken within 6 hours of arrival at the first hospital. If outside of this time, record as unknown

If the blood alcohol concentration is not or cannot be measured, *Unknown* should be used.

Validation rules

Data type   Number

Field size maximum   3

Data domain

Value	Description
0-120	Blood alcohol concentration (mmolL^{-1})
?	Unknown

6.13   First Measured Venous Base Excess

Identifying and definitional attributes

Definition   The first recorded venous base excess recorded at the first presenting hospital (whether referring or definitive care hospital), measured in mmolL^{-1}.

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

Guide for use   Must be taken within 6 hours of arrival at the first hospital. If outside of this time, record as *Unknown.*

If the venous base excess is not or cannot be measured, *Unknown* should be used.

Use venous result only. If arterial base excess is known, but not venous, value *Unknown* should be used.

Validation rules

Data type   Number

Field size maximum 3

Data domain

Value	Description
-30 to 30	Venous base excess value (mmolL^{-1})
?	Unknown

6.14   First Measured INR

Identifying and definitional attributes

Definition   The first recorded prothrombin time INR recorded at the first presenting hospital (whether referring or 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

Guide for use   Must be taken within 6 hours of arrival at the first hospital. If outside of this time, record as *Unknown*

                          If the INR is not or cannot be measured, value *Unknown* should be used.

Validation rules

Data type   Number

Field size maximum   3

Data domain

Value	Description
2.0 – 3.0	INR value
?	Unknown

6.15 Date & Time Index CT Performed

Identifying and definitional attributes

Definition	The date and time the person received the first CT scan, if within 24 hours of injury,
Justification	Represents the time required to initiate key diagnostic tests, and may be seen as a measure of the efficiency of the trauma system.

Representational attributes

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 25/11/2011 00:01

Validation rules   Must be greater than or equal to:

- 3.01 Date & Time of Injury
- 4.01 Date & Time of Observations at scene (if used)

Must be less than or equal to:

- 24 hours exceeding 3.01 Date & Time of Injury
- 7.12 Date & Time of Discharge from Definitive Care

Data type	Date/Time
Field size maximum	13
Data domain	Valid Date and Time
	dd/mm/yyyy Valid Date
	00:00 Valid Time
	? Unknown

6.16　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 at the definitive care hospital.

Representational attributes

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 25/11/2011 00:01

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:

- 6.01 Date & Time of Arrival at Definitive Care Hospital

Validation rules   Unless patient died in ED, must be greater than or equal to:

- 6.01 Date & Time of Arrival at Definitive Care Hospital

Unless patient died in ED, must be less than or equal to:

- 7.12 Date & Time of Discharge from Definitive Care

Data type   Date/Time

Field size maximum 10 + 5

Data domain   Valid Date and Time

dd/mm/yyyy	Valid Date
00:00	Valid Time
?	Unknown
/.	Not applicable

6.17 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

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.

If the patient goes home after ED they do not meet the inclusion criteria, and should not be submitted to the NZTR.

If a patient goes for an X-ray from ED this does not count as a discharge from ED and the location they are disposed to following the X-ray should be recorded

Validation rules

Data type   Number

Field size maximum   1

Data domain

Code	Description
1	Ward
2	Intensive Care Unit (ICU)
3	High Dependency Unit (HDU)
4	Operating Room (OR)
5	Death in ED
?	Unknown

7.01 Patient Intubated?

Identifying and definitional attributes

Definition   Whether the person was intubated before or within 6 hours of arrival at the first hospital, (whether this is the referring or definitive care hospital).

Justification   Identifies patients requiring definitive airway management and may be used in the evaluation of quality of care.

Representational attributes

Guide for use   This field is designed to capture patients who require intubation for airway management, rather than those requiring intubation for the administration of anaesthesia prior to surgery; thus only those intubated before or within 6 hours of arrival at the first hospital are recorded and the location of this intubation is also recorded to provide context for the purpose of intubation.

Patients who have been intubated and extubated for the sole purpose of anaesthesia for an operative procedure are recorded as *1-No.*

Validation rules

Data type   String

Field size maximum   1

Data domain

Code	Description
1	No
2	Yes: Pre-hospital
3	Yes: Emergency Department (at either referring or definitive care hospital)
4	Yes: ICU (at either referring or definitive care hospital)
5	Yes: Operating Room (at either referring or definitive care hospital)
6	Yes: Other
?	Unknown

7.02 Date & Time Patient Intubated

Identifying and definitional attributes

Definition	The date and time patient was first intubated if intubated before or within 6 hours of arrival at the first treating hospital.
Justification	To calculate time to intubation; to establish whether the patient was intubated at the time of scene, referring hospital or definitive care hospital arrival.

Representational attributes

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 25/11/2011 00:01

Validation rules

Must be greater than or equal to:

- 3.01 Date & Time of Injury

Must be less than or equal to:

- 7.12 Date & Time of Discharge from Definitive Care

Data type	Date/Time
Field size maximum	13

Data domain

Value	Description
dd/mm/yyyy	Valid Date
00:00	Valid Time
?	Unknown

7.03   Emergency Operative Procedures

Identifying and definitional attributes

Definition	Emergency operative intervention for life threatening or potentially life threatening conditions undertaken within 24 hours of arrival at hospital, whether that is a referring hospital or definitive care hospital.
Justification	Used to characterise procedures used to treat specific injury types to enable analysis of triage and treatment.

Representational attributes

Guide for use	Limited to immediate interventions for severe or potentially severe injuries only, including: thoracotomy, craniotomy, laparotomy or interventional radiology procedures to stop bleeding.
Validation rules	Must be completed 2,3,4 if 7.04 Operation Date & Time completed
Data type	String
Field size maximum	3
Data domain	

Data domain	Code Description
Blank	No operation or none of the following procedures performed
3841800	Thoracotomy
3960000	Craniotomy
3037300	Laparotomy
35321-10	Interventional radiology

7.04   Date & Time for Each Emergency Procedure

Identifying and definitional attributes

Definition   The date and time emergency procedures are undertaken.

Justification   Allows time to each emergency procedure to be calculated.

Representational attributes

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 25/11/2011 00:01

                                  Start time is the time anaesthesia is administered.

Validation rules   Must be greater than or equal to:

- 3.01 Date & Time of Injury

Must be less than or equal to:

- 7.12 Date & Time of Discharge from Definitive Care

Must be less than or equal to 24 hours after:

- Date and Time of 5.02 Referring Hospital Arrival if applicable, if no Referring Hospital exists then 6.01 Date and Time of Definitive Care Hospital Arrival

Data type   Date/Time

Field size maximum   20+

Data domain

Value	Description
dd/mm/yyyy	Valid Date
00:00	Valid Time

7.05   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.

Representational attributes

Guide for use   Abbreviated Injury Scale codes AIS 2005 Update 2008.

If earlier AIS versions are used, these codes will need to be mapped to the comparable 2008 AIS estimates.

AIS codes can be entered by numerical values if available or by detailed description search. Codes can also be auto-populated by using the Tri-Code Injury section.

Tri-code and coding section can be used together, but once coding section utilised you cannot further enter through Tri-code without losing coding section information.

If the Tri-code section is not used manual entry of AIS codes can occur here.

Validation rules

Data type   String

Field size maximum 8

Data domain   AIS 2005 Update 2008 codes

7.06   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 trauma patients. Used to characterise patients and hospital outcomes based upon the presence, severity and type of injury.

Representational attributes

Guide for use
This is automatically calculated on the Registry.

A non-zero integer number calculated based on AIS codes. If AIS codes are available, this will be derived as a calculated field   If an injury is assigned an AIS severity of 6 (non-survivable injury), the ISS score is automatically assigned 75.

Validation rules

Data type
Number

Field size maximum
2

Data domain

Code	Description
1 - 75	ISS codes

7.07 Number of Hours on Ventilator

Identifying and definitional attributes

Definition   The total number of hours on which mechanical ventilation was used

Justification   Ventilation increases risk of complications, such as Ventilator-Associated Pneumonia, and may lead to potentially poorer outcomes.

Representational attributes

Guide for use   Include use of mobile ventilators during transport.

When a patient is on a ventilator and remains so during an operation, this time will be included.

Validation rules

Data type   Number

Field size maximum   3

Data domain   Value   Description

7.08   Total Length of Stay

Identifying and definitional attributes

Definition   The total number of hospital days spent in both the referring and definitive care hospitals from date of first admission to date of discharge or death, measured in days.

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.

Representational attributes

Guide for use   This is automatically calculated on the registry.

Validation rules

Data type   Number

Field size maximum   5

Data domain

Value	Description
1-400.00	Valid days – this is automatically calculated on the Registry
?	Unknown

7.09   Length of ICU Stay

Identifying and definitional attributes

Definition

The total number of hospital hours spent in the Intensive Care Unit (ICU) across both the referring and definitive care hospitals.

Justification

An important measure of the patient care process.

Representational attributes

Guide for use

Calculated length of hours stay in the intensive care unit at the referring and definitive care hospital.

Length of ICU stay ends on discharge from ICU.

Length of stay includes first admission and any readmissions.

Validation rules

Data type   Number

Field size maximum   6

Data domain

Value	Description
dd/mm/yyyy	Valid Start Date
00:00	Valid Start Time
dd/mm/yyyy	Valid Stop Date
00:00	Valid Stop Time

Once the modification to the Registry is done this will change to a single field for hours.

7.10   Tertiary Survey at Definitive Care Hospital

Identifying and definitional attributes

Definition	Whether or not the patient had a tertiary survey at the definitive care hospital
Justification	A tertiary survey is a re-evaluation of the patient and available investigations at a point more than 24 hours after admission. It is best undertaken using a proforma (as the initial assessment is) agreed by the Trauma clinicians. There is evidence that approximately 10% of major trauma patients have additional findings at this point evident on clinical examination or definitive radiology reports and a small number of those require specific actions that would not have otherwise been taken. Ideally all major trauma patients should have a tertiary survey and the percentage that do is a Key Performance Indicator for the Major Trauma Network.

Representational attributes

Guide for use	Should be completed using whatever evidence available that this occurred (e.g. completed proforma, or annotation in the clinical notes).
Validation rules	
Data type	String
Field size maximum	1

Data domain	Code	Description
	1	No
	2	Yes
	?	Unknown
	/.	Not applicable

7.11   Diagnosis Made >48 hours After Arrival?

Identifying and definitional attributes

Definition   Whether a specified injury with an AIS ≥ 2 was diagnosed more than 48 hours after arrival at the first hospital and after tertiary survey and radiology reports reviewed.

Justification   Represents a quality measure to identify injuries which should have been identified but were not.

Representational attributes

Guide for use

Validation rules

Data type   Number

Field size maximum   1

Data domain

Code	Description
1	Yes
2	No
?	Unknown

7.12 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.
Justification	To determine the outcome status of patients.

Representational attributes

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

Validation rules

Data type Number

Field size maximum 2

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
?	Unknown

7.13   Date & Time of Discharge from Definitive Care

Identifying and definitional attributes

Definition	The date and time patient was discharged from the definitive care hospital, or (if died in hospital) the time of death.
Justification	To calculate length of stay at the definitive care hospital.

Representational attributes

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 25/11/2011 00:01

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 (METeOR ID: 270025)
- Episode of admitted patient care - separation time (METeOR ID: 270026)

Validation rules

Must be greater than or equal to:

- Date & Time of Arrival at Definitive Care Hospital
- ED Discharge Date & Time

Data type	Date/Time
Field size maximum	13
Data domain	Valid Date and Time

7.14 Type of Death

Identifying and definitional attributes

Definition   The clinical cause of death

Justification

Representational attributes

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.

Validation rules

Data type   Number

Field size maximum   2

Data domain

Code	Description
1	Central Nervous System (CNS)
2	Multiply Organ Failure (MOF)
3	Medical
4	Haemorrhage: Chest
5	Haemorrhage: Abdomen
6	Haemorrhage: Pelvis
7	Haemorrhage: Unspecified
?	Unknown