



**Te Rēhita Whētuki o Aotearoa**  
**New Zealand Trauma Registry**

# **New Zealand**

# **Major Trauma National Minimum Dataset**

**National Trauma Network**

**Core Items**

**Version 2.0**

**December 2022**

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## 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 <ul style="list-style-type: none"> <li>• Tertiary survey</li> <li>• Trauma team activation</li> </ul> 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: <ul style="list-style-type: none"> <li>• Sex for 'gender diverse'</li> <li>• D/T observations at referral and definitive care hospital changed to "arrival"</li> </ul>
May / August 2021	1.7	Endorsed by DGG	Amendment to exclusion criteria to remove age and clarify frailty. Contact info fields made redundant as not currently needed for PROMS
January 2022	1.8	Endorsed by DGG	Activation of critical bleeding bundle Post-definitive acute care episode
October 2022	1.9	Endorsed by DGG	PTA screen added
December 2022	1.9	Endorsed by DGG	Ethnicity field change to align to HISO standard

## 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

### **Infant**

Refers to a child aged 0 – 12 months of age

### **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.

### **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.

### **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.

### **Post-definitive acute care hospital**

In some cases, patients are transferred from a definitive care hospital to another hospital for ongoing acute care, such as return to a hospital of domicile. It is important to understand this part of the patient journey as it contributes to hospital resources such as bed days and ventilator hours. If the patient is transferred for rehabilitation or convalescence, this does not count as a post-definitive care hospital.

## 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 2015 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 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 or Advanced Frailty). Advanced frailty is assessed as a score of 7, 8 or 9 on the Clinical Frailty Scale – [see here](#).
- Hangings
- Drownings

## **Data Definitions**

## 1.01 Definitive Care Hospital Code

### Identifying and definitional attributes

<b>Definition</b>	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.
<b>Justification</b>	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

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

<b>Data domain</b>	<b>Code</b>	<b>Description</b>
	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

<b>Definition</b>	An identifier which is unique to a specific trauma event for a specific person (an incident-specific not person-specific number).
<b>Justification</b>	Collected for administrative purposes, to assist in the identification of the same episode of care for a trauma incident;

### Representational attributes

<b>Guide for use</b>	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.
<b>Validation rules</b>	Must not be identical to any other incident number
<b>Data type</b>	String
<b>Field size maximum</b>	10
<b>Data domain</b>	

## 1.03 National Health Index

### Identifying and definitional attributes

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

<b>Guide for use</b>	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.
<b>Validation rules</b>	3 Alpha 4 Numeric. Must adhere to NHI coding protocol
<b>Data type</b>	String
<b>Field size maximum</b>	10
<b>Data domain</b>	

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

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

### Representational attributes

<b>Guide for use</b>	If date of birth is not known or cannot be obtained, <i>Unknown</i> 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).	
<b>Validation rules</b>	Less than all other dates	
<b>Data type</b>	Date/Time	
<b>Field size maximum</b>	8	
<b>Data domain</b>	<b>Value</b>	<b>Description</b>
	dd/mm/yyyy	Valid Date
	?	Unknown



## 2.02 Age

### Identifying and definitional attributes

<b>Definition</b>	The age of the patient on the date of the injury event
<b>Justification</b>	Age is a core data element as a predictive measure of trauma treatment and outcomes; for demographic analyses.

### Representational attributes

<b>Guide for use</b>	Age is automatically calculated in the registry based on the date of birth and date and time of injury.
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### Validation rules

<b>Data type</b>	Number	
<b>Field size maximum</b>	3	
<b>Data domain</b>	<b>Value</b>	<b>Description</b>
	0-130	Automatically calculated once date of injury has been entered

## 2.03 Sex

### Identifying and definitional attributes

<b>Definition</b>	The biological distinction between male and female.
<b>Justification</b>	Collected to determine sex specific treatment. It is also a core element in a wide range of social, labour and demographic statistics.

### Representational attributes

<b>Guide for use</b>	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.
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#### Validation rules

**Data type** Number

**Field size maximum** 1

<b>Data domain</b>	<b>Code</b>	<b>Description</b>
	1	Male
	2	Female
	3	Not known
	4	Gender diverse

## 2.04 Ethnicity

### Identifying and definitional attributes

<b>Definition</b>	As defined by the Ministry of Health, an ethnic group is a social group whose members have one or more of the following: <ul style="list-style-type: none"><li>- they share a sense of common origins</li><li>- they claim a common and distinctive history and destiny</li><li>- they possess one or more dimensions of collective cultural individuality</li><li>- they feel a sense of unique collective solidarity.</li></ul>
<b>Justification</b>	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

<b>Guide for use</b>	Ethnicity is a self-identified characteristic in New Zealand. Ethnicity to be recorded as per Ethnicity Data Protocols for the Health and Disability Sector (HISO 10001:2017 Ethnicity data protocols). The NZTR requires coding at Level 4 with a maximum of six ethnicities recorded and Level 1 for prioritised ethnicity. The source of ethnicity is the Ministry of Health NHI collection and is automatically integrated into the NZTR and is current at the time the patient is entered into the NZTR (usually within 30 days of discharge from hospital).
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#### Validation rules

<b>Data type</b>	String						
<b>Field size maximum</b>	7 (2+2+2+2+2+1)						
<b>Data domain</b>	<table><thead><tr><th>Code</th><th>Description</th></tr></thead><tbody><tr><td>Ethnicity 1, 2 ,3, 4, 5, 6</td><td></td></tr><tr><td>Prioritised ethnicity</td><td></td></tr></tbody></table>	Code	Description	Ethnicity 1, 2 ,3, 4, 5, 6		Prioritised ethnicity	
Code	Description						
Ethnicity 1, 2 ,3, 4, 5, 6							
Prioritised ethnicity							

Refer to <https://www.health.govt.nz/publication/hiso-100012017-ethnicity-data-protocols>

## 2.05 Weight

### Identifying and definitional attributes

**Definition** The weight of the person if  $\leq 15$  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

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

## 2.06 Contact phone number **This field is currently dormant**

### 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 **This field is currently dormant**

### 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

<b>Definition</b>	Patient's postal address, as it appears on the hospital Patient Management System.
<b>Justification</b>	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

<b>Guide for use</b>	Provide as much information as available on the Patient Management System.
<b>Validation rules</b>	
<b>Data type</b>	Text
<b>Field size maximum</b>	30
<b>Data domain</b>	

### 3.01 Date & Time of Injury

#### Identifying and definitional attributes

<b>Definition</b>	The date and time the person received the injuries requiring hospitalisation.
<b>Justification</b>	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

<b>Guide for use</b>	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 25 <sup>th</sup> November 2011 should be reported as 25/11/11 00:01.
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<b>Validation rules</b>	Must be less than or equal to: <ul style="list-style-type: none"><li>• 4.01 Date &amp; Time of Observations at Scene</li><li>• 5.03 Date &amp; Time of Arrival at Referring Hospital;</li><li>• 5.12 Date &amp; Time of Departure from Referring Hospital; and</li><li>• 6.01 Date &amp; Time of Arrival at Definitive Care Hospital</li></ul> Date must be greater than or equal to: <ul style="list-style-type: none"><li>• 2.01 Date of Birth</li></ul>
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**Data type** Date and Time

**Field size maximum**

<b>Data domain</b>	<b>Value</b>	<b>Description</b>
	dd/mm/yyyy	Valid Date
	00:00	Valid Time



## 3.02 Injury Cause

### Identifying and definitional attributes

<b>Definition</b>	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.
<b>Justification</b>	Enables categorisation of injury cause and identify trends in defining and monitoring cause of injuries.

### Representational attributes

<b>Guide for use</b>	<p>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.</p> <p>If two or more cause categories are judged to be equally important, select the one that comes first in the code list.</p>
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### Validation rules

<b>Data type</b>	String
<b>Field size maximum</b>	6
<b>Data domain</b>	International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification 11th edition

### 3.03 Dominant Injury Type

#### Identifying and definitional attributes

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

#### Representational attributes

<b>Guide for use</b>	<p>In most instances, determination of the dominant injury type will be based on the mechanism of injury, and relate directly to:</p> <p><i>Blunt</i> injuries generally occur from mechanisms such as motor vehicle collisions, pedestrian impacts, falls and sports injuries.</p> <p><i>Penetrating</i> 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.</p> <p><i>Burn</i> 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).</p> <p><i>Unknown</i> - type of injury cannot be determined.</p> <p>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 <u>dominant</u> injury type may be established by additional review of:</p> <ul style="list-style-type: none"><li>• 3.08 Injury event description; and</li><li>• 7.05 AIS Injury Codes</li></ul> <p>Where an injury event results in both blunt and non-blunt trauma of equal AIS severity, the non-blunt injury type should be used.</p>
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#### Validation rules

<b>Data type</b>	String								
<b>Field size maximum</b>	1								
<b>Data domain</b>	<table><thead><tr><th>Code</th><th>Description</th></tr></thead><tbody><tr><td>1</td><td>Blunt</td></tr><tr><td>2</td><td>Penetrating</td></tr><tr><td>3</td><td>Burns</td></tr></tbody></table>	Code	Description	1	Blunt	2	Penetrating	3	Burns
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

<b>Data domain</b>	<b>Value</b>	<b>Description</b>
		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

<b>Data domain</b>	<b>Value</b>	<b>Meaning</b>
	1	Unintentional (injury)
	2	Self-inflicted
	3	By other
	?	Not known

## 3.06 Place of Injury Occurrence

### Identifying and definitional attributes

<b>Definition</b>	The type of location where the trauma event occurred.
<b>Justification</b>	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

<b>Value</b>	<b>Meaning</b>
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

<b>Definition</b>	The type of activity the person was engaged in at the time of the trauma event.
<b>Justification</b>	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

<b>Data domain</b>	<b>Value</b>	<b>Meaning</b>
	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

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

### Representational attributes

<b>Guide for use</b>	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.
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### Validation rules

<b>Data type</b>	Text
<b>Field size maximum</b>	1000
<b>Data domain</b>	



## 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

<b>Definition</b>	The date and time the Scene Observations (4.02 – 4.08) were recorded at the scene of injury.
<b>Justification</b>	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

<b>Guide for use</b>	<p>Midnight should be entered as 00:01 of the following date (00:00 and 24:00 are not accepted). Example, midnight 25<sup>th</sup> November 2011 should be reported as 25/11/2011 00:01</p> <p>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.</p> <p>Where the person's first presentation is at either referring or definitive care hospital, code as <i>Not Applicable</i>. It is likely that if any of the scene fields (4.01-4.08) are recorded as <i>Not Applicable</i>, that this field should also be recorded as <i>Not Applicable</i>. Further, if any scene field is recorded as anything other than <i>Not Applicable</i>, it is likely that none of the scene fields should be recorded as <i>Not Applicable</i> (exceptions exist, for example if a blind person is the patient 4.05 Scene GCS Eye may be recorded as <i>Not Applicable</i>, yet all other scene fields are applicable).</p>
<b>Validation rules</b>	<p>Must not be completed as <i>Not Applicable</i> if any Scene Observations (4.02-4.08) completed.</p> <p>Must not be completed as <i>Not Applicable</i> if 4.09 Mode of Transport from Scene is completed as either: 1 Road Ambulance, 2 Helicopter Ambulance,</p> <p>Must be greater than or equal to:</p> <ul style="list-style-type: none"><li>• 3.01 Date &amp; Time of Injury</li></ul> <p>Must be less than or equal to:</p> <ul style="list-style-type: none"><li>• 5.03 Date &amp; Time of Arrival at Referring Hospital (if applicable)</li><li>• 5.12 Date &amp; Time of Departure from Referring Hospital (if applicable)</li><li>• 6.01 Date &amp; Time of Arrival at Definitive Care Hospital</li><li>• 6.13 Date &amp; Time Index CT performed (if applicable)</li><li>• 6.14 ED Discharge Date &amp; Time (if applicable)</li><li>• 7.14 Date &amp; Time of Discharge from Definitive Care</li></ul>
<b>Data type</b>	Date/Time

**Field size maximum**

4

**Data domain**

**Value**

**Description**

dd/mm/yyyy

Valid Date

00:00

Valid Time

?

Unknown

/.

Not applicable

## 4.02 Scene Pulse

### Identifying and definitional attributes

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

### Representational attributes

<b>Guide for use</b>	<p>First measurement taken by any ambulance or retrieval team at the scene of the injury.</p> <p>Where the person's first presentation is at either referring or definitive care hospital, code <i>Not Applicable</i>. If 4.01 Date &amp; Time of Observations at Scene recorded as <i>Not Applicable</i>, then should be recorded as <i>Not Applicable</i>. It is likely that if any of the scene fields (4.01-4.08) are recorded as <i>Not Applicable</i>, that this field should also be recorded as <i>Not Applicable</i>. Further, if any scene field is recorded as anything other than <i>Not Applicable</i>, it is likely that none of the scene fields should be recorded as <i>Not Applicable</i> (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).</p> <p>If the person is in cardiac arrest at the time of first measurement, code 997 – <i>Cardiac arrest</i></p> <p>If the person's heart rate cannot be measured, code <i>Unknown</i></p>
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### Validation rules

**Data type** Number

**Field size maximum** 3

<b>Data domain</b>	<b>Value</b>	<b>Description</b>
	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

<b>Data domain</b>	<b>Value</b>	<b>Description</b>
	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

<b>Data domain</b>	<b>Value</b>	<b>Description</b>
	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

<b>Data domain</b>	<b>Code</b>	<b>Description (Adult-Child-Infant)</b>
	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

<b>Definition</b>	The first recorded indication of the level of verbal response at the scene of trauma.
<b>Justification</b>	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

<b>Guide for use</b>	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 <i>Not Applicable</i> . If 4.01 Date & Time of Observations at Scene recorded as <i>Not Applicable</i> , then should be recorded as <i>Not Applicable</i> . It is likely that if any of the scene fields (4.01-4.08) are recorded as <i>Not Applicable</i> , that this field should also be recorded as <i>Not Applicable</i> . Further, if any scene field is recorded as anything other than <i>Not Applicable</i> , it is likely that none of the scene fields should be recorded as <i>Not Applicable</i> (exceptions exist, for example if a blind person is the patient 4.05 Scene GCS Eye may be recorded as <i>Not Applicable</i> , yet all other scene fields are applicable).
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### Validation rules

**Data type** Number

**Field size maximum** 1

<b>Data domain</b>	<b>Code</b>	<b>Description (Adult-Child-Infant)</b>
	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

<b>Definition</b>	The first recorded indication of the level of motor response at the scene of trauma.
<b>Justification</b>	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

<b>Guide for use</b>	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 <i>Not Applicable</i> . If 4.01 Date & Time of Observations at Scene recorded as <i>Not Applicable</i> , then should be recorded as <i>Not Applicable</i> . It is likely that if any of the scene fields (4.01-4.08) are recorded as <i>Not Applicable</i> , that this field should also be recorded as <i>Not Applicable</i> . Further, if any scene field is recorded as anything other than <i>Not Applicable</i> , it is likely that none of the scene fields should be recorded as <i>Not Applicable</i> (exceptions exist, for example if a blind person is the patient 4.05 Scene GCS Eye may be recorded as <i>Not Applicable</i> , yet all other scene fields are applicable).
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### Validation rules

<b>Data type</b>	Number
<b>Field size maximum</b>	1

<b>Data domain</b>	<b>Code</b>	<b>Description (Adult-Child-Infant)</b>
	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

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

### Representational attributes

<b>Guide for use</b>	<p>First measurement taken by any ambulance or retrieval team prior to hospital.</p> <p>Where the person's first presentation is at a referring or definitive care hospital, code <i>Not Applicable</i>. If 4.01 Date &amp; Time of Observations at Scene recorded as <i>Not Applicable</i>, then should be recorded as <i>Not Applicable</i>. It is likely that if any of the scene fields (4.01-4.08) are recorded as <i>Not Applicable</i>, that this field should also be recorded as <i>Not Applicable</i>. Further, if any scene field is recorded as anything other than <i>Not Applicable</i>, it is likely that none of the scene fields should be recorded as <i>Not Applicable</i> (exceptions exist, for example if a blind person is the patient 4.05 Scene GCS Eye may be recorded as <i>Not Applicable</i>, yet all other scene fields are applicable).</p> <p>If the total GCS is not or cannot be measured, <i>Unknown</i> should be used.</p>
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### Validation rules

**Data type** Number

**Field size maximum** 2

<b>Data domain</b>	<b>Code</b>	<b>Description</b>
	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

<b>Data domain</b>	<b>Code</b>	<b>Description</b>
	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

<b>Definition</b>	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.
<b>Justification</b>	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**

<b>Data domain</b>	<b>Code</b>	<b>Description</b>
		Refer to 1.01 for hospital codes
	?	Unknown

## 5.02 Date & Time of Arrival at Referring Hospital

### Identifying and definitional attributes

<b>Definition</b>	The date and time patient was first registered, triaged or assessed (whichever comes first), at the referring hospital.
<b>Justification</b>	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 25<sup>th</sup> November 2011 should be reported as 25/11/2011 00:01.

<b>Validation rules</b>	If 5.02 Referring Hospital recorded as <i>Not Applicable</i> , must be recorded as <i>Not Applicable</i> .
	Must be greater than or equal to:
	<ul style="list-style-type: none"><li>• 3.01 Date &amp; Time of Injury</li><li>• 4.01 Date &amp; Time of Observations at scene (if applicable)</li></ul>
	Must be less than or equal to:
	<ul style="list-style-type: none"><li>• 5.12 Date &amp; Time of Departure from Referring Hospital</li><li>• 6.01 Date &amp; Time of Arrival at Definitive Care Hospital</li><li>• 6.14 ED Discharge Date &amp; Time (if applicable)</li><li>• 7.14 Date &amp; Time of Discharge from Definitive Care</li></ul>

**Data type** Date/Time

**Field size maximum** 13

<b>Data domain</b>	<b>Value</b>	<b>Description</b>
	dd/mm/yyyy	Valid Date
	00:00	Valid Time

## 5.03 Referring Hospital Pulse

### Identifying and definitional attributes

<b>Definition</b>	The first recorded heart rate measured following arrival at the referring hospital, measured in beats per minute.
<b>Justification</b>	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

<b>Data domain</b>	<b>Value</b>	<b>Description</b>
	0-300	Heart beats per minute
	?	Unknown

## 5.04 Referring Hospital Systolic BP

### Identifying and definitional attributes

<b>Definition</b>	The first recorded systolic blood pressure measured following arrival at the referring hospital, measured in mmHg.
<b>Justification</b>	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

<b>Data domain</b>	<b>Value</b>	<b>Description</b>
	0-300	Millimetre of mercury (mmHg)
	?	Unknown



## 5.05 Referring Hospital Respiratory Rate

### Identifying and definitional attributes

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

<b>Data domain</b>	<b>Value</b>	<b>Description</b>
	0-100	Number per minute
	?	Unknown

## 5.06 Referring Hospital Temperature

### Identifying and definitional attributes

<b>Definition</b>	The first recorded body temperature measured following arrival at the referring hospital, measured in degrees Celsius.
<b>Justification</b>	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

<b>Data domain</b>	<b>Value</b>	<b>Description</b>
	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

<b>Data domain</b>	<b>Code</b>	<b>Description (Adult-Child-Infant)</b>
	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

<b>Data domain</b>	<b>Code</b>	<b>Description (Adult-Child-Infant)</b>
	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

<b>Data domain</b>	<b>Code</b>	<b>Description (Adult-Child-Infant)</b>
	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

<b>Definition</b>	The first recorded total Glasgow Coma Scale score at the referring hospital.
<b>Justification</b>	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

<b>Data domain</b>	<b>Code</b>	<b>Description</b>
	3- 15	Total GCS
	/.	Not applicable
	?	Unknown

## 5.11 Referring Hospital Vital Sign Qualifiers

### Identifying and definitional attributes

<b>Definition</b>	Factors which may impact on vital signs and Glasgow Coma Scale score are recorded.
<b>Justification</b>	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

<b>Data domain</b>	<b>Code</b>	<b>Description</b>
	Yes	Factor is present
	No	Factor is not present
	?	Unknown

## 5.12 Date & Time of Departure from Referring Hospital

### Identifying and definitional attributes

<b>Definition</b>	The date and time patient departed from the referring hospital for transfer to the definitive care hospital.
<b>Justification</b>	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 25<sup>th</sup> 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

<b>Value</b>	<b>Description</b>
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

<b>Data domain</b>	<b>Code</b>	<b>Description</b>
	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

<b>Definition</b>	The date and time patient was first registered, triaged or assessed (whichever comes first), at the definitive care hospital.
<b>Justification</b>	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 25<sup>th</sup> 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

<b>Definition</b>	The first recorded heart rate measured following arrival at the definitive care hospital, measured as beats per minute
<b>Justification</b>	Used as a proxy to assess injury severity.

### Representational attributes

<b>Guide for use</b>	<p>If the person is in cardiac arrest at the time of first measurement, value 997 should be used.</p> <p>Record the pulse as it is regardless of any interventions (such as drugs) which could potentially impact the pulse rate.</p> <p>If the person's heart rate cannot be measured, code <i>Unknown</i>.</p>
----------------------	--

### Validation rules

**Data type** Number

**Field size maximum** 3

<b>Data domain</b>	<b>Value</b>	<b>Description</b>
	0-300	Heart beats per minute
	?	Unknown

## 6.03 Definitive Care Hospital Systolic BP

### Identifying and definitional attributes

<b>Definition</b>	The first recorded systolic blood pressure measured following arrival at the definitive care hospital, measured in mmHg.
<b>Justification</b>	Used in several scoring systems including TRISS and is one assessment of patient acuity.

### Representational attributes

<b>Guide for use</b>	<p>If the systolic blood pressure is not or cannot be measured, <i>Unknown</i> should be used.</p> <p>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.</p> <p>Record the systolic blood pressure as it is, regardless of any interventions (such as drugs) which could potentially impact the systolic blood pressure.</p>
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### Validation rules

<b>Data type</b>	Number	
<b>Field size maximum</b>	3	
<b>Data domain</b>	<b>Value</b>	<b>Description</b>
	0-300	Millimetres of mercury (mmHg)
	?	Unknown

## 6.04 Definitive Care Hospital Respiratory Rate

### Identifying and definitional attributes

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

### Representational attributes

<b>Guide for use</b>	<p>If the person is in respiratory arrest at the time of first measurement, value 997 should be used.</p> <p>If the person has been intubated at the time of first measurement, use the ventilator respiratory rate and complete 6.10 and 7.01.</p> <p>If the respiratory rate is not or cannot be measured, <i>Unknown</i> should be used.</p>
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### Validation rules

**Data type** Number

**Field size maximum** 3

<b>Data domain</b>	<b>Value</b>	<b>Description</b>
	0-100	Number per minute
	?	Unknown

## 6.05 Definitive Care Hospital Temperature

### Identifying and definitional attributes

<b>Definition</b>	The first recorded body temperature measured following arrival at definitive care hospital, measured in degrees Celsius.
<b>Justification</b>	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

<b>Data domain</b>	<b>Value</b>	<b>Description</b>
	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

<b>Data domain</b>	<b>Code</b>	<b>Description (Adult-Child-Infant)</b>
	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

<b>Data domain</b>	<b>Code</b>	<b>Description (Adult-Child-Infant)</b>
	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

<b>Definition</b>	The first recorded indication of the level of motor response at the definitive care hospital.
<b>Justification</b>	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

<b>Guide for use</b>	If patient is paralysed and/or sedated, record as <i>1 -No response</i> , and complete 6.10. <i>Not Applicable</i> option only to be used in instances where the field is truly not applicable.
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### Validation rules

<b>Data type</b>	Number																		
<b>Field size maximum</b>	1																		
<b>Data domain</b>	<table><thead><tr><th>Code</th><th>Description (Adult-Child-Infant)</th></tr></thead><tbody><tr><td>1</td><td>None-No Response-No Response</td></tr><tr><td>2</td><td>Extension to pain- Extension to pain- Decerebrate posturing to pain</td></tr><tr><td>3</td><td>Flexion to pain- Flexion to pain- Decorticate posturing to pain</td></tr><tr><td>4</td><td>Withdraws to pain- Withdraws to pain– Withdraws to pain</td></tr><tr><td>5</td><td>Localises pain- Localises painful stimulus–Withdraws to touch</td></tr><tr><td>6</td><td>Obeys commands- Obeys commands– Moves spontaneously</td></tr><tr><td>/. </td><td>Not applicable</td></tr><tr><td>?</td><td>Unknown</td></tr></tbody></table>	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
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

<b>Definition</b>	The first recorded total Glasgow Coma Scale score at definitive care hospital
<b>Justification</b>	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

<b>Data domain</b>	<b>Code</b>	<b>Description</b>
	3- 15	Total GCS
	/.	Not applicable
	?	Unknown

## 6.10 Definitive Hospital Vital Sign Qualifiers

### Identifying and definitional attributes

<b>Definition</b>	Factors which may impact on vital signs and Glasgow Coma Scale score.
<b>Justification</b>	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

<b>Data domain</b>	<b>Code</b>	<b>Description</b>
	Yes	Factor is applicable
	No	Factor is not present
	?	Unknown

## 6.11 Trauma Call on arrival

### Identifying and definitional attributes

<b>Definition</b>	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.
<b>Justification</b>	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

<b>Data domain</b>	<b>Code</b>	<b>Description</b>
	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<sup>-1</sup>.

**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

<b>Data domain</b>	<b>Value</b>	<b>Description</b>
	0-120	Blood alcohol concentration (mmolL <sup>-1</sup> )
	?	Unknown

## 6.13 First Measured Venous Base Excess

### Identifying and definitional attributes

<b>Definition</b>	The first recorded venous base excess recorded at the first presenting hospital (whether referring or definitive care hospital), measured in mmolL <sup>-1</sup> .
<b>Justification</b>	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

<b>Guide for use</b>	Must be taken within 6 hours of arrival at the first hospital. If outside of this time, record as <i>Unknown</i> .  If the venous base excess is not or cannot be measured, <i>Unknown</i> should be used.  Use venous result only. If arterial base excess is known, but not venous, value <i>Unknown</i> should be used.
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### Validation rules

**Data type** Number

**Field size maximum** 3

<b>Data domain</b>	<b>Value</b>	<b>Description</b>
	-30 to 30	Venous base excess value (mmolL <sup>-1</sup> )
	?	Unknown

## 6.14 First Measured INR

### Identifying and definitional attributes

<b>Definition</b>	The first recorded prothrombin time INR recorded at the first presenting hospital (whether referring or definitive care hospital).
<b>Justification</b>	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

<b>Guide for use</b>	Must be taken within 6 hours of arrival at the first hospital. If outside of this time, record as <i>Unknown</i>  If the INR is not or cannot be measured, value <i>Unknown</i> should be used.
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### Validation rules

<b>Data type</b>	Number	
<b>Field size maximum</b>	3	
<b>Data domain</b>	<b>Value</b>	<b>Description</b>
	2.0 – 3.0	INR value
	?	Unknown

## 6.15 Date & Time Index CT Performed

### Identifying and definitional attributes

<b>Definition</b>	The date and time the person received the first CT scan, if within 24 hours of injury,
<b>Justification</b>	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

<b>Guide for use</b>	Midnight should be entered as 00:01 of the following date (00:00 and 24:00 are not accepted). Example, midnight 25 <sup>th</sup> November 2011 should be reported as 25/11/2011 00:01
<b>Validation rules</b>	Must be greater than or equal to: <ul style="list-style-type: none"><li>• 3.01 Date &amp; Time of Injury</li><li>• 4.01 Date &amp; Time of Observations at scene (if used)</li></ul> Must be less than or equal to: <ul style="list-style-type: none"><li>• 24 hours exceeding 3.01 Date &amp; Time of Injury</li><li>• 7.12 Date &amp; Time of Discharge from Definitive Care</li></ul>
<b>Data type</b>	Date/Time
<b>Field size maximum</b>	13
<b>Data domain</b>	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 25<sup>th</sup> 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

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

## 6.18 Activation of critical bleeding bundle

### Identifying and definitional attributes

<b>Definition</b>	Whether or not the patient had a critical haemorrhage protocol activated within 30 minutes of arrival at the first hospital. The definition of a critical bleeding bundle is a formal process to accelerate the treatment pathway for patients with critical haemorrhage, appropriate to the size of hospital and resources. It is not the activation of the Massive Transfusion Protocol (MTP) on its own, although the MTP may be activated as part of the bundle
<b>Justification</b>	Represents a quality measure to identify a hospital response to critical haemorrhage

### Representational attributes

<b>Guide for use</b>	Use Yes if the bundle has been activated. Use No if the hospital does not have a protocol in place, or if the bundle was not activated. Only use Unknown if activation was not known.
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### Validation rules

<b>Data type</b>	Number	
<b>Field size maximum</b>	1	
<b>Data domain</b>	<b>Code</b>	<b>Description</b>
	1	Yes
	2	No
	?	Unknown

## 6.19 Post-Traumatic Amnesia (PTA) Screening

### Identifying and definitional attributes

**Definition** Whether or not the patient has been screened for PTA prior to discharge from definitive care hospital. Screening should be done when the patient is conscious and can communicate. There are a number of tools which can be used to assess PTA. Abbreviated forms of PTA screening are regarded as a screening tool (such as the Abbreviated Westmead).

**Justification** Systematic screening for post-traumatic amnesia after an injury is important to identify patients who are at risk of long-term complications, and to allow referral to appropriate services.

### Representational attributes

**Guide for use** Use Yes if a PTA screen has been done.  
Use No if PTA screen not done  
Use Unknown if it is not known whether the patient had a PTA screen.

**Validation rules** None

**Data type** Number

**Field size maximum** 12

<b>Data domain</b>	<b>Value</b>	<b>Description</b>
	Yes	PTA screen done
	No	PTA screen not done
	Unknown	Unknown

## 7.01 Patient Intubated?

### Identifying and definitional attributes

<b>Definition</b>	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).
<b>Justification</b>	Identifies patients requiring definitive airway management and may be used in the evaluation of quality of care.

### Representational attributes

<b>Guide for use</b>	<p>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.</p> <p>Patients who have been intubated and extubated for the sole purpose of anaesthesia for an operative procedure are recorded as <i>1-No</i>.</p>
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### Validation rules

**Data type** String

**Field size maximum** 1

<b>Data domain</b>	<b>Code</b>	<b>Description</b>
	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 25<sup>th</sup> 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

<b>Definition</b>	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.
<b>Justification</b>	Used to characterise procedures used to treat specific injury types to enable analysis of triage and treatment.

### Representational attributes

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

<b>Data domain</b>	<b>Data domain</b>	<b>Code Description</b>
	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

<b>Definition</b>	The date and time emergency procedures are undertaken.
<b>Justification</b>	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 25<sup>th</sup> 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+

<b>Data domain</b>	<b>Value</b>	<b>Description</b>
	dd/mm/yyyy	Valid Date
	00:00	Valid Time



## 7.05 AIS Injury Codes

### Identifying and definitional attributes

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

### Representational attributes

<b>Guide for use</b>	<p>Abbreviated Injury Scale codes AIS 2005 Update 2008.</p> <p>If earlier AIS versions are used, these codes will need to be mapped to the comparable 2008 AIS estimates.</p> <p>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.</p> <p>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.</p> <p>If the Tri-code section is not used manual entry of AIS codes can occur here.</p>
<b>Validation rules</b>	
<b>Data type</b>	String
<b>Field size maximum</b>	8
<b>Data domain</b>	AIS 2005 Update 2008 codes

## 7.06 Injury Severity Score

### Identifying and definitional attributes

<b>Definition</b>	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.
<b>Justification</b>	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

<b>Guide for use</b>	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.
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### Validation rules

**Data type** Number

**Field size maximum** 2

<b>Data domain</b>	<b>Code</b>	<b>Description</b>
	1 - 75	ISS codes

## 7.07 Number of Hours on Ventilator

### Identifying and definitional attributes

<b>Definition</b>	The total number of hours on which mechanical ventilation was used
<b>Justification</b>	Ventilation hours is a key metric in trauma care, and long periods of ventilation increase risk of complications, such as Ventilator-Associated Pneumonia, and may lead to potentially poorer outcomes.

### Representational attributes

<b>Guide for use</b>	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.
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### Validation rules

**Data type** Number

**Field size maximum** 3

<b>Data domain</b>	<b>Value</b>	<b>Description</b>
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## 7.08 Total Length of Stay

### Identifying and definitional attributes

<b>Definition</b>	The total number of hospital days spent in referring, definitive and post-definitive care acute hospitals from date of first admission to date of discharge or death, measured in days.
<b>Justification</b>	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

<b>Data domain</b>	<b>Value</b>	<b>Description</b>
	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 the referring, definitive, and post-definitive acute 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, definitive, and post-definitive care hospitals.

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

<b>Data domain</b>	<b>Value</b>	<b>Description</b>
	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

<b>Definition</b>	Whether or not the patient had a tertiary survey at the definitive care hospital
<b>Justification</b>	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

<b>Guide for use</b>	Should be completed using whatever evidence available that this occurred (e.g. completed proforma, or annotation in the clinical notes).
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#### Validation rules

**Data type** String

**Field size maximum** 1

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

## 7.11 Diagnosis Made >48 hours After Arrival?

### Identifying and definitional attributes

<b>Definition</b>	Whether a specified injury with an AIS $\geq$ 2 was diagnosed more than 48 hours after arrival at the first hospital and after tertiary survey and radiology reports reviewed.
<b>Justification</b>	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

<b>Data domain</b>	<b>Code</b>	<b>Description</b>
	1	Yes
	2	No
	?	Unknown

## 7.12 Discharge Destination from Acute Care

### Identifying and definitional attributes

<b>Definition</b>	The location to which the patient was discharged from acute care in the definitive care hospital.
<b>Justification</b>	To determine the outcome status of patients.

### Representational attributes

<b>Guide for use</b>	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
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#### Validation rules

**Data type** Number

**Field size maximum** 2

<b>Data domain</b>	<b>Code</b>	<b>Description</b>
	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
	X	Hospital for ongoing acute care



## 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 25<sup>th</sup> 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

<b>Data domain</b>	<b>Code</b>	<b>Description</b>
	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

## 7.15 Post-definitive acute care hospital

### Identifying and definitional attributes

<b>Definition</b>	The identifier for the establishment or establishments from which the person was transferred to post-definitive care hospital. Each hospital code will align to the Ministry of Health Hospital Code.
<b>Justification</b>	To identify the post-definitive acute care health service providers for patient tracking.

### Representational attributes

<b>Guide for use</b>	This field should be completed if the patient is discharged from the definitive care hospital to another hospital for ongoing acute care. Do not use if the patient was transferred to another hospital for rehabilitation or convalescence or other reasons where acute care is not needed.	
<b>Validation rules</b>	If 7.12 discharge from definitive hospital recorded as Hospital for ongoing acute care, must be recorded with the name of the hospital the patient is transferred to	
<b>Data type</b>	String	
<b>Field size maximum</b>		
<b>Data domain</b>	<b>Code</b>	<b>Description</b>
		Refer to 1.01 for hospital codes
	?	Unknown

## 7.16 Date & Time of Discharge from post-definitive acute care hospital

### Identifying and definitional attributes

<b>Definition</b>	The date and time patient was discharged from the post-definitive care hospital, or (if died in hospital) the time of death.
<b>Justification</b>	To calculate length of stay through the acute journey of care.

### 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 25<sup>th</sup> November 2011 should be reported as 25/11/2011 00:01

It is the date of discharge from the post-definitive acute care hospital.

<b>Validation rules</b>	Must be greater than or equal to: <ul style="list-style-type: none"><li>• Date &amp; Time of discharge from Definitive Care Hospital</li></ul>
<b>Data type</b>	Date/Time
<b>Field size maximum</b>	13
<b>Data domain</b>	Valid Date and Time