ANZHFR

Australian & New Zealand Hip Fracture Registry

Data Dictionary

FINAL

Dec 2013

Australian and New Zealand Hip Fracture Registry

Background: A minimum data set (MDS) was created for the Australian and New Zealand (ANZ)Hip Fracture Registry Steering Group. The purpose of the minimum dataset and registry to enable facilities across Australia and New Zealand to compare practice and outcomes for hip fracture care against national clinical guidelines and standards of care .The MDS has been developed so as to capture information relevant to guidelines and standards of care and is comparable to the United Kingdom (UK) national hip fracture registry and other registries emerging across the world.

Purpose: The ultimate goal of the ANZ Hip Fracture Registry is to use data to improve performance and maximise outcomes for older people – reduce mortality and morbidity, reduce rates of institutionalisation and maximise functional independence for people who fracture their hip.

MDS development: The MDS was developed through the ANZ Hip Fracture Steering Group which is made up of a number of representative of key professional bodies across Australia and New Zealand - Australian and New Zealand Society for Geriatric Medicine (ANZSGM), Australian Orthopaedic Association (AOA), Australian and New Zealand College of Anaesthetists, Australasian College of Emergency Medicine, New Zealand Orthopaedic Association (NZOA), Australian and New Zealand Bone and Mineral Society (ANZBMS), Osteoporosis Australia (OA) and Osteoporosis New Zealand (ONZ).

The data variables collected in the MDS are from 7 key components of care and include: (1) Patient information; (2) Admission; (3) Assessment; (4) Treatment; (5) Discharge; (6) 30 day follow-up; and (7) 120 day follow-up.

Core and non-core data items

Core variables are those variables collected by all using the minimum dataset e.g. date and time of admission or type of hip fracture and which will ultimately be uploaded to the ANZ Registry. A number of these items will be considered mandatory for the purposes of forming a meaningful registry.

Non-core items are either collected at a local level and are not uploaded onto a central server or are generated automatically at a central level using information uploaded. For example a patient's contact details will be stored at a local level for the purposes of follow-up but will not be uploaded centrally. On the other hand a unique registry identifier will be generated centrally when information about a hip fracture patient is uploaded.

Review: The MDS will be reviewed annually by a Steering Committee, with the first review to be conducted in May 2015. It is anticipated that any new item to be added must be presented with a clear case for the benefits of adding it. Equally the Committee will be charged with removing redundant items which are not felt to add value either at a facility or central level.

Version history:

Version	Description of Change	Author	Date Changed	Status
1.0	Draft	Rebecca Mitchell	July 2012	Rough draft
2.0	Draft	Rebecca Mitchell	6 Dec 2012	Draft
3.0	Draft	Rebecca Mitchell	8 Jan 2013	Draft
4.0	Draft	Rebecca Mitchell	3 May 2013	Draft
5.0	Draft	Rebecca Mitchell	31 May 2013	Draft
6.0	Penultimate	Rebecca Mitchell	21 June 2013	Draft
7.0	Final	Rebecca Mitchell	5 July 2013	Final
8.0	Revised to ensure data capture consistent with Guideline recommendations	Jacqui Close	4 Dec 2013	Final
8.1	Revised to ensure data capture consistent with Guideline recommendations and the requirement to capture identifying data for follow up and data linkage	Jacqui Close	11 Dec 2013	Final

List of data variables

Section 1 Patient information

Variable	Unique identifier
Variable name	ID
Definition	A consecutive number allocated to each record of a hip fracture.
Justification	To allow for the identification of records.
Format	10 digit numeric
Status	Non-core data item (created centrally)
Coding source	
Coding frame	
Comments	This is the unique record used to identify each record.

Variable	Australian and New Zealand jurisdiction
Variable name	Area
Definition	The Australian or New Zealand jurisdiction of the hospital.
Justification	To enable the identification of hospitals in Australian and New Zealand jurisdictions.
Format	2 digit numeric
Status	Non-core data item (created centrally)
Coding source	Adapted from the National Health Data Dictionary, Version 15.
Coding frame	1 New South Wales 2 Victoria 3 Queensland 4 South Australia 5 Western Australia 6 Tasmania 7 Northern Territory 8 Australian Capital Territory 9 Other territories (Cocos (Keeling) Islands, Christmas Island and Jervis Bay Territory) 10 New Zealand
Comments	The order used here is the standard for the Australian Bureau of Statistics (ABS).

Variable	First name of patient
Variable name	Name
Definition	First name of the patient
Justification	To allow for checking of duplicate entries for the one person and to contact the patient for the 30 and 120 day follow-up.
Format	Character
Status	Core data item
Coding source	To allow for checking of duplicate entries for the one person as well as the ability to follow up patient including future data linkage.
Coding frame	Character string

Comments

Variable	Surname of patient
Variable name	Surname
Definition	Surname of the patient
Justification	To allow for checking of duplicate entries for the one person as well as the ability to follow up patient including future data linkage.
Format	Character
Status	Core data item
Coding source	
Coding frame	

Comments

Variable	Hospital MRN/URN/event number
Variable name	MRN
Definition	Hospital Medical Record Number
Justification	Unique identifier for each patient in each hospital and contributes to collection of information on follow up eg. re-operation.
Format	
Status	Non-core data item (collected, but not provided to central data collection).
Coding source	
Coding frame	
Comments	With the eventual move to E-Health, each patient will have a unique id nation-wide. Note: Western Australia uses URN. New Zealand to record the hospital event number.

Variable	Contact telephone number for patient
Variable name	phone
Definition	Contact telephone number of the patient
Justification	To contact the patient for the 30 and 120 day follow-up.
Format	10 digit numeric
Status	Non-core data item (collected, but not provided to central data collection).
Coding source	
Coding frame	
Comments	This should be the best land line telephone or mobile phone number to contact the patient for the 30 and 120 day follow-up.

Variable	Date of birth
Variable name	DOB
Definition	Date of birth of the patient.
Justification	Basic demographic details. Required for probabilistic data linkage.
Format	8 digit, date in DDMMYYYY
Status	Core data item
Coding source	National Health Data Dictionary, Version 15.
Coding frame	DDMMYYYY
Comments	Date not known is recorded as: 99999999.

Variable	Age - derived
Variable name	Age
Definition	Age of the patient in (completed) years at admission.
Justification	Basic demographic details.
Format	3 digit, N (NN)
Status	Non-core data item (created by each hospital)
Coding source	National Health Data Dictionary, Version 15.
Coding frame	999 Unknown/not stated.
Comments	Age in single years (if aged under one year, record as zero). If age (or date of birth) is unknown or not stated, and cannot be estimated, use Code 999. Age to be calculated automatically from Date of Birth and Admission Date at each hospital.

Variable	Sex of person
Variable name	Sex
Definition	Sex of the patient
Justification	Basic demographic details.
Format	1 digit numeric
Status	Core data item
Coding source	National Health Data Dictionary, Version 15.
Coding frame	1 Male 2 Female 3 Intersex or indeterminate 9 Not stated/ inadequately described
Comments	

Variable	Indigenous status
Variable name	Indig
Definition	Was the patient of Aboriginal or Torres Strait Islander origin?
Justification	Basic demographic details.
Format	1 digit numeric
Status	Core data item
Coding source	National Health Data Dictionary, Version 15.
Coding frame	1 Aboriginal, but not Torres Strait Islander origin 2 Torres Strait Islander, but not Aboriginal origin 3 Both Aboriginal and Torres Strait Islander origin 4 Neither Aboriginal nor Torres Strait Islander origin 9 Not stated/ inadequately described.
Comments	An Aboriginal or Torres Strait Islander is a person of Aboriginal or Torres Strait Islander descent who identifies as an Aboriginal or Torres Strait Islander and is accepted as such by the community in which he or she lives.

Variable	NZ ethnic status
Variable name	ethnic
Definition	Was the patient of Māori or Pacific Peoples origin?
Justification	Basic demographic details.
Format	1 digit numeric
Status	Core data item
Coding source	Statistical Standard for Ethnicity, 2005.
Coding frame	1 European 2 Māori 3 Pacific Peoples 4 Asian 5 Middle Eastern/ Latin American/ African 6 Other Ethnicity 9 Not elsewhere included.

Comments

- There is no classification for people who might identify as more than one ethnicity in New Zealand. Statistics NZ has an algorithm that is used to determine primary ethic status. The double identification is handled by inviting individuals to record up to 3 ethnicities that they identify with. The algorithm is then used to identify a primary ethnicity. The ethnicity that is derived in the NZ hospital system should be used here as this ethnicity will be the primary ethnicity.

Variable	Patient's postcode (Australia)/ domiciliary code (New Zealand)
Variable name	Apcode
Definition	What was the postcode of the suburb of the usual residence of the patient?
Justification	Basic demographic details.
Format	4 digit numeric
Status	Core data item
Coding source	Australia Post website www.auspost.com.au provides up-to-date postcodes and localities.
Coding frame	1000 No fixed abode 9998 Overseas 9999 Postcode not known
Comments:	New Zealand domiciliary postcodes to be entered. Note: the Australia and New Zealand classifications will need to be separated for any data analysis.

Variable	Medicare number (Australia)/ National Health Index (New Zealand)
Variable name	Medicare
Definition	Patient's Medicare number
Justification	To allow for checking of duplicate entries for the one person and for multiple admissions.
Format	10 characters
Status	Non-core data item (collected, but not provided to central data collection).
Coding source	
Coding frame	
Comments	New Zealand will provide the National Health Index (NHI) which is a unique number assigned to every person who uses health and disability services in New Zealand. New Zealand will use this variable as the main mechanism to identify each patient.

Variable	Patient type
Variable name	ptype
Definition	Payment status
Justification	To identify the source of revenue received by a health industry relevant organisation.
Format	3 digit numeric
Status	Core data item
Coding source	Adapted from the National Health Data Dictionary, Version 15.
Coding frame	1 Public 2 Private 3 Overseas 9 Not known

Comments:

- This data variable is not relevant for New Zealand.
- Public sector patients include those with treatment funded by: Medicare, Pharmaceutical Benefits Scheme and Repatriation Pharmaceutical Benefits Scheme, Department of Veterans' Affairs, National Health and Medical Research Council, Australian Health Care Agreements, other Special Purpose payments, Other Australian Government Departments, State/Territory non-health departments, or other public sector revenue.
- Private sector patients include those with treatment funded by: Private health insurance, workers' compensation insurance, motor vehicle third party insurance, other compensation (e.g. Public liability, common law, medical negligence), private households (i.e. self-funded and out-of-pocket expenditure), non-profit institutions serving households, corporations (other than health insurance), other private sector revenue.

Variable	Usual place of residence
Variable name	uresidence
Definition	What is the usual place of residence of the patient?
Justification	Type of accommodation before and after admission are collected to compare where the patient has come from (what was their usual accommodation) and where they are going to (what will become their usual accommodation). This is an indicator of patient outcome.
Format	1 digit numeric
Status	Core data item
Coding source	Adapted from the Australasian Rehabilitation Outcomes Centre Inpatient Dataset, Version 3.0; NSW SNAP Data Collection, Version 4.0
Coding frame	1 Private residence (including unit in retirement village) 2 Residential aged care facility 3 Other 9 Not known

Comments

- Record the patient's usual accommodation type at admission
- Residential aged care refers to a supported facility that provides accommodation and care for a person on a long-term basis. This may include multi-purpose services in Australia and private hospitals or rest homes in New Zealand.
- If the patient lives with a relative or in a community group home or boarding house code ‘private residence’.
- If the patient was admitted from respite care, record their usual place of residence.

Section 2 Admission

Variable	Establishment identifier of operating hospital
Variable name	Ahoscode
Definition	Name of the operating hospital where the patient received surgery for the hip fracture.
Justification	To allow for the identification of the establishment for benchmarking and comparison purposes.
Format	Character
Status	Core data item
Coding source	
Coding frame	
Comments	Note: For data analysis each hospital will have to be given a unique number.

Variable	Admission via ED of operating hospital
Variable name	EDadmit
Definition	Did the patient present directly to the ED of the operating hospital?
Justification	Ability to monitor the time spent in ED.
Format	1 digit
Status	Core data item
Coding source	
Coding frame	1 yes 2 no, transferred from another hospital 3 no, was an in-patient fall 9 other, not known
Comments	If the patient was admitted via the ED of the operating hospital, information on the date and time that the patient left the ED of the operating hospital will be recorded.

Variable	Transfer hospital
Variable name	Athoscode
Definition	Name of the hospital where the patient first presented and was diagnosed with a hip fracture
Justification	To allow for the identification of the establishment for benchmarking and comparison purposes.
Format	Character
Status	Core data item
Coding source	
Coding frame	Not transferred If transferred, enter originating hospital name

Comments

- If the patient has not been transferred, this will need to be indicated by recording 'not transferred'. Note: For data analysis, each hospital will be given a unique number.
- If patient is not transferred, data variables regarding transfer date/time should be automatically filled in as 'not relevant'.

Variable	ED / hospital arrival date (transfer hospital)
Variable name	tarrdate
Definition	Date on which the patient presented to the transferring hospital with a hip fracture.
Justification	To enable the identification of the date of arrival in transferring hospital. Will allow for quantification of true time to surgery and overall LOS.
Format	8 digit, date in DDMMYYY
Status	Core data item
Coding source	National Health Data Dictionary, Version 15
Coding frame	DDMMYYYY

Comments

- If the patient is transferred several times, this should be the hospital where the patient first presented with the hip fracture.
- If the presenting hospital has no ED or the patient wasn't admitted through ED, state the date presenting to the transferring hospital with a hip fracture
- If the hip fracture occurred as an in-patient, record the date the fracture was diagnosed
- Note: 00000000 indicates that the patient did not present through the ED and 99999998 indicates that patient was not transferred (i.e. not relevant) and 99999999 indicates that the date was not known. To be used in the calculation of time to surgery and total LOS in the health system for the care episode.

Variable	ED arrival time (transfer hospital)
Variable name	tarrtime
Definition	Time at which the patient arrived in the ED of the transferring hospital.
Justification	To enable the identification of the time of arrival in the ED.
Format	4 digit
Status	Core data item
Coding source	National Health Data Dictionary, Version 15
Coding frame	hhmm

Comments

- If the patient is transferred several times, this should be the hospital where the patient first presented with a hip fracture.
- If the presenting hospital has no ED or the patient wasn't admitted through ED, state the time presenting to the transferring hospital with a hip fracture.
- If the hip fracture occurred as an in-patient, record the time the fracture was diagnosed.
- Note: 0000 indicates that the patient did not present through the ED, 9998 indicates that patient was not transferred (i.e. not relevant), and 9999 indicates that time was not known. To be used in the calculation of total LOS in the health system for the care episode.
- Time is recorded using the 24 hour clock.

Variable	ED arrival date (operating hospital)
Variable name	arrdate
Definition	Date on which the patient arrived in the ED of the operating hospital.
Justification	To enable calculation of age at presentation, time spent in ED, time to surgery and LOS
Format	8 digit, date in DDMMYYY
Status	Core data item
Coding source	National Health Data Dictionary, Version 15
Coding frame	DDMMYYYY

Comments

- Note: 99999999 indicates that the patient did not present through the ED. If the patient was admitted via the ED of the operating hospital, information on the date and time that the patient left the ED of the operating hospital will be recorded.
- The National Emergency Access Target (NEAT) aims that by 2015, 90% of patients will leave the ED within 4 hours – either by discharge, being admitted to hospital or through transfer to another hospital for treatment (http://www.ecinsw.com.au/node/128).

Variable	ED arrival time (operating hospital)
Variable name	arrtime
Definition	Time at which the patient arrived the ED of the operating hospital.
Justification	To enable calculation of time spent in ED, time to surgery and LOS
Format	4 digit
Status	Core data item
Coding source	National Health Data Dictionary, Version 15
Coding frame	hhmm

Comments

- Note: 9999= time not known. If the patient was admitted via the ED of the operating hospital, information on the date and time that the patient left the ED of the operating hospital will be recorded. Time is recorded using the 24 hour clock.

Variable	ED departure date (operating hospital)
Variable name	depdate
Definition	Date on which the patient departed from the ED of the operating hospital.
Justification	To enable calculation of time spent in ED, time to surgery and LOS.
Format	8 digit, date in DDMMYYY
Status	Core data item
Coding source	National Health Data Dictionary, Version 15
Coding frame	DDMMYYYY

Comments

- Note: 99999999 indicates that the patient did not present through the ED. If the patient was admitted via the ED of the operating hospital, information on the date and time that the patient left the ED of the operating hospital will be recorded.

Variable	ED departure time (operating hospital)
Variable name	deptime
Definition	Time at which the patient departed from the ED of the operating hospital.
Justification	To enable calculation of time spent in ED, time to surgery and LOS
Format	4 digit
Status	Core data item
Coding source	National Health Data Dictionary, Version 15
Coding frame	hhmm

Comments

- Note: 9999= time not known. If the patient was admitted via the ED of the operating hospital, information on the date and time that the patient left the ED of the operating hospital will be recorded.
- Time is recorded using the 24 hour clock.

Variable	In-patient fracture date
Variable name	admdateop
Definition	Date on which the admitted patient commences the episode of care at the operating hospital with radiological-confirmed diagnosis of hip fracture.
Justification	To enable the identification of the date of hip fracture occurring as an in-patient and calculation of time to surgery and LOS.
Format	8 digit, date in DDMMYYYY
Status	Core data item
Coding source	National Health Data Dictionary, Version 15
Coding frame	DDMMYYYY
Comments	Note: 99999999 = date not known.

Variable	In-patient fracture time
Variable name	admtimeop
Definition	24-hour time at which the admitted patient commences the episode of care at the operating hospital with radiological-confirmed diagnosis of hip fracture.
Justification	To enable the identification of the time of hip fracture occurring as an in-patient and calculation of time to surgery and LOS.
Format	4 digit
Status	Core data item
Coding source	National Health Data Dictionary, Version 15
Coding frame	hhmm
Comments	Note: 9999 = time not known.

- Time is recorded using the 24 hour clock.

Variable	Ward type
Variable name	ward
Definition	What type of ward was the patient admitted to from ED?
Justification	To enable the identification of the ward where the patient commenced their episode of care.
Format	1 digit numeric
Status	Core data item
Coding source	
Coding frame	1 Hip fracture unit/Orthopaedic ward/ preferred ward 2 Outlying ward 3 HDU, ICU, CCU 9 Other/ not known

Comments

- HDU refers to High Dependency Unit. ICU refers to Intensive Care Unit. CCU refers to Coronary Care Unit.
- An outlying ward refers to a ward not clinically appropriate to meet the patient's current needs (Goulding L. The quality and safety of healthcare provided to hospital inpatients who are placed on clinically inappropriate wards. PhD thesis, University of York, 2011).

Section 3 Assessment

Variable	Pre-admission walking ability
Variable name	walk
Definition	What was the patient's walking ability pre-admission?
Justification	To enable the identification of the mobility status pre-admission.
Format	1 digit numeric
Status	Core data item
Coding source	Adapted from the UK National Hip Fracture Database
Coding frame	1 Usually walks without walking aids 2 Usually walks with a either a stick or crutch 3 Usually walks with two aids or frame (with or without assistance of a person) 4 Usually uses a wheel chair/ bed bound 9 Not known
Comments	

Variable	Pre-operative AMTS
Variable name	amts
Definition	Pre-operative Abbreviated Mental Test Score (AMTS).
Justification	To enable the identification of the cognitive ability of the patient.
Format	2 digit numeric
Status	Core data item
Coding source	
Coding frame	99 not known
Comments	Patient scores a point for each correct answer from 10 questions. A score of 6 or less suggests evidence of cognitive impairment.

Variable	Pre-operative cognitive status
Variable name	cogstat
Definition	What was the pre-operative cognitive status of the patient?
Justification	To enable the identification of the pre-operative cognitive status of the patient.
Format	1 digit numeric
Status	Core data item
Coding source	
Coding frame	1 Normal cognition 2 Impaired cognition or known dementia 9 Not known

Comments

- Normal cognition refers to 'no history of cognitive impairment or dementia'. Impaired cognition or known dementia refers to a 'loss of cognitive ability and/or a decline in memory or other thinking skills severe enough to reduce a person's ability to perform everyday activities' (Alzheimer's Association).
- This variable included to provide some indication of cognitive status where AMTS is not able to be completed. Note: South Australia does mini-mental.

Variable	Bone protection medication at admission
Variable name	bonemed
Definition	Was the patient taking bone protection medication prior to sustaining the hip fracture?
Justification	Ability to monitor use of bone protection medication prior to hip fracture.
Format	1 digit numeric
Status	Core data item
Coding source	Adapted from the UK National Hip Fracture Database
Coding frame	0 no bone protection medication at admission 1 yes, calcium and/or vitamin D only 2 yes, bisphosphonates (oral or intravenous), strontium, denosumab or teriparitide (with or without calcium and/or vitamin D 9 not known

Comments

- Calcium or vitamin D includes Calcitriol, calcium and vitamin D or Alpha-calcidol (or one alpha).
- Bisphosphonates includes: Etidronate, Alendronate, Risedronate, Ibandronate, Zoledronate, Pamidronate,

Variable	Pre-operative medical assessment
Variable name	passess
Definition	Who conducted the pre-operative medical assessment apart from anaesthetic and orthopaedic review?
Justification	To determine level of pre-operative medical assessment
Format	1 digit numeric
Status	Core data item
Coding source	Adapted from the UK National Hip Fracture Database
Coding frame	0 No assessment conducted 1 Geriatrician / Geriatric Team 2 Physician / Physician Team 3 GP 4 Specialist nurse 9 Not known
Comments	The pre-operative assessment is conducted in addition to an anaesthetic review and orthopaedic assessment. If the pre-operative assessment is conducted by a number of assessment team members, select the highest numerical option in the coding frame drop down list eg. the highest numerical option to select is '1' geriatrician.

Variable	Side of hip fracture
Variable name	side
Definition	What was the side of the patient's hip fracture?
Justification	To enable the identification of the side of the hip fracture.
Format	1 digit numeric
Status	Core data item
Coding source	
Coding frame	1 Left hip fracture 2 Right hip fracture
Comments	If the patient has bilateral hip fractures, a separate record should be created for each fracture.

Variable	Atypical fracture
Variable name	afracture
Definition	Was the type of the patient's hip fracture either pathological or atypical?
Justification	To enable the identification of fractures which are not consistent with the nature of the injury.
Format	1 digit numeric
Status	Core data item
Coding source	Adapted from the UK National Hip Fracture Database
Coding frame	0 Not a pathological or atypical fracture 1 Pathological fracture 2 Atypical fracture

Comments

- A pathological fracture is considered to be a fracture that has occurred when a bone breaks in an area that has been weakened by another disease process (except osteoporosis), such as a tumour, infection or an inherited bone disorder.
- An atypical fracture is one where the radiologically observed fracture pattern is not consistent with the mechanism of injury described and is not thought to be attributable to a discrete underlying disease process.

Variable	Type of fracture
Variable name	ftype
Definition	What was the type of the patient's hip fracture?
Justification	To enable the identification of the type of hip fracture.
Format	1 digit numeric
Status	Core data item
Coding source	Adapted from the UK National Hip Fracture Database
Coding frame	1 Intracapsular - undisplaced/impacted displaced 2 Intracapsular – displaced 3 Per/ intertrochanteric 4 Subtrochanteric
Comments	Basal/basicervical fractures are to the classified as per/intertrochanteric.

Variable	Surgical repair
Variable name	surg
Definition	Did the patient undergo surgical repair of the hip fracture?
Justification	To enable quantification of percentage patients undergoing surgery.
Format	1 digit numeric
Status	Core data item
Coding source	Adapted from the UK National Hip Fracture Database
Coding frame	1 No 2 Yes
Comments	**Variable** ASA grade
Variable name	asa
Definition	What is the ASA grade for the patient?
Justification	A marker of disease severity and operative risk and used for casemix adjustment.
Format	1 digit numeric
Status	Core data item

Coding source	American Society of Anaesthesiologists
Coding frame	1 Healthy individual with no systemic disease 2 Mild systemic disease not limiting activity 3 Severe systemic disease that limits activity but is not incapacitating 4 Incapacitating systemic disease which is constantly life-threatening 5 Moribund, not expected to survive 24 hours with or without surgery 9 Not known
Comments	ASA grade is used in casemix adjustment for outcome at 30 and 120 days post-surgery.

Section 4 Treatment

Variable	Date of surgery for hip fracture
Variable name	sdate
Definition	Date on which the surgery for the hip fracture takes place.
Justification	To enable the identification of the date of primary surgery.
Format	8 digit, date in DDMMYYYY
Status	Core data item
Coding source	National Health Data Dictionary, Version 15
Coding frame	DDMMYYYY
Comments	If there was no surgery, enter 00000000**.** Date not known is classified as: 99999999.

Variable	Time of surgery for hip fracture
Variable name	stime
Definition	24-hour time at which the surgery for the hip fracture commences. This time is taken from the start of the anaesthetic process.
Justification	To enable the identification of the start time of the primary surgery.
Format	4 digit
Status	Core data item
Coding source	National Health Data Dictionary, Version 15
Coding frame	hhmm

Comments

- The time of surgery for the hip fracture is taken from the start of the anaesthetic process. Unknown time is classified as: 9999.
- Time is recorded using the 24 hour clock.

Variable	Surgery delay
Variable name	delay
Definition	What was the reason for the delay, if the delay was greater than 48 hours from the time of arrival in the emergency department or diagnosis of a fracture if the fracture occurred as an in-patient?
Justification	Ability to monitor time to surgery as a standard of care.
Format	1 digit numeric
Status	Core data item
Coding source	Adapted from the UK National Hip Fracture Database
Coding frame	1 no delay, surgery completed <48 hours
	2yes, delay due to patient deemed medically unfit
	3 Yes, delays due to issues with anticoagulation
4	yes, delay due to theatre availability
	5 yes, delay due to surgeon availability
	7 other type of delay *(describe in text)*
	9 not known

Comments

- Delay is calculated from the time of presentation in the emergency department.
- A person is considered medically unfit if he /she have acute health -related issues which need to be stabilised /optimised or reversed prior to proceeding with anaesthesia and a surgical procedure.

Variable	Surgery delay other text
Variable name	delay_txt
Definition	What was the reason for the other delay, if the delay was greater than 48 hours from the time of arrival in the emergency department?
Justification	Ability to monitor time to surgery as a standard of care
Format	character
Status	Core data item
Coding source	
Coding frame	
Comments	

Variable	Type of anaesthesia
Variable name	anaesth
Definition	What type of anaesthesia for the hip fracture surgery?
Justification	Ability to monitor variation, post-operative complications and patient choice.
Format	2 digit numeric
Status	Core data item
Coding source	
Coding frame	1 General anaesthesia 2 5 Spinal / regional anaesthesia 6 97 Other 99 not known
Comments	CSE=Combined Spinal/Epidural. Recorded in anaesthetic chart.
Variable	Analgesia – nerve block
Variable name	analges
Definition	Did the patient have a nerve block?

Justification	Monitoring against Guideline recommendation.
Format	2 digit numeric
Status	Core data item
Coding source	
Coding frame	1 Nerve block administered before theatres 2 Nerve block administered in theatres 3 Both 4 Neither 97 Other 99 not known

Variable	Consultant surgeon present
Variable name	consult
Definition	Was the consultant surgeon operating or assisting with the operation?
Justification	Ability to monitor the impact of consultant surgeon presence on the quality and safety of patient outcome.
Format	1 digit numeric
Status	Core data item
Coding source	
Coding frame	0 no 1 yes 9 not known
Comments	Identified by checking if the consultant surgeon recorded on the operation sheet.

Variable	Type of operation performed
Variable name	optype
Definition	What type of operation was performed for the hip fracture?
Justification	To enable the identification of the patient's type of hip fracture operation.
Format	2 digit numeric
Status	Core data item
Coding source	Adapted from the UK National Hip Fracture Database
Coding frame	1 Cannulated screws (e.g. multiple screws) 2 Sliding hip screw 3 Intramedullary nail – short 4 Intramedullary nail – long 5 Hemiarthroplasty – stem cemented 6 Hemiarthroplasty – stem uncemented 7 Total hip replacement – stem cemented 8 Total hip replacement – stem uncemented 97 Other 99 Not known

Comments

- Intramedullary nail includes: Proximal femoral nail, Antegrade femoral nail, and Gamma nail.
- For cemented versus uncemented procedures, this only includes whether the stem was cemented or not. This does not include whether or not the cup was cemented.
- Austin Moore prosthesis to be included in hemiarthroplasty – uncemented.
- Sliding hip screws include dynamic hip screws.

Variable	Intra-operative fracture
Variable name	ifract
Definition	Did the operative procedure lead to an intra-operative fracture?
Justification	Ability to monitor the incidence of intra-operative fracture.
Format	1 digit numeric
Status	Non-core data item
Coding source	
Coding frame	0 no
	1 yes
	8 no operation
	9 not known

Comments

- An intra-operative fracture is a fracture that occurs unintentionally during the surgical procedure.

Variable	Full weight bear
Variable name	wbear
Definition	What is the patient's immediate post-operative weight bearing status?
Justification	Ability to monitor variation in practice.
Format	1 digit numeric
Status	Core data item
Coding source	
Coding frame	0 unrestricted weight bearing 1 restricted / non weight bearing 9 not known

Comments

- Unrestricted weight bearing refers to a patient who is able to mobilise with full use of the affected limb to weight bear as pain allows.
- Restricted weight bearing refers to a patient where there is a specific instruction that prevents the patient being allowed to fully utilise the leg irrespective of degree of pain. Restricted weight bearing includes terms such as partial weight bear, touch-weight bear and non-weight bear

Variable	New pressure ulcers
Variable name	pulcers
Definition	Did the patient acquire a new pressure ulcer (Stage II or above) during the episode of care?
Justification	National quality standard
Format	1 digit numeric
Status	Core data item
Coding source	Adapted from the UK National Hip Fracture Database
Coding frame	0 no 1 yes 9 not known

Comments

- A pressure ulcer is an area of localised damage to the skin and underlying tissue caused by pressure, shear or friction forces, or a combination of these. Grading for pressure ulcers consists of 4 levels:
  - Stage I pressure injury: non-blanchable erythema (intact skin with non-blanchable redness of a localised area usually over a bony prominence).
  - Stage II pressure injury: partial thickness skin loss (Partial thickness loss of dermis presenting as a shallow open ulcer with a red pink wound bed, with slough).
  - Stage III pressure injury: full thickness skin loss (Subcutaneous fat may be visible but bone, tendon or muscle are not fully exposed).
  - Stage IV pressure injury: full thickness tissue loss (Full thickness tissue loss with exposed bone, tendon or muscle).

The pressure injury classification is from the National Pressure Ulcer Advisory Panel (NPUAP) and European Pressure Ulcer Advisory Panel (EPUAP), Prevention and Treatment of Pressure Ulcers: Clinical Practice Guideline. 2009, Washington DC: NPUAP.

Variable	Assessed by geriatric medicine
Variable name	gerimed
Definition	Was the patient assessed by geriatric medicine during the acute phase of the episode of care?
Justification	Ability to monitor quality of care.
Format	1 digit numeric
Status	Core data item
Coding source	
Coding frame	0 no 1 yes 8 no geriatric medicine service available 9 not known

Comments

- An assessment by geriatric medicine refers to an assessment by a geriatrician or a medical practitioner (Registrar) working under the supervision of a geriatrician.

Variable	Geriatric medicine assessment date
Variable name	gdate
Definition	First date on which an admitted patient was assessed by geriatric medicine during the acute phase of their episode of care.
Justification	To enable the identification of the date of geriatric assessment.
Format	8 digit, date in DDMMYYYY
Status	Core data item
Coding source	National Health Data Dictionary, Version 15
Coding frame	DDMMYYYY

Comments

- An geriatric assessment is considered to include an assessment by a geriatrician or a medical practitioner (Registrar) working under the supervision of a geriatrician.
- If no geriatric assessment was conducted enter: 0000000. Date not known is entered as: 99999999.

Variable	Specialist falls assessment
Variable name	fassess
Definition	Did the patient undergo a specialist falls assessment?
Justification	Ability to monitor secondary hip fracture prevention.
Format	1 digit numeric
Status	Core data item
Coding source	Adapted from the UK National Hip Fracture Database
Coding frame	0 no 1 yes, performed during admission 2 yes, awaits falls clinic assessment 3 yes, further intervention not appropriate 8 not relevant e.g. patient died 9 not known

Comments

- A specialist falls assessment includes: a systematic assessment by a suitably trained person (i.e. geriatrician or a specialist assessment trained nurse) which must go over the following domains: (i) falls history (noting previous falls); (ii) cause of index fall (including medication review); (iii) risk factors for falling and injury (including fracture) and from this information formulate and document a plan of action to prevent further falls.

Variable	Bone protection medication at discharge from acute hospital
Variable name	dbonemed1
Definition	What bone protection medication was the patient using at discharge from acute hospital?
Justification	Ability to monitor use of bone protection medication.
Format	1 digit numeric
Status	Core data item
Coding source	Adapted from the UK National Hip Fracture Database

Coding frame	0	no bone protection medication
	1	yes, calcium and/or vitamin D only
	2	yes, bisphosphonates (oral or intravenous), strontium, denosumab or teriparitide (with or without calcium and/or vitamin D
	9	not known

Comments

- Calcium or vitamin D includes Calcitriol calcium and vitamin D or Alpha-calcidol (or one alpha).
- Bisphosphonates includes: Etidronate, Alendronate, Risedronate, Ibandronate, Zoledronate, Pamidronate.

Section 5 Discharge

Variable	Discharge date from acute ward
Variable name	wdisch
Definition	Date on which the patient was discharged from an acute ward during their episode of care.
Justification	To enable the identification of the date of discharged from an acute ward so as to calculate LOS.
Format	8 digit, date in DDMMYYYY
Status	Core data item
Coding source	National Health Data Dictionary, Version 15
Coding frame	DDMMYYYY
Comments	Date not known is entered as: 99999999.

Variable	Discharge destination from acute orthopaedic episode
Variable name	wdest
Definition	What is the discharge (geographical) destination of the patient from the acute/ orthopaedic ward?
Justification	To assess patient outcome.
Format	2 digit numeric
Status	Core data item
Coding source	Adapted from the UK National Hip Fracture Database
Coding frame	1 Private residence (including unit in retirement village) 2 Residential aged care facility 3 Rehabilitation unit - public 4 Rehabiltation unit - private 5 Other hospital/ ward/ specialty 6 Deceased 7 Short-term care in residential care facility (New Zealand only) 97 Other 99 Not known

Comments

- Record the patient's discharge destination at discharge from the acute orthopaedic stay. If the patient is discharged to live with a relative or in a community group home or boarding house code 'private residence'.
- Residential aged care refers to a supported facility that provides accommodation and care for a person on a long-term basis. This may include multi-purpose services in Australia and private hospitals or rest homes in New Zealand.
- Private rehabilitation units will not be applicable in New Zealand.
- Short-term care in residential care facility may be relevant if the patient is non-weight and is used in New Zealand and to a lesser degree in Australia. For example, in New Zealand, some District Health Boards have programmes that fund patients who are 'non-weight bearing' to be cared for in a residential care facility. When they are approved by the Orthopaedic Department to fully weight bear they are either admitted to Older Peoples Health for rehabilitation or discharged home.

Variable	Discharge from hospital date
Variable name	hdisch
Definition	Date on which an admitted patient was discharged from the operating hospital following their episode of care.
Justification	To enable the identification of the date of discharged from hospital and calculation of LOS.
Format	8 digit, date in DDMMYYYY
Status	Core data item
Coding source	National Health Data Dictionary, Version 15
Coding frame	DDMMYYYY
Comments	Date not known is entered as: 99999999.

Variable	Length of stay (operating hospital)
Variable name	OLOS
Definition	The length of stay of a patient at the operating hospital, excluding leave days or days before fracture if occurred in hospital, measured in days.
Justification	To enable the identification of the length of stay at the operating hospital.
Format	3 digit, unit of measure (day)
Status	Non-core data item (created centrally)
Coding source	National Health Data Dictionary, Version 15
Coding frame	NNN

Comments

- Formula: LOS = Separation date - Admission date - Total leave days. The calculation is inclusive of admission and separation dates. LOS will be calculated automatically from the operating hospital separation and admission dates.
- If the hip fracture occurred as an in-patient then the length of stay should be from time hip fracture was diagnosed.

Variable	Length of stay (health system)
Variable name	TLOS
Definition	The length of stay of a patient from admission/diagnosis of a hip fracture to final date of discharge from an inpatient facility (public or private), excluding leave days, measured in days.
Justification	To enable the identification of the total length of stay in the health system.
Format	4 digit, unit of measure (day)
Status	Non-core data item (created centrally)
Coding source	National Health Data Dictionary, Version 15
Coding frame	NNNN

Comments

- Formula: LOS = Separation date - Admission date - Total leave days. The calculation is inclusive of admission and separation dates. LOS will be calculated automatically from the ED arrival date of the transferring hospital (or the ED arrival date of the operating hospital, if no transferred occurred) and the discharge from hospital date.
- If the final date of discharge from the hospital system is known, this date should be used.
- It should be noted that the total length of stay in the hospital system will be difficult to calculate in some jurisdictions, due to differences in treatment settings for rehabilitation-based care.

Variable	Discharge place of residence
Variable name	dresidence
Definition	What is the usual place of residence of the person following discharge from the whole hospital system?
Justification	Type of accommodation before and after admission are collected to compare where the patient has come from (what was their usual accommodation) and where they are going to (what will become their usual accommodation). Comparison of accommodation pre and post admission is an indicator of patient outcome.
Format	1 digit numeric
Status	Core data item
Coding source	Adapted from Australasian Rehabilitation Outcomes Centre Inpatient Dataset, Version 3.0; NSW SNAP Data Collection, Version 4.0
Coding frame	1 Private residence (including unit in retirement village) 2 Residential aged care/ rest home 3 Deceased 7 Other 9 Not known
Comments	Record the patient's accommodation type at discharge from the whole hospital system.

- If the patient lives with a relative or in a community group home or boarding house code ‘private residence’.
- Residential aged care refers to a supported facility that provides accommodation and care for a person on a long-term basis. This may include multi-purpose services in Australia and private hospitals or rest homes in New Zealand.

Section 6 30 day follow-up

Variable	30 day follow-up date
Variable name	fdate1
Definition	Date on which the 30 day follow-up was conducted post the initial hip fracture surgery.
Justification	To monitor patient outcomes post-surgery.
Format	8 digit, date in DDMMYYYY
Status	Core data item
Coding source	National Health Data Dictionary, Version 15
Coding frame	DDMMYYYY
Comments	Date not known is entered as: 99999999

Variable	Survival at 30 days post-surgery
Variable name	fsurvive1
Definition	Is the patient alive at 30 days post-surgery?
Justification	To monitor patient outcomes post-surgery.
Format	1 digit numeric
Status	Core data item
Coding source	
Coding frame	0 no 1 yes 9 not known
Comments	

Variable	Date health setting discharge at 30 day follow-up
Variable name	date30
Definition	What date was the patient finally discharged from the health system?
Justification	To enable the identification of the total length of stay in the health system.
Format	8 digit, date in DDMMYYYY
Status	Core data item
Coding source	National Health Data Dictionary, Version 15
Coding frame	DDMMYYYY

Comments

- If the patient is still in hospital, 00000000 is entered. Date not known is entered as: 99999999.

Variable	Place of residence at 30 day follow-up
Variable name	fresidence1
Definition	What is the place of residence of the person at 30 days post-surgery?
Justification	To monitor patient outcomes post-surgery.
Format	2digit numeric
Status	Core data item
Coding source	Adapted from the Australasian Rehabilitation Outcomes Centre Inpatient Dataset, Version 3.0; NSW SNAP Data Collection, Version 4.0
Coding frame	1 Private residence (including unit in retirement village) 2 Residential aged care/ rest home 3 Rehabilitation unit - public 4 Rehabiltation unit - private 5 Other hospital/ ward/ specialty 6 Deceased 7 Short-term care in residential care facility (New Zealand only) 97 Other 99 Not known

- **Comments**Record the patient's accommodation type at 30 days post-surgery.
- If the patient lives with a relative or in a community group home or boarding house code 'private residence'.
- Residential aged care refers to a supported facility that provides accommodation and care for a person on a long-term basis. This may include multi-purpose services in Australia and private hospitals or rest homes in New Zealand.
- Private rehabilitation units will not be applicable in New Zealand.
- Short-term care in residential care facility may be relevant if the patient is non-weight and is used in New Zealand and to a lesser degree in Australia. For example, in New Zealand, some District Health Boards have programmes that fund patients who are 'non-weight bearing' to be cared for in a residential care facility. When they are approved by the Orthopaedic Department to fully weight bear they are either admitted to Older Peoples Health for rehabilitation or discharged home.

Variable	Full weight bear at 30 day follow-up
Variable name	wbearf1
Definition	Is the patient allowed full weight bearing at 30 day follow-up?
Justification	Ability to monitor variation in clinical practice.
Format	1 digit numeric
Status	Core data item
Coding source	
Coding frame	0 unrestricted weight bearing 1 restricted / non- weight bearing 8 not relevant 9 not known

Comments

- Unrestricted weight bearing refers to a patient who is able to mobilise with full use of the affected limb to weight bear as pain allows.
- Restricted weight bearing refers to a patient where there is a specific instruction that prevents the patient being allowed to fully utilise the leg irrespective of degree of pain. Restricted weight bearing includes terms such as partial weight bear, touch-weight bear and non-weight bear

Variable	Post-admission walking ability at 30 day follow-up
Variable name	fwalk1
Definition	What was the patient's walking ability at 30 days post-surgery?
Justification	To monitor patient mobility status post-discharge.
Format	1 digit numeric
Status	Core data item
Coding source	Adapted from the UK National Hip Fracture Database
Coding frame	1 Usually walks without walking aids 2 Usually walks with either a stick or crutch 3 Usually walks with two aids or frame (with or without assistance of a person) 4 Usually uses a wheel chair/ bed bound 8 Not relevant (i.e. deceased) 9 Not known

Comments

Variable	Bone protection medication at 30 day follow-up
Variable name	fbonemed1
Definition	What bone protection medication was the patient using at 30 days post-surgery?
Justification	Ability to monitor use of bone protection medication.
Format	1 digit numeric
Status	Core data item
Coding source	Adapted from the UK National Hip Fracture Database
Coding frame	0 no bone protection medication 3 yes, calcium and/or vitamin D only 4 yes, bisphosphonates (oral or intravenous), strontium, denosumab or teriparitide (with or without calcium and/or vitamin D 9 not known

Comments

- Calcium or vitamin D includes Calcitriol calcium and vitamin D or Alpha-calcidol (or one alpha).
- Bisphosphonates includes: Etidronate, Alendronate, Risedronate, Ibandronate, Zoledronate, Pamidronate.

Variable	Re-operation within 30 day follow-up
Variable name	fop1
Definition	What kind of re-operation has been required (if any) for the patient within 30 days post-surgery?
Justification	To monitor patient outcomes post-surgery.
Format	2 digit numeric
Status	Core data item
Coding source	Adapted from the UK National Hip Fracture Database
Coding frame	0 no re-operation at 30 days post-discharge 1 reduction of dislocated prosthesis 2 washout or debridement 3 implant removal 4 revision of internal fixation 5 conversion to hemiarthroplasty 6 conversion to total hip replacement 7 Girdlestone/ excision arthroplasty 8 periprosthetic fracture 98 not relevant (i.e. deceased) 99 not known
Comments	Note: record the most significant procedure only.

Section 7 120 day follow-up

Variable	120 day follow-up date
Variable name	fdate1
Definition	Date on which the 120 day follow-up was conducted post the initial hip fracture surgery.
Justification	To monitor patient outcomes post-surgery.
Format	8 digit, date in DDMMYYYY
Status	Core data item
Coding source	National Health Data Dictionary, Version 15
Coding frame	DDMMYYYY
Comments	Date not known is entered as: 99999999

Variable	Survival at 120 days post-surgery
Variable name	fsurvive1
Definition	Is the patient alive at 120 days post-surgery.
Justification	To monitor patient outcomes post-surgery.
Format	1 digit numeric
Status	Core data item
Coding source	
Coding frame	0 no 1 yes 9 not known
Comments	

Variable	Date health setting discharge at 120 day follow-up
Variable name	date120
Definition	What date was the patient discharged from the hospital setting?
Justification	To enable the identification of the total length of stay in the health system.
Format	8 digit, date in DDMMYYYY
Status	Core data item
Coding source	National Health Data Dictionary, Version 15
Coding frame	DDMMYYYY

Comments

- If the patient is still in hospital, 00000000 is entered. Date not known is entered as: 99999999.

Variable	Place of residence at 120 day follow-up
Variable name	fresidence1
Definition	What is the place of residence of the person at 120 days post-surgery.
Justification	To monitor patient outcomes post-surgery.
Format	2digit numeric
Status	Core data item
Coding source	Adapted from the Australasian Rehabilitation Outcomes Centre Inpatient Dataset, Version 3.0; NSW SNAP Data Collection, Version 4.0
Coding frame	1 Private residence (including unit in retirement village) 2 Residential aged care/ rest home 3 Rehabilitation unit - public 4 Rehabiltation unit - private 5 Other hospital/ ward/ specialty 6 Deceased 7 Short-term care in residential care facility (New Zealand only) 97 Other 99 Not known

Comments

- Record the patient's accommodation type at 120 days post-surgery.
- If the patient lives with a relative or in a community group home or boarding house code 'private residence'.
- Residential aged care refers to a supported facility that provides accommodation and care for a person on a long-term basis. This may include multi-purpose services in Australia and private hospitals or rest homes in New Zealand.
- Private rehabilitation units will not be applicable in New Zealand.
- Short-term care in residential care facility may be relevant if the patient is non-weight and is used in New Zealand and to a lesser degree in Australia. For example, in New Zealand, some District Health Boards have programmes that fund patients who are 'non-weight bearing' to be cared for in a residential care facility. When they are approved by the Orthopaedic Department to fully weight bear they are either admitted to Older Peoples Health for rehabilitation or discharged home.

Variable	Full weight bear at 120 day follow-up
Variable name	wbearf1
Definition	Is the patient allowed full weight bearing at 120 day follow-up?
Justification	Ability to monitor variation in clinical practice.
Format	1 digit numeric
Status	Core data item
Coding source	
Coding frame	0 unrestricted weight bearing 1 restricted / non- weight bearing 8 not relevant 9 not known

Comments

- Unrestricted weight bearing refers to a patient who is able to mobilise with full use of the affected limb to weight bear as pain allows.
- Restricted weight bearing refers to a patient where there is a specific instruction that prevents the patient being allowed to fully utilise the leg irrespective of degree of pain. Restricted weight bearing includes terms such as partial weight bear, touch-weight bear and non-weight bear

Variable	Post-admission walking ability at 120 day follow-up
Variable name	fwalk1
Definition	What was the patient's walking ability at 120 days post-surgery?
Justification	To monitor patient mobility status post-discharge.
Format	1 digit numeric
Status	Core data item
Coding source	Adapted from the UK National Hip Fracture Database
Coding frame	1 Usually walks without walking aids 2 Usually walks with either a stick or crutch 3 Usually walks with two aids or frame (with or without assistance of a person) 4 Usually uses a wheel chair/ bed bound 8 Not relevant (i.e. deceased) 9 Not known

Comments

Variable	Bone protection medication at 120 day follow-up
Variable name	fbonemed1
Definition	What bone protection medication was the patient using at 120 days post-surgery?
Justification	Ability to monitor use of bone protection medication.
Format	1 digit numeric
Status	Core data item
Coding source	Adapted from the UK National Hip Fracture Database
Coding frame	0 no bone protection medication 5 yes, calcium and/or vitamin D only 6 yes, bisphosphonates (oral or intravenous), strontium, denosumab or teriparitide (with or without calcium and/or vitamin D 9 not known

Comments

- Calcium or vitamin D includes Calcitriol calcium and vitamin D or Alpha-calcidol (or one alpha).
- Bisphosphonates includes: Etidronate, Alendronate, Risedronate, Ibandronate, Zoledronate, Pamidronate.

Variable	Re-operation within120 day follow-up
Variable name	fop1
Definition	What kind of re-operation has been required (if any) for the patient within 120 days post-surgery?
Justification	To monitor patient outcomes post-surgery.
Format	2 digit numeric
Status	Core data item
Coding source	Adapted from the UK National Hip Fracture Database
Coding frame	0 no re-operation at 120 days post-discharge 1 reduction of dislocated prosthesis 2 washout or debridement 3 implant removal 4 revision of internal fixation 5 conversion to hemiarthroplasty 6 conversion to total hip replacement 7 Girdlestone/ excision arthroplasty 8 periprosthetic fracture 98 not relevant (i.e. deceased) 99 not known
Comments	Note: record the most significant procedure only.