

Measures Library combined falls and fractures technical document

Contents

Contents.....	2
General notes	3
Domain 1: Fewer falls injuries.....	4
Total falls claims.....	4
Fall with fracture claims.....	5
Fall without fracture claims	6
Repeat falls claims.....	7
Claim expenditure	8
Domain 2: Fewer serious harm falls and fractures.....	9
Total admissions.....	9
Fall with fractured neck of femur (NOF) admissions	11
Fall with other fracture admissions	13
Fall without fracture admissions	15
Falls aged residential care (ARC) admissions	17
Falls community admissions	19
Domain 3: Improved recovery (hospital)	21
Falls length of stay.....	21
Fall with fractured neck of femur (NOF) length of stay	23
Fall with other fracture length of stay	25
Falls bed-days.....	29
Fall with fractured neck of femur (NOF) bed-days	31
Fall with other fracture bed-days	33
Fall without fracture bed-days.....	35
Fall with fractured neck of femur (NOF) operated within 48 hours.....	37
Opportunity to mobilise 1 day after surgery	38
Domain 3: Improved recovery (home).....	39
Bisphosphonates coverage	39
Bisphosphonates new starts.....	41
Residents dispensed vitamin D in aged residential care (ARC)	43
Home to home within 120 days.....	44
Survival at 120 days	45
Walking ability at 120 days.....	46

Bone protection medication within 120 days.....	47
Domain 4: Integrated care.....	48
Available places in approved classes.....	48
Reach	49

General notes

Where available, ethnicity data is presented as prioritised ethnic group (Māori, Pacific, Asian and Other). Other includes unknown ethnicities.

All measures only include people aged ≥ 50 years old unless stated otherwise. Where stated, 'older people' refers to people aged ≥ 50 .

Where stated, 'Population projections – Stats NZ' are projections produced by Statistics NZ (Stats NZ) according to assumptions agreed to by Manatū Hauora Ministry of Health.

Common abbreviations

ACC – Accident Compensation Corporation

Stats NZ – Statistics New Zealand

Manatū Hauora – Manatū Hauora Ministry of Health

NMDS – Manatū Hauora National Minimum Dataset

ARC – aged residential care

Domain 1: Fewer falls injuries

Total falls claims

Indicator name (short)	Total falls claims
Description	Rate of new and accepted ACC claims for injuries due to a fall.
Rationale	This indicator shows the rate of people who had ACC claims accepted for injuries caused by a fall (some of which may result in a hospital admission). ACC claims are made across a range of health care settings, so this indicator is our broadest available measure of the number of injuries due to falls among older people.
Numerator	The number of new and accepted ACC claims for injury due to a fall.
Denominator	Resident population, Stats NZ population projections
Inclusions	Total accepted, new claims from ACC45 form, with a cause of any of the following: • slipping, skidding on foot • tripping or stumbling • loss of consciousness/sleep • something giving way underfoot • misjudgement of support • loss of balance/personal control.
Exclusions	Falls that did not result in an ACC claim being made or accepted.
Note for calculation	Unit of measure: Rate per 1,000 population Adjustment applied: None Te Whatu Ora district assignment: Domicile Time period: Rolling 12 monthly Data refresh: Quarterly
Data sources	Claims data – ACC; population projections – Stats NZ
Suppression rule	Data is not shown for a numerator of five or fewer.
Notes	Sub-analysis available using the following filters: • Te Whatu Ora district • ethnicity (Māori, Pacific, Asian and Other [including unknown]).

Fall with fracture claims

Indicator name (short)	Fall with fracture claims
Description	Rate of new and accepted ACC claims for fractures due to falls.
Rationale	This indicator shows the rate of older people who had ACC claims accepted for a fracture caused by a fall (some of which may result in a hospital admission). ACC claims are made across a range of health care settings, so this indicator is our broadest available measure of the number of fractures due to falls among older people.
Numerator	The number of new and accepted ACC claims for a fracture due to a fall.
Denominator	Resident population, Stats NZ population projections
Inclusions	Total accepted, new claims from ACC45 form, with a cause of any of the following: • slipping, skidding on foot • tripping or stumbling • loss of consciousness/sleep • something giving way underfoot • misjudgement of support • loss of balance/personal control.
Exclusions	Falls that did not result in an ACC claim being made or accepted.
Note for calculation	Unit of measure: Rate per 1,000 population Adjustment applied: None Te Whatu Ora district assignment: Domicile Time period: Rolling 12 monthly Data refresh: Quarterly
Data sources	Claims data – ACC; population projections – Stats NZ
Suppression rule	Data is not shown for a numerator of five or fewer.
Notes	Sub-analysis available using the following filters: • Te Whatu Ora district • ethnicity (Māori, Pacific, Asian and Other [including unknown]).

Fall without fracture claims

Indicator name (short)	Fall without fracture claims
Description	Rate of new and accepted ACC claims for falls that did not result in a fracture.
Rationale	This indicator shows the rate of older people who had ACC claims accepted for a non-fracture injury caused by a fall (some of which may result in a hospital admission). ACC claims are made across a range of health care settings, so this indicator is our broadest available measure of the number of falls that did not result in a fracture among older people.
Numerator	The number of new and accepted ACC claims for falls that did not result in a fracture.
Denominator	Resident population, Stats NZ population projections
Inclusions	Total accepted, new claims from ACC45 form, with a cause of any of the following: • slipping, skidding on foot • tripping or stumbling • loss of consciousness/sleep • something giving way underfoot • misjudgement of support • loss of balance/personal control.
Exclusions	Falls that did not result in an ACC claim being made or accepted. Falls due to the causes listed in the inclusions above, which also resulted in a fracture.
Note for calculation	Unit of measure: Rate per 1,000 population Adjustment applied: None Te Whatu Ora district assignment: Domicile Time period: Rolling 12 monthly Data refresh: Quarterly
Data sources	Claims data – ACC; population projections – Stats NZ
Suppression rule	Data is not shown for a numerator of five or fewer.
Notes	Sub-analysis available using the following filters: • Te Whatu Ora district • ethnicity (Māori, Pacific, Asian and Other [including unknown]).

Repeat falls claims

Indicator name (short)	Repeat falls claims
Description	Rate of new and accepted ACC claims from individuals who had made a separate fall claim in the previous 12 months.
Rationale	This indicator shows the rate of older people who had more than one ACC claim accepted for an injury caused by a fall. ACC claims are made across a range of health care settings, so this indicator is our broadest available measure of the number of falls among older people.
Numerator	The number of ACC claims for falls with a separate, new and accepted claim within the previous 12 months.
Denominator	Resident population, Stats NZ population projections
Inclusions	Total accepted, new claims from ACC45 form, with a cause of any of the following: • slipping, skidding on foot • tripping or stumbling • loss of consciousness/sleep • something giving way underfoot • misjudgement of support • loss of balance/personal control.
Exclusions	Falls that did not result in an ACC claim being made or accepted. Individuals with multiple claims for falls, where only one claim was accepted by ACC within the specified period.
Note for calculation	Unit of measure: Rate per 1,000 population Adjustment applied: None Te Whatu Ora district assignment: Domicile Time period: Rolling 12 monthly Data refresh: Quarterly
Data sources	Claims data – ACC; population projections – Stats NZ
Suppression rule	Data is not shown for a numerator of five or fewer.
Notes	Sub-analysis available using the following filters: • Te Whatu Ora district • ethnicity (Māori, Pacific, Asian and Other [including unknown]).

Claim expenditure

Indicator name (short)	Claim expenditure
Description	This is a measure of the cost (excluding GST) of accepted and active ACC claims due to a fall.
Rationale	This indicator shows the cost of ACC claims due to a fall. This is a complementary measure to show impact when viewed alongside outcome data. For ACC, it is also a measure of benefit and contribution to sustaining the wider ACC scheme.
Numerator	The cost (excluding GST) of accepted and active ACC claims due to a fall.
Denominator	Resident population, Stats NZ population projections
Inclusions	Costs of accepted ACC45 form claims, where the cause was any of the following: • slipping, skidding on foot • tripping or stumbling • loss of consciousness/sleep • something giving way underfoot • misjudgement of support • loss of balance/personal control. This includes the cost to ACC of all treatment and entitlements incurred for that claim, except for acute care at public hospitals (see exclusions).
Exclusions	The cost of emergency and acute care treatment at public hospitals is not included, as this is bulk-funded. As a result, the costs of treatment are not allocated to individual claims. Falls that did not result in an ACC claim being made or accepted.
Note for calculation	Unit of measure: Cost per 1,000 population Adjustment applied: None Te Whatu Ora district assignment: Domicile Time period: Rolling 12 monthly Data refresh: Quarterly
Data sources	Claims data – ACC; population projections – Stats NZ
Suppression rule	Expenditure is rounded to the nearest \$100 for privacy reasons.
Notes	Sub-analysis is available using the following filters: • Te Whatu Ora district • ethnicity (Māori, Pacific, Asian and Other [including unknown]).

Domain 2: Fewer serious harm falls and fractures

Total admissions

Indicator name (short)	Total admissions
Description	Rate of acute/arranged falls hospital admissions.
Rationale	This indicator provides further insight into serious harm from falls. A hospital admission indicated there was a serious injury as a result of a fall. Serious injuries take longer to rehabilitate, which leads to a greater loss of independence and quality of life and increases use of health services.
Numerator	The number of acute and arranged admissions (stays) in the hospital as the result of a fall.
Denominator	Resident population, Stats NZ population projections
Inclusions	All injuries due to a fall with a related hospital admission. Stays included in this measure are those that: - started with an acute or arranged event (admission type codes AA, AC, ZA or ZC) - started with an event with an external cause code of a fall (W00-W19) that occurred either on or before the event start date. ED short stays (treatment in ED for 3 hours or more) are also included.
Exclusions	Stays excluded from this measure are those that: - had an unknown health district, age or gender - consisted of only non-case-mix events (EXCLU purchase unit); non-case-mix events are otherwise included as long as a case-mix event is within the stay - start with a non-acute event code (ie, excluding falls that clearly occur in hospitals, like those measured in the Te Tāhū Hauora Health Quality & Safety Commission [Te Tāhū Hauora] quality and safety markers).
Note for calculation	Unit of measure: Rate per 1,000 population Adjustment applied: None Te Whatu Ora district assignment: Domicile Time period: Rolling 12 monthly Data refresh: Quarterly, based on date of discharge of the last event in the stay
Data sources	NMDS; population projections – Stats NZ
Suppression rule	Data is not shown for a numerator of five or fewer.

Notes	The next three measures in this domain show admissions by type of fall injury based on the first event in the stay. • Fractured neck of femur: ICD-10 code S720* to S722* in diagnosis codes 1–30 • Other fracture: ICD-10 code S*2*, T02* and T12* and excluding fractured neck of femur in diagnosis codes 1–30 • Non-fracture: No fracture code recorded in diagnosis codes 1–30. Calculating stays Consecutive events that together make a stay are calculated with a similar methodology to the Manatū Hauora system level measure 'Acute Hospital Bed Days'. Events are considered part of the same stay if: • the NHI was the same • the previous event had a transfer end type (DA, DF, DO, DP, DT, DW or ET) • the end date of the previous event was before or within 1 day of the next event • there was an external cause code of a fall (W00–W19) that occurred either on or before the event start date. All sub-analyses are based on the information recorded in the first event in the stay. Sub-analysis is available using the following filters: • Te Whatu Ora district • ethnicity (Māori, Pacific, Asian and Other [including unknown]). This indicator differs from the falls indicator in the Te Tāhū Hauora Atlas of Healthcare Variation, as it counts all acute/arranged hospital admissions (stays), rather than people with more than one fall only counted once.
-------	--

Fall with fractured neck of femur (NOF) admissions

Indicator name (short)	Fall with fractured neck of femur (NOF) admissions
Description	Rate of acute/arranged falls hospital admissions for fractured neck of femurs (NOFs).
Rationale	This indicator provides further insight into the relative levels of serious harm and acute hospital admission due to falls resulting in fractured NOFs. A hospital admission indicated that there was a serious injury as a result of a fall. Serious injuries take longer to rehabilitate, which leads to a greater loss of independence and quality of life and increases use of health services.
Numerator	The number of acute and arranged fractured NOF admissions (stays) in the hospital as the result of a fall.
Denominator	Resident population, Stats NZ population projections
Inclusions	Stays included in this measure are those that: - started with an acute or arranged event (admission type codes AA, AC, ZA or ZC) - started with an event with an external cause code of a fall (W00-W19) that occurred either on or before the event start date - started with an event with a diagnosis code of fractured NOF (ICD-10 code S720* to S722*) ED short stays (treatment in ED for 3 hours or more) are also included.
Exclusions	Stays excluded from this measure are those that: - had an unknown health district, age or gender - consisted of only non-case-mix events (EXCLU purchase unit); non-case-mix events are otherwise included as long as a case-mix event is within the stay - start with a non-acute event code (ie, excluding falls that clearly occur in hospitals, like those measured in the Te Tāhū Hauora Health Quality & Safety Commission [Te Tāhū Hauora] quality and safety markers).
Note for calculation	Unit of measure: Rate per 1,000 population Adjustment applied: None Te Whatu Ora district assignment: Domicile Time period: Rolling 12 monthly Data refresh: Quarterly, based on date of discharge of the last event in the stay
Data sources	NMDS; population projections – Stats NZ
Suppression rule	Data is not shown for a numerator of five or fewer.

Notes	Calculating stays Consecutive events that together make a stay are calculated with a similar methodology to the Manatū Hauora system level measure 'Acute Hospital Bed Days'. Events are considered part of the same stay if: • the NHI was the same • the previous event had a transfer end type (DA, DF, DO, DP, DT, DW or ET) • the end date of the previous event was before or within 1 day of the next event • there was an external cause code of a fall (W00–W19) that occurred either on or before the event start date. All sub-analyses are based on the information recorded in the first event in the stay. Sub-analysis is available using the following filters: • Te Whatu Ora district • ethnicity (Māori, Pacific, Asian and Other [including unknown]). This indicator differs from the falls indicator in the Te Tāhū Hauora Atlas of Healthcare Variation, as it counts all acute/arranged hospital admissions (stays), rather than people with more than one fall only counted once.
-------	--

Fall with other fracture admissions

Indicator name (short)	Fall with other fracture admissions
Description	Rate of acute/arranged falls hospital admissions for other fractures.
Rationale	This indicator provides further insight into the relative levels of serious harm and acute hospital admission due to falls resulting in all fractures other than fractured Neck of Femur (NOF) (NOF fractures are covered in a separate measure). A hospital admission indicated that there was a serious injury as a result of a fall. Serious injuries take longer to rehabilitate, which leads to a greater loss of independence and quality of life, and increases use of health services.
Numerator	The number of other fracture (non-NOF) acute and arranged admissions (stays) in the hospital as the result of a fall.
Denominator	Resident population, Stats NZ population projections
Inclusions	All fractures other than fractured NOFs, due to a fall. Stays included in this measure are those that: - started with an acute or arranged event (admission type codes AA, AC, ZA or ZC) - started with an event with an external cause code of a fall (W00-W19) that occurred either on or before the event start date. - started with an event with a non-NOF fracture diagnosis code (ICD-10 code S*2*, T02* and T12* and excluding codes S720* to S722*) ED short stays (treatment in ED for 3 hours or more) are also included.
Exclusions	Stays excluded from this measure are those that: - had an unknown health district, age or gender - consisted of only non-case-mix events (EXCLU purchase unit); non-case-mix events are otherwise included as long as a case-mix event is within the stay - start with a non-acute event code (ie, excluding falls that clearly occur in hospitals, like those measured in the Te Tāhū Hauora quality and safety markers).
Note for calculation	Unit of measure: Rate per 1,000 population Adjustment applied: None Te Whatu Ora district assignment: Domicile Time period: Rolling 12 monthly Data refresh: Quarterly, based on date of discharge of the last event in the stay
Data sources	NMDS; population projections – Stats NZ

Suppression rule	Data is not shown for a numerator of five or fewer.
Notes	Calculating stays Consecutive events that together make a stay are calculated with a similar methodology to the Manatū Hauora system-level measure 'Acute Hospital Bed Days'. Events are considered part of the same stay if: • the NHI was the same • the previous event had a transfer end type (DA, DF, DO, DP, DT, DW or ET) • the end date of the previous event was before or within 1 day of the next event • there was an external cause code of a fall (W00–W19) that occurred either on or before the event start date. All sub-analyses are based on the information recorded in the first event in the stay. Sub-analysis is available using the following filters: • Te Whatu Ora district • ethnicity (Māori, Pacific, Asian and Other [including unknown]). This indicator differs from the falls indicator in the Te Tāhū Hauora Atlas of Healthcare Variation, as it counts all acute/arranged hospital admissions (stays), rather than people with more than one fall only counted once.

Fall without fracture admissions

Indicator name (short)	Fall without fracture admissions
Description	Rate of acute/arranged hospital admissions for injuries due to falls that did not result in a fracture.
Rationale	This indicator provides further insight into the relative levels of serious harm and acute hospital admission due to falls resulting in hospital admission but no fracture. A hospital admission indicated that there was a serious injury as a result of a fall. Serious injuries take longer to rehabilitate, which leads to a greater loss of independence and quality of life and increases use of health services.
Numerator	The number of non-fracture acute and arranged admissions (stays) in the hospital as the result of a fall.
Denominator	Resident population, Stats NZ population projections
Inclusions	All hospital admissions for injuries other than fractures, due to a fall. Stays included in this measure are those that: - started with an acute or arranged event (admission type codes AA, AC, ZA or ZC) - started with an event with an external cause code of a fall (W00-W19) that occurred either on or before the event start date. ED short stays (treatment in ED for 3 hours or more) are also included.
Exclusions	Stays excluded from this measure are those that: - had a fracture (ie, ICD-10 codes S720* to S722*, S*2*, T02* and T12* are excluded) - had an unknown health district, age or gender - consisted of only non-case-mix events (EXCLU purchase unit). Non-case-mix events are otherwise included as long as a case-mix event is within the stay. - started with a non-acute event code (ie, excluding falls that clearly occur in hospitals, like those measured in the Te Tāhū Hauora quality and safety markers).
Note for calculation	Unit of measure: Rate per 1,000 population Adjustment applied: None Te Whatu Ora district assignment: Domicile Time period: Rolling 12 monthly Data refresh: Quarterly, based on date of discharge of the last event in the stay

Data sources	NMDS; population projections – Stats NZ
Suppression rule	Data is not shown for a numerator of five or fewer.
Notes	Calculating stays Consecutive events that together make a stay are calculated with a similar methodology to the Manatū Hauora system-level measure 'Acute Hospital Bed Days'. Events are considered part of the same stay if: • the NHI was the same • the previous event had a transfer end type (DA, DF, DO, DP, DT, DW or ET) • the end date of the previous event was before or within 1 day of the next event • there was an external cause code of a fall (W00–W19) that occurred either on or before the event start date. All sub-analyses are based on the information recorded in the first event in the stay. Sub-analysis is available using the following filters: • Te Whatu Ora district • ethnicity (Māori, Pacific, Asian and Other [including unknown]). This indicator differs from the falls indicator in the Te Tāhū Hauora Atlas of Healthcare Variation, as it counts all acute/arranged hospital admissions (stays), rather than people with more than one fall only counted once.

Falls aged residential care (ARC) admissions

Indicator name (short)	Falls aged residential care (ARC) admissions
Description	Rate of acute/arranged hospital admissions for injuries due to a fall for people residing in ARC.
Rationale	The falls that result in the most serious harm may require a hospital admission, especially for older people. It is important to know where these falls occur to guide service development and quality improvement. People in ARC tend to be frailer and more vulnerable than those not, and the potential approaches to reducing falls in different settings vary.
Numerator	The number of acute and arranged admissions (stays) in the hospital as a result of a fall for people residing in ARC at the time of admission.
Denominator	The number of people resident in ARC for the whole quarter.
Inclusions	Stays included in this measure are those that: • had a public hospital admission due to a fall with injury • started with an acute or arranged event (admission type codes AA, AC, ZA or ZC) • started with an event that had an external cause code of a fall (W00-W19) that occurred either on or before the event start date. ED short stays (treatment in ED for 3 hours or more) are also included.
Exclusions	Stays excluded from this measure are those that: • had an unknown health district, age or gender • consisted of only non-case-mix events (EXCLU purchase unit); non-case-mix events are otherwise included, as long as there is a case-mix event within the stay • started with a non-acute event code (ie, excluding falls that clearly occur in hospitals, like those measured in the Te Tāhū Hauora quality and safety markers).
Note for calculation	Unit of measure: Rate per 1,000 ARC resident population Adjustment applied: None Health district assignment: Domicile Time period: Rolling 12 monthly Data refresh: Quarterly, based on date of discharge of the last event in the stay
Data sources	NMDS, Client claims processing system – Manatū Hauora; population projections – Stats NZ
Suppression rule	Data is not shown for a numerator of five or fewer.

Notes	Calculating stays Consecutive events that together make a stay are calculated with similar methodology to the Manatū Hauora system level measure 'Acute Hospital Bed Days'. Events are considered part of the same stay if: • the NHI was the same • the previous event had a transfer end type (DA, DF, DO, DP, DT, DW or ET) • the end date of the previous event was before or within 1 day of the next event • there was an external cause code of a fall (W00–W19) that occurred either on or before the event start date. All sub-analyses are based on the information recorded in the first event in the stay. Sub-analysis is available using Te Whatu Ora district filters only. This indicator differs from the falls indicator in the Te Tāhū Hauora Atlas of Healthcare Variation, as it is counting all acute/arranged hospital admissions (stays), rather than people with more than one fall only counted once.
-------	---

Falls community admissions

Indicator name (short)	Falls community admissions
Description	Rate of acute/arranged hospital admissions for injuries due to a fall for people not residing in ARC.
Rationale	The falls that result in the most serious harm may require a hospital admission, especially for older people. It is important to know where these falls occur to guide service development and quality improvement. People who do and do not reside in an ARC facility may require different approaches to reduce the risk of falling.
Numerator	The number of acute and arranged admissions (stays) in the hospital as a result of a fall for people not resident in ARC at the time of admission.
Denominator	Population projections minus the number of people resident in ARC for the whole quarter.
Inclusions	Stays included in this measure are those that: • had a public hospital admission due to a fall with injury • started with an acute or arranged event (admission type codes AA, AC, ZA or ZC) • started with an event that had an external cause code of a fall (W00–W19) that occurred either on or before the event start date. ED short stays (treatment in ED for 3 hours or more) are also included.
Exclusions	Stays excluded from this measure are those that: • had an unknown health district, age or gender • consisted of only non-case-mix events (EXCLU purchase unit); non-case-mix events are otherwise included, as long as there is a case-mix event within the stay. • started with a non-acute event code (ie, excluding falls that clearly occur in hospitals, like those measured in the Te Tāhū Hauora quality and safety markers).
Note for calculation	Unit of measure: Rate per 1,000 population not resident in ARC Adjustment applied: None Te Whatu Ora district: Domicile Time period: Rolling 12 monthly Data refresh: Quarterly, based on date of discharge of the last event in the stay
Data sources	NMDS, Client claims processing system – Manatū Hauora; population projections – Stats NZ

Suppression rule	Data is not shown for a numerator of five or fewer.
Notes	Calculating stays Consecutive events that together make a stay are calculated with similar methodology to the Manatū Hauora system-level measure 'Acute Hospital Bed Days'. Events are considered part of the same stay if: • the NHI was the same • the previous event had a transfer end type (DA, DF, DO, DP, DT, DW or ET) • the end date of the previous event was before or within 1 day of the next event • there was an external cause code of a fall (W00–W19) that occurred either on or before the event start date. All sub-analyses are based on the information recorded in the first event in the stay. Sub-analysis is available using Te Whatu Ora district filters only. This indicator differs from the falls indicator in the Te Tāhū Hauora Atlas of Healthcare Variation, as it is counting all acute/arranged hospital admissions (stays), rather than people with more than one fall only counted once.

Domain 3: Improved recovery (hospital)

Falls length of stay

Indicator name (short)	Falls length of stay
Description	This measure shows the average length of time spent in hospital by people admitted with an injury due to an out-of-hospital fall.
Rationale	This measure is calculated by dividing the total number of bed-days by the number of admissions. Improving the rehabilitation process inside hospital can reduce the time spent in a hospital bed.
Numerator	The number of falls hospital bed-days for people with an injury due to a fall.
Denominator	The number of falls hospital admissions (stays) for people with an injury due to a fall.
Inclusions	Stays included in this measure are those that: - started with an acute or arranged event (admission type codes AA, AC, ZA or ZC) - started with an event that had an external cause code of a fall (W00-W19) that occurred either on or before the event start date. ED short stays (treatment in ED for 3 hours or more) are also included.
Exclusions	Stays excluded from this measure are those that: - had an unknown health district, age or gender - consisted of only non-case-mix events (EXCLU purchase unit); non-case-mix events are otherwise included, as long as there is a case-mix event within the stay - started with a non-acute event code (ie, excluding falls that clearly occur in hospitals, like those measured in the Te Tāhū Hauora quality and safety markers). Additionally, total bed-days excludes: - bed-days for residential care (health speciality code D10-19, D30-39, D50-59 or D70-79) - leave days.
Note for calculation	Unit of measure: Average bed-days days per admission Adjustment applied: None Te Whatu Ora district assignment: Domicile Time period: Rolling 12 monthly Data refresh: Quarterly, based on date of discharge of the last event in the stay
Data sources	NMDS

Suppression rule	Data is not shown for a denominator of five or fewer.
Notes	The next three measures in this domain show length of stay by type of fall injury based on the first event in the stay. - Fractured neck of femur: ICD-10 code S720* to S722* in diagnosis codes 1–30 - Other fracture: ICD-10 code S*2*, T02* and T12* and excluding fractured neck of femur in diagnosis codes 1–30 - Non-fracture: No fracture code recorded in diagnosis codes 1–30. Calculating stays Consecutive events that together make a stay are calculated with a similar methodology to the Manatū Hauora system-level measure 'Acute Hospital Bed Days'. Events are considered part of the same stay if: - the NHI was the same - the previous event had a transfer end type (DA, DF, DO, DP, DT, DW or ET) - the end date of the previous event was before or within 1 day of the next event - there was an external cause code of a fall (W00–W19) that occurred either on or before the event start date. Sub-analysis is available using the following filters: - Te Whatu Ora district - ethnicity (Māori, Pacific, Asian and Other [including unknown]). This indicator differs from the falls indicator in the Te Tāhū Hauora Atlas of Healthcare Variation, as it counts all acute/arranged hospital admissions (stays), rather than people with more than one fall only counted once.

Fall with fractured neck of femur (NOF) length of stay

Indicator name (short)	Fall with fractured neck of femur (NOF) length of stay
Description	This measure shows the average length of time that a person with a fractured NOF spent in hospital after an out-of-hospital fall.
Rationale	This measure is calculated by dividing the total number of bed-days by the number of admissions. Improving the rehabilitation process inside hospital can reduce the time spent in a hospital bed.
Numerator	The number of falls hospital bed-days for people with fractured NOF.
Denominator	The number of falls hospital admissions (stays) for people with fractured NOF.
Inclusions	Stays included in this measure are those that: - started with an acute or arranged event (admission type codes AA, AC, ZA or ZC) - started with an event that had an external cause code of a fall (W00-W19) that occurred either on or before the event start date. - started with an event with a diagnosis code of fractured NOF (ICD-10 code S720* to S722*) ED short stays (treatment in ED for 3 hours or more) are also included.
Exclusions	Stays excluded from this measure are those that: - had an unknown health district, age or gender - consisted of only non-case-mix events (EXCLU purchase unit); non-case-mix events are otherwise included, as long as there is a case-mix event within the stay - started with a non-acute event code (ie, excluding falls that clearly occur in hospitals, like those measured in the Te Tāhū Hauora quality and safety measures). Additionally, total bed-days excludes: - bed-days for residential care (health speciality code D10-19, D30-39, D50-59 or D70-79) - leave days.
Note for calculation	Unit of measure: Average bed-days per admission Adjustment applied: None Te Whatu Ora district assignment: Domicile Time period: Rolling 12 monthly Data refresh: Quarterly, based on date of discharge of the last event in the stay
Data sources	NMDS
Suppression rule	Data is not shown for a denominator of five or fewer.

Notes	Calculating stays Consecutive events that together make a stay are calculated with a similar methodology to the Manatū Hauora system-level measure 'Acute Hospital Bed Days'. Events are considered part of the same stay if: • the NHI was the same • the previous event had a transfer end type (DA, DF, DO, DP, DT, DW or ET) • the end date of the previous event was before or within 1 day of the next event • there was an external cause code of a fall (W00-W19) that occurred either on or before the event start date. Sub-analysis is available using the following filters: • Te Whatu Ora district • ethnicity (Māori, Pacific, Asian and Other [including unknown]). This indicator differs from the falls indicator in the Te Tāhū Hauora Atlas of Healthcare Variation, as it counts all acute/arranged hospital admissions (stays), rather than people with more than one fall only counted once.
-------	--

Fall with other fracture length of stay

Indicator name (short)	Fall with other fracture length of stay
Description	This measure shows the average length of time that a person with other fractures spent in hospital after an out-of-hospital fall.
Rationale	This measure is calculated by dividing the total number of bed-days by the number of admissions. Improving the rehabilitation process inside hospital can reduce the time spent in a hospital bed.
Numerator	The number of falls hospital bed-days for people with other fractures.
Denominator	The number of falls hospital admissions (stays) for people with other fractures.
Inclusions	Stays included in this measure are those that: - started with an acute or arranged event (admission type codes AA, AC, ZA or ZC) - started with an event that had an external cause code of a fall (W00–W19) that occurred either on or before the event start date. - started with an event with a non-NOF fracture diagnosis code (ICD-10 code S*2*, T02* and T12* and excluding codes S720* to S722*) ED short stays (treatment in ED for 3 hours or more) are also included.
Exclusions	Stays excluded from this measure are those that: - had an unknown age or gender - had an unknown health district, except when aggregated into the national total - consisted of only non-case-mix events (EXCLU purchase unit); non-case-mix events are otherwise included, as long as there is a case-mix event within the stay - started with a non-acute event code (ie, excluding falls that clearly occur in hospitals, like those measured in the Te Tāhū Hauora quality and safety markers). Additionally, total bed-days excludes: - bed-days for residential care (health speciality code D10–19, D30–39, D50–59 or D70–79) - leave days.
Note for calculation	Unit of measure: Average bed-days per admission Adjustment applied: None Te Whatu Ora district assignment: Domicile Time period: Rolling 12 monthly

	Data refresh: Quarterly, based on date of discharge of the last event in the stay
Data sources	NMDS
Suppression rule	Data is not shown for a denominator of five or fewer.
Notes	Calculating stays Consecutive events that together make a stay are calculated with a similar methodology to the Manatū Hauora system-level measure 'Acute Hospital Bed Days'. Events are considered part of the same stay if: • the NHI was the same • the previous event had a transfer end type (DA, DF, DO, DP, DT, DW or ET) • the end date of the previous event was before or within 1 day of the next event • there was an external cause code of a fall (W00–W19) that occurred either on or before the event start date. Sub-analysis is available using the following filters: • Te Whatu Ora district • ethnicity (Māori, Pacific, Asian and Other [including unknown]). This indicator differs from the falls indicator in the Te Tāhū Hauora Atlas of Healthcare Variation, as it counts all acute/arranged hospital admissions (stays), rather than people with more than one fall only counted once.

Fall without fracture length of stay

Indicator name (short)	Fall without fracture length of stay
Description	This measure shows the average length of time that a person without fractures spent in hospital after an out-of-hospital fall.
Rationale	This measure is calculated by dividing the total number of bed-days by the number of admissions. Improving the rehabilitation process inside hospital can reduce the time spent in a hospital bed.
Numerator	The number of falls hospital bed-days for people without fractures.
Denominator	The number of falls hospital admissions (stays) for people without fractures.
Inclusions	Stays included in this measure are those that: - started with an acute or arranged event (admission type codes AA, AC, ZA or ZC) - started with an event that had an external cause code of a fall (W00–W19) that occurred either on or before the event start date. ED short stays (treatment in ED for 3 hours or more) are also included.
Exclusions	Stays excluded from this measure are those that: - had a fracture (ie, ICD-10 codes S720* to S722*, S*2*, T02* and T12* are excluded) - had an unknown age or gender - had an unknown health district, except when aggregated into the national total - consisted of only non-case-mix events (EXCLU purchase unit); non-case-mix events are otherwise included, as long as there is a case-mix event within the stay - started with a non-acute event code (ie, excluding falls that clearly occur in hospitals, like those measured in the Te Tāhū Hauora quality and safety markers). Additionally, total bed-days excludes: - bed-days for residential care (health speciality code D10–19, D30–39, D50–59 or D70–79) - leave days.
Note for calculation	Unit of measure: Average bed-days per admission Adjustment applied: None Te Whatu Ora district assignment: Domicile Time period: Rolling 12 monthly Data refresh: Quarterly, based on date of discharge of the last event in the stay

Data sources	NMDS
Suppression rule	Data is not shown for a denominator of five or fewer.
Notes	Calculating stays Consecutive events that together make a stay are calculated with a similar methodology to the Manatū Hauora system-level measure 'Acute Hospital Bed Days'. Events are considered part of the same stay if: • the NHI was the same • the previous event had a transfer end type (DA, DF, DO, DP, DT, DW or ET) • the end date of the previous event was before or within 1 day of the next event • there was an external cause code of a fall (W00–W19) that occurred either on or before the event start date. Sub-analysis is available using the following filters: • Te Whatu Ora district • ethnicity (Māori, Pacific, Asian and Other [including unknown]). This indicator differs from the falls indicator in the Te Tāhū Hauora Atlas of Healthcare Variation, as it counts all acute/arranged hospital admissions (stays), rather than people with more than one fall only counted once.

Falls bed-days

Indicator name (short)	Falls bed-days
Description	This measure shows the total number of days spent in hospital following an acute admission for a fall.
Rationale	This indicator replicates Total admissions but shows bed-days (ie, the total amount of time spent in the hospital) instead of admissions. It also includes all falls with and without fractures. It is a proxy for the hospital resources that are used by different types of fall admissions. Improving the rehabilitation process inside a hospital can reduce the time spent in a hospital bed. Reducing the length of stay, as above, can help to maintain function and independence in older people. This indicator aligns closely with the system-level measure framework contributory measure for 'Acute Hospital Bed Days'.
Numerator	The number of bed-days for all the events in acute and arranged admissions (stays) in hospital as the result of a fall.
Denominator	Resident population, Stats NZ population projections
Inclusions	Stays included in this measure are those that: - started with an acute or arranged event (admission type codes AA, AC, ZA or ZC) - started with an event that had an external cause code of a fall (W00–W19) that occurred either on or before the event start date. ED short stays (treatment in ED for 3 hours or more) are also included.
Exclusions	Stays excluded from this measure are those that: - had an unknown age or gender - had an unknown health district, except when aggregated into the national total - consisted of only non-case-mix events (EXCLU purchase unit); non-case-mix events are otherwise included, as long as there is a case-mix event within the stay - started with a non-acute event code (ie, excluding falls that clearly occur in hospitals, like those measured in the Te Tāhū Hauora quality and safety measures). Additionally, total bed-days excludes: - bed-days for residential care (health speciality code D10–19, D30–39, D50–59 or D70–79). - leave days.
Note for calculation	Unit of measure: Rate per 1,000 population Adjustment applied: None Te Whatu Ora district assignment: Domicile

	Time period: Rolling 12 monthly Data refresh: Quarterly, based on date of discharge of the last event in the stay
Data sources	NMDS; population projections – Stats NZ
Suppression rule	Data is not shown for a numerator of five or fewer.
Notes	The next three measures in this domain show bed-days by type of fall injury based on the first event in the stay. • Fractured neck of femur: ICD-10 code S720* to S722* in diagnosis codes 1–30 • Other fracture: ICD-10 code S*2*, T02* and T12* and excluding fractured neck of femur in diagnosis codes 1–30 • Non-fracture: No fracture code recorded in diagnosis codes 1–30. Calculating stays Consecutive events that together make a stay are calculated with a similar methodology to the Manatū Hauora system-level measure 'Acute Hospital Bed Days'. Events are considered part of the same stay if: • the NHI was the same • the previous event had a transfer end type (DA, DF, DO, DP, DT, DW or ET) • the end date of the previous event was before or within 1 day of the next event • there was an external cause code of a fall (W00–W19) that occurred either on or before the event start date. All sub-analyses are based on the information recorded in the first event in the stay. Sub-analysis is available using the following filters: • Te Whatu Ora district • ethnicity (Māori, Pacific, Asian and Other [including unknown]).

Fall with fractured neck of femur (NOF) bed-days

Indicator name (short)	Fall with fractured neck of femur (NOF) bed-days
Description	This measure shows the number of days spent in hospital following an acute admission for a fall for people with fractured NOF.
Rationale	This indicator replicates Fall with fractured NOF admissions but shows bed-days (ie, the total amount of time spent in the hospital) instead of admissions. It is a proxy for the hospital resources that are used by different types of fall admissions. Improving the rehabilitation process inside a hospital can reduce the time spent in a hospital bed. Reducing the length of stay, as above, can help to maintain function and independence in older people. This indicator aligns closely with the system-level measure framework contributory measure for ' Acute Hospital Bed Days '.
Numerator	The number of bed-days for all the events in acute and arranged admissions (stays) in hospital as the result of a fall for people with fractured NOF.
Denominator	Resident population, Stats NZ population projections
Inclusions	Stays included in this measure are those that: - started with an acute or arranged event (admission type codes AA, AC, ZA or ZC) - started with an event that had an external cause code of a fall (W00-W19) that occurred either on or before the event start date. - started with an event with a diagnosis code of fractured NOF (ICD-10 code S720* to S722*) ED short stays (treatment in ED for 3 hours or more) are also included.
Exclusions	Stays excluded from this measure are those that: - had an unknown age or gender - had an unknown health district, except when aggregated into the national total - consisted of only non-case-mix events (EXCLU purchase unit); non-case-mix events are otherwise included, as long as there is a case-mix event within the stay - started with a non-acute event code (ie, excluding falls that clearly occur in hospitals, like those measured in the Te Tāhū Hauora quality and safety markers). Additionally, total bed-days excludes: - bed-days for residential care (health speciality code D10-19, D30-39, D50-59 or D70-79) - leave days.
Note for calculation	Unit of measure: Rate per 1,000 population

	Adjustment applied: None Te Whatu Ora district assignment: Domicile Time period: Rolling 12 monthly Data refresh: Quarterly, based on date of discharge of the last event in the stay
Data sources	NMDS; population projections – Stats NZ
Suppression rule	Data is not shown for a numerator of five or fewer.
Notes	Calculating stays Consecutive events that together make a stay are calculated with a similar methodology to the Manatū Hauora system-level measure 'Acute Hospital Bed Days'. Events are considered part of the same stay if: • the NHI was the same • the previous event had a transfer end type (DA, DF, DO, DP, DT, DW or ET) • the end date of the previous event was before or within 1 day of the next event • there was an external cause code of a fall (W00–W19) that occurred either on or before the event start date. All sub-analyses are based on the information recorded in the first event in the stay. Sub-analysis is available using the following filters: • Te Whatu Ora district • ethnicity (Māori, Pacific, Asian and Other [including unknown]).

Fall with other fracture bed-days

Indicator name (short)	Fall with other fracture bed-days
Description	This measure shows the number of days spent in hospital following an acute admission for a fall for people with other fractures.
Rationale	This indicator replicates Fall with other fracture admissions but shows bed-days (ie, the total amount of time spent in the hospital) instead of admissions. It is a proxy for the hospital resources that are used by different types of fall admissions. Improving the rehabilitation process inside a hospital can reduce the time spent in a hospital bed. Reducing the length of stay, as above, can help to maintain function and independence in older people. This indicator aligns closely with the system-level measure framework contributory measure for 'Acute Hospital Bed Days'.
Numerator	The number of bed-days for all the events in acute and arranged admissions (stays) in hospital as the result of a fall for people with other fractures.
Denominator	Resident population, Stats NZ population projections
Inclusions	Stays included in this measure are those that: - started with an acute or arranged event (admission type codes AA, AC, ZA or ZC) - started with an event that had an external cause code of a fall (W00–W19) that occurred either on or before the event start date. - started with an event with a non-NOF fracture diagnosis code (ICD-10 code S*2*, T02* and T12* and excluding codes S720* to S722*) ED short stays (treatment in ED for 3 hours or more) are also included.
Exclusions	Stays excluded from this measure are those that: - had an unknown age or gender - had an unknown health district, except when aggregated into the national total - consisted of only non-case-mix events (EXCLU purchase unit); non-case-mix events are otherwise included, as long as there is a case-mix event within the stay - started with a non-acute event code (ie, excluding falls that clearly occur in hospitals, like those measured in the Te Tāhū Hauora quality and safety markers). Additionally, total bed-days excludes: - bed-days for residential care (health speciality code D10–19, D30–39, D50–59 or D70–79) - leave days.

Note for calculation	Unit of measure: Rate per 1,000 population Adjustment applied: None Te Whatu Ora district assignment: Domicile Time period: Rolling 12 monthly Data refresh: Quarterly, based on date of discharge of the last event in the stay
Data sources	NMDS; population projections – Stats NZ
Suppression rule	Data is not shown for a numerator of five or fewer.
Notes	Calculating stays Consecutive events that together make a stay are calculated with a similar methodology to the Manatū Hauora system-level measure 'Acute Hospital Bed Days'. Events are considered part of the same stay if: • the NHI was the same • the previous event had a transfer end type (DA, DF, DO, DP, DT, DW or ET) • the end date of the previous event was before or within 1 day of the next event • there was an external cause code of a fall (W00–W19) that occurred either on or before the event start date. All sub-analyses are based on the information recorded in the first event in the stay. Sub-analysis is available using the following filters: • Te Whatu Ora district • ethnicity (Māori, Pacific, Asian and Other [including unknown]).

Fall without fracture bed-days

Indicator name (short)	Fall without fracture bed-days
Description	This measure shows the number of days spent in hospital following an acute admission for a fall for people without fractures.
Rationale	This indicator replicates Fall without fracture admissions but shows bed-days (ie, the total amount of time spent in the hospital) instead of admissions. It is a proxy for the hospital resources that are used by different types of fall admissions. Improving the rehabilitation process inside a hospital can reduce the time spent in a hospital bed. Reducing the length of stay, as above, can help to maintain function and independence in older people. This indicator aligns closely with the system-level measure framework contributory measure for ' Acute Hospital Bed Days '.
Numerator	The number of bed-days for all the events in acute and arranged admissions (stays) in hospital as the result of a fall for people without fractures.
Denominator	Population projections – Stats NZ
Inclusions	Stays included in this measure are those that: - started with an acute or arranged event (admission type codes AA, AC, ZA or ZC) - started with an event that had an external cause code of a fall (W00–W19) that occurred either on or before the event start date. ED short stays (treatment in ED for 3 hours or more) are also included.
Exclusions	Stays excluded from this measure are those that: - had a fracture (ie, ICD-10 codes S720* to S722*, S*2*, T02* and T12* are excluded) - had an unknown age or gender - had an unknown health district, except when aggregated into the national total - consisted of only non-case-mix events (EXCLU purchase unit); non-case-mix events are otherwise included, as long as there is a case-mix event within the stay - started with a non-acute event code (ie, excluding falls that clearly occur in hospitals, like those measured in the Te Tāhū Hauora quality and safety measures). Additionally, total bed-days excludes: - bed-days for residential care (health speciality code D10–19, D30–39, D50–59 or D70–79) - leave days.

Note for calculation	Unit of measure: Rate per 1,000 population Adjustment applied: None Te Whatu Ora district assignment: Domicile Time period: Rolling 12 monthly Data refresh: Quarterly, based on date of discharge of the last event in the stay
Data sources	NMDS; population projections – Stats NZ
Suppression rule	Data is not shown for a numerator of five or fewer.
Notes	Calculating stays Consecutive events that together make a stay are calculated with a similar methodology to the Manatū Hauora system-level measure 'Acute Hospital Bed Days'. Events are considered part of the same stay if: • the NHI was the same • the previous event had a transfer end type (DA, DF, DO, DP, DT, DW or ET) • the end date of the previous event was before or within 1 day of the next event • an external cause code of a fall (W00–W19) occurred either on or before the event start date. All sub-analyses are based on the information recorded in the first event in the stay. Sub-analysis is available using the following filters: • Te Whatu Ora district • ethnicity (Māori, Pacific, Asian and Other [including unknown]).

Fall with fractured neck of femur (NOF) operated within 48 hours

Indicator name (short)	Fall with fractured neck of femur (NOF) operated within 48 hours
Description	This measure describes the number of people with fractured NOF who had an operation for their fractured NOF within 48 hours of admission.
Rationale	The Hip Fracture Care Clinical Care Standard recommends that surgery is performed within 48 hours of the patient presenting to hospital if no clinical contraindication exists and the patient prefers surgery. When interpreting this measure, it is important to remember there may be a number of reasons why surgery was delayed, such as medical instability or a need for further investigation.
Numerator	The number of people with a fractured NOF who had an operation for their fractured NOF within 48 hours of admission.
Denominator	The Australian & New Zealand Hip Fracture Registry population.
Inclusions	Fractured NOFs operated within 48 hours; hip fracture patients operated within 48 hours as a percentage of people admitted with a fractured NOF as the result of a fall and who had a hip operation in the quarter. Time to surgery ≤ 48 hours.
Exclusions	People in the registry who did not have a recorded value or had a null value for the hip operation within 48 hours of admission.
Note for calculation	Unit of measure: Percent of registry population Adjustment applied: None Te Whatu Ora district assignment: Service Data refresh: No historical data is refreshed
Data sources	Australian & New Zealand Hip Fracture Registry
Suppression rule	Data is not shown for a numerator of five or fewer.
Notes	Sub-analysis is available using the following filters: - Te Whatu Ora district - ethnicity (Māori, Pacific, Asian and Other [including unknown]).

Opportunity to mobilise 1 day after surgery

Indicator name (short)	Opportunity to mobilise 1 day after surgery
Description	This measure describes the number of people with a hip fracture who had the opportunity to mobilise 1 day after hip fracture surgery.
Rationale	This is a measure of whether a staff member tried to begin mobilisation with the patient on the first post-operative day. This is a measure of service delivery and does not measure whether the patient was actually able to mobilise because the patient may still be too unwell after surgery to be able to mobilise.
Numerator	The number of people with a hip fracture who had the opportunity to mobilise on day one after hip fracture surgery.
Denominator	The Australian & New Zealand Hip Fracture Registry population.
Inclusions	People who had 'Opportunity given day one post-surgery' entered in the Australian & New Zealand Hip Fracture Registry in answer to the question on whether patients were provided with the opportunity to mobilise 1 day after surgery.
Exclusions	People in the registry who did not have a recorded value or had a null value for the question on whether patients were provided with the opportunity to mobilise 1 day after surgery.
Note for calculation	Unit of measure: Percent of registry population Adjustment applied: None Te Whatu Ora district assignment: Service Data refresh: No historical data is refreshed
Data sources	Australian & New Zealand Hip Fracture Registry
Suppression rule	Data is not shown for a numerator of five or fewer.
Notes	Sub-analysis is available using the following filters: - Te Whatu Ora district - ethnicity (Māori, Pacific, Asian and Other [including unknown]).

Domain 3: Improved recovery (home)

Bisphosphonates coverage

Indicator name (short)	Bisphosphonates coverage
Description	This is a measure of the percentage of people in the population covered by bisphosphonates.
Rationale	Bisphosphonates are a class of drugs that reduce bone density loss. Bisphosphonates should be considered for people who have fallen and sustained a fracture to reduce their future risk of fracture.
Numerator	The number of people covered by bisphosphonates. Calculating coverage Different bisphosphonate drugs have different dosing intervals. For example, zoledronic acid is typically administered annually. To account for this, the median gap between dispensations for each person and each bisphosphonate chemical ID was calculated. This median was calculated from all bisphosphonates dispensed between 2011 and 2017 to the population aged ≥ 50 years. Then, for each person, coverage was approximated by adding the drug's median dispense gap to the date that the drug was dispensed for that person. For example, if a person was dispensed zoledronic acid on 1 January 2017, they were covered for 400 days (the median dispense interval for zoledronic acid), until 5 February 2018.
Denominator	Resident population, Stats NZ population projections
Inclusions	All bisphosphonates dispensed (chemical IDs: 1037, 3938, 4015, 3868, 3939, 6033, 1487, 3913) for people aged ≥ 50 years.
Exclusions	This measure does not include bisphosphonates that were dispensed in hospital. Interpretation of this measure should consider local practice for bisphosphonate dispensing.
Note for calculation	Unit of measure: Percent of population Adjustment applied: None Te Whatu Ora district assignment: Domicile Time period: Quarterly Data refresh: Quarterly, based on most recent date of dispensing
Data sources	Pharmaceutical collection – Manatū Hauora; population projections – Stats NZ
Suppression rule	Data is not shown for a numerator of five or fewer.

Notes	Sub-analysis is available using the following filters: • Te Whatu Ora district • ethnicity (Māori, Pacific, Asian and Other [including unknown]).
-------	---

Bisphosphonates new starts

Indicator name (short)	Bisphosphonates new starts
Description	This is a measure of people newly started on bisphosphonates as a percentage of ACC fracture claims.
Rationale	Bisphosphonates are a class of drugs that reduce bone density loss. Bisphosphonates should be considered for people who have fallen and sustained a fracture, to reduce their future risk of fracture. 'New starts' identifies people who were not covered by bisphosphonates in the previous 2 years.
Numerator	The number of people newly started on bisphosphonates. A new start is defined as when a bisphosphonate was dispensed to person who was not covered by a bisphosphonate in the previous 2 years. Two years is the recommended duration for a drug holiday from bisphosphonates. Calculating coverage Different bisphosphonate drugs have different dosing intervals. For example, zoledronic acid is typically administered annually. To account for this, the median gap between dispensations for each person and each bisphosphonate chemical ID was calculated. This median was calculated from all bisphosphonates dispensed between 2011 and 2017 to the population aged ≥ 50 years. Then, for each person, coverage was approximated by adding the drug's median dispense gap to the date that the drug was dispensed for that person. For example, if a person was dispensed zoledronic acid on 1 January 2017, they were covered for 400 days (the median dispense interval for zoledronic acid), until 5 February 2018.
Denominator	The number of ACC claims for a fracture.
Inclusions	All bisphosphonates dispensed (chemical IDs: 1037, 3938, 4015, 3868, 3939, 6033, 1487, 3913) for people aged ≥ 50 years.
Exclusions	This measure does not include bisphosphonates that were dispensed in hospital. Interpretation of this measure should consider local practice for bisphosphonate dispensing.
Note for calculation	Unit of measure: Percent of ACC fracture claims Adjustment applied: None Te Whatu Ora district assignment: Domicile Time period: Quarterly Data refresh: Quarterly, based on most recent date of dispensing
Data sources	Pharmaceutical collection – Manatū Hauora; Claims data – ACC

Suppression rule	Data is not shown for a numerator of five or fewer.
Notes	Sub-analysis is available using the following filters: • Te Whatu Ora district • ethnicity (Māori, Pacific, Asian and Other [including unknown]).

Residents dispensed vitamin D in aged residential care (ARC)

Indicator name (short)	Residents dispensed vitamin D in aged residential care (ARC)
Description	This is a measure of the percentage of ARC residents who were dispensed vitamin D.
Rationale	Internationally, vitamin D is widely recommended for reducing falls and fall-related injuries in older people. Vitamin D supplements are thought to prevent falls by improving muscle strength and psychomotor performance in older people at risk of vitamin D deficiency. Nationally, there has been a long-established programme to increase the uptake of prescribed vitamin D supplements to older people in ARC.
Numerator	The number of people resident in ARC for the whole quarter and dispensed vitamin D in that quarter.
Denominator	The number of people resident in ARC for the whole quarter.
Inclusions	ARC residents who were in ARC for the whole quarter, with service category of: • Resthome-Age • Hospital-Age • Dementia-Age • Psycgeri-Age.
Exclusions	None
Note for calculation	Unit of measure: Percent of ARC population Adjustment applied: None Te Whatu Ora district assignment: Domicile Time period: Quarterly Data refresh: Quarterly, based on most recent date of dispensing
Data sources	Pharmaceutical collection, Client claims processing system – Manatū Hauora
Suppression rule	Data is not shown for a numerator of five or fewer.
Notes	Sub-analysis is available using Te Whatu Ora district filters only. This measure was previously provided by Manatū Hauora to ACC on a quarterly basis.

Home to home within 120 days

Indicator name (short)	Home to home within 120 days
Description	This is a measure of the percentage of hip fracture patients living in a private residence before admission who return to live in a private residence within 120 days of admission.
Rationale	To monitor patient outcomes after surgery.
Numerator	The number of people with a hip fracture who returned to a private residence within 120 days of admission.
Denominator	The Australian & New Zealand Hip Fracture Registry population.
Inclusions	Hip fracture patients entered in the registry and not subject to the exclusions below.
Exclusions	People excluded from this measure were: - those who had no value or 'null' recorded for the home to home field in the registry - those admitted who were not living in a private residence on admission - those who did not have a private residence to return to within 120 days of admission.
Note for calculation	Unit of measure: Percent of registry population Adjustment applied: None Te Whatu Ora district assignment: Service Time period: Rolling 12 monthly Data refresh: No historical data is refreshed
Data sources	Australian & New Zealand Hip Fracture Registry
Suppression rule	Data is not shown for a numerator of five or fewer.
Notes	Sub-analysis is available using the following filters: - Te Whatu Ora district - ethnicity (Māori, Pacific, Asian and Other [including unknown]). Home to home includes patients discharged to live with a relative or in a community group home or boarding house code 'private residence'. Private rehabilitation units are not applicable in Aotearoa New Zealand.

Survival at 120 days

Indicator name (short)	Survival at 120 days
Description	This is a measure of the percentage of hip fracture patients who are alive at 120 days after admission.
Rationale	To monitor patient outcomes after surgery.
Numerator	The number of people with a hip fracture who were alive at 120 days after admission.
Denominator	The Australian & New Zealand Hip Fracture Registry population.
Inclusions	Hip fracture patients who had 'yes' entered for the question regarding 120-day survival in the registry.
Exclusions	People who had no value, 'none' or 'null' recorded for the survival question in the registry.
Note for calculation	Unit of measure: Percent of registry population Adjustment applied: None Te Whatu Ora district assignment: Service Time period: Rolling 12 monthly Data refresh: No historical data is refreshed
Data sources	Australian & New Zealand Hip Fracture Registry
Suppression rule	Data is not shown for a numerator of five or fewer.
Notes	Sub-analysis is available using the following filters: - Te Whatu Ora district - ethnicity (Māori, Pacific, Asian and Other [including unknown]).

Walking ability at 120 days

Indicator name (short)	Walking ability at 120 days
Description	This is a measure of the percentage of hip fracture patients who returned to their pre-fracture mobility at 120 days after admission.
Rationale	To monitor patient outcomes after surgery.
Numerator	The number of people with a hip fracture who returned to their pre-fracture mobility at 120 days after admission.
Denominator	The Australian & New Zealand Hip Fracture Registry population.
Inclusions	Hip fracture patients who had 'return to mobility' entered for the question regarding 120-day mobility in the registry.
Exclusions	People who had no value, 'none' or 'null' recorded for the mobility question in the registry.
Note for calculation	Unit of measure: Percent of registry population Adjustment applied: None Te Whatu Ora district assignment: Service Time period: Rolling 12 monthly Data refresh: No historical data is refreshed
Data sources	Australian & New Zealand Hip Fracture Registry
Suppression rule	Data is not shown for a numerator of five or fewer.
Notes	Sub-analysis is available using the following filters: • Te Whatu Ora district • ethnicity (Māori, Pacific, Asian and Other [including unknown]). Return to pre-fracture walking ability at 120 days includes a description of different types of aids used in walking pre-surgery.

Bone protection medication within 120 days

Indicator name (short)	Bone protection medication within 120 days
Description	This is a measure of the percentage of hip fracture patients who were given bone protection medication within 120 days after admission.
Rationale	To monitor patient outcomes after surgery.
Numerator	The number of people with a hip fracture who were given bone protection medication within 120 days after admission.
Denominator	The Australian & New Zealand Hip Fracture Registry population.
Inclusions	Hip fracture patients who had 'yes - bisphosphonates, strontium, denosumab or teriparatide (with or without calcium and/or vitamin D)' entered for the question on whether they had been given bone protection medication in the Australian & New Zealand Hip Fracture Registry.
Exclusions	People who had no value or 'null' recorded for the bone protection medication question in the registry.
Note for calculation	Unit of measure: Percent of registry population Adjustment applied: None Te Whatu Ora district assignment: Service Time period: Rolling 12 monthly Data refresh: No historical data is refreshed
Data sources	Australian & New Zealand Hip Fracture Registry.
Suppression rule	Data is not shown for a numerator of five or fewer.
Notes	Sub-analysis is available using the following filters: • Te Whatu Ora district • ethnicity (Māori, Pacific, Asian and Other [including unknown]). Bone protection medication includes bisphosphonates with or without calcium or vitamin D.

Domain 4: Integrated care

Available places in approved classes

Indicator name (short)	Available places in approved classes
Description	This is a measure of the total number of places offered to people in community group strength and balance classes.
Rationale	ACC-approved community strength and balance classes can help to prevent falls and reduce fall-related harm. This measure identifies whether there are sufficient opportunities for older people to participate in classes. The goal is to maintain enough class places across the country for the at-risk population to access and lower their falls risk.
Numerator	The number of places offered to people in community group strength and balance classes.
Denominator	Not applicable.
Inclusions	Places offered by community strength and balance classes that are approved by lead agencies contracted by ACC as part of the Live Stronger for Longer programme.
Exclusions	Places that are available across Aotearoa New Zealand in community strength and balance classes that have not been approved by a contracted lead agency as part of the Live Stronger for Longer programme.
Note for calculation	Unit of measure: Number Adjustment applied: None Te Whatu Ora district assignment: Domicile Time period: Quarterly Data refresh: All historical data is refreshed each quarter
Data sources	Lead indicators – ACC
Suppression rule	None
Notes	Sub-analysis is available using Te Whatu Ora district filters only. This measure comes from quarterly reporting provided by health districts and community organisations.

Reach

Indicator name (short)	Reach
Description	This is a measure of how many new unique people have begun participating in community group strength and balance classes.
Rationale	Strength and balance classes in the community and home can help to prevent falls and reduce fall-related harm.
Numerator	The number of new unique people who attend community group strength and balance classes.
Denominator	Not applicable.
Inclusions	People attending community strength and balance classes that are approved by lead agencies contracted by ACC as part of the Live Stronger for Longer programme.
Exclusions	Places that are available across Aotearoa New Zealand in community strength and balance classes that have not been approved by a contracted lead agency as part of the Live Stronger for Longer programme.
Note for calculation	Unit of measure: Number Adjustment applied: None Te Whatu Ora district assignment: Domicile Time period: Quarterly Data refresh: All historical data is refreshed each quarter
Data sources	Lead indicators – ACC
Suppression rule	None
Notes	Sub-analysis is available using Te Whatu Ora district filters only. This measure comes from quarterly reporting provided by health districts and community organisations.

Te Kāwanatanga o Aotearoa
New Zealand Government