injury matters

PREVENTION TO RECOVERY

2022 Western Australian FALLS REPORT V2

The incidence of falls-related fatalities, hospitalisations, emergency department attendances and ambulance attendances.

Partner:

Government of **Western Australia**
Department of **Health**

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Injury Matters acknowledge the Whadjuk Noongar people as the traditional custodians of the land on which we live and work and recognises Aboriginal and Torres Strait Islander peoples continuing connection to land, waters and community across Western Australia.

About Injury Matters

Injury Matters is a for purpose, not-for-profit organisation with a vision of safer people and places, that works towards an organisational purpose to prevent and reduce the impact of injury and support those affected. To achieve this, Injury Matters focuses on helping facilitate and lead change on a societal level, through its key platforms of influencing, empowering and collaborating.

Injury Matters works in partnership with individuals, communities, agencies, governments and organisations involved in injury prevention and community safety at a local, state, national and international level for positive injury outcomes. Given the breadth and diversity of injury in Western Australia (WA), we have worked across a range of current and emerging injury priority areas affecting the community. This includes falls, trauma recovery, community violence, substance-related harm and safety promotion.

As an organisation, Injury Matters is committed to making a positive difference, advocating for safer people and places within the communities we work alongside, while remaining pragmatic in our approach to safety utilising experience and available evidence.

About Stay On Your Feet®

Funded by the Western Australian Department of Health, Injury Matters has delivered the Stay On Your Feet® Program for over twenty years. Stay On Your Feet® is WA's leading falls prevention program for older adults living in the community.

Stay On Your Feet® aims to prevent falls and falls-related injuries among older adults and promotes how to keep active and alert through the Move Improve Remove campaigns. Move Your Body, Improve Your Health and Remove Hazards are three steps to keep active, healthy and alert to prevent slips, trips and falls.

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PREVENTION TO RECOVERY

GOVERNMENT OF WESTERN AUSTRALIA
Department of Health

Stay On Your Feet WA®

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Purpose of this Report

This report provides the diverse falls prevention sector with a central report, which outlines:

- The incidence of falls in WA: Fatalities, hospitalisations, emergency department attendances, ambulance transportations and workplace insurance claims.
- Populations at risk: Population groups experiencing a higher incidence of falls in WA.
- Causes: Mechanism of falls in WA.
- Diagnoses: Injury diagnoses and nature following a fall in WA.
- Initiatives: Local falls prevention activities.

With limited resources available to support falls prevention initiatives, gaining an overview of these concepts is vital to reducing the impact of falls in WA.

Falls are defined as "inadvertently coming to rest on the ground, floor or other lower level, excluding intentional change in position to rest in furniture, wall or other objects".[1]

Foreword

This fourth edition of the Injury Matters WA Falls Report provides insight into the current state of falls in Western Australia and reinforces that falls and falls-related injuries are a significant public health issue. Every statistic in this Report is a person who has had their lives impacted by a fall, something we should never lose sight of.

Reducing the impact that falls has within the WA community continues to be a core focus for Injury Matters. Ongoing support from the WA Department of Health, via funding for the Stay On Your Feet® Program, supports Injury Matters to provide a range of activities and resources for health professionals and community members that aim to reduce the incidence of falls and increase access to information on implementing healthy active ageing strategies for older adults living within the WA community. There is no denying the importance of all prevention activities, as falls were the leading cause of injury hospitalisations in Western Australia in 2020 and the second highest cause of injury-related fatality in 2019.

The ongoing impact of COVID-19 has resulted in uncertainty for some within the community, including changing community behaviours, and forcing health professionals to reprioritise their service delivery. The inclusion of 2020 hospitalisation and emergency department data within this Report provides the first opportunity to gain an insight into the impact of COVID-19 on the incidence of falls in WA.

The increasing trends in this Report speak for themselves and confirm that despite a global pandemic dominating the health landscape over the last two years, we cannot become complacent with our falls prevention efforts.

Fortunately, WA has a dedicated falls prevention sector that collectively works toward a systematic approach to falls prevention initiatives and continuously advocates for the need for additional prevention activities. I would like to extend my gratitude to the whole falls sector for your ongoing commitment to the WA community, particularly healthcare workers who have been at the frontline of the COVID-19 pandemic.

COVID-19 will continue to challenge Western Australians into the future, with emerging evidence indicating that COVID-19 will bring additional long-term consequences to our health and wellbeing. I urge us all to continue to be adaptable and innovative in the delivery of your falls prevention activities to ensure we can continue to support community members to reduce their falls risk.

Injury Matters is always seeking opportunities to evolve our falls prevention activities and to further collaborate with our multidisciplinary falls prevention sector in order to support our community as proactively as possible. Please reach out if we can support you in your falls prevention endeavours. We are fortunate to work with several organisations to shape future falls prevention activities and welcome the opportunity to work alongside passionate colleagues.

Why don't you join us as we create a safer WA?

Sandy Lukjanowski

Chief Executive, Injury Matters

Technical Notes

This Report is the fourth edition of Injury Matters' annual Western Australian Falls Report. To consistently monitor the incidence of falls in WA, the same data inclusion criteria has been used across reports. However, there are several external factors that may influence the accuracy of the counts and therefore may contribute to variance across years. In order to provide a well-rounded representation of the incidence of falls in WA, this Report includes data collated from several sources. Unless otherwise noted, the data included in this Report was obtained through the WA Department of Health Epidemiology Directorate.[2]

Fatalities:[2]
Falls-related fatalities were provided by the WA Department of Health Epidemiology Directorate. Falls-related fatalities in WA from 1 January 2019 to 31 December 2019 were identified from the Australian Bureau of Statistics Mortality Data collection and the underlying cause of death was used to identify the falls-related deaths within the mortality dataset.

Falls-related fatalities have been identified as W00 to W19 within the International Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification (ICD-10-AM). Cases recorded with the following attributes were excluded; cancelled procedures, healthy newborns, boarders, organ procurements, aged care residents and funding (duplicate) cases.

Hospitalisations:[2]
Falls-related hospitalisations in WA from 1 January 2020 to 31 December 2020 were identified from the WA Department of Health Hospital Morbidity Data System and all four external causes recorded in the WA Hospital Morbidity Data Collection were included. Due to this use of external causes, it is possible that a higher number of falls-related deaths could be identified within the hospitalisation data than those within the mortality dataset.

Falls-related hospitalisations have been identified as W00 to W19 within the International Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification (ICD-10-AM), regardless of the principle diagnosis. Cases recorded with the following attributes were excluded; cancelled procedures, healthy newborns, boarders, organ procurements, aged care residents and funding (duplicate) cases. Please note that due to the use of codes S00-S99, T00-31, T33-T71, T73-T75 and T78-T79, total hospitalisation counts provided for injury diagnosis (p.30) are smaller than those included in the rest of the Report.

In order to succinctly present the place in which the falls incident occurred resulting in hospitalisation, locations have been grouped into general locations, see p.19. The ICD-10-AM codes included within each category includes: home (Y92.00-Y92.09, Y92.89), residential institution (Y92.10, Y92.14, Y2.18, Y2.19), school (Y92.21), health service area (Y92.23-Y92.24), other specified institution, place and public admin area (Y92.29, Y92.88), sports and athletics areas (Y92.30-Y92.39), public street / transport path (Y92.41, Y92.42, Y92.48, Y92.49), trade and service area (Y92.50-Y92.53, Y92.58- 62), industrial and construction area (Y92.63, Y92.65-Y92.69), farm (Y92.70), countryside (Y92.80-Y92.84, Y92.86) and car park (Y92.87).

Likewise, the causes of hospitalisations categories were collapsed into general categories, see p.27. The ICD-10-AM codes included within each category includes: Fall on same level from slipping, tripping, and stumbling (W00.0-01.2); Fall involving pedestrian conveyance (W02.0-02.9); Other fall on same level due to collision with, or pushing by, another person (W03.); Fall while bring carried or supported by another person (W04.); Fall involving wheelchair (W05.); Fall from bed (W06.0-06.9); Fall from chair (W07.0-07.9); Fall from playgroup equipment (W09.0-09.9); Fall from an escalator, curb, stairs, or steps (W10.0-10.2, W10.9); Fall on or from ladder (W11.); Fall from, out of, or through a balcony, bridge, roof, floor or other structure (W13.0-13.5, W13.8-13.9); Fall from tree (W14.); Diving or jumping into water causing injury other than drowning or submersion (W16.0-W16.2, W16.9); Fall from one level to another (W17.0-17.5, W17.8-17.9); Fall from, off, or into an object on the same level (W18.0-18.2, W18.8-18.9); Unspecified fall (W19.) and Other (W08.0-08.2, W08.8, W09.0, W12., W15.).

Alcohol-related hospitalisations have been identified as falls-related cases in which ICD-10-AM codes F10.0-F10.2, T51.0 or Z72.1 were recorded in any diagnostic data field.

Emergency department visits:[2]
Falls-related emergency department attendances in WA from 1 January 2020 to 31 December 2020 were identified from the WA Department of Health's Emergency Department Data Collection. Falls-related emergency department attendances were identified as an external cause code of 3 (fall), 4 (fall on same level), 5 (fall < one meter) and 6 (fall > one meter). Please note that in WA, external cause codes can be incomplete in regional emergency departments.

Health expenditure data:[3]
Falls-related health expenditure data for 1 July 2018 to 30 June 2019 was provided by the Australian Institute of Health and Welfare (AIHW) utilising data from the Disease expenditure in Australia 2018-19 study. This expenditure data has been estimated by ABDS condition, age group and sex for an admitted patient, emergency department, and outpatient hospital services, out-of-hospital medical services and prescription pharmaceuticals. Please note that sums may not add to totals due to services not reported by demographics. For the full methodology of the dataset click here.[4]

Ambulance attended falls:[5]
Summary descriptive statistics for falls-related incidents attended by St John WA ambulances were provided by the Prehospital, Resuscitation and Emergency Care Research Unit (PRECRU) at Curtin University (School of Nursing). The data refers to patients attended by St John WA ambulances from 1 January 2020 to 31 December 2020. Depending on the nature of each patient, the individual may also be represented as a count within the other datasets included in this Report. Additionally, the data describes individual falls-related incidents, not the number of individuals attended by St John WA. Data regarding the age of the patient is reflective of the patients' age at the time of the ambulance attendance at each individual visit.

Australian Burden of Disease data:[6]
The data included in this Report regarding the burden of falls in WA (page 15) was extracted from the 2018 Australian Burden of Disease Study. More information regarding the scope of this publication is available online via the Australian Institute of Health and Welfare's website.

Residential aged care data:[7]
The National Aged Care Mandatory Quality Indicator Program's quarterly publications were accessed to obtain the residential aged care data outlined on page 23. Additional detail regarding the data scope, including the program rationale and measurement, is available in the Quality Indicators Program Manual.

Workers' compensation claims data:[8]
All data regarding claims lodged in the Western Australian workers' compensation scheme from 1 January 2020 to 30 December 2020 were provided by WorkCover WA. Falls-related counts within the Report refer to a claim classified under the mechanism of incident Major Group 0 (falls, trips and slips of a person). All claims reported are 'lost-time claims', meaning that the incident resulted in an absence from work of at least one day or shift. Data breakdowns regarding the agency of injury/disease, bodily location and the mechanism of the incident are based on the Australian Safety and Compensation Council Type of Occurrence Classification System 3rd edition, revision 1 published by Safe Work Australia. The industry type is based on the Australian and New Zealand Standard Industrial Classification (ANZSIC) system 2006.

Work-related traumatic injury fatality data:[9]
Data regarding the incidence of work-related traumatic falls fatalities, was provided by the WA Department of Mines, Industry Regulation and Safety; Regulatory Support Division, for the five-year time period from 1 July 2015 to 30 June 2020. The total count of work-related traumatic injury fatalities refers to fatalities that result from a physical trauma or poisoning in WA in accordance with the Occupational Safety and Health Act 1984, Energy Safety Act 2006, Electricity Act 1945, Gas Standards Act 1972, Mines Safety and Inspection Act 1994, Petroleum (Submerged Lands) Act 1982, Petroleum and Geothermal Energy Resources Act 1967 and the Petroleum Pipelines Act 1969.

The falls-related counts provided within the Report were identified as all incidents reported within the mechanism of incident Major Group 0 (falls, trips and slips of a person). All reference to the individual industry type is based on the Australian and New Zealand Standard Industrial Classification (ANZSIC) published by the Australian Bureau of Statistics. Data is preliminary, as some investigations may still be ongoing.

Royal Perth Hospital falls-related admissions:[10]
Falls-related admissions to Royal Perth Hospital from 1 January 2020 to 30 December 2020 were identified from the Royal Perth Hospital Trauma Registry. The data includes all falls-trauma patients presenting for treatment within seven days of their injury and who were hospitalised for over 24hrs, as well as all trauma-related deaths regardless of hospital length of stay. Minor injuries refers to those with an Injury Severity Score (ISS) under 16 and major injuries are those with an ISS over 15.

Definitions

Age-Standardised Rates (ASR) were calculated per 100,000 person years. Direct standardisation used all age groups of the 2001 Australian Standard Population to compare rates between population groups and different years for the same population group.

Age Specific Rates (ASPR) included within this Report were calculated by dividing the number of events, such as hospital admissions for an age group by its respective population for that age group. These rates are provided per 100,000 person years.

Average Length of Stay includes the average of the lengths of stay for all hospital episodes of care.

Emergency Department attendances included within this Report refers to falls-related incidents in which an individual presented to an emergency department in WA.

Fatalities identified within this Report are deaths which were solely identified as falls-related.

Hospitalisations are defined as an emergency or elective falls-related episode of care in a hospital. This does not include emergency department presentations.

Hospitalisation costs are derived based on Australian Refined Diagnostic Related Group average costs from the National Hospital Cost Data Collection. Total cost is calculated without adjustment for CPI. Thus, do not compare with cost data for other years.

Standardised Rate Ratios (SRR) included within this Report refer to the ratio of two standardised rates between a particular health region and that of the WA State population. Indirect standardisation method was used.

Limitations

There are a number of limitations to identifying the exact incidence of falls-related injuries in WA. This can be attributed to challenges associated with coding fatalities, hospitalisations and emergency department attendances across different data sources. These challenges include the use of human discretion in the coding process and difficulties identifying a fall as the underlying cause of the fatality, hospitalisation or emergency department attendance. The nature of these variances make it challenging to correlate data across different sections of the Report and therefore we recommend interpreting each section of the Report in isolation.

In addition to these coding challenges, many falls-related injuries are treated at home or in general practice and are not captured in the aforementioned data sources. Therefore, the data included within this Report must be viewed as an indicative measure rather than the exact prevalence of falls-related injuries in WA.

Key Findings

354 falls-related fatalities in 2019

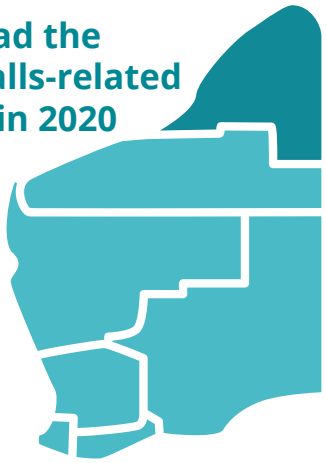
Every 25 hours someone died due to a falls-related injury in 2019

Every 17 minutes someone was admitted to hospital due to a falls-related injury in 2020

Every 13 minutes someone presented to the emergency department due to a falls-related injury in 2020

Individuals aged 85+ were most impacted

The Kimberley had the highest rate of falls-related hospitalisations in 2020



Males experienced a higher rate of falls-related fatalities in 2019

31,708 falls-related hospitalisations in 2020

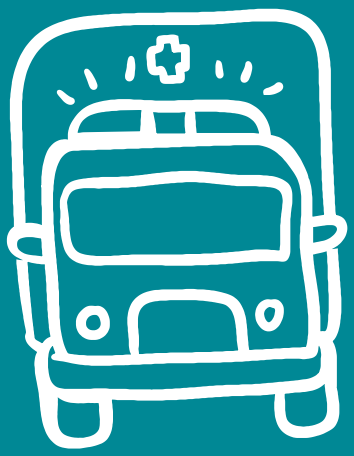
42,160 falls-related emergency department presentations in 2020

On average individuals spent 7.6 days in hospital due to a falls-related incident in 2020

Females experienced a higher rate of falls-related hospitalisations and emergency department attendances in 2020

$253.7 million

was paid in lost-time compensation claims in 2020 due to a workplace fall[8]



On average 84 falls incidents required an ambulance attendance per day in 2020 (n=30,918)[5]

Falls-related injuries in WA

Accounting for 23.1% of all injury hospitalisations in 2020, falls were the leading cause of injury hospitalisation in Western Australia.[2] Additionally, falls contributed to 16.1% of all injury emergency department attendances in 2020 and 27.9% of injury-related fatalities in 2019, making falls the second highest cause of an injury-related fatality in WA in 2019.

	Number	ASR
Fatalities	354	10.7
Hospitalisations	31,708	1,053.4
ED Attendances	42,160	1,535.4

Table 1. Number and age-standardised rate (ASR) of falls-related fatalities (2019), hospitalisations (2020) and emergency department attendances (2020), WA.[2]

Fatalities

In WA between 1 January 2019 and 31 December 2019, there were 354 falls-related fatalities. With an age-standardised rate of 10.7 fatalities per 100,000 population, this incidence has not varied significantly since 2016.

Hospitalisations

There were 31,708 falls-related hospitalisations, equating to 1,053.4 hospitalisations per 100,000 Western Australians in 2020. As depicted in Figure 1, the hospital attendance rate has had a relatively steady increase since a rate of 960.7 in 2017.[11–13]

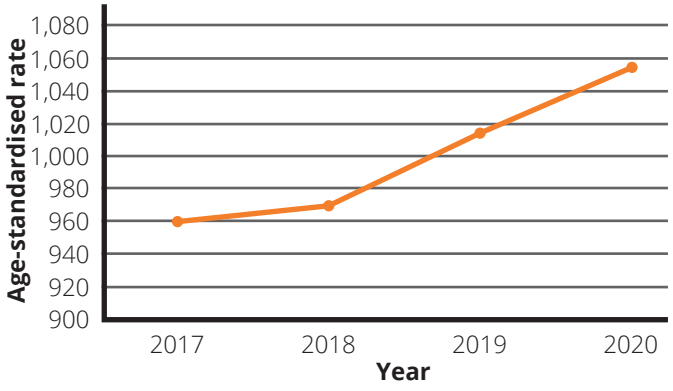


Figure 1. Age-standardised rate of falls-related hospitalisations attendances, WA, 2017 to 2020.[2,11–13]

An emergency department admission was the most common entry point into the hospital due to a falls-related injury, contributing to 65.4% of all falls-related hospitalisations (n=20,730). This was followed by non-waitlist elective hospitalisations (n=6,917), direct emergency admission (n=3,223) and a waitlist elective hospitalisation (n=838).

The majority of individuals who were hospitalised due to a falls-related incident resided in their own home (n=24,288, 76.6% of admissions).

An acute hospital (n=7,325, 23.1%) and residential aged care facility (n=49, 0.2%) were additional leading residences prior to hospitalisation. Falls were a frequent cause of hospitalisation among acute hospital patients, accounting for 14.0% of all hospital admissions.

On average the 31,708 falls-related hospitalisations resulted in an average hospital stay of 7.6 days, totalled 239,669 hospital bed days and cost an estimated $286,290,884. As displayed in Figure 2, over the last four years there has been a significant increase in the average length of stay in hospital, from 6.0 days in 2017 to 7.6 days in 2020.[11–13]

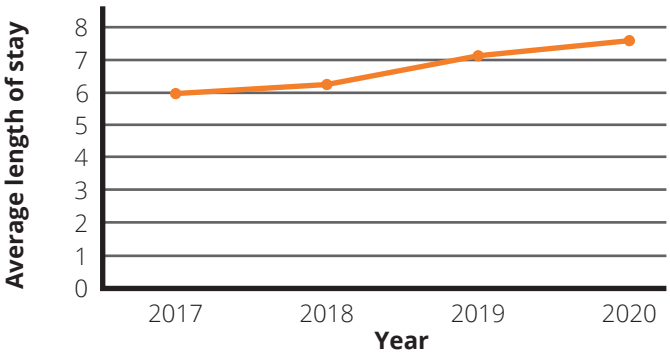


Figure 2. Average length of stay in hospital due to a falls-related incident, WA, 2017 to 2020.[2,11–13]

Following a falls-related hospitalisation, 69.6% of patients were discharged to their home/other (n=22,079). Other leading points of discharge included to an acute hospital (n=5,650, 17.8%) and to a residential aged care facility (n=2,235, 7.1%). Notably, 2,186 falls patients who did not previously reside in a residential aged care facility were discharged to a residential aged care facility.

Emergency Department Attendances

In 2020, 42,160 emergency department (ED) attendances in WA resulted from a falls-related injury. The age-standardised rate of these emergency department attendances was 1,535.4 attendances per 100,000 population. This rate of presentation is similar to the rate reported since 2018.

Private transport was the leading mode of transport to the ED among falls patients (n=28,977, 68.7% of all falls-related ED attendances), followed by arrival via an ambulance (n=12,892). Overall, these 12,892 falls-related ambulance transportations contributed to 7.1% of all ambulance transportations to ED in 2020.

Over half of falls-related ED attendances were assigned the triage category 'semi-urgent', meaning they required care within 60 minutes (53.3%, n=22,483). However, the severity of injuries did vary with 15,143 individuals also requiring 'urgent' care, indicating that they needed care within 30 minutes.

Health expenditure for falls in WA

Falls-related injuries can result in individuals accessing various services within the health system, in addition to hospital services.

From 2018 to 2019 $407,937,653 was spent on falls-related payments to allied health services, general practitioner services, medical imaging, pathology, pharmaceutical benefits scheme, hospital services and specialist services.[3]

The breakdown of these expenditures is available in Table 2, with 'public hospital admitted patient', 'private hospital services' and 'public hospital emergency departments' contributing to the greatest expenditure over the 12-month period.

Area of expenditure	Cost
Public hospital admitted patient	$154,627,440
Private hospital services	$80,636,697
Public hospital emergency department	$68,488,037
Public hospital outpatient	$28,445,591
General practitioner services	$15,775,829
Medical imaging	$15,539,983
Pharmaceutical benefits scheme	$5,213,393
Specialist services	$4,296,029
Allied health and other services	$1,802,229
Pathology	$955,090
All areas	**$407,937,653**

Table 2. Falls-related health expenditure by area, WA, 2018-19.[3]

Reflective of the number of falls-related hospitalisations, females contributed to a larger proportion of falls-related health expenditure at $204,960,945, compared to males at $170,674,596.

As displayed in Figure 3, following a high point among children, the health expenditure for falls-related incidents increased by age, with individuals aged 80 years and over experiencing the highest expenditure.

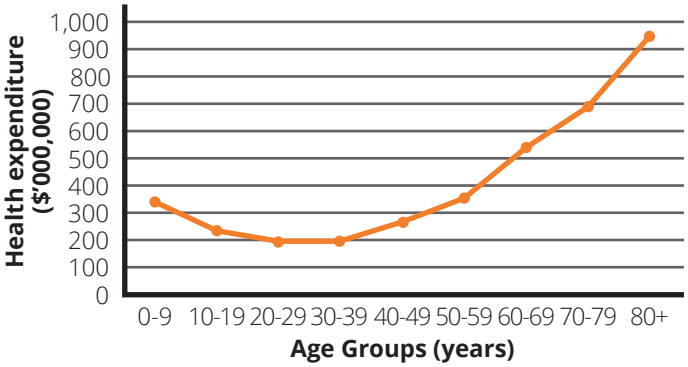


Figure 3. Falls-related health expenditure by age groups, WA, 2018-19.[3]

For further information regarding the health expenditure data provided by the Australian Institute of Health and Welfare[3], please refer to the technical notes located on page 3.

St John WA | Case Study

In 2020 there were 30,918 falls incidents attended by a St John WA ambulance in WA, that's an average of 84 falls-related attendances every day.[5] St John WA more frequently assisted female patients than male patients, with females accounting for 56% (n=17,302) of the attendances.

The median age of falls-related patients was 79 years old, with more than two-thirds of all falls incidents involving people aged 70 years and over (69%). As displayed in Figure 4, falls-related attendances by St John WA ambulances in 2020 did vary by age and gender, with the patient age at incidents involving females being a median of four years older than incidents involving males (80 years old versus 76 years old).

Most falls may not appear immediately life-threatening, but they can be painful and may lead to further complications. Timely intervention is key to preventing falls-related injuries from worsening. In 2020, one out of every five falls-related incidents attended by St John WA had an ambulance dispatched at the highest priority, with lights and sirens (n=6,323, 20%).

After treatment at the scene, 438 patients (1%) were rushed to hospital at the highest urgency, 4,846 (16%) at urgency level 2 and 23,019 (74%) at urgency level 3 or less urgent.

As shown in Figure 5, there was no obvious pattern in data regarding the day-of-the-week of falls-related ambulance attendances by St John WA in 2020. However, on average, there were 5% fewer falls on Sundays than on Fridays, and this was true on public holiday long weekends as well.

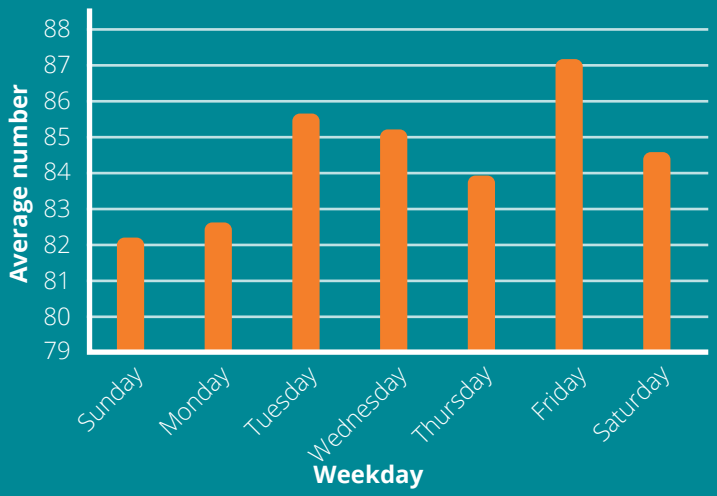


Figure 5. The average number of falls incidents attended by St John WA ambulance by weekday, WA, 2020.[5]

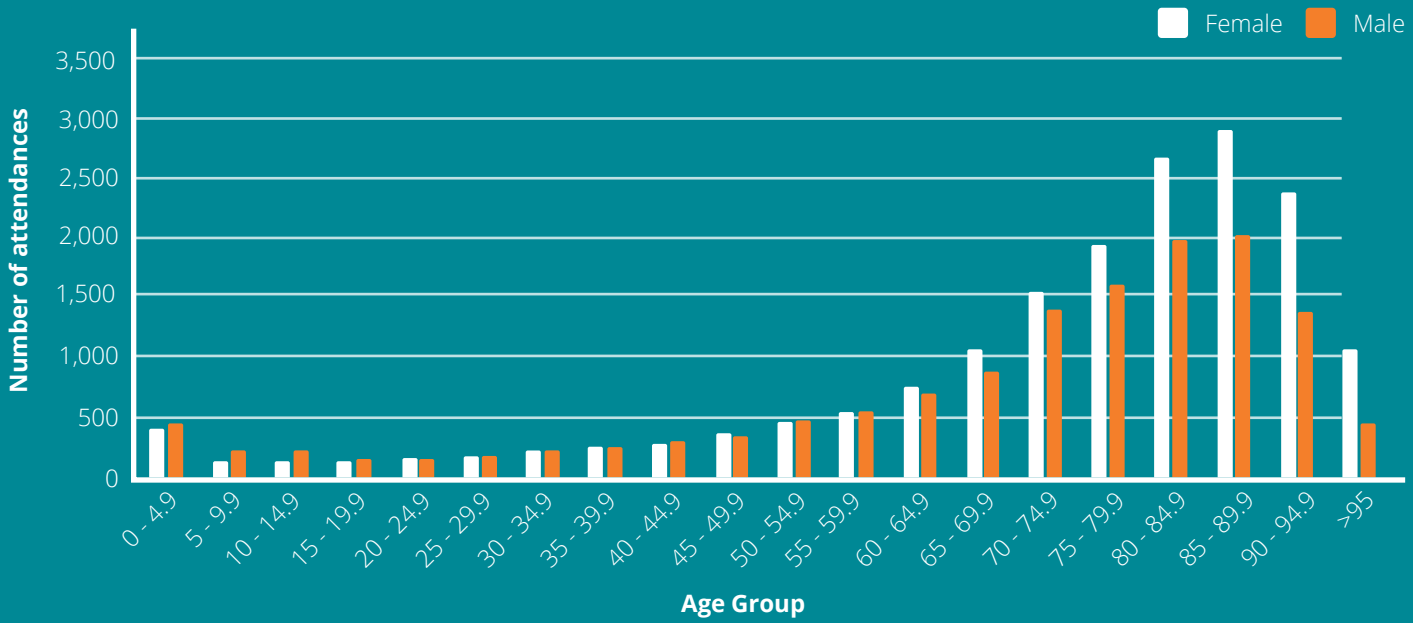


Figure 4. Number of falls incidents attended by St John WA by patient age-group and sex, WA, 2020.[5]

In 2020 a St John WA ambulance was distributed every 17 minutes due to a falls-related incident.[5]

Fiona Stanley Hospital Falls Pathway & Aged Care Assessment | Case Study

Due to the frequent presentation of falls-related injuries among older adults at emergency departments, falls-related presentations are regularly given low priority and EDs often lack a systematic approach to identifying falls risk factors.[14] These barriers, plus minimal focus on secondary falls prevention activities, can increase the risk of further falls and ED presentations among discharged patients.[14]

The Fiona Stanley Hospital Emergency Department Falls Pathway and Aged Care Assessment project aims to address this by supporting older people who present to ED due to a fall via the provision of a timely, best practice and multidisciplinary assessment of their falls risk and fast-tracked access to specialist aged care evaluation and management. When required, direct admission to an Aged Care Evaluation Unit (ACE) is available. This clinical pathway is based on best practice and ensures this vulnerable cohort receive the standardised assessment and treatments required.

Figure 6 provides an overview of the standardised pathway that Fiona Stanley Hospital's ED has implemented since July 2016. Core features of the pathway that contribute to patients safety and effective discharge include; direct admission to an ED Short Stay Unit; standardised assessment of cognition, medications, mobility and discharge risk; and access.

On average, 189 older adult falls patients went through the pathway a month in 2020 (68% of all eligible patients). Research findings regarding the impact of the pathway indicates that the duration of emergency department stays has halved, the number of patients discharged home from the emergency department has increased by 20%, hospital bed days have halved and falls-related readmission rates have reduced.[14]

The success of Fiona Stanley Hospital's Emergency Department's pathway reinforces that providing a systematic approach to falls prevention is not only feasible within a clinical setting, but also beneficial.

Figure 6. Flowchart of the Fiona Stanley Hospital Emergency Department's Falls Pathway.

Gender

In WA data collected regarding the gender of individuals who die, are hospitalised, or attend an ED is limited to females and males. Therefore, the data included within this Report is based on whether the person identified as female or male.

Similarly to that reported in previous WA Falls Reports[11–13], in 2020 females experienced the highest rate of falls-related hospitalisations and emergency department attendances, while males experienced the highest rate of falls-related fatalities in 2019.[2]

Table 3 provides a visual demonstration of the difference in the total number and the age-standardised rate of falls-related fatalities, hospitalisations and ED attendances by gender in WA.

Fatalities
In 2019, males experienced a higher number (n=189) and rate (13.7) of falls-related fatalities in WA than females (n=165 and a rate of 8.4). Despite males also experiencing a higher rate of falls-related fatalities than females in 2018[13], the difference between the gender was considerably greater in 2019.

Hospitalisations
Females experienced a higher incidence of falls-related hospitalisations than males in 2020, accounting for 17,394 falls-related hospitalisations at a rate of 1,064.4 per 100,000 population. While males accounted for 14,314 hospitalisations (1,032.8 per 100,000).

The average length of stay in hospital due to a falls-related incident did not vary significantly across genders, with females staying in hospital for 7.6 days and males for 7.5 days.

Compared to males, females spent a higher number of bed days in hospital (107,808 vs 131,861 respectively) and had higher total hospitalisation costs ($132,551,459 vs $153,739,425 respectively).

Emergency department attendances
Falls-related ED attendances were higher among females than males. Females experienced a total of 22,159 falls-related ED attendances in 2020, at a rate of 1,552.7 per 100,000. Compared to males who experienced 19,995 attendances at a rate of 1,505.8 per 100,000 males.

	Number		ASR	
	Female	Male	Female	Male
Fatalities	165	189	8.4	13.7
Hospitalisations	17,394	14,314	1,064.4	1,032.8
ED Attendances	22,159	19,995	1,552.7	1,505.8

Table 3. Number and age-standardised rate (ASR) of falls-related fatalities (2019), hospitalisations (2020) and emergency department attendances (2020) by gender, WA.[2]

health and wellbeing survey 2020

To assist in monitoring the health status and identifying the health needs of Western Australians, in 2020 6,259 adults aged 16 years and over completed a telephone survey as part of the WA Health and Wellbeing Surveillance System.[15] Data collated through the telephone surveys indicates that 5.8% of respondents reported an falls-related injury in the past twelve months that required treatment from a health professional.

The prevalence of self-reported fall-related injuries differed by sex. A higher proportion of females (6.5%) reported experiencing a fall-related injury in the past 12 months than males (5%). The gap in prevalence between female and male was greater in the 65 years and over age group, with 10.4% of females and 7% of males reporting a falls-related injury.

Age

Understanding the incidence of falls across the lifespan is important in identifying potential age-related factors contributing to these falls-related incidents. As demonstrated in Table 4, older adults were most impacted by falls-related injuries, however falls can impact Western Australians of any age.[2]

Fatalities

In 2019 falls-related fatalities increased across the lifespan, with individuals aged 85 years and over experiencing the highest number and age-specific rate of falls-related fatalities (n=225, 487.11 per 100,000 population). As demonstrated in Figure 7, the number of falls-related fatalities dramatically increases after the age of 45.

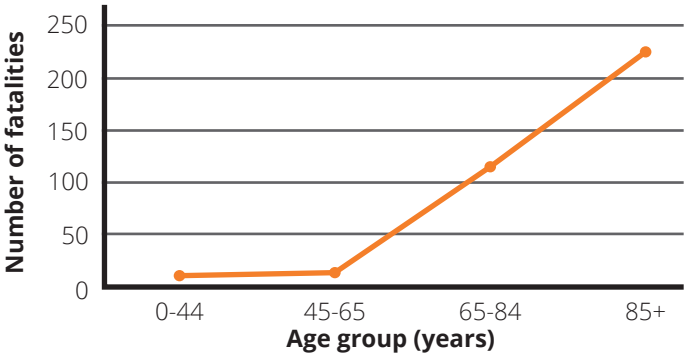


Figure 7. Number of falls-related fatalities by age groups, WA, 2019.[2]

Hospitalisations

Overall in 2020, older adults were the leading age group for falls-related hospitalisations in WA. However, difference did exist across measures. Individuals aged 65-84 experienced the highest number of hospitalisations (n=12,278), whilst individuals aged 85 years and over experienced the highest rate of falls-related hospitalisations (16,677.7 per 100,000). See Figure 8.

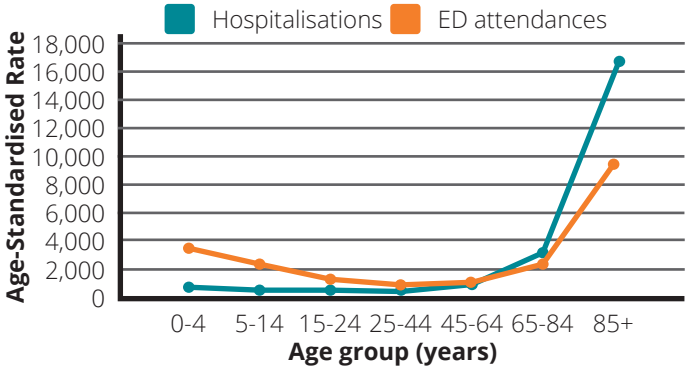


Figure 8. Age-standardised rate of falls-related hospitalisations and ED presentations by age groups, WA, 2020.[2]

In comparison to 2019 data[13], all age groups presented to a WA hospital more frequently due to a falls-related incident in 2020. Individuals aged 45 to 84 contributed to 69% of the increase in falls-related hospitalisations in 2020 (n=1,631). Figure 9 demonstrates the increase in falls-related hospitalisations over the last three years among older adults in WA.[12,13]

In 2020, almost 1 in 5 hospitalisations for individuals aged 85+ were due to falls.[2]

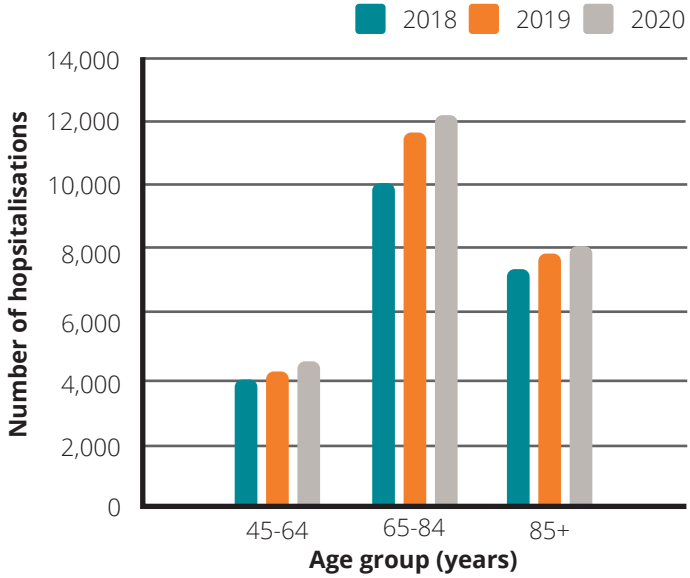


Figure 9. Number of falls-related hospitalisations by age groups, WA, 2018, 2019 and 2020.[2,12,13]

As depicted in Figure 10, the average length of stay in hospital due to a falls-related incident increased with age in 2020. Individuals aged 85 years and over spent an average of 9.8 days in hospital following a falls-related incident, compared to the 1.4 days spent by individuals aged under 14.

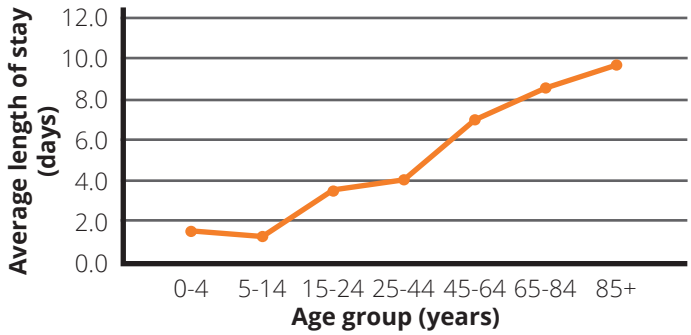


Figure 10. The average length of stay in hospital following a falls-related incident by age groups, WA, 2020.[2]

Older adults experienced higher rates of hospital admission and were more likely to stay in hospital for longer than younger adults. People aged 65-84 and 85+ recorded the highest total bed days in hospital for falls-related incidents, with 107,582 and 78,956 days, respectively. Naturally flowing on from these lengthy stays, these age groups also recorded the highest total hospitalisation cost at over $122 million for individuals aged 65-84 and over $73 million for individuals aged over 85 years.

Emergency Department attendances

With a slight variant to falls-related fatality and hospitalisation figures, in 2020 older adults and children recorded the highest rate of falls-related emergency attendances in WA. As outlined in Figure 8, despite individuals aged 65-84 experiencing the highest number of falls-related ED attendances (n=8,208), the highest rate of attendance was among individuals aged 85+ (9,971.0 per 100,000) and 0-4 (3,186.1 per 100,000).

When compared to 2019 data, the total number of falls-related ED attendances decreased in 2020. This is reflected in the age group data, with the majority of age groups recording a decrease in the rate of falls-related ED attendances. The outlier to this was among individuals aged 0-4 who experienced a higher number and rate of falls-related ED attendances in 2020 (n=5,466, 3,186.1 per 100,000) than 2019 (n=4,944, 2,832.5 per 100,000).[13]

	0 - 4		5 - 14		15 - 24		25 - 44		45 - 64		65 - 84		85+		Total
	n	ASPR	n	ASPR	n	ASPR	n	ASPR	n	ASPR	n	ASPR	n	ASPR	n
Fata.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	10	1.55	112	32.7	225	487.1	354
Hosp.	1,203	701.2	1,762	509.7	931	289.5	2,496	327.9	4,991	760.9	12,278	3,417.4	8,047	16,677.7	31,708
ED Att.	5,466	3,186.1	7,758	2,244.1	3,817	1,186.9	5,659	743.3	6,441	982.0	8,208	2,284.6	4,811	9,971.0	42,160

Table 4. Number (n) and age-standardised rate (ASPR) of falls-related fatalities (2019), hospitalisations (2020) and ED presentations (2020) by age groups (years), WA.[2]

Note: Fata. = Fatalities Hosp. = Hospitalisations ED Att. = ED Attendances

age and falls

Age-related biological changes, including changes in balance, strength, mobility, vision and cognition, can place older adults at an increased risk of experiencing a fall.[16] Additionally, the common presence of co-existing medical conditions and the frequent use of medications places older adults at a heightened risk of experiencing a fall.[17]

Western Australia has an ageing population[18] and therefore the prevention of falls is of increased importance. Thanks to a growing body of evidence, we are now more aware than ever of the actions we can take to reduce the incidence of falls among this at-risk population group.[19] Via active ageing strategies, including moving our body, improving our health and removing hazards, preventative measures can be taken to reduce the burden of falls in WA.

Burden of falls in WA | Case Study

Burden of disease analysis assists in quantifying the fatal and non-fatal burden of injury and disease in WA. The disability-adjusted life years (DALY) measure represents years of healthy life lost due to injury or disease, either through premature death (years of life lost) or living with an injury (years lived with disability).

WA experienced 7,132 falls-related DALY in 2018, making it the fourth most common injury type contributing to overall disease burden in WA, behind suicide and self-inflicted injuries, poisoning and road traffic injuries.[6] At a rate of 2.5 per 1,000 population in 2018, the frequency of falls-related burden increased from the 2.3 per 1,000 population recorded in 2011.[6]

Unlike other injury topics, falls experienced almost an equal distribution of years of life lost and years lived with a disability, at 51.4% and 48.6% respectively.[6] This reinforces the burden that falls causes via functional implications following a fall and premature deaths.

Outlined below in Figure 11, the heightened impact of falls among older adults is again reiterated.

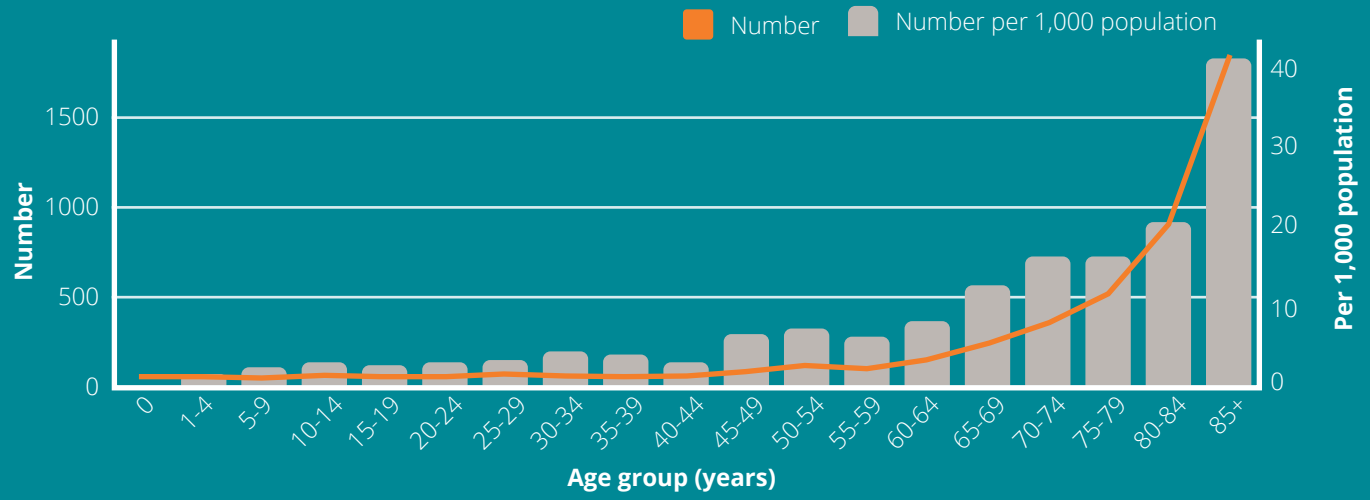


Figure 11. Number and rate of falls-related disability-adjusted life years (DALY) by age groups, WA, 2018.[6]

City of Kalamunda | Case Study

There are a number of hazards that can increase an individual's risk of experiencing a fall, including; environmental hazards in and around the home, poorly fitting footwear and the incorrect use or provision of glasses.

Aiming to reduce the incidence of hazard-based falls among local residents, the City of Kalamunda was the successful recipient of an Injury Matters Stay On Your Feet® community grant. The grant involved the development and distribution of a Remove Hazards resource for older adults and the implementation of an environmental audit to identify and address falls-related hazards in the community.

Providing an overview of the important role removing hazards has in preventing falls, the City of Kalamunda's Remove Hazards resource offered information and tools to increase knowledge and awareness of how older adults could make their home safer and look after their eyes and feet to reduce their risk of falls. The localised nature of the resource allowed for the inclusion of a directory of local optometrists and podiatrists, further supporting users to reach out to local professionals when needed.

In acknowledgement of the opportunity to improve accessibility in and around facilities operated by the City, an assessment was conducted to identify environmental hazards for falls in the community. The Checklist explored items such as floor surfaces, ramps, obstacles, walkways, steps, lighting and signage. Following the identification of potential hazards, modifications were made to remove the hazards.

Indigenous Status

Aboriginal and Torres Strait Islander peoples included within this dataset were identified based on an individual's self-identification during their presentations to health services or in records of their health outcomes.

Aboriginal and Torres Strait Islander peoples remain overrepresented in falls-related hospitalisations and ED attendances in WA. In 2020, Aboriginal and Torres Strait Islander people accounted for 4.7% (n=1,483) of WA's falls-related hospitalisations and 3.4% (n=1,418) of ED attendances. Due to a count less than six, the number of Aboriginal and Torres Strait Islander peoples who died due to a falls-related incident is not reported for 2019.

	Number	Proportion
Fatalities	<6	n/a
Hospitalisations	1,483	4.7%
ED Attendances	1,418	3.4%

Table 5. Number of falls-related fatalities (2019), hospitalisations (2020) and ED attendances (2020) to Aboriginal and Torres Strait Islander peoples and proportion of total count, WA.[2]

Aboriginal and Torres Strait Islander communities have a number of cultural elements embedded that support active ageing and provide unique protective strategies for falls prevention, such as cultural connection, self-determination, kinship and a holistic view of health.[20,21]

Despite these protective factors, similar to inequalities in other health outcomes, Aboriginal and Torres Strait Islander peoples are at a heightened risk of experiencing a fall. Some contributing factors to this increased risk include; low socioeconomic contexts, alcohol use, disruption to culture, less access to prevention efforts and adequate health care.[21,22] Additionally, Aboriginal and Torres Strait Islander peoples experience higher rates of epilepsy, head injury and hearing impairments which can place individuals at an increased falls-risk.[23]

Boab Health | Case Study

In 2020, Boab Health Services was a recipient of an Injury Matters Stay On Your Feet® community grant to deliver culturally appropriate, group exercise and health information sessions to Aboriginal women living in the remote Kimberley locations of Broome and Derby.

Alongside key partners WACHS Kimberley and Broome Regional Aboriginal Medical Service, Boab Health Services delivered fortnightly classes in Broome and Derby, encompassing an exercise session, healthy cook up and a guest speaker. Focusing on key risk factors for falls, the guest speakers covered a variety of topics including; nutrition, medications, hazards within the home, foot health and mental health, and provided advice on how participants could seek additional local support if required.

Group participants were local Aboriginal women, aged over 30 who had existing chronic health conditions. Additionally, the majority of participants had low health literacy and did not typically engage with health services. Participants experienced numerous benefits, including information about prevention, learning how to access local services, growing relationships with health professionals, engaging in exercise with friends and sharing health messages with their family.

Due to the success of the Program, the Program continues to be run by Broome Regional Aboriginal Medical Service, with a number of clinicians supporting the education components of the Program. Additionally, Boab Health Services has established a Bidgy Fit Men's and Women's program which aims to bring together a regular group of local Bidyadanga community members and a variety of health professionals and service providers to share their knowledge. These groups, alongside potential future groups in Broome, take a holistic approach by bringing together all elements of wellbeing, including; yarning, movement, food, country, family and spirit.

Geographical Location

The ten regions included in this Report align to the ten health service areas of WA.

Data captured within this Report indicates that residents from the metropolitan areas of WA experienced the highest number of falls-related fatalities, hospitalisations and ED attendances. However, this is to be expected, as a larger number of people reside in metropolitan areas.

When analysing the age-standardised rate of falls, the South West region of WA recorded the highest rates of falls-related fatalities in 2019 and the Kimberley, Midwest, Wheatbelt and Goldfields experienced a high falls-related hospitalisation rate in 2020.

Note: Regional ED attendances included within this Report are underreported due to the incomplete use of external cause codes within regional emergency departments.

Fatalities

In 2019, the rate of falls-related fatalities across health regions did not differ significantly from the state rate, aside from the Pilbara which did not record any fatalities. As outlined in Table 6, the South West region of WA experienced the highest rate of falls-related fatalities in 2019 at 13 per 100,000 population, followed by the Metropolitan Health Services. The Metropolitan Health Services accounted for 78.2% of all falls-related fatalities in 2019 (n=277).

Hospitalisations

Due to a larger population, the metropolitan areas of WA recorded the highest number of falls-related hospitalisations in 2020, with 24,673 hospitalisations in total (8,477 North Metropolitan, 8,473 South Metropolitan and 7,723 East Metropolitan). These large number of falls-related hospitalisations resulted in the metropolitan areas also recording the highest hospitalisation costs; North Metropolitan ($77,341,803), South Metropolitan ($76,306,883) and East Metropolitan ($72,374,359) health regions.

When analysing the data by rate, the burden of falls in remote locations becomes evident with the Kimberley health region recording the highest rate of falls-related hospitalisations in WA for the past four years.[11–13] In 2020 the rate was 1,841.7 per 100,000 population, equating to Kimberley residents experiencing falls-related hospitalisations 110% higher than the state rate.

As depicted in Figure 12, the average length of stay in hospital following a falls-related incident varied across the health regions, however it was the Wheatbelt (n=16.3) Great Southern (n=9.4) and North Metropolitan (n=7.6) health regions that experienced the highest average length of stay. These regions also reported the highest average length of stay in 2019, however the Wheatbelt average length of stay more than doubled from 2019 to 2020.[13]

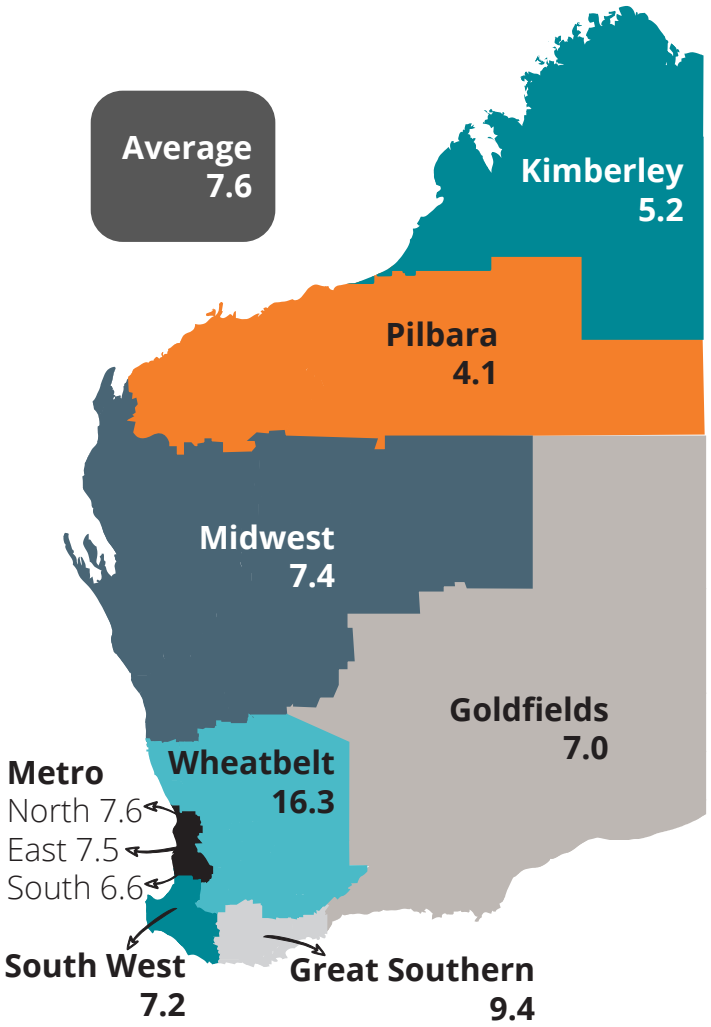


Figure 12. Average length of stay (ALoS) in hospital following a falls-related hospitalisation by health region, WA, 2020.[2]

	Fatalities			Hospital Admissions			ED Attendances		
	n	ASR	SRR	n	ASR	SRR	n	ASR	SRR
East Metro	8	10.83	1.00	7,723	1,016.47	0.96	11,838	1,621.31	1.06
North Metro	98	10.11	0.95	8,477	999.74	0.95	16,301	2,130.34	1.39
South Metro	93	10.06	0.94	8,473	1,042.81	1.00	12,589	1,808.67	1.17
Goldfields	9	n/a	2.09	561	1,170.76	1.09	67	130.87	0.08
Great Southern	6	n/a	0.52	901	1,080.98	0.97	122	188.58	0.11
Kimberley	<6	n/a	n/a	552	1,841.66	2.10	93	302.69	0.18
Midwest	11	n/a	1.38	903	1,259.95	1.18	136	211.18	0.14
Pilbara	0	n/a	0.00	386	904.85	1.01	117	225.46	0.14
South West	33	13.00	1.22	2,486	1,123.07	1.03	201	110.64	0.07
Wheatbelt	15	n/a	1.20	1,246	1,206.30	1.13	487	601.78	0.38
Unknown	-	-	-	-	-	-	209	-	-
All	**354**	**10.74**	**1.00**	**31,708**	**1,053.35**	**1.00**	**42,160**	**1,535.43**	**1.00**

Table 6. Number (n), age-standardised rate (ASR) and standardised rate ratio (SRR) of falls-related fatalities (2019), hospitalisations (2020) and ED attendances (2020) by health region, WA.[2]

Note: Age-standardised rates are only provided for counts >20 and standardised rate ratios (SRR) are only provided for counts >6.

falls impact our regional areas.

A number of environmental and behavioural factors can contribute to individuals living in rural and remote areas of Australia experiencing greater health inequalities than those living in metropolitan areas.

After adjusting for age, the burden of disease and injury in Australia increases with remoteness, with individuals living in 'remote and very remote' areas experiencing a burden of disease 1.4 times higher than individuals residing in 'major cities'.[24]

Additionally, difficulties accessing primary healthcare services in regional WA may lead to regional residents attending hospital for minor falls-related injuries, therefore increasing the pressure on regional hospitals.

Shire of Collie | Case Study

Consultation conducted whilst developing the Shire of Collie's Positive Ageing Plan highlighted the need to focus on local community-based programs that encourage older adults to develop new skills, acquire health information, build relationships with their peers and stay active. Due to this and the high incidence of falls-related injuries in the area, the Shire of Collie applied for and received an Injury Matters Stay On Your Feet® community grant.

Prior to receiving the grant there were minimal low-cost physical activity classes targeting older adults in Collie, resulting in local residents travelling elsewhere to participate in alternative activities. However, travel barriers and the cost of attending these classes often made this option prohibitive to residents. The Shire of Collie's Move Your Body program aimed to reduce these barriers by providing a diverse range of new subsidised physical activity options for older adults in Collie that were easily modifiable to suit individual needs, fun, low cost and focused on increasing participants strength and balance.

To raise awareness of the new classes, a launch event was held with guest presenters providing education about how exercise can help to prevent falls and local organisations staffing stalls to promote their local activities. Following the launch event, the six-week exercise program consisted of four different activities (Seniors Yoga, Functional Fitness, Seniors Dancing and Nordic Walking) being delivered twice a week. The rotational basis of these classes allowed participants to 'have a go' at a variety of exercise programs, while increasing their social engagement with their peers. In addition to the exercises conducted within these classes, a physiotherapist visited two sessions to provide strategies on how to safely get up from the floor if participants do experience a fall.

Overall, the classes were well received by local older adults, with participants experiencing improvements in their fitness, agility, balance and confidence to conduct everyday activities. The social aspect of the Program proved advantageous too, especially among participants that have minimal social interaction outside of the group.

At the conclusion of the Program, all participants sought out opportunities to continue participating in the classes. Thanks to the funding allowing instructions to be trained in older adult-specific programs, the Shire's weekly fitness class schedule now includes five older adult-specific classes to provide an ongoing avenue for residents to increase their strength and balance.

Place of Occurence

A fall can happen anywhere. However, due to their frequency of use, the activities conducted within the area and the potential hazards within the area, there are some locations where falls occur more regularly.

For information regarding what locations are included within each place of occurrence, please refer to the technical notes on page 3.

Accounting for 44.4% of all falls-related hospitalisations, the home was the leading location of a fall that resulted in hospitalisation in 2020 (n=14,067). In regard to the areas within the home where the fall occurred, outdoor areas (n=2,141), the bathroom (n=1,750) and the bedroom (n=1,519) were the leading areas. These three areas within the home have recorded the highest incidence of falls-related hospitalisation in WA for the last three years.

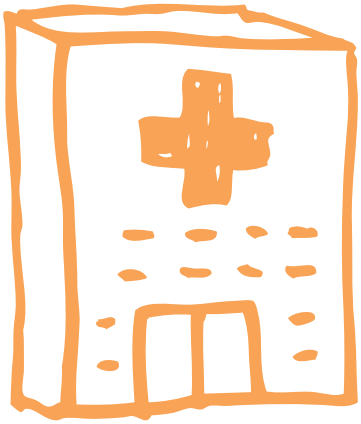
As outlined in Table 7, other leading locations for falls-related hospitalisations included health service area (n=3,837) and residential institution (n=2,435). The high incidence of falls in home-based settings is evident within these leading locations, particularly within the 'residential institution' category, where falls that occurred in an aged care facility were a key contributor (n=2,332).

The most common locations for falls did not differ between genders in 2020. However, a larger proportion of female falls-related hospitalisations occurred within a 'home' or 'residential institute' (57% of all female hospitalisations), compared with males (45%). Conversely, males experienced a significantly higher number of falls-related incidents that resulted in hospitalisations within a 'health service area' (n=271) and 'sports and athletics area' (n=185).

Place of Occurence	Number of hospitalisations		
	Female	Male	Total
Home	8,430	5,637	14,067
Health service area	1,783	2,054	3,837
Residential institution	1,569	860	2,435
Trade and service area	432	361	793
Public street/transport path	411	305	716
Sports and athletics areas	237	422	649
Other specified institution, place and public admin area	298	255	553
School	193	283	476
Countryside	154	190	334
Car park	148	62	210
Farm	21	39	60
Industrial and construction area	0	40	40
Unspecified place of occurence/not reported	3,718	3,806	7,538
All	**17,394**	**14,314**	**31,708**

Table 7. Number of falls-related hospitalisations by place of occurrence and gender, WA, 2020.[2]

Over half of falls-related hospitalisations in 2020 were the result of a fall that occurred within the home or an aged care facility (51.7%, n=16,399)[2]



Residential Aged Care | Case Study

As part of the National Aged Care Mandatory Quality Indicator Program, since 1 July 2021 it has been a requirement for all Australian Government-subsidised residential aged care services to report against five quality indicators, one of which relates to falls and major injury.[7]

Within the Program, 'falls' are recorded as eligible care recipients who experience a fall (one or more), while 'falls that resulted in major injury' are those that result in one or more of the following; bone fractures, joint dislocations, closed head injuries with altered consciousness and/or subdural haematoma.

In WA from 1 July to 31 December 2021, on average, 36.4% of eligible aged care recipients experienced one or more falls and 2.2% experienced a fall that resulted in major injury.[7]

Workplace Data | Case Study

Regardless of the industry, the workplace can increase an individual's falls risk. For the majority of the population, a significant proportion of the week is spent at their workplace. Therefore it is vital that our working environment is free from potential hazards and that we conduct tasks as safely as possible to reduce our falls risk.

In 2020, 3,713 lost-time compensation claims were lodged involving workplace falls, accounting for 25% of all lost-time claims lodged in the WA workers' compensation scheme. The 3,713 workplace falls incidents resulted in $253.7 million in claim payments, at an average lost-time claim cost of $68,338. The claimants had a median of 46 days/shifts off work, which was higher than the years average lost-time claims lodged (n=34).

The prevalence of lost-time claims due to a falls-related incident varied by demographic in 2020, with 55% of the claims being males (n=2,032) and individuals aged 45 to 54 accounting for 25.6% of the claims (n=951). However, when exploring the incidence by rate, it was individuals aged 60 to 64 who recorded the highest rate of claims, with 6.3 claims per 100 employees within this age bracket (n=454).

Industry division	n
Education and training	561
Health care and social assistance	550
Construction	434
Mining	397
Manufacturing	257
Public administration and safety	239
Retail Trade	235
Transport, postal and warehousing	222
Accommodation and food services	173
Agriculture, forestry and fishing	136
Arts and recreation services	108
Wholesale trade	104
Other services	78
Administratie and support services	77
Professional, scientific and technical services	61
Rental, hiring and real estate services	38
Electricity, gas, water and waste services	30
Information media and telecommunications	7
Financial and insurance services	6
Total	**3,713**

Table 8. Number of falls-related workers compensations claims by industry division, WA, 2020.[8]

As outlined in Table 8, the incidence of workplace falls-related claims varied by industry, with the 'Education and training' (n=561), 'Health care and social assistance' (n=550) and 'Construction' (n=434) industries contributing to the highest number of claims. Further analysis of the 'Education and training' industry highlights that despite contributing to the highest number of falls-related claims, the incidents from this industry resulted in a below-average median days/shifts off work (15 days/shifts) and average claim cost ($39,516).

The majority of workplace falls-related injury claims in 2020 were due to falls on the same level (71.6% of claims, n=2,657) and falls that involved an indoor or outdoor hazard (88.6% of claims, n=3,289). In regard to the type of injury sustained in the falls-related incident, sprains and strains contributed to the highest number of workplace falls-related injury claims (2,304 claims), whilst the lower limbs were the most common bodily location to be injured (1,870 claims).

1 in 4 lost-time compensation claims in 2020 involved a workplace fall.[8]

In addition to injuries, workplace falls-related incidents can result in fatalities. In WA from 1 July 2015 to 30 June 2020, 13 people died due to a workplace fall, all of which were due to a fall from a height.[9] These 13 fatalities made 'falls, trips and slips of a person' the equal second leading mechanism of work-related traumatic injury fatalities during this period. Due to the small number of fatalities, it is challenging to attribute any heightened risk to a particular workforce, however the 'Building Construction' industry subdivision (n=3) and the 'Labourers' occupational group (n=6) recorded the highest number of fatalities during the five year period.

For further information regarding the workplace claims data provided by WorkCover WA[8] and the workplace fatality data provided by the Government of Western Australia's Department of Mines, Industry Regulation and Safety[9], please refer to the technical notes located on page 3.

When People Fall

Data regarding the month, day of the week and time of the day that people die, are hospitalised and attend an ED due to a falls-related incident is outlined in Tables 9, 10 and 11.

The count of falls-related fatalities (n=354) was fairly evenly distributed across months and days of the week in 2019. The distribution of falls-related fatalities in 2019 was similar across months, except for December which experienced a significantly lower number of fatalities (n=8). There was no pattern in the incidence of falls across the days of the week, with Friday (n=63) and Tuesday (n=59) recording the highest number of fatalities.

As outlined in Table 9, the rate of falls-related hospitalisations and ED attendances varied across the months of the year in 2020, with April recording the lowest number of both hospitalisations (n=2,072) and ED attendances (n=2,775).

The number of falls-related hospitalisations and ED attendances fluctuated throughout the week in 2020. However falls-related hospitalisations were significantly lower on the weekend, whilst falls-related ED attendances were highest on the weekend (see Table 10).

As demonstrated in Figure 13, falls-related hospitalisations and ED attendances were significantly lower from 9pm to 8:59am and highest from 9am to 5:59pm. This trend has remained stable across the past four years.[11–13]

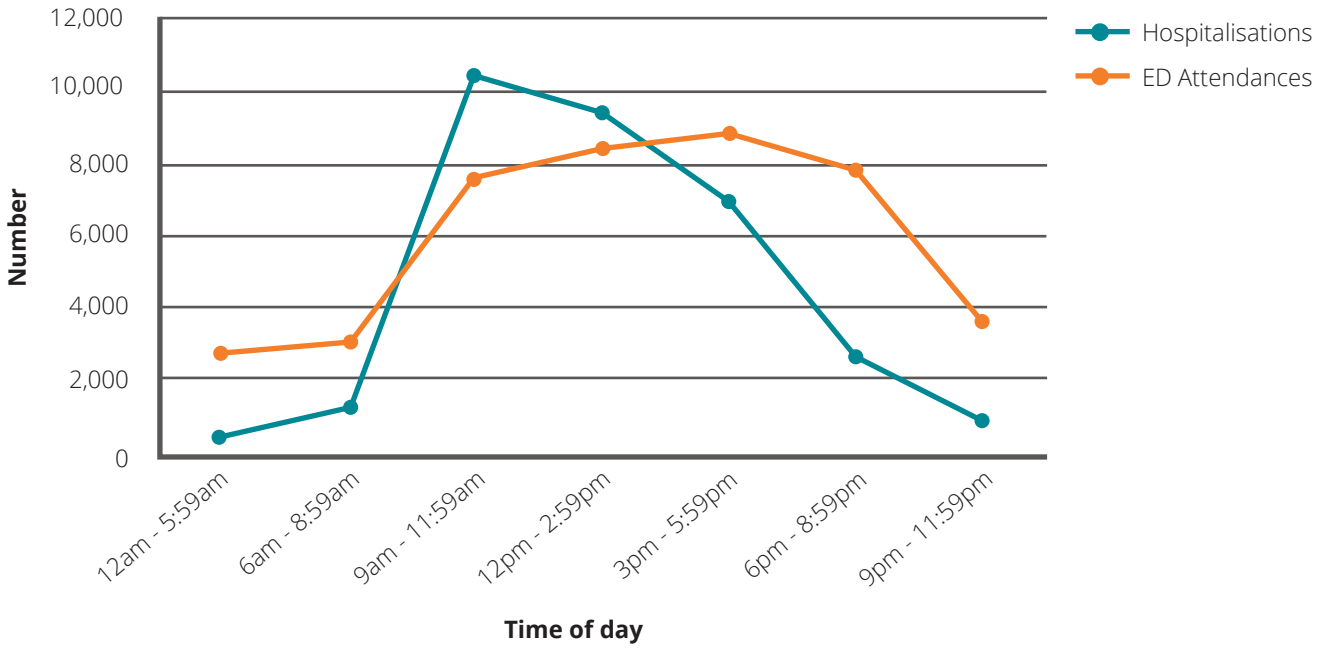


Figure 13. Number of falls-related hospitalisations and ED attendances by time, WA, 2020.[2]

	Fatalities (n=354)	Hospital Admissions (n=31,708)	ED Attendances (n=42,160)
January	26	2,513	3,468
February	28	2,478	3,700
March	31	2,448	3,243
April	44	2,072	2,775
May	30	2,787	3,815
June	42	2,745	4,097
July	30	2,973	3,930
August	30	2,843	4,089
September	28	2,688	2,904
October	30	2,782	3,439
November	27	2,582	3,294
December	8	2,797	3,406

Table 9. Number of falls-related fatalities (2019), hospitalisations (2020) and ED attendances (2020) by month, WA.[2]

	Fatalities (n=354)	Hospital Admissions (n=31,708)	ED Attendances (n=42,160)
Sunday	40	2,464	6,485
Monday	47	4,815	6,100
Tuesday	59	5,332	5,804
Wednesday	43	5,260	5,977
Thursday	46	5,263	5,700
Friday	63	5,459	5,793
Saturday	56	3,115	6,301

Table 10. Number of falls-related fatalities (2019), hospitalisations (2020) and ED attendances (2020) by day, WA.[2]

	Fatalities (n=354)	Hospital Admissions (n=31,708)	ED Attendances (n=42,160)
12am - 5:59am	-	539	2,724
6am - 8:59am	-	1,084	2,910
9am - 11:59am	-	10,429	7,714
12pm - 2:59pm	-	9,477	8,388
3pm - 5:59pm	-	6,891	8,846
6pm - 8:59pm	-	2,523	7,874
9pm - 11:59pm	-	765	3,704

Table 11. Number of falls-related fatalities (2019), hospitalisations (2020) and ED attendances (2020) by time, WA.[2]

Causes of Hospitalisation

Please refer to the Technical Notes on page 3 for further information regarding the data source and the coding used to group the falls description categories.

Due to incomplete entries, the cause of the falls was not specified for 21.3% (n=6,758) of falls-related hospitalisations in 2020. However, of the 24,950 falls-related hospitalisations that did have a cause identified within the dataset, 36.0% were attributed to a fall on same level from slipping, tripping or stumbling (n=8,980) and 30.8% to a fall from, off, or into an object on the same level (n=7,683). Notably, these two specific causes increased by 1,659 when compared to 2019 falls-related hospitalisations data.[13]

In 2020, difference existed across the cause of falls-related hospitalisations and their resulting average length of stay in hospital (see Table 12).

Individuals who experienced a fall involving a wheelchair continued to experience the longest average length of stay in hospital in 2020, at 16.2 days. However this is a significant decrease from the 48.8 days recorded in 2019.[13] Other falls involving assistive equipment also recorded high average length of stays in hospital in 2020, including falls involving a special purpose bed (20.5 days), a commode chair (16.6 days on average) and a bath chair (14.9 days).

It is evident that some causes of hospitalisation contributed to the increase in the average length of stay in hospital due to falls in 2020 (0.5 days higher than 2019). With falls from a bed recording an average length of stay 2.2 days longer in 2020 than 2019, and falls from, out of, or through a balcony, bridge, roof, floor or other structure similarly increasing by 2.0 days.[13]

Fall Description	Hospitalisations	
	n	ALoS
Fall on same level from slipping, tripping, or stumbling	8,980	5.8
Fall from, off, or into an object on the same level	7,683	7.2
Fall from an escalator, curb, stairs or step	1,433	3.5
Fall from bed	1,389	6.9
Fall from one level to another	1,018	3.5
Fall from chair	901	7.0
Fall involving pedestrian conveyance	708	3.9
Fall from playground equipment	692	1.4
Fall on or from ladder	576	4.1
Fall from, out of, or through a balcony, bridge, roof, floor or other structure	535	7.3
Other fall on same level due to collision with, or pushing by, another person	334	2.7
Fall involving wheelchair	240	16.2
Other	138	3.0
Fall from tree	119	2.2
Diving or jumping into water causing injury other than drowning or submersion	118	3.6
Fall while being carried or supported by another person	86	3.0
Unspecified fall	6,758	9.3
All	**31,708**	**7.6**

Table 12. Number (n) and average length of stay in hospital (ALoS) of falls-related hospitalisations by cause, WA, 2020[2]

Alcohol

Any amount of alcohol consumed can increase the risk of a fall that may result in hospitalisation or death across all ages.[25] Alcohol intoxication affects a person's psychomotor function; coordination, reaction time, cognitive ability, judgement and visual focus.[26,27] Challenges exist in identifying the exact role alcohol consumption had in a falls-related hospitalisation occurring, but there is no denying that it is a key causality to consider.

In 2020, 6.3% (n=2,093) of falls-related patients had consumed alcohol prior to their admission. The largest number of alcohol-attributable falls occurred in individuals aged 45 to 64 (40.2% of all alcohol-related falls hospitalisations, n=842) and 65 to 84 (36.4% of all alcohol-related falls hospitalisations, n=761). The average length of stay for falls-related hospital admissions involving alcohol, increased with age similar to that of the total count of hospitalisations, however in total accounted for a shorter average length of stay in hospital (6.3 days).

Alcohol was increasingly prevalent among individuals admitted to Royal Perth Hospital due to a falls-related incident. Among those patients who had an Injury Severity Score greater than 13, 19.5% had consumed alcohol prior to the fall (n=65).[10] This high correlation reinforces the high potential severity of alcohol-related falls and the potential significant under-reporting of alcohol consumption within state-wide data collection.

The National Health and Medical Research Council (NHMRC) recommends that for healthy men and women, drinking no more than four standard drinks on a single occasion reduces the risk of an alcohol-related injury arising from that occasion.[26] The more alcohol a person consumes the more their skills and inhibitions decrease, while risk behaviour increases. This risky behaviour leads to a greater risk of injury during, or immediately after that occasion.[26]

Injury Diagnoses and Nature

As noted within the Technical Notes on page 3, data included regarding injury diagnosis has a different total hospitalisation count than the rest of the Report, with 22,174 hospitalisations.

The main diagnosis attributed to falls-related hospitalisations in 2020 was injuries to lower limbs (n=7,421, 33.5%), followed by injuries to upper limbs (n=5,910, 26.7%) and injuries to head and neck (n=5,375, 24.2%). See Table 13.

Analysis of the nature of 29,545 falls-related hospitalisations in 2020, indicated that over half of admissions required treatment due to a fracture (n=15,011, 50.8%). As evident in Table 14, additional leading injuries of falls-related hospitalisation were soft tissue (n=3,978), intracranial (n=2,612) and open wound (n=1,875).

As a major trauma hospital in WA, Royal Perth Hospital admitted 2,472 individuals due to a falls-related incident in 2020. These admissions consisted of 2,213 minor injuries and 259 major injuries. Despite major falls-related trauma cases having a smaller hospitalisation count, they resulted in a hospital stay almost twice that of minor cases, at 10.4 and 5.3 days respectively.[10]

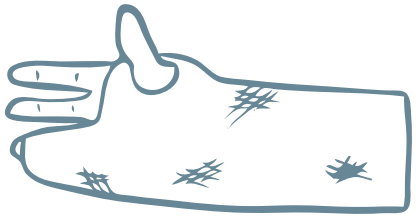
Injury Diagnosis	Hospitalisations		
	n	ASR	%
Injuries to lower limbs (hip, thigh, knee, lower leg, ankle and foot)	7,421	245.18	33.5%
Injuries to upper limbs (shoulder, upper arm, elbow, forearm, wrist, hand and fingers)	5,910	205.54	26.7%
Injuries to head and neck	5,375	182.89	24.2%
Injuries to thorax, abdomen, back, spine and pelvis (thorax, abdomen, lower back, lumbar spine, pelvis and external genitals)	3,238	105.20	14.6%
Other and unspecified effects of external causes	160	5.08	0.7%
Poisoning and toxic effects	56	1.94	0.2%
Burns and frostbite	14	N/A	0.1%
Injuries to multiple or unspecified region, foreign body effects	<6	N/A	-
Total	**22,174**	**-**	**100%**

Table 13. Injury diagnosis due to falls-related hospitalisations, by number (n), age-standardised rate (ASR) and proportion (%), WA, 2020.[2]

Nature	Hospitalisations	
	n	%
Fracture	15,011	50.8%
Soft tissue	3,978	13.5%
Intracranial	2,612	8.8%
Open wound	1,875	6.4%
Internal organ	1,194	4.0%
Other	923	3.1%
Dislocation	475	1.6%
Superficial	216	0.7%
Poisoning	83	0.3%
Thermal	23	0.1%
Non-specified	3,155	10.7%
Total	**29,545**	**100.0%**

Table 14. Type of injury obtained in relation to a falls-related hospitalisations, by number (n) and proportion (%), WA, 2020.[2]

Over half of falls-related hospitalisations required treatment due to a fracture.[2]



Conclusion

This Report has reinforced the frequent impact that falls have on the WA community, with the data indicating that a Western Australian died every 25 hours in 2019, was hospitalised every 17 minutes in 2020 and presented to an emergency department every 13 minutes in 2020 due to a falls-related injury.

The 2022 WA Falls Report provides the first opportunity for this annual publication to gather data regarding the impact of COVID-19 on the incidence of falls-related injuries in WA. As demonstrated in Figure 1, WA has experienced a steady increase in the rate of falls-related hospitalisations since 2017. Despite an increase in the number and rate of falls-related hospitalisations in 2020 (the first year the WA community was encouraged to socially distance), there was no noticeable variance in the ongoing trend of falls-related hospitalisations. Interestingly, despite COVID-19 increasing the amount of time Western Australians were spending in their home during 2020, the proportion of falls-related hospitalisations that occurred within the home was the same in 2020 as 2019, 44.4%.

The Report indicates an overall decrease in the number of falls-related ED attendances in WA in 2020 compared to 2019. Interestingly, though, falls-related ED attendances were highest across the population on the weekend. In addition, the age group who experienced a higher number and rate of falls-related ED attendances in 2020 than in 2019 was children aged 0-4 years.

The 2022 Report continues to identify several priority populations for falls prevention, including; older adults who experience the highest rate of falls-related fatalities, hospitalisations, and ED attendances. In addition, Regional WA is a continued area of concern, particularly the Kimberley health region. Aboriginal and Torres Strait Islander peoples also remain an essential population group in falls prevention. It will be necessary to focus on preventing alcohol-related falls across the population, particularly those aged between 45 and 84.

Individuals spent an average of 7.6 days in hospital due to a falls-related incident, totalling 239,669 hospital bed days and costing an estimated $286,290,884 in 2020. The growing amount of resources required to support these patients' recovery is apparent in the average length of stay in hospital in 2020, increasing by 1.6 days from 2017.

The financial impact of falls-related presentations extends beyond the hospitalisation costs, with an estimated $407,937,653 spent in 2018/19 on falls-related payments to allied health services, general practitioner services, medical imaging, pathology, pharmaceutical benefits scheme, hospital services, and specialist services.[3] Additionally, $253.7 million was paid in lost-time compensation claims in 2020 due to a workplace fall8, and further resources were expended to support the 84 falls incidents that required a St John ambulance attendance per day in 2020.[5]

Given the 354 lives lost in 2019, the 31,708 hospitalisations in 2020, and the 42,160 emergency department presentations in 2020 due to a falls-related incident, there is no questioning that falls continue to have an impact on the WA community and the WA Healthcare system.

There is no questioning that falls continue to have an impact on the WA community and the WA healthcare system.

Recommendations

Falls occur due to a complex interaction of biological, behavioural, environmental, cultural and social factors. Due to this multifactorial causality, targeted falls prevention activities are required to prevent Western Australians from falling.

Be innovative

This Report has highlighted the growing incidence of falls-related injuries in WA, particularly falls-related hospitalisations among individuals aged 45 to 84 years. Given Western Australia's rapidly ageing population, this further reinforces the need to implement additional interventions to reduce the incidence of falls in WA. New technology and the growing e-literacy among the community provides countless avenues to develop and implement innovative approaches to falls prevention.

Additionally, due to the frequent consumption of alcohol it is important to focus on alcohol and alcohol-medication interactions as risk factors for falls-related injuries. Increasing knowledge and awareness of the impact of alcohol upon aging and falls risk in individuals aged 45 to 84 should be part of an innovative and comprehensive approach to falls prevention.

Reorient the WA healthcare system

The COVID-19 pandemic has placed considerable strain on the whole community, however healthcare staff have been particularly burdened by the increased demand placed on them. This heightened reliance on the health workforce and services reinforces the need for WA's health services to be reoriented from a treatment-based focus to one which includes prevention as a critical element to improved health outcomes in WA. The Fiona Stanley Hospital case study included in this Report demonstrates the value that a systematic and multifaceted initiative can bring and the need for similar prevention initiatives across WA.

Additionally, the Report highlights the frequent use of St John Ambulance to assist and/or transport individuals who have experienced a falls-related incident. This touchpoint with the community offers a significant opportunity for at-risk individuals to be referred to appropriate falls prevention services, which could reduce burden to currently strained systems such as repeat Ambulance callouts and hospital ramping.

Deliver targeted interventions

Several population groups were overrepresented in this Report, including; older adults, males, Aboriginal and Torres Strait Islander peoples, regional residents and individuals with mobility impairments. Therefore, alongside systematic change, co-designed targeted interventions are needed to increase falls prevention awareness and personal skills within these priority populations. In particular, males experienced a larger increase than females in the number of falls-related fatalities from 2018 to 2019, and the Kimberley and Wheatbelt health regions continue to experience a high rate of falls-related hospitalisations.

It is vital that interventions are also implemented that target high-risk settings, including the home and aged care facilities.

Conduct additional research

The bank of falls-related evidence continues to grow and reinforce that falls are not an inevitable part of ageing, however additional research is needed to provide insight into why some settings and population groups experience a higher incidence of falls-related injuries. In turn, these findings would assist in developing targeted interventions regarding under-researched settings, modifiable risk factors or the unique challenges facing some population groups, e.g. individuals who use assistive technology.

Use guiding frameworks

As previously mentioned, falls prevention requires multidisciplinary action. State and national frameworks can and do provide significant value in guiding the sector to understand their role in creating a holistic environment that supports healthy ageing and reducing falls impact on the WA community.

The pending release of the updated WA Health Promotion Strategic Framework 2022-2026 and the National Injury Prevention Strategy 2020-2030 will provide insight to instigate the prioritisation of injury topics, such as falls prevention. However, the development of an overarching WA falls prevention strategy is needed to reduce the fragmentation across WA's health care and prevention settings.

Build public policy to support falls prevention

Public policy is an important pillar to reducing the incidence of falls in WA. With alcohol consumption increasing an individual's risk of falls, it is important that alcohol consumption is factored into any falls prevention initiative, including policy-related actions.

Injury Matters supports the policy and legislation required to effectively manage the availability, price and promotion of alcohol to prevent and reduce alcohol-related harms in Western Australia.

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Get involved in falls prevention

Falls prevention is the responsibility of all health and community workers across WA. Fortunately, no matter what your role is in reducing Western Australians risk of having a fall, Injury Matters offer a range of Stay On Your Feet® activities to support you in your falls prevention efforts.

Looking for avenues to improve your falls prevention knowledge?

Injury Matters regularly offer professional development opportunities in-person, by webinar and via online learning modules, to support you stay up to date with the latest evidence, current policy and best practice for preventing falls.

Additionally, the Stay On Your Feet® website provides access to up to date falls prevention information, tools and pathways.

Visit www.stayonyourfeet.com.au today to find out more.

Need support to increase older adults falls prevention awareness?

There are a range of free Stay On Your Feet® resources available to guide you, including;

- **Grants of up to $5,000** to support you implement a falls prevention project in your community.
- **Falls prevention education sessions** delivered by Injury Matters' Peer Educators to community groups.
- **Print, online and multimedia resources** to educate older adults about how they can prevent falls.
- **Promotional displays** to hire for your public spaces.
- **Campaign toolkits** that align to the Stay On Your Feet® Move Improve Remove campaigns and contain a suite of materials for you to share on social media and guide you in facilitating activities for your local community.

Seeking opportunities to expand your professional network?

Injury Matters' Community Falls Network breaks down the silos within the falls prevention sector by providing a forum to share solutions and connect with fellow professionals.

Want to participate in falls-related advocacy activities?

Stay up to date with opportunities to get involved in Injury Matters falls prevention advocacy activities by subscribing to the monthly Falls Prevention eNews.

For more information about any of these activities, please contact Injury Matters on (08) 6166 7688.

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