

Fall-related clinical incidents reported in Queensland Health facilities, 2007-08

Prepared by: Alex Black and Kaye Ferrar, Centre for Healthcare Improvement, Queensland Health

Data source: PRIME Clinical Incidents Database, Queensland Health

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Key points

- During 2007-08, there were 11,928 fall-related clinical incidents reported in Queensland Health's incident reporting system – PRIME Clinical Incidents.
- Of these, 14 incidents resulted in death or serious and permanent patient harm (SAC 1) and 322 incidents resulting in temporary loss of function (SAC 2). Around two-thirds of the remaining incidents resulted in no harm.
- The majority of reported falls occurred in acute hospital or multipurpose facilities (73%) or residential aged care facilities (RACF) (22%). The greatest prevalence of fall incidents was among adults aged 80-89 years of age.
- The peak periods for reported falls were during the late-morning period between 9am and 12noon, and again late-afternoon between 3pm and 7pm.
- In hospitals or RACF, most reported falls were unwitnessed by staff (80%) and occurred during walking or sitting to standing activities. Most reported falls in hospital occurred in bathroom or bedside areas, while most reported falls in RACF occurred in communal or bedroom areas.

Introduction

Clinical incidents are adverse events or near misses that occur while providing health care to patients, and are voluntarily reported by staff using Queensland Health's incident reporting system, PRIME Clinical Incidents (CI). Staff are encouraged to report clinical incidents, as a means of learning from incidents and identifying strategies in which preventable harm in health care facilities can be minimised. The PRIME CI reporting system collects incident reports from a range of Queensland Health facilities, including hospitals, multipurpose facilities, residential aged-care facilities and primary care facilities.

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During 2007-08, over 57,000 incidents were reported in PRIME CI, the most common of which were falls and medication incidents.¹ In addition, PRIME CI records the Severity Assessment Code (SAC) rating which grades the severity of harm. The SAC ratings range from 1 to 3 – SAC 1 incidents are those resulting in death or serious and permanent harm, SAC 2 incidents are those resulting in temporary loss of function unrelated to underlying conditions, and SAC 3 incidents are those resulting in minor or no injury.

This chapter reports and explores the reported fall incidents entered by Queensland Health facilities into PRIME CI during 2007-08.

Methodology and data capture

All PRIME CI falls incidents occurring during the 2007-08 financial year, including fall-related sentinel events, were obtained by the Patient Safety and Quality Improvement Service Data Analysis Team. The following measures were undertaken to clean the data:

- Inclusion of incidents due to data-entry errors, particularly where date of reported incident occurred 12-months earlier than the PRIME CI date-stamp (n=23), or where date of reported incident occurred 12-months later than the PRIME CI date-stamp (n=15).
- Removal of duplicate records, identified by matching "incident id" (n=39).
- Facilities were coded into the following categories:
 1. Hospitals, including acute hospitals and multipurpose facilities
 2. Residential aged care facilities (RACF)
 3. Community centres, HACC services and primary care facilities
 4. Residential mental health and disability facilities
 5. Children's hospitals
- The location of falls were classified into the following categories, based on common themes within the "place name" text field:
 1. Bed/bedside/trolley
 2. Bedroom/ward/room
 3. Bath/toilet/shower
 4. Corridor/hallway
 5. Communal dining/kitchen/recreation areas
 6. Grounds/garden/courtyard
 7. Other

Data issues

There are a number of data issues which need to be considered when interpreting the PRIME CI data. As clinical incident reports are completed by staff, they are prone to problems relating to incorrect data entry, missing data and use of text fields. No attempt was made to clean variables for this report, particularly those prone to incorrectly entered data, such as

age. For example, 23 persons aged less than 10 years were reported to fall in RACF, which suggests that the age of the patient was incorrectly entered into PRIME CI.

There is also a considerable amount of missing data. Age data was missing in around 10% of incidents, and a similar amount contained no gender information. Issues were also encountered in classifying a number of variables, such as location of incidents, due to the wide variation of responses provided into the corresponding text fields.

In-hospital falls are often reported as a rate, such as the total number of falls over a denominator, such as number of 1,000 occupied bed days. However, obtaining appropriate denominators to calculate statewide falls rate is not possible, as:

- PRIME CI is not used in all Queensland Health facilities;
- PRIME CI incidents are used in non-hospital settings, such as community and primary care facilities.

It is possible, however, that reported falls rates can be calculated at a hospital ward or facility level. However, PRIME CI data should not be used for benchmarking purposes, as there are considerable variations between wards, notably their patient populations and level of staff reporting culture.

Results

During 2007-08, there were 11,928 reported fall incidents reported in PRIME CI, of which 14 were SAC1 incidents and 322 were SAC 2 incidents (Table 1). The majority of these reported falls occurred in hospitals (73%) or RACF (22%), as shown in Figure 1. In hospitals and RACF, around 1 in every 1,000 reported falls was a SAC 1 incident, and almost 30 in every 1,000 reported falls was a SAC 2 incident.

Table 1: Number of falls reported into PRIME CI, by facility type, 2007-08

Severity Assessment Code (SAC) ratings	Facility type (% by facility)					Total
	Acute hospitals, multipurpose	Residential aged care	Community, HACC, primary care	Residential mental health and disability	Children's hospitals	
SAC 1	11 (0.1%)	3 (0.1%)	-	-	-	14
SAC 2	250 (2.9%)	59 (2.2%)	10 (8.0%)	3 (0.8%)	-	322
SAC 3	8427 (97%)	2612 (97.7%)	115 (92.0%)	350 (99.2%)	88 (100%)	11592
Total	8688	2674	125	353	88	11928

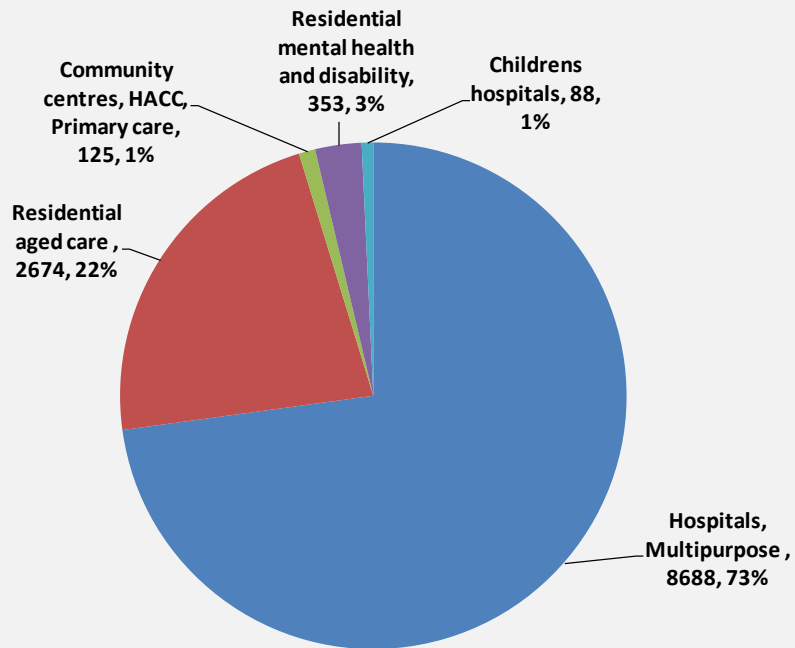


Figure 1: Facilities reporting falls into PRIME CI, 2007-08 (n=11,928 incidents)

Most reported falls involved adults aged over 60 years (70%), with the highest proportion of falls occurring among those 80-89 years of age (27%), as shown in Figure 2. Reported falls were also more prevalent among males than females (50% and 40%, respectively), although around 10% of incidents contained no gender information.

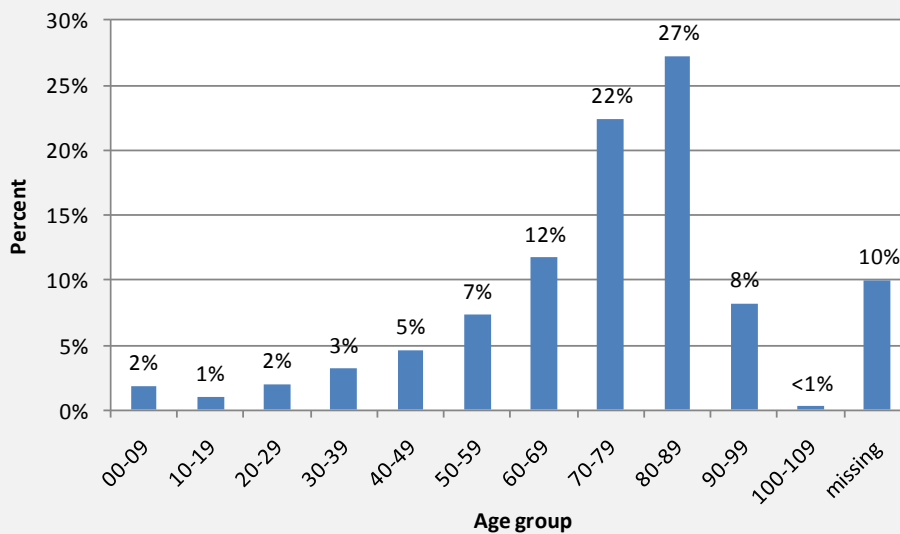


Figure 2: Age of reported fallers in all facilities, 2007-08

Given that the majority of falls reported into PRIME CI in 2007-08 occurred in hospitals and RACFs and involved older adults, this report focuses on the reported falls in these specific facilities among adults aged 65 years and over.

SAC 1 and 2 reported fall incidents

The majority of SAC 1 and 2 reported falls in hospitals and RACF involved adults aged 60 and over. The highest number of reported falls occurred among those aged 80-89 years for the SAC 1 and 2 incidents and facility type, as shown in Figure 3.

Analysis of the SAC 1 and 2 reported falls indicate that these are more prevalent among females than males (51% and 39%, respectively). However, this pattern is difficult to verify due to the considerable amount of missing gender information (around 10%).

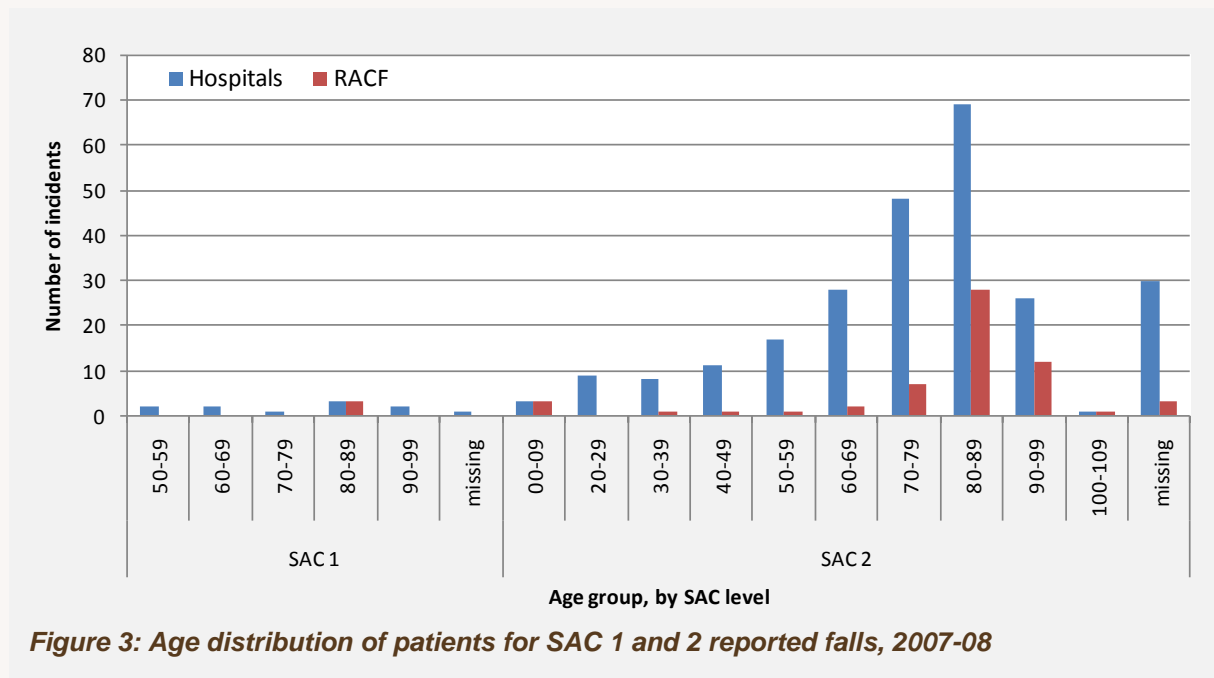


Figure 3: Age distribution of patients for SAC 1 and 2 reported falls, 2007-08

Reported fall incidents by time of day

In hospitals, the average number of reported falls peaked between 3-4am, 6-7am, 9am-12noon, and 3-7pm; the peak times were also similar in RACF. These rates are likely to correspond with the increased levels of patient activity during these periods. Similar patterns are noted in a UK hospital falls report, where reported falls rates rose around 9am and peaked in the period between 10am and 12noon.² While the rate of reported falls across the day appears similar between weekdays and weekends, there was a lower rate of reported falls in these facilities during the mid-afternoon period on the weekends compared to weekdays.

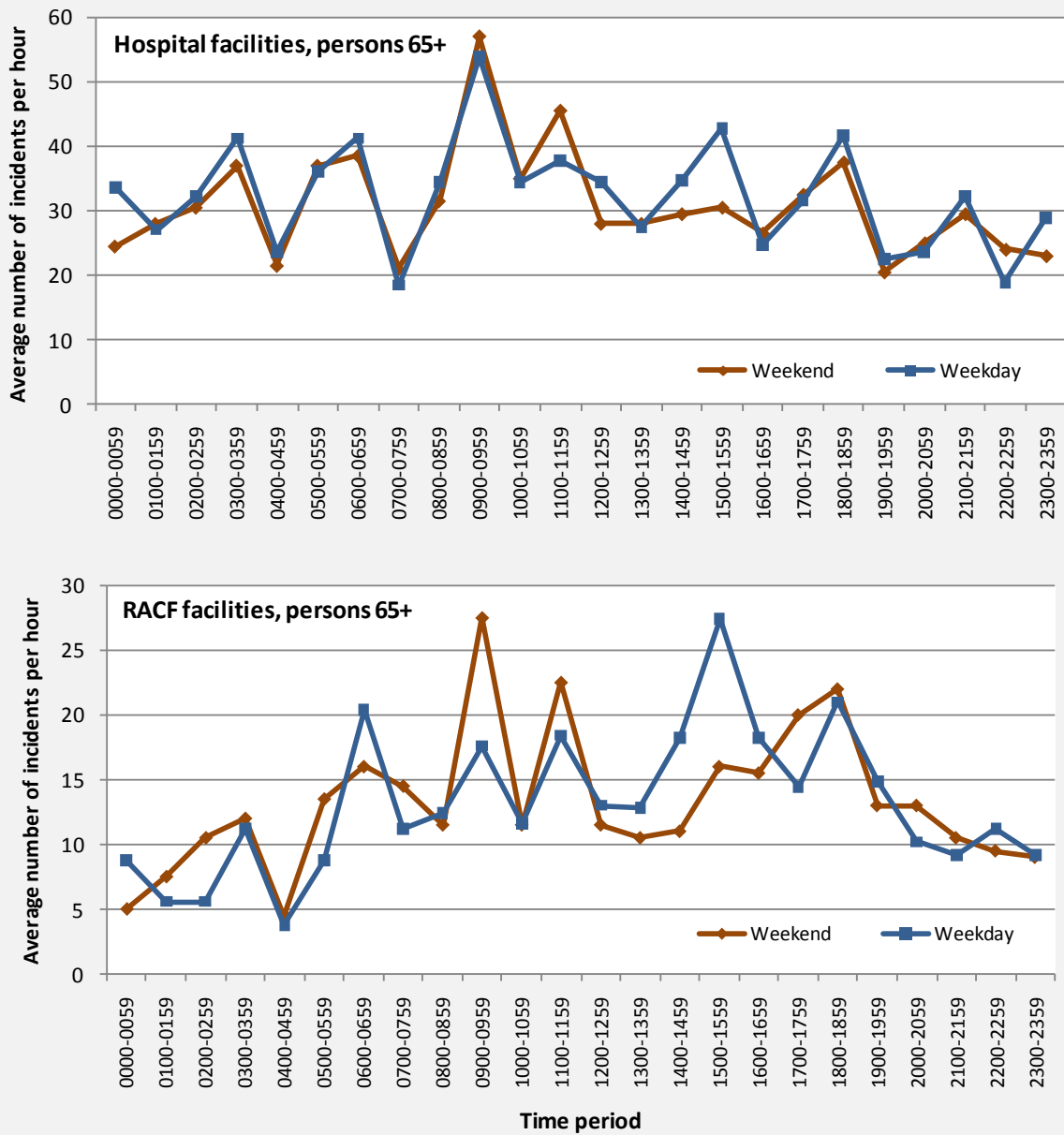


Figure 4: Time of reported falls, 2007-08

Reported fall incidents resulting in injury

Around 63% of all reported falls in PRIME CI resulted in no harm. Of the 4,290 reported falls resulting in harm, a total of 5,404 injuries were reported, ranging from 1 to 5 injuries per fall. It is important to note that these reported injuries do not necessarily reflect the overall severity of injuries sustained in a fall. Furthermore, the reporting of injuries can be subjective, as staff members reporting incidents into PRIME CI are not trained injury coders.

All SAC 1 reported falls were coded as a fall which resulted in "harm". However, only 6 of the total 14 (43%) SAC 1 reported falls had any corresponding injury data. This is due to a number of SAC 1 reported falls being coded as a "sentinel event" types in PRIME CI, where there is no corresponding injury data. Given the lack of injury data in PRIME CI for the SAC 1 reported falls, no further analysis is provided in this report.

Of the SAC 2 reported falls in hospital and RACF among persons aged 65 year and over, all were appropriately coded as a fall which resulted in "harm". In total, 195 of the 211 (92%) SAC 2 reported falls had corresponding injury data in PRIME CI, as presented in Table 2. The main injury types associated with these reported falls was skin tear/cut/laceration (31%) and fracture (23%). Some caution in interpreting data is warranted, however, due to the variable level of injury reporting and lack of severity information.

Of the SAC 3 reported falls in hospitals and RACF among persons aged over 65 years and over, around 35% of were coded as a fall which resulted in "harm", and around 34% of these incidents have subsequent injury types entered in PRIME CI. The main injury types associated with these reported falls was skin tear/cut/laceration (52%) and Bruise/haematoma/contusion (20%).

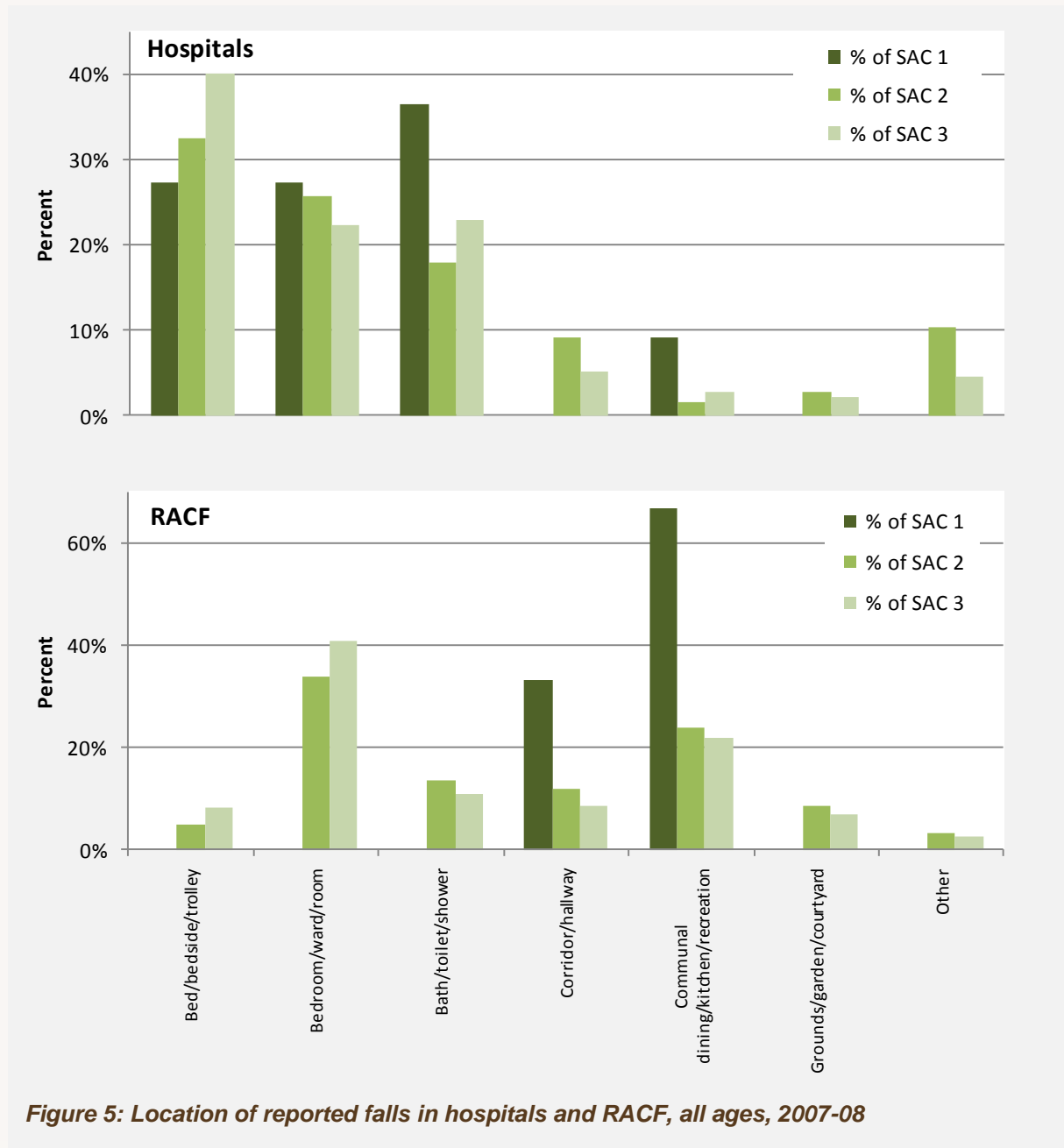
Table 2: Top 5 falls injuries from SAC 2 and 3 reported falls occurring in hospitals and RACF, persons 65+

SAC 2 INCIDENTS		SAC 3 INCIDENTS	
Incidents resulting in harm, n (%)	211 (100%)	Incidents resulting in harm, n (%)	2669 (36.3%)
Top 5 injury type, n (%)		Top 5 injury type, n (%)	
Skin tear/cut/ laceration	89 (31.2%)	Skin tear/cut/ laceration	1732 (52.2%)
Fracture	65 (22.8%)	Bruise/ haematoma/ contusion	674 (20.3%)
Bruise/ haematoma/ contusion	44 (15.4%)	Abrasion/graze	524 (15.8%)
Head injury	31 (10.9%)	Head injury	177 (5.3%)
Abrasion/graze	27 (9.5%)	None of the above	129 (3.9%)

Location of reported fall incidents

In hospitals, around one third of SAC 1 reported falls occurred in the bathroom area (36%), followed by at the bedside (27%) or in the ward (27%), as shown in Figure 5. The SAC 2 and 3 reported falls occurred in a range of locations, predominantly at the bedside (32% SAC 2; 40% SAC 3).

In RACF, around two thirds of SAC 1 reported falls occurred in communal areas (66%) or in corridors (33%). The SAC 2 and 3 reported falls occurred in a range of locations, predominantly in the bedroom (34% SAC 2; 41% SAC 3).



Activity reported at time of fall incident

In the hospital setting, the majority of reported falls occurred while walking (37%) or sitting to standing activities (25%), as presented in Figure 6. Patients were unable to recollect the activity at time of the fall in around 20% of these reported incidents. Although no activity at time of the fall was recollect in around 44% of reported falls in RACF, walking and sitting to standing were the most frequent activities reported (31% and 13% respectively).

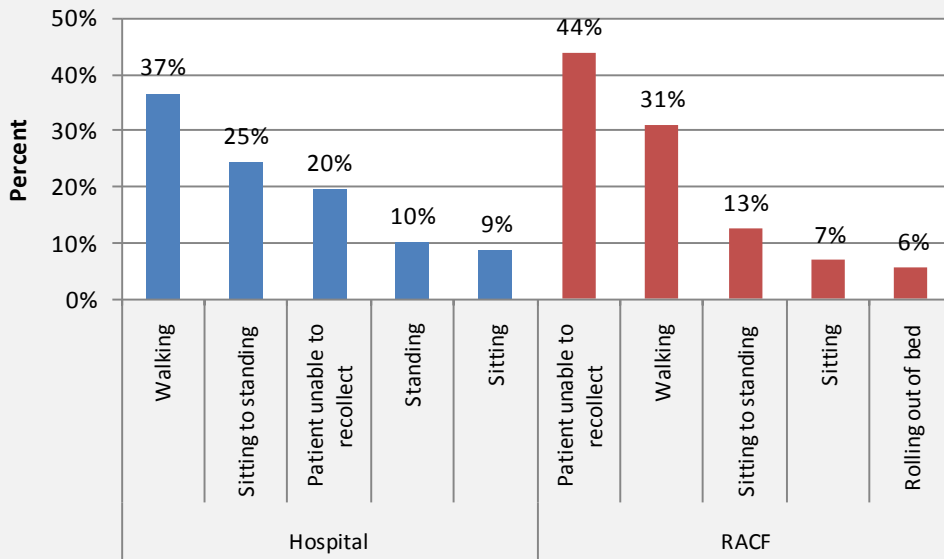


Figure 6: Top 5 activities at time of reported fall in hospitals and RACF, persons 65+

Witnessed fall incidents

Very few reported falls are witnessed by staff, as around 80% of falls reported in hospitals or RACF among adults aged 65 years and over are unwitnessed (Figure 7). The proportion of unwitnessed falls was significantly higher in RACF compared to hospitals (87% and 79%, respectively, $\chi^2 = 65, p < 0.001$).

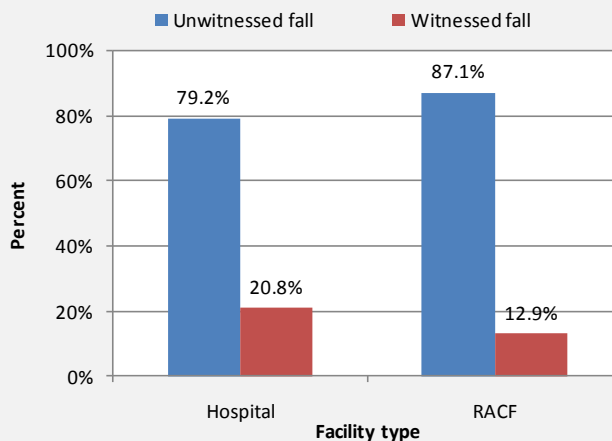


Figure 7: Witnessed and unwitnessed reported falls in hospitals and RACF, persons 65+

Cost of in-hospital falls in Queensland Health facilities

The costs associated with in-hospital falls occurring in Queensland Health facilities remains unknown. For the most part, costs associated with falls resulting in "no harm" are likely to comprise additional staff time required to assist and assess the patient post-fall. However, there are considerably greater costs associated with falls resulting in "harm", including the treatment costs, additional length of stay and subsequent incident event analysis (for example, Root Cause Analysis for SAC 1 events and HEAPS analysis for SAC 2 events). Cost estimates should also include the impact of injurious falls on the patient, particularly any subsequent permanent morbidity or premature mortality.

It is difficult, however, to estimate the costs of in-hospital falls occurring within Queensland Health facilities using PRIME CI, due to the limitations in its quality and quantity of the data. For example, data is not collected on specific injuries sustained, such as fracture type, or any procedures or interventions to treat the fall-related injuries. It is also difficult to estimate the additional length of stay due to falls, as there is no data linkage between PRIME CI and patients' episode of care records, collected by the Admitted Patient Data Collection.

Suggested citation:

Black A & Ferrar K (2011). Fall-related clinical incidents reported in Queensland Health facilities, 2007-08. Queensland Health, Brisbane.

References

1. Centre for Healthcare Improvement. Queensland Health Patient Safety: From Learning to Action III, 2010.
2. Healey F. Slips, trips and falls in hospital.: National Patient Safety Agency, NHS., 2007.

For additional information and resources on falls prevention, please visit Queensland Health's "Stay On Your Feet®" website at: www.health.qld.gov.au/stayonyourfeet