



Department of Health
Government of Western Australia

ANNUAL REPORT

**Report on WA Data collected by the
Australian Incident Monitoring System
(AIMS)**

1 July 2004 to 30 June 2005

Office of Safety and Quality in Health Care

TABLE OF CONTENTS

TABLE OF CONTENTS	2
EXECUTIVE SUMMARY	3
RESULTS	3
PRINCIPAL INCIDENT TYPE	3
INCIDENT OUTCOMES	5
REPORTER CLASSIFICATION	6
FALL INCIDENTS	8
MEDICATION	9
APPENDIX ONE - CAVEATS	14

EXECUTIVE SUMMARY

Data for this report were extracted in November 2005, and cover all incidents reported to Australian Incident Monitoring System (AIMS) from 1 July 2004 to 30 June 2005. Readers are reminded to note the limitations to the data, outlined in the caveats section at the end of this report.

WA Trends

- The reported incidents represent approximately 5% of all inpatient admissions for hospitals and health services using AIMS.
- The greatest proportion of incidents resulted in a minor outcome that did not require additional treatment.
- *Falls and medication* are the two most common types of reported incidents.
- The majority of falls involved elderly patients (75+ years of age). Most of these incidents resulted in a minor outcome that did not require additional treatment.
- Omissions are the most common type of reported medication incident. The most frequently omitted medication is frusemide. Overdoses were the second most common type of medication incident, and the medication most frequently involved was paracetamol.
- The majority of medication incidents resulted in no harm to the patient.

RESULTS

At 22 November 2005, 21 693 incidents had been coded for the 2004-05 financial year. Review of the Hospital Morbidity Data System figures reveals that there were 408 524 inpatient admissions recorded for all the hospitals and health services using AIMS in 2004-05. This represents approximately 5% of all inpatient admissions. However, it is important to note the caveats outlined at the end of the report.

Principal Incident Type

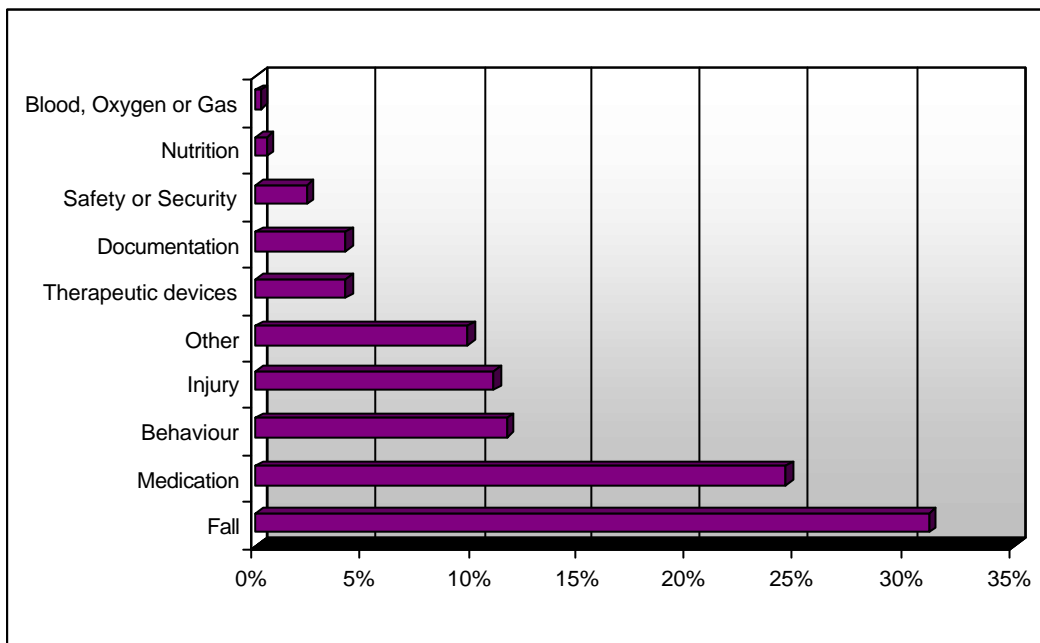
Each incident is classified a Principal Incident Type (PIT). A PIT is the component of the incident that is considered to have caused the most harm to, or had the most significant affect on, the patient. The ten PITs in the classification system are as follows:

- behaviour;
- blood, oxygen or gas;
- documentation;
- fall;
- injury;

- medication;
- nutrition;
- other;
- safety and security; and
- therapeutic devices.

Figure 1 shows all of the reported incidents for the 2004-05 financial year according to the Primary Incident Type. As can be seen below, *falls* and *medication* are the most commonly reported incident types to AIMS.

Figure 1: All Incidents by Principal Incident Type, 2004-05 financial year



As can be seen in figure 1, the Principal Incident Type classified as *Other* accounts for almost 10% of all reported incidents. The Primary Incident Type classified as *Other* includes:

- No, wrong or delayed procedure, treatment or assessment;
- No or delayed admission, inappropriate bed or ward;
- Medical emergency;
- No, wrong or delayed diagnosis;
- Poor discharge planning;
- Hospital acquired infection;
- Wrong patient or body part or side; and
- Other (e.g. post operative or procedural complications, communication problems between staff, premature discharge).

Incident Outcomes

Each incident is assigned an incident outcome level ranging from 1 to 8. Levels 1 and 2 represent potential incidents (i.e. near misses) and Levels 3 to 8 represent actual incidents. Table 1 provides a definition of outcome levels, and shows all reported incidents according to outcome level. As can be seen in Table 1, over half of incidents (59%) resulted in little or no injury to the patient (Level 3 and 4 outcomes).

Table 1 : All Reported Incidents by Outcome Level, 2004-05 financial year

	2004-2005 FY (% of incidents)	Outcome Definition
1	0.2%	A dangerous state or possibility of harm occurring.
2	2%	An event occurred but was intercepted prior to causing harm.
3	28%	An event occurred with no adverse outcome.
4	29%	An event occurred resulting in a minor outcome not requiring treatment (e.g. extra observation).
5	25%	An event occurred resulting in a moderate outcome (e.g. minor diagnostic investigations or treatment).
6	12%	An event occurred resulting in a moderate outcome (e.g. diagnostic investigations, surgical intervention, treatment with another medication).
7	4%	An event occurred resulting in significant outcome (e.g. hospital admission, increased length of stay, morbidity which continued on discharge).
8	0.2%	An event occurred resulting in permanent disability or death.

Figure 2 shows all of incidents according to the Primary Incident Type, by the outcome level for the 2004-2005 financial year. As can be seen below, the PITs classified as *Behaviour* incidents and *Other* incidents had a greater proportion of incidents that resulted in moderate to significant outcomes (level 6 to 8).

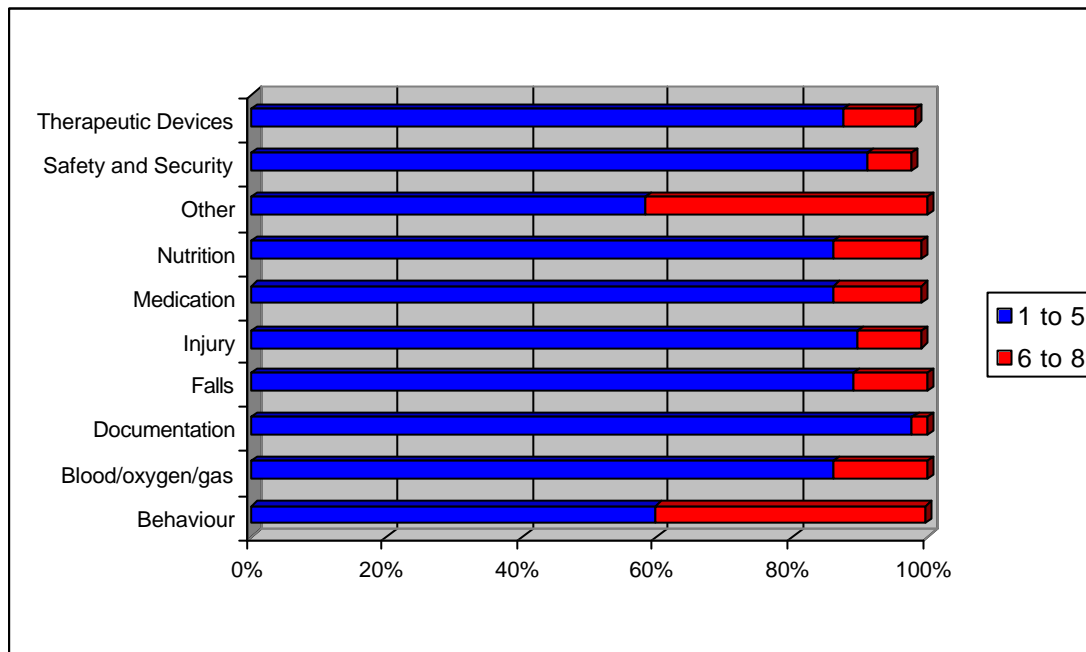
Examples of *Behaviour* incidents include:

- Patients absconding;
- Physical aggression towards staff/other patients;
- Verbal aggression towards staff/other patients;
- Inappropriate sexual behaviour.

Examples of *Other* incidents include:

- Post partum haemorrhage;
- Patients inexplicably collapsing or fitting;
- Shoulder dystocia sustained during normal delivery; and
- Patient returned to theatre to remove retained foreign object.

Figure 2: All incidents (PIT) by outcome level 1 to 5 and 6-8 for the 2004-2005 financial year



Incidents with outcomes of Level 6 and Level 7 typically result in greater harm to the patient, and require additional care and increased length of stay. Therefore, these incidents are costly to the health system.

Reporter Classification

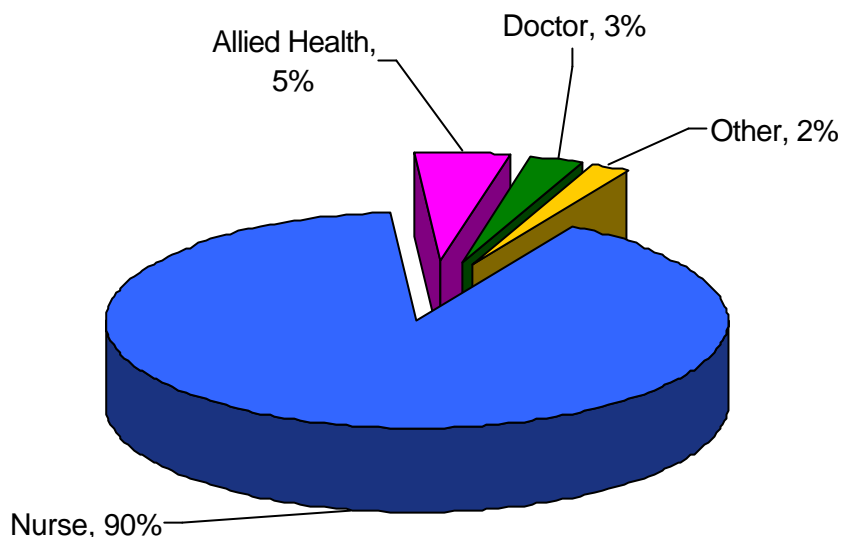
Figure 3 shows all of the reported incidents according to the classification of people who report them. As can be seen below, nurses report the majority of incidents (90%). The 'other' reporter classification category includes patient care assistants, orderlies, patients and carers.

Most of the incidents that Nurses tended to report were *falls* and *medication* incidents. Allied health professionals generally reported *medication* incidents and doctors tended to report *other* incident types (e.g. no, wrong or delayed diagnosis, procedure, treatment or assessment).

It is important to note that AIMS is just one of several parallel and complementary incident reporting systems. While doctors report only relatively few incidents to AIMS,

they do report to other incident reporting systems such as sentinel events, statutory notifications to Chief Psychiatrist, Anaesthesia Mortality Committees or Coronial notifications. Thus, the full complexity of clinical incidents are identified and managed.

Figure 3: All Reported Incidents by Reporter Classification, 2004-05 Financial Year



Fall Incidents

Age of Subject

The greatest proportion of reported *falls* (57%) occurred in the elderly population (75+ years). *Falls* were highest in the 80 to 84 age group (16%), and the 75 to 79 year age group (15%). Unfortunately, it is difficult to determine the number of individuals who fall more than once (i.e. 'repeat' fallers).

Result of Incident

Over half of all reported falls (56%) did not result in any injury to the patient at all. One quarter of falls (25%) resulted in abrasions or lacerations or skin tear. A small percentage of patients sustained bruises/swelling/reddening of the area (13%) or experienced pain (14%) as a result of the fall incident.

Mode of fall

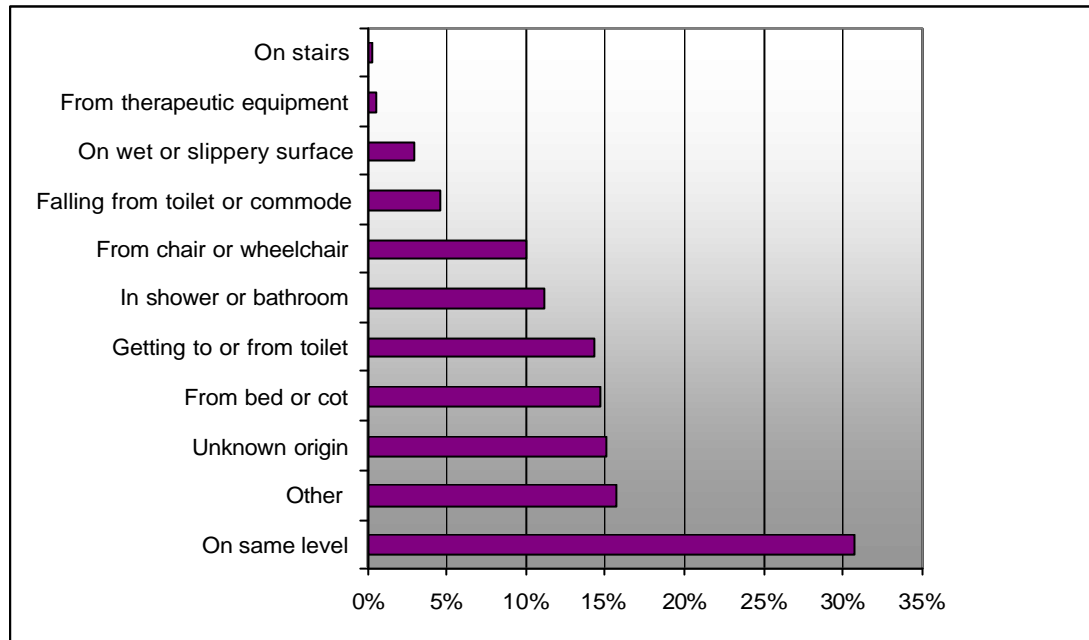
Figure 5 shows the mode in which fall incidents occurred. As can be seen below, the largest proportion of fall incidents occurred on the same level (31%). The manner in which the patient fell was unknown in 15% of incidents. A sizable proportion of falls were classified as *Other*.

Falls classified as *Other* include:

- Patient believed to have climbed over bed rails and fallen onto another bed;

- Patients falling when using zimmer frames;
- Staff suspect that the patient fell, but patient unable/unwilling to confirm;
- Patients found sitting/kneeling/crawling on floor.

Figure 4. Mode of fall incident



Outcome Level

Almost half of all *Fall* incidents resulted in a Level 4 outcome (48%). This means that the fall incident resulted in little or no harm, and the patient required little or no treatment or monitoring. Over a quarter of *Fall* incidents resulted in a Level 5 outcome (28%). This indicates that the patient involved in the fall incident required extra monitoring or treatment (for example, a cold pack was applied). Less than 2% of reported fall incidents resulted in level 7 or 8 outcomes.

Contributing Factors

The most frequent patient factors that contributed to fall incidents included:

- Pathophysiological factors (17%);
- Physical impairments (17%);
- Other (15%);
- Failure to follow advice or instructions (12%);
- Confusion or disorientation (10%) and;
- Dementia (8%).

Staff factors that contributed to fall incidents included:

- Failure to follow advice or instruction (19%);
- Insufficient or inadequate staff (17%);

- Other (16%) and;
- Distraction or inattention (15%).

Medication Incidents

Outcome of medication incidents

Most of the reported *medication* incidents resulted in no injury to the patient (85%). A small percentage of medication incidents resulted in pain (2%), an altered level of consciousness (1%) or an altered emotional state (1%). Most medication incidents resulted in a Level 3 (49%) or Level 4 (28%) outcome. Less than 5% of medication incidents resulted in a moderate to severe outcome.

Type of Medication Incident

Omission

Omission was the most common type of *medication* incident and accounted for 36% of all reported *medication* incidents. The most common medications involved in omissions are detailed below. Please take into account the caveats at the end of this report when interpreting these statistics.

- Frusemide (9%) *
- Paracetamol (8%)
- Warfarin sodium (7%)
- Fluticasone propionate (Flixotide 6%); (Salmeterol 6%) *

*A proportion of medication incidents involving these medications involved several instances of omission for the same patient.

Overdose

- Overdose was the second most common type of *medication* incident, and accounted for 17% of all reported *medication* incidents. The most common medications involved in overdoses are listed below. Please note the caveats at the end of this report.
 - Paracetamol (21%)
 - Gentamicin (9%)
 - Morphine (8%)
 - Prednisolone (7%)

Injury Incidents

Figure 5 shows the cause of injury incidents for the 2004-2005 financial year. As can be seen below, the largest proportion (20%) of injury incidents were classified as *Other*.

Examples of *Other* incidents include:

- Patients assaulting visitors or other patients;
- Patient pulling IV from own arm resulting in a skin tear; and
- Small skin tears sustained whilst being assisted to toilet/shower.

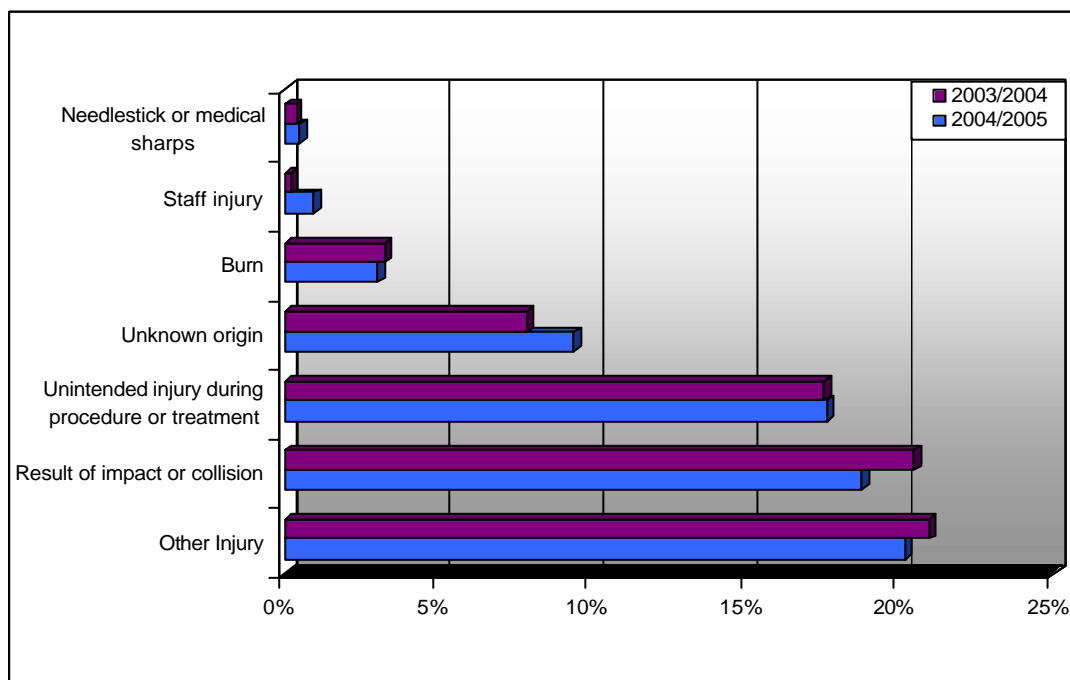
Cause of Injury Incident

- 19% of injuries were the result of an impact or a collision, for example, a patient collides with a door whilst manoeuvring in wheelchair (Figure 4).
- 9% of reported injury incidents were the result of unknown origin, for example a bruise or skin tear found on a patient's leg and the patient is unable to accurately state the cause (Figure 4).
- 18% of reported injury incidents were the result of unintended injury during procedure or treatment.

Some examples of unintended injury during procedure or treatment include:

- Post operative bruising;
- Removal of dressing resulting in skin tear; and
- Tear sustained during forceps delivery.

Figure 5: Cause of Injury incidents, 2004 and 2005 financial year



Outcome Level

- Most injury incidents resulted in a Level 5 outcome (62%) or a level 4 outcome (22%). A small percentage of injury incidents resulted in a level 3 outcome (6%). Few injury incidents resulted in a Level 6 outcome (7%) or a

Level 7 outcome (2%). A Level 7 outcome does not necessarily mean a patient suffered significant injury. A Level 7 outcome could indicate that additional resources (i.e. constant supervision) were required to manage the patient. There were no incidents with Level 8 outcomes reported.

Result of Injury Incident

- The largest proportion of injury incidents were classified under the *Other* category (37%).

Examples of injury incidents classified as *Other* include:

- Blood nose (sustained from physical aggression);
- Bite marks (sustained from physical aggression);
- Suspected spider bite;
- Verbal abuse;
- Psychological injuries; and
- Choking on a foreign object.

A sizable proportion of injury incidents (32%) resulted in abrasions, lacerations or skin tear. A further 17% of injury incidents resulted in a bruise, or swelling/reddening of the area. A small percentage of injury incidents resulted in pain (7%). There were a number of incidents that did not result in any injury (12%).

Contributing Factors to injury incidents

The most common patient factors that contributed to injury incidents were pathophysiological factors (40% of reported injury incidents). Physical impairments were also common contributing factors to injury incidents (29%). A sizable proportion of injury incidents were classified as *Other* (23%).

Examples of *Other* contributing patient factors to injury incidents include:

- Mental health problems;
- Confusion/disorientation;
- Incontinence; and
- Aggression.

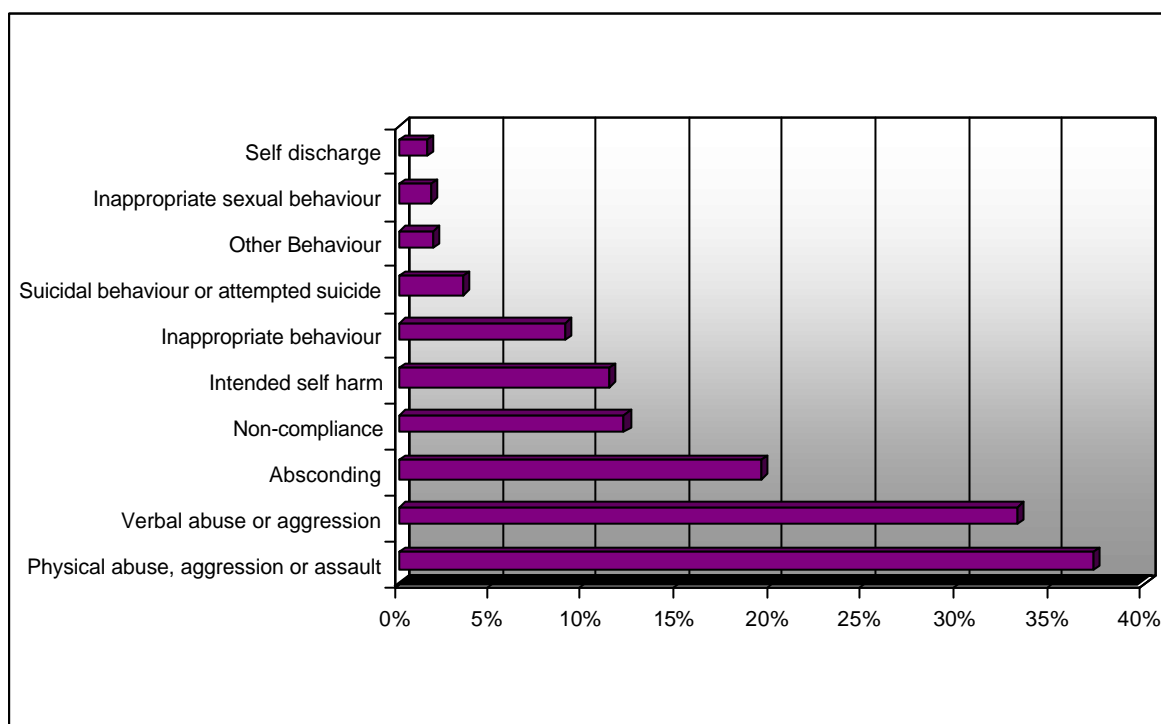
The most common staff contributing factor to injury incidents was failure to follow policy or procedure (3%). Failure to follow advice or instruction contributed to 2% of injury incidents, and inadequate knowledge or experience also contributed to 2% injury incidents.

Behaviour Incidents

Cause of behaviour incidents

Figure 6 shows the causes of reported behaviour incidents for the 2004-2005 financial year. The largest proportion of behaviour incidents involved physical abuse, aggression or assault (37%). A large percentage of behaviour incidents involved verbal aggression or verbal abuse (33%). Patient absconding behaviour was reported in 17% of behaviour incidents. Non compliance was reported in 12% of incidents, and intended self harm was reported in 11% of behaviour incidents.

Figure 6: Cause of behaviour incident, 2004-05 financial year



Level of harm of behaviour incidents.

The largest proportion of reported behaviour incidents resulted in level 5 outcomes (29%) or level 6 outcomes (30%). A sizable proportion of reported behaviour incidents resulted in level 3 (17%) or level 4 (14%). A small percentage of level 7 were reported (9%). A Level 7 outcome does not necessarily mean a patient suffered significant injury. A Level 7 outcome could indicate that additional resources (i.e. constant supervision) were required or the incident contributed to an increased length of stay.

Most reported *behaviour* incidents resulted in no injury to the patient (68%). A small percentage of behaviour incidents resulted in abrasions or skin tear (11%).

Age of patients

Over a quarter of behaviour incidents involved individuals aged 20 to 34 years (27%). Almost half of behaviour incidents involved individuals aged between 20 and 49 years (49%).

Contributing Factors to Behaviour Incidents

A large proportion of behaviour incidents were related to the mental health of the patients (63%). For example, 14% of patients involved in all reported behaviour incidents were suffering from dementia. A small percentage of patients were confused or disorientated (12%) or acting under the influence of drug and/or alcohol (11%).

APPENDIX ONE - CAVEATS

Readers of this report are advised to note the following limitations to the data collected by AIMS.

1. The literature suggests that approximately 10% of patients admitted to acute care hospitals experience some kind of iatrogenic injury. The Australian Patient Safety Foundation, developers of AIMS, estimates that there is under-reporting of incidents. Consequently, we cannot assume that the data is representative of all incidents.
2. AIMS has been implemented across the state however not all health services (particularly some rural sites) are using the system to full capacity.
3. There is a time lag between data collection, data entry and coding.
4. There are occasions when several incidents are reported for the same patient and the same incident. For example, a medication omission that occurs several times to a patient before being rectified may result in several separate incidents being reported to AIMS. This can act to artificially inflate the number of incidents.

Duplicate reports

There are a number of safety nets in the AIMS process to minimise or avoid duplicate records entering the system:

- The person raising the form puts a note in the medical record advising that an AIMS form has been raised. This reduces the risk for a duplicate if the medical record is checked.
- The AIMS forms usually go through the same, or a small number of Senior Staff or Department Heads for investigation and sign off. It is likely that they would recognise a duplicate case.
- One person usually performs the data entry task. This person is likely to recognise a duplicate when keying.
- A specific coder codes for a specific site. This presents a final opportunity to identify a duplicate for the same patient.

The chances of getting a duplicate record into the system are rare, but not impossible. Were duplicates to enter the system they would have little effect on the quality given the volume of data.