The NCIS is managed by the Victorian Institute of Forensic Medicine on behalf of the State/Federal funding agencies.

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Fatal Facts

A Publication of the National Coroners Information System

November 2006

Edition 11

This edition of Fatal Facts features 80 coronial cases where recommendations have been made. In this edition we take a step forward, focusing on cases closed on the NCIS between 1 January 2006 and 31 July 2006. This decision was made so we could feature some of the more recent recommendations being made by coroners, but we will aim to retrospectively cover recommendations made between 1 November 2004 (where Edition 10 left off) and 1 January 2006 in future editions.

Three topic areas upon which several recommendations were made are highlighted in detail. These recommendations involve falls from balconies, deaths that occurred while the deceased was rock fishing, and overlaying/co-sleeping deaths of children.

If you wish to seek further information regarding any of the cases contained in this edition, and you are an authorised NCIS user, it is recommended that you visit the NCIS website (www.ncis.org.au). Log on using your authorised user name and password, and find the particular case by clicking on the "NCIS Search" tab and selecting "Find Case".

If you have forgotten your user name and password, or require advice regarding access to the NCIS database, please do not hesitate to contact our Access Liaison Officer, Marde Hoy, at mardeh@vifm.org or on (03) 9684 4323.

Should you not currently have access to the NCIS, or wish to enquire about an information search, please contact the NCIS team at ncis@vifm.org.

Jessica Pearse

Manager, NCIS.

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NCIS at a glance

• Number of cases on the NCIS (notified to a Coroner between 1 July 2000 and 1 August 2006 inclusive):	116,262
• Number of findings on the NCIS for cases closed between 01/01/2006 and 31/07/2006:	4424
• Number of cases with recommendations closed between 01/01/2006 and 31/07/2006:	80

Disclaimer: The précis of coronial findings detailed within this publication have been produced by NCIS staff, with the best efforts made to accurately summarise the circumstances, findings and recommendations made by the coroner in each case. Despite this, it should be noted that they are not authorised summaries or exact replications of coronial findings. The original finding should always be accessed if it is intended to refer formally to it.

Case No: VIC.2004.4046

Date of Finding: 17 January 2006

Coroner: State Coroner Graeme Johnstone

Summary

The deceased, an elderly man, fell 3.82 metres from a balcony onto the paved path below. The incident occurred while the deceased was a resident at a suburban hospital.

It was concluded that the deceased had most likely overbalanced whilst standing near the balcony and fallen to the path below. His medical condition and lack of mobility had probably contributed to the event.

Enquiries directed to the Victorian Building Commission found that the Regulations in force at the time the building was constructed were probably the 1969 version which specified a balustrade height of 3ft 6in (around 107cm). It therefore appeared that the balustrade in question had not complied with the necessary regulations at the time of construction.

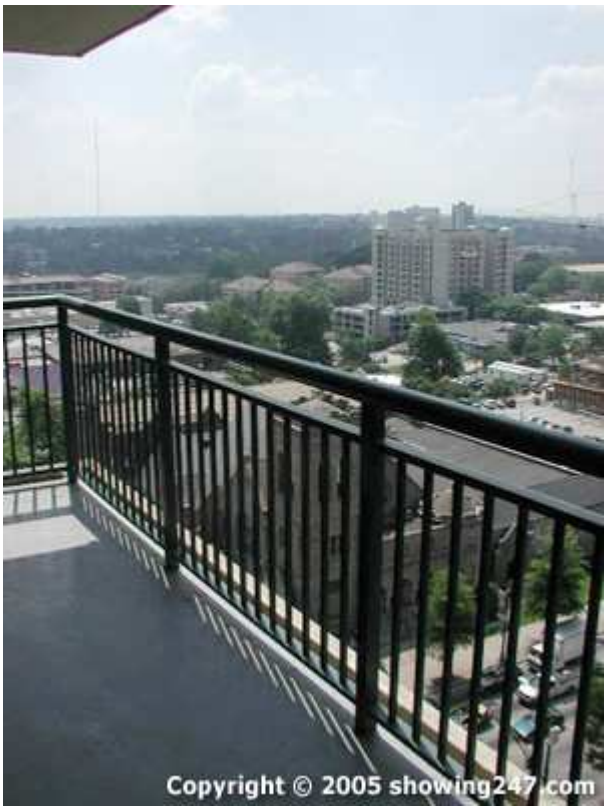
Appendix A contains an article on the subject of falls from balconies, reproduced from the 'Injury Issues Monitor' (http://www.nisu.flinders.edu.au/monitor/Monitor%2037.pdf), the journal of the Research Centre for Injury Studies and the Flinders University in South Australia.

Recommendations:

The Coroner commented that:

"The circumstances of this case may serve to demonstrate the need for hospital management to be cautious when assessing whether the height of a balcony railing is adequate where the area is frequented by patients, who because of health and mobility difficulties, may be less able to avoid falling over a lower (or even a complying) balcony. Taller patients may have a greater level of risk of falling over lower balcony railings."

The Coroner noted that, while such events may be rare in hospital environments, persons or agencies with the potential to minimise the possibility of falls from balconies should be made aware of this issue.



Please note: This image is not related to the incident described in the case study

Case No: NSW.2004.3009

Date of Finding: 14 April 2005

Coroner: Jacqueline Milledge

Summary:

The deceased died during the course of fishing from a rock platform.

Recommendations:

The Coroner recommended the following:

(1) that the Minister for Local Government promote and encourage the implementation of the Australian National Sportsfishing Association's ('ANSA') 'Angel Ring' Life Buoy Programme and to ensure the continued management of the 'Angel Rings' by the NSW Branch of ANSA.

(2) that the Minister for Fisheries and Primary Industry and the Minister for Sport and Recreation:

(a) Continue to support the implementation of the 'Angel Ring' Life Buoy Programme.

(b) Continue to develop education and information packages/programmes explaining the dangers associated with Rock Fishing and the appropriate safety measures to be employed.

(3) that the NSW Police implement the 'Angel Ring' education programme developed by Sergeant Ralph Deans and implemented by the Eastern Suburbs Area Command ('LAC'), to all LAC's where Rock Fishing is practiced.

Case No: VIC.2005.1565

Date of Finding: 29 December 2005

Coroner: Heather Spooner

Summary: The deceased and four friends were fishing off rocks. The deceased moved further down the cliff face. A large wave then crashed onto the rocks and the deceased was washed into a rock pool below. The deceased's friends tried to rescue him but they were hit by another wave.

Recommendations:

In an attempt to avoid further rock fishing deaths it is imperative that those involved in the sport, in the management of the coastline and responsible government agencies;

VIC.2005.1565—recommendations cont.

1. Consider the various recommendations that have previously been made by community and interested groups who are concerned to stem the rising toll of rock fishing deaths.

2. Consider implementing the Detailed Proposal for Water Safety for Rock Fishers (including the angel ring pilot) that was developed during the course of recent Coronial Rock Safety Management Meetings.

(Previous recommendations have included:

1. Funding be sought from the Marine Safety Victoria and Sport and Recreation [Play It Safe by the Water]

2. A water safety campaign be undertaken leading into the 2004 summer holiday period. [Identifying high risk areas].

3. The Department of Justice formulate a steering committee to investigate strategies to prevent drowning fatalities.

4. Victorian Recreation Fishing place on their web site information pertaining to safe fishing and boating per the NSW model.

5. That a study be undertaken in relation to life jackets that meet the required standard and are suitable for all fishing needs.

6. Parks Victoria and local government bodies be used to promote safety by the water using a standardised pamphlet.

7. Melbourne Water Police utilise the Boat Show to further highlight water safety.

8. The steering committee study the NSW safety by the water model to see if any aspects of its recommendations can be adopted in Victoria.

9. The high risk areas for rock fishing at Wilson's Promontory National Park and the

Punchbowl on Phillip Island be addressed as short term issues possibly utilising funds from Fisheries Revenue Allocation Committee.)

Case No: TAS.2005.498

Date of Finding: 20 April 2006

Coroner: Christopher Webster

Summary: The deceased died from SIDS while bed sharing.

Recommendations:

The death was reviewed by the Paediatric Mortality and Morbidity Sub-Committee. Concerns were expressed by the Committee in relation to the number of infant deaths involving unsafe sleeping environments (in particular where the infant has been co-sleeping with one or both parents). While bed-sharing is common it has been associated with sudden infant deaths.

SIDS recommendations, endorsed by the Royal Australian College of Practitioners and the "Sids and Kids Safe Sleeping Program", advise that there is an increase in risk where a infant or toddler bed sharing with an adult may get caught under bedding or between the wall and bed, fall out of bed or are rolled upon by someone who sleeps very deeply or is affected by drugs or alcohol, or their mothers smoke. This also extends to bed sharing with other children or pets. There is further risk involved where the infant was born pre-term or is small for its' gestational age.

The current recommendations are that infants should not share a bed surface with a smoker; where there is adult bedding, doonas or pillows; where the baby can become trapped between the bed and a wall, can fall out of bed or be rolled upon; where the parent/adult is under the influence of alcohol or drugs that cause sedation or is overly tired; where infants are sharing bed surfaces with other children or pets; and advise against placing a baby, to sleep, on a sofa, beanbag, waterbed or sagging mattress.

Whilst bed sharing is considered appropriate when feeding, cuddling and playing an infant should always be returned to their own safe sleeping environment prior to the parent/s going to sleep. Infants should always be supervised when placed on raised surfaces that do not have the restrictive rails similar to that of a cot.

It is particularly poignant, with the onset of winter that parents are of the mistaken belief that the infant is cold and places the infant in bed with them to keep them warm. In these cases it is possible for the infant to become over heated. The infant is best left in their own bedding with appropriate blanketing and possibly a hat to prevent the escape of heat via the head.

Case No: WA.2004.1190

Date of Finding: September 2005

Coroner: Evelyn Vicker

Summary:

The deceased was located wedged between the back of a couch and his mother's body. It appears the mother fell asleep while nursing the deceased the previous evening.

Recommendation(s):

(1) that the brochures provided by SIDS and Kids as to the risk factors involved with sharing a bed or couch with a newly born baby be strengthened to ensure parents understand it is not the fact of sleeping close to their babies which may be the problem but rather the additional risk factors which may on occasion be cause for concern. The Coroner suggested that this could probably best be done by the use of pictorial diagrams.

(2) that there be initial and ongoing education of midwives as to the fact the current data indicates there may be risk factors of which they should advise parents while they are still in hospital with their babies. The Coroner suggested that this is could be achieved by SIDS and Kids developing an educational package which could be delivered to prospective midwives and also going into hospitals to provide refresher courses.

(3) that there be an ongoing emphasis on sensitive but thorough investigations of scenes of death and autopsies to enable pathologists to truly try and elucidate the risk factors involved with bed sharing and the sudden unexpected death of infants and the education of parents as to the necessity for investigation.

NCIS Case No.	Summary of Incident/ Recommendations
	Child Deaths
QLD.2002. 2158	The deceased child was killed by a relative who had a psychiatric illness. Recommendation(s): A number of recommendations were made by the Coroner concerning the management of forensic patients and their files; the safety of children residing with persons receiving treatment, and access to/information sharing of patient information by Mental Health staff and persons of interest (such as the Queensland Police Service). Refer to: http://www.justice.qld.gov.au/courts/coroner/findings/perry1105.pdf
QLD.2004. 2448	Teenager committed suicide by hanging (see page 11 for further details and recommendations made).
TAS.2005. 425	The deceased infant died as a result of Intrauterine Pneumonia and Sepsis. Recommendation(s): The Coroner found that the deceased was severely unwell and even optimal care may not have prevented the death. The Coroner noted however that '..it is possible that the Group B strep component of this illness could have been prevented by earlier introduction of Penicillin therapy in labour if (the mother of the deceased) had received screening for GBS infection.' The Coroner therefore recommended that the availability of the services provided by the Paediatric section of the hospital (including advice) should be made widely known and their use encouraged.
TAS.2005. 498	SIDS while bed sharing - see page 7.
VIC.2003. 427	Deceased strangled by strap of bicycle helmet (see page 14 for further details and recommendations made).
VIC.2004. 4419	The deceased infant was put to bed in a borrowed porta-cot. When checked upon he was located wedged in a gap in the porta-cot between the mattress and the cot side. Recommendations The Coroner recommended that consideration be given as to whether an appropriate warning should be delivered to parents, other family members and carers by the Department of Consumer Affairs about the variety of circumstances involving cots/porta cots where deaths occur. The Coroner noted that there other countermeasures that could be considered by agencies such as Consumer Affairs including: • a requirement for a warning on portable/porta cots about the danger of using a mattress in addition to the one supplied by the manufacturer; • development of brochures for distribution by appropriate health/safety agencies; working with manufacturers and retailers to ensure that safety issues are drawn to the consumer's attention. The Coroner suggested that brochures and warnings could also be delivered through Maternal and Child Health Nurses, Nursing Mothers and via anti-natal and birthing classes and that the Department of Consumer Affairs consider developing a safety standard for portable cots (porta cots) or amend the current/new standard to include these types of cots.
WA.2004. 1190	Overlaying related death—see page 4.

QLD.2003.2005	The deceased was arrested by Police for Disorderly behaviour and Obstructing Police. He appeared to be affected by liquor and/or drugs, and was abusive and aggressive. He was conveyed to the Watch house and charged. The deceased continued to behave in an aggressive manner and was placed in a padded cell for his own welfare. During an inspection of the cell the deceased was found with no signs of life. Recommendations The Coroner recommended that: • all operational police be reminded of the need to physically inspect prisoners in accordance with the requirements of the OPMs and the SOPs; • the watch house managers be directed to develop and implement procedures for the inspection of prisoners in padded cells that will enable inspections to be undertaken in all circumstances that may exist in their respective watch houses; • the Property and Facilities Branch urgently review the doors on all padded cells to determine whether they should be replaced by doors that allow officers to visually inspect prisoners; and • the Director of Mental Health seek legal advice as to whether the Act should be interpreted in the restrictive manner contended for by the treating psychiatrists in this matter. Further comments were also made.
QLD.2004.730	The deceased was an inmate of a Correctional facility. Two hours after lock down he was located hanging in the cell after a fellow inmate raised the alarm. Recommendations The Coroner recommended that: • the Department of Corrective Services (DCS) investigate the viability of adding an auditing function to the Integrated Offender Management System (IOMS) to enable the level of compliance with policy concerning the accessing of "at risk" information to be assessed; • DCS examine the effectiveness and feasibility of introducing a suicide awareness program in all prisons aimed at encouraging prisoners to report observations that might indicate fellow prisoners are at risk of self harm. • the changes made to prison procedures since this death and the other recommendations made in this inquest should, if properly implemented, contribute to the Department developing a more sophisticated and comprehensive system for assessing the level of risk of self harm of individual prisoners. (And such a system should include the monitoring of the telephone calls of those identified as being at risk); and • DCS immediately cover with mesh any bars accessible to prisoners in cells at the Correctional Centre and continue with its program to make suicide resistant all cells in use in the prison system.
SA.2002.2040	The deceased died from aspiration pneumonia, exacerbation of chronic obstructive airways disease (emphysema) and congestive cardiac failure. At the time of the deceased's death, an order for her detention in an approved treatment centre was in effect under section 12 of Mental Health Act 1993. Recommendations The Coroner recommended that: • the Commissioner of Police review the operations of the police with a view to determining why (the) investigation took three years to complete, and that the review be conducted by an officer of sufficient senior rank to ensure a thorough outcome; and • that the Commissioner of Police take steps to ensure that investigations into deaths in custody are conducted in a timely fashion and in any event that such investigations are completed within twelve months of the date of death.

SA.2003.1295	The deceased, a prisoner, was discovered hanging from a bed sheet attached to an open grill above the doorway into the shower block of the unit he was housed in. Recommendation(s): The Coroner recommended that: • the Department for Correctional Services (DCS) implement an audit system which facilitates regular inspections of all South Australian prisons to identify and eliminate potential hanging points where possible (not only within cells, but also in unsupervised areas and areas without clear camera surveillance); • DCS, in conjunction with the Prison Health Service, develop and implement a system where prison nurses can document relevant information about prisoners with health concerns and make this information available to corrections officers to assist them in the day to day management of those prisoners in their care; • the Minister for Mental Health consider strategies to attract nurses with mental health training into the Forensic Mental Health Service. • the Minister for Mental Health do what is reasonably necessary to secure funds for the provision of mental health workers (such as psychologists and social workers with mental health training) in prisons in South Australia, particularly in regional areas; and • the Minister for Mental Health, consider ways of providing supported accommodation, especially in regional areas, for prisoners suffering mental illness following their release from prison.
VIC.2003.4078	The deceased was arrested, interviewed and remanded in custody for theft. Shortly after being placed in a cell at the police station she was found hanging from a strip of blanket attached to the upper hinge of the cell door. Recommendations The Coroner recommended that: • the Criminal Justice Enhancement Program (CJEP) Attendance Module be amended in line with the recommendations made and endorsed by the police who testified at the inquest; • the Attendance Module of CJEP be enhanced to include provision for any medical condition of a person and prescribed medication being taken by a person lodged in the cells to be noted; • Victoria Police consider redrafting the Instructions in the Victoria Police Manual that draw a distinction between 'Custody Risk' and 'Suicide Risk' to have a single risk namely 'suicide'; • consideration be given to emphasising the duty of care responsibility of members, and to provide written instructions that would assist in facilitating identification of signs of 'suicide.'; • Victoria Police develop a training program for members to provide detailed information regarding the suicide process, and develop strategies to identify and manage at risk offenders and prisoners; • consideration be given to removing from the responsibilities of watch house keepers the care and custody of prisoners in Category A cells, and that the care and custody of prisoners in those cells be performed by custodial officers as is the case with the Melbourne Custody Centre; • Victoria Police continue to investigate ways in which the hanging point on cell door hinges can be eliminated; • consideration be given to' locking down' prisoners where there is a single prisoner in a cell complex, and providing supervised periods of exercise; • suicide blankets be available in sufficient numbers at all police cells, including Category A cells in order to be able to provide one to each prisoner lodged in the cells; • unscheduled external auditing of conditions of police cells be conducted on a minimum six monthly basis; • the CCTV monitoring facilities in all police cells be included in such an audit; • the pro-forma form used by Bail Justice's be redrawn to require the Bail Justice to ask remanded prisoners if they have any health problems that require medical treatment, or medication by prescription, or if they have any concerns for their welfare whilst in custody; and • Victoria Police consider the design of a ' management issues' check list such as appears in the Magistrate's Court computer system under Bail applications for the use in police station remand hearings.

Deaths in Custody—cont	
VIC.2004.3811	The deceased suffered from several AIDS defining illnesses and schizophrenia. She was admitted to a respite care facility at her request. One week later she was found by a nurse hanging by a scarf from a shower curtain rail. Recommendations The Coroner recommended that (the care facility) implement a system for recording patients leaving and returning to (the facility) including their attendance times in other departments.
NT.2005.96	The deceased, an Indonesian fisherman, and his crew of nine were caught fishing Australian water. The deceased complained to his crew that he was feeling ill. His crew insisted he seek medical treatment but he declined. Shortly after, the deceased collapsed. His crew requested medical help. The deceased was conveyed along with four other crew to a nearby wharf. The ambulance service were contacted and attended and the deceased was pronounced dead. Recommendations In conclusion, and on the basis that all detained fishermen (those to be repatriated as well as those to be charged) will be detained at the land based facility that I viewed in Darwin, I recommend that such fishermen be thoroughly medically examined by a medical practitioner within 24 hours of reception into the facility.
Drowning	
NSW.2004.3009	Rock-fishing related death—see page 3.
TAS.2004.658	The deceased fell from his boat and drowned while squid fishing. The investigating coroner was unable to determine how the accident happened. It was suggested the deceased may have had an epileptic seizure, tripped over or overbalanced. Recommendation I recommend that responsible authorities carry out an assessment as to whether adequate action is presently being taken to police the compliance by boat operators with survey conditions and the various Marine and Safety Regulations. Should such assessment conclude that this is not occurring then appropriate action needs to be taken to ensure that these requirements are policed at such a level that can positively influence compliance levels.
TAS.2006.53	The deceased drowned while participating in a swimming race. The investigating coroner found the deceased misjudged his own ability to complete the race. Recommendation I recommend that the local Council investigate whether (the dam) is safe to be used as a recreational area. If the area is considered "safe", that the appropriate signage be erected advising members of the public as to the requirements whilst using this recreational area.
VIC.2003.621	The deceased was a firefighter. She was driving a four wheel drive vehicle along a dirt road when she attempted to cross a creek. The creek was flooded and the deceased and her passenger climbed onto the roof of the four wheel drive. Recommendations The investigating coroner stated it would be desirable that the recommendations contained in the statement of (a senior officer from the Police Search and Rescue Squad) be considered and adopted by relevant organisations and agencies. The statement recommended further training of personnel in identifying water hazards.

Drowning (continued)	
VIC.2004.68	The deceased was taken by his father to a dairy farm to pump out an effluent pond. He was seen that evening by the farm owner. Later that evening the father arrived to collect his son but was unable to locate him. The deceased's body was located in the pond the following morning, having drowned. Recommendations 1. That WorkSafe consider approaching agencies such as DPI and Sustainability and Environment in order to help provide an interim solution either by way of an amendment or addendum to existing publications dealing with planning, construction and maintenance of effluent ponds. These amendments should make it easy for the reader to identify the key safety points (along with sources for more information) without needing to search for other documents. 2. That consideration be given by WorkSafe to issuing an "ALERT" relating to the facts in this case. Consideration should also be given to a similar "Alert" being issued by DPI and the Department of Sustainability and Environment. 3. That WorkSafe consider working with the DPI and Sustainability and Environment to develop a longer term "whole of government" approach to developing an easily accessible system for delivering basic safety information or advice to the farming community and its contractors in areas such as the planning, construction and maintenance of effluent ponds. 4. That consideration be given by WorkSafe to working with the DPI (and appropriate engineers and other experts) on developing or recommending cost effective methods of effluent pond maintenance (stirring or agitating) as an alternative to using a tractor or other heavy machinery near to the edge of the pond. 5. That WorkSafe auspice development of a local or Australian Standard to address the safety issues associated with working with effluent ponds.
VIC.2005.240	The deceased and his daughter went swimming at a bayside beach. They were in waist high water when conditions changed and they were dragged out into the bay. The deceased was later found floating in water not far from the shore. Recommendation I recommend that Parks Victoria and the City of Kingston assess the impact of the rock training wall on swimmer safety as a matter of priority, and taking appropriate remedial action to eliminate any risks associated with the rock training wall and/or scour hole.
Drugs or Alcohol	
SA.2001.2649	The deceased, a 22 year old man, took his own life by taking an overdose of Zyban (Buproprion), a drug used to assist people to give up smoking. Recommendations (a) The Court recommends that the relevant authority gives consideration to ensuring that prescriptions of this magnitude are in future not made available to patients. (b) The Court recommends that the Director, Clinical Systems of the Department of Health gives consideration to the following matters: (i) the clarification, for the benefit of clinical staff in emergency settings, of the appropriateness or otherwise of administering activated charcoal in respect of slow release drug overdoses in general and of Buproprion overdoses in particular; (ii) encouraging doctors in emergency settings to personally utilise the services of Poison Information Centres, such as the telephone services provided by specialist clinical toxicologists, as a source of information relative to the treatment of drug overdoses; (iii) discouraging the practice of doctors delegating to nursing staff the responsibility of communicating with Poison Information Centres; (iv) instructing clinical staff responsible for triage to accord to drug overdose presentations triage category 1 or 2 to in order to minimise delay; (v) ensuring that appropriate decontaminants are always made immediately available within an emergency department; (vi) ensuring that in drug overdose presentations a thorough enquiry is made of all presenting patients as to the number, quantity and identity of all substances ingested, and ensuring that the fact of and result of all such enquires are adequately noted; (vii) ensuring that in drug overdose presentations thorough consideration is given to the possibility of multiple overdose, which would include the timely administration and evaluation of blood tests and the payment of closer attention to acid base status.

Drugs or alcohol (continued)	
TAS.2005.204	The deceased died from complications of combined benzodiazepine and opiate toxicity, following an intentional overdose of prescribed medication. Recommendations I recommend that Tasmania Police and Tasmanian Ambulance Service reconsider the intent of their Memorandum of Understanding in order to provide clarification to their respective officers and staff upon its applicability to drug related scenarios. I recommend that consideration be given by the appropriate authorities to the development of a check list or similar form that allows an objective decision to be reached as to whether or not a particular case is a "reportable death" under the Coroners Act 1995. I recommend that the appropriate management personnel at [the hospital] address (... issues relating to the documentation, storage and disposal of medication that accompanies a person upon presentation to the Department of Emergency Medicine or upon admission to the hospital).
VIC.2003.3471	The deceased had developed a long term dependency on and was regularly taking significantly high doses of anti-anxiety drugs and died from a multi pharmacy overdose with the presence of early bronchopneumonia. Recommendation That consideration be given by the Victorian health authorities to ensure that any person who is dependant on Oxazepam is subject to S.33 of the Drugs Poison and Controlled Substance Act 1981 and in particular that any chronic long term Oxazepam dependant person be the subject of a relevant notice under the Act. If this is not considered as coming within the scope of the above Act there needs to be at least some regulatory sanctions in place.
VIC.2005.596	The deceased died from combined toxicity to Gamma Hydroxybutyrate (also called 'GHB'), Methylenedioxymethamphetamine and Methamphetamine. It was found the deceased's life could have been saved if those with the deceased had recognised the symptoms of toxicity and called an ambulance. Recommendations That Turning Point, the Department of Human Services, the College of Emergency Medicine, Victoria Police and the two Victorian Ambulance Services re-examine the Coroner's recommendations in both the 1996 Methadone Inquests and the 2000 Heroin-related overdose Inquests with a view to considering community education or other countermeasures about managing the risk of unconscious sleep following drug consumption. Any countermeasures should also consider the dangers associated with GHB and the fine line between a 'safe' dose and an overdose situation. The inappropriate use of 'speed' as an antidote for a GHB overdose should also be addressed. In addition, it may be useful for the health agencies to search the NCIS for cases involving drugs and snoring or a period of deep unrousable sleep prior to death.
VIC.2005.1279	The deceased was discovered at a friend's house after consuming a fatal quantity of methylated spirits and moselle wine. It appears he was binge drinking prior to his death. Recommendations **I Recommend** that local retailers be encouraged to monitor (methylated spirit) sales and question those whom they suspect of being users, particularly those who are intoxicated at the time of intended purchase, and with commonsense refuse to offer to sell the same to persons they may have reasonable cause to suspect are abusers. I anticipate that the **(the relevant police station) Crime Prevention Unit** will continue to attend upon the various traders from time to time to reinforce the good work done so far by (the police officer) in generating awareness about solvents and substances like metho. In any event **I Recommend** that they do so and **I Direct** that a copy of these findings be sent to the Officer in Charge of the Unit. **I Direct** that a copy of these findings be sent to the **Aboriginal Corporation (from the region)**. I understand that the health, drug and alcohol counselling services, run by the Corporation in (its area) now extend to (the area in which the incident occurred), and those involved may be able to intervene and assist (the deceased's) named drinking companions, and other abusers of metho and counsel them and others about the chronic health dangers of drinking metho. **I Further Recommend** that the Corporation (or other suitable body) be encouraged to monitor as best it can the extent of metho abuse in (its area and surrounding areas in the region), liaise with the Local Police (and vice versa) and develop a preventative strategy. **I Further Direct** that a copy be sent to the Police Indigenous Liaison Officer (...). In the event that investigations reveal a significant level of abuse and that self regulation by retailers is found wanting, **I Recommend** that consideration be given to legislative intervention with display and access restrictions on a locality basis

Fires, scalds or burns	
TAS.2004.218	The deceased died from smoke inhalation following an accidental house fire. Investigations determined that children started the fire using a cigarette lighter on the couch in the lounge area of the home. Recommendation I recommend that all buildings that are leased or rented should be fitted with appropriate smoke alarms at the cost of the owner.
TAS.2005.502	The deceased died as a result of thermal burns while attempting to light a cigarette. Recommendations The Hospital has (...) has implemented a number of improvements to the designated smoking area, including: Fire retardant apron for age care residents; Easily accessibly fire blankets; Aged care residents have Nurse Call Button pendants that are to be worn around the neck when smoking; Soft Chairs removed from smoking area; 3 metre exclusion area delineated on cement floor around doorway & building of designated smoking area, whereby no smoking area is defined; Removal of lighters from aged care residents; Sand filled cigarette ash tins; and The employment of "Quick Fire" a private company undertaken to train staff in fire evacuations, fire training and practice emergency responses. I recommend that other aged care facilities adopt the procedures implemented by the (...) Hospital and Health Centre with respect to residents who smoke.
Intentional self-harm	
QLD.2004.2448	The deceased, a teenager, passed away in hospital one week after attempting to hang himself at his home. The incident occurred shortly after his family was informed by the deceased's school that he had been absent on a number of occasions. Recommenations a) That Queensland Education review the minimum requirements to communicate with parents of students on each day that a student is absent from school. Qld Education consider making it compulsory to use software options generating automated SMS messages to parents indicating a student is absent. b) That Queensland Education assists (the) High school to consider an independent or external audit of its absenteeism / truancy management communication system with parents. The audit should include a focus on whether there is sufficient feedback (both up and down the hierarchical chain within the school) to ensure that each consequential step is being taken in accordance with the school policy. c) That Queensland Education reviews all Queensland school's communication requirements with parents concerning the issue of truancy in light of the evidence in this inquest.

Intentional self-harm (continued)	
TAS.2005.208	The deceased died after placing a rope around a tree branch at a local park, and hanging himself. The deceased had suffered depression and had difficulty dealing with everyday living for a long time. Recommendation The Hospital should explore avenues of reducing the waiting period, for patients who present with suicidal ideation, especially those whose history is already known to the hospital and when a decision has been made for admission or further consultation from other specialists is required, and while waiting, that a room or elsewhere in the hospital be provided other than at the Department of Emergency Medicine. I recommend that discussions be held with a view of implementing such course of action.
TAS.2006.68	The deceased died as a result of hanging. The deceased's illness and the recent relationship breakdown were factors which caused the deceased to take his own life. Observation I make the observation at this point that the practice of the Drug & Alcohol Service to make follow-up contact after three months has elapsed is unlikely to be of any practical benefit to a patient in need of treatment and that consideration should be given to implementing a more timely practice which may better enable the Service to remain involved in a patient's care.
VIC.2004.2682	The deceased, while on day leave from hospital, was contacted by the hospital and asked to return as a urine drug test had proved positive to the use of cannabinoids. The deceased went to the 10th floor of the hospital, opened a window and fell to his death. Recommendations 1. That Forensicare consider implementing a system whereby medical professionals conducting risk assessments on patients who are categorised as being a risk of substance abuse, have access to current information as to the status of the patient's drug screens prior to allowing the patient to proceed on leave. 2. That the 'Green Card' currently used to record drug screens, if retained, be redrawn to record the date a drug urine screen was taken, date returned, result, time shift leader notified. At present the 'green card' is located at the end of the continuation notes, perhaps consideration could be made to moving it to the risk assessment part of the clinical file.
Interpersonal violence	
QLD.2002.2158	The deceased child was killed by a relative who had a psychiatric illness (see page 5 for recommendations).
Medical treatment (health care / adverse effects)	
NT.2004.170	The deceased died whilst an inpatient at hospital. He absconded from the hospital and hospital staff failed to follow their policy for dealing with absconded patients. Recommendation "..that (the hospital) consider some changes to the policy so that a decision not to report a missing patient to police is made with as much information about the patient as possible. I also suggest that the policy should include persons who are subject to Adult Guardianship orders."

Medical treatment (health care / adverse effects) continued	
NT.2004.242	The deceased passed away at home after returning from hospital having completed a course of radiotherapy as treatment for breast cancer. Recommendations The Coroner recommended that Northern Territory Health send a directive to remote clinics in the Northern Territory emphasising the importance of good record keeping, in particular that all attendances of patients and all appointments made for diagnostic review or otherwise be properly and clearly recorded in the patient's clinical notes. It was also recommended that Northern Territory Health consider conducting a review in conjunction with appropriate stakeholders for the management of seriously ill patients in the Yuendumu Community.
SA.2002.1902	In the early hours of the morning after celebrating his twenty-first birthday, the deceased was driving his friend's car with two other occupants. The car hit a stobie pole at high magnitude. The deceased and another occupant were trapped in the vehicle, and extricated more than two hours later. The deceased died later in hospital from his injuries. Comments and recommendations There is in my view a need for the SAAS Procedural Notice and Protocol to be clarified as far as its stipulation about contacting a local doctor is concerned. I think that the original intention that a local medical officer be called in any event to a rural trauma scene should be expressly articulated and I recommend that further consideration be given by the South Australian Trauma Advisory Committee to that issue. (The doctor) also expressed reservations about the stipulation in the Protocol which provides a 30 minute margin between initial notification and the commencement of medical intervention either at the scene or arrival at hospital. (The doctor) pointed to the illogicality of introducing a 30 minute delay into the activation of the process of retrieval of a critically unwell or injured patient who clearly needs to be in a major trauma centre. I agree that the issue requires further consideration and I would recommend that the South Australian Trauma Advisory Committee give due consideration to that issue. I would also recommend that the Department of Health consider devising a strategy whereby rural medical practitioners, EMST trained or otherwise, who are capable of rendering emergency medical assistance at rural trauma scenes and are willing to do so, be identified and that their identities be made readily available to the SAAS and to the relevant rural hospitals. I think it appropriate to make a general recommendation that the Department of Health give consideration to developing strategies for the prevention of entrapped patients developing hypothermia.
TAS.2004.703	The deceased died as a consequence of drowning due to epilepsy. At the time of her death she was being treated by medical practitioners at hospital. Recommendations The investigating coroner made a number of recommendations pertaining to administrative procedures at the hospital treating the deceased. See Tasmanian Coroner's Office website: http://www.magistratescourt.tas.gov.au/coronial_findings/claxton,_andrea_-_2005_tascd

Medical treatment (health care / adverse effects) continued	
TAS.2005.172	The deceased died as a result of Left Frontal Intracerebral Haemorrhage due to Penetration of the Brain by a Halo Traction Pin for an Unstable Fracture of the Upper Cervical Spine. The left frontal halo pin penetrated the skull and pushed the dural tissue (membrane that separates the skull and brain) into the brain rather than a perforation of the dura tissue and the direct bleed of intracerebral tissue. Comment and recommendation I note that as a result of this death, the Orthopaedic Surgeons and Registrars have instituted a policy of doing cerebral CT scans on patients with cervical fractures, and particularly those on whom they are contemplating a halo ring immobilisation system. I agree with this policy and also recommend that where there is evidence of a rapid loss of consciousness in a patient following the installation of a halo ring immobilisation system, a CT scan should be done as a matter of priority.
TAS.2005.208	Intentional self harm death—the deceased hung himself (see page 12).
TAS.2005.425	Child death (see page 5).
VIC.2003.427	The deceased had previously been riding a bicycle and was found by his mother hanging by the strap of his helmet which was jammed between the wall and the top bunk of a bunk bed. Recommendations 1. That the Monash University Accident Research Centre, in conjunction with the Monash University Faculty of Engineering, undertake a feasibility, development and testing of a bicycle helmet chin strap release mechanism that would operate in circumstances where the wearer is at risk of sustaining life threatening neck compression. 2. That Rural Ambulance Victoria review their roster systems to ensure, as far as is practical, an appropriate working relationship exists between rostered ambulance paramedics. 3. That the hospital ensure medical and or nursing staff comply with drug administration legislative requirements and that hospital clinical record details are accurately maintained.
VIC.2003.3543	The deceased was admitted to hospital with an acute exacerbation of her chronic lower back pain. During her admission it was noted that her creatinine kinase was elevated and her potassium levels were high. Treatment was commenced on haemodialysis. The deceased then had a cardiac arrest and was resuscitated and transferred to intensive care where she later died. Medical notes record that the deceased was given potassium (unknown amount) during her cardiac arrest. Investigations revealed that potassium could not have been given in the circumstances and suggested there was an error in note taking and scribing. Recommendation Supervision of junior staff when participating in critical care and cardiac arrest be essential to ensure accurate and precise recording of events.
VIC.2004.2595	The deceased died post operatively in hospital on following surgery to repair a thoracic aortic dissection suffered at his work place the previous day. Recommendation I recommend that Chief Psychiatrist develop and implement a formal document of consent in lieu due to mental incompetence in which the precise bases of incompetence are spelt out and which is signed by the psychiatrist or psychiatric registrar making the assessment and the person who then consents in lieu of the patient to the treatment proceeding.

Medical treatment (health care / adverse effects) continued	
WA.2003.124	The deceased attended hospital with a very minor health condition where a urologist determined that a cytoscopy and hydrodilatation of the bladder and bladder biopsy should be performed. After the minor procedures the condition of the deceased deteriorated and she died as a result of peritonitis due to a bacterial infection. The coroner found adequate supervision and treatment of the deceased would have prevented her death. Recommendations I recommend that all hospitals in Western Australia conduct routine audits of medication charts to ensure that these are correctly written up and that any medical practitioners newly appointed or transferred are familiar with the particular charts in use and know how to correctly fill out those charts. I recommend that (the hospital) put in place a Morbidity-Mortality Conference Procedure. I recommend that in future contracts entered into by hospitals in Western Australia with consultants and other medical practitioners the terms and conditions of appointment specifically require the provision of information as to any medical condition, including any psychiatric diagnosis, which could be relevant to the performance of that practitioner. The terms and conditions should also require provision of information about any medication, such as anti-depressant medication, which could impact on the ability of a practitioner in question.
Motor vehicle accidents	
ACT.2005.129	The deceased died as a result of injuries she sustained when the vehicle driven by her collided with a van. Recommendation That consideration be given to re-designing the intersection of (the streets in question) with a view to turning it into two T-intersections (see suggested plan drawn by Australian Federal Police) or at least to give consideration to replacing Give Way signs with Stop signs.
QLD.2002.1027	The deceased was drinking with friends at a nightclub. A fight broke out inside and the nightclub was closed. The fight moved to the highway outside. A vehicle approached and did not appear to see the people fighting on the road. The driver applied the brakes but was unable to avoid hitting two of the people on the road (including the deceased). Recommendation I recommend that the law be amended so that if a medical practitioner concludes that a person they believe is licensed to drive is incapable of doing so safely because of any physical or psychological impairment, it is compulsory for the medical practitioner to report that conclusion to the Department of Transport.
QLD.2004.610	The deceased (an experienced bike rider and tri-athlete) was riding home from work when she was struck by an open rear engine compartment door on a passing bus. Recommendations Eight recommendations were made relating to securing external doors. For full recommendations, refer to the Queensland Coroner's Office website: http://www.justice.qld.gov.au/courts/coroner/findings.htm (Penelope Ann Croft).
TAS.2002.579	The deceased suffered multiple injuries in a motorcycle accident. The deceased was a pillion passenger on the motorcycle. Recommendation The senior police officer who carried out the investigation of this accident has recommended that the speed limit upon (the road on which the accident occurred) be reduced from 80 km/h to 70 km/h. I support that recommendation.
TAS.2004.588	The deceased died as a result of head and pelvic injury suffered when he was run over by a motor vehicle. Recommendations (in relation to 000 calls) 1. Establish clear criteria and guidance to be applied by all operators in the classification of a call as nuisance or non relevant. 2. Provide clear direction as to the involvement of the shift supervisor where doubt exists concerning the validity of a 000 call. 3. Clearly establish that where there is a doubt as to whether a call is valid or not it is to be assumed valid. 4. Ensure that a notation is made by operators in their work books that highlights those calls in relation to which no entry was made in the electronic Command and Control System. This notation ought be such as to clearly identify to a supervisor those 000 calls assessed as nuisance or non valid by the operator and will save time in any assessment of an operator's performance.
TAS.2005.483	The deceased was driving along a highway and attempted to manouvre past a slowing/stopped car waiting to turn into an adjacent road. The deceased failed to manoeuvre his car around the other vehicle and collided driver's side into the rear left corner of the second vehicle causing critical head injuries. Recommendation I recommend that the changes to the (...) junction (...) be carried out without any further delay, by the responsible department.

Motor vehicle accidents continued	
TAS.2006.81,82, 83,84,85	These five individuals died as a result of multiple injuries sustained in a motor vehicle collision. The driver of the vehicle lost control of the vehicle in wet and slippery conditions. The vehicle may have been travelling at an excessive speed for the circumstances existing. Recommendations I recommend that the Department of Infrastructure, Energy and Resources implement the following recommendations as a matter of priority:- The erection of Brifon fencing between the east and westbound lanes at the accident site; The resealing of the road surface; and The erection of automatically activated warning lights. I am aware that the Victorian State Coroner and Monash University Accident Research Centre have already recommended [...'Electronic Stability Program (ESP)'] standard fitment to all new cars and I would encourage the motor vehicle industry to consider the fitting of this life saving technology to all cars, both local and imported.
VIC.2002.2823	The deceased was travelling in a car with her carer. An argument occurred between the deceased and the carer. The deceased became agitated and jumped from the car. She was deceased on the arrival of the ambulance. Recommendation It is recommended that the relevant government agency consider a process of accreditation and approval for any organization that seeks to provide assistance to those with drug and alcohol problems and that such organizations be subject to appropriate regulation, review and control. The Department of Human Services should ensure that those who seek and receive funding to operate such organisations are appropriately qualified and trained to do so.
VIC.2003.1105	The deceased was conducting a defensive driving course with a student driving a prime mover towing a semi trailer tanker. The driver lost control of the vehicle while navigating a right hand bend and rolled down an embankment. The cause of the collision was excessive speed. Recommendation As to the issue of roll over protection l endorse the recommendation of Coroner Max Beck when he handed down a finding in an Inquest touching (a death) involving a D.E.C.A. vehicle. Whilst D.E.C.A. indicated they would fit roll over protection behind cabins and sleeper cabs it must be born that it is an issue that should be addressed by the appropriate statutory bodies, safety organisations and trucking industry groups concerned with road trauma as Mr Beck indeed recommended in (the early nineteen nineties), at the time of this collision D.E.C.A. complied with the law.
VIC.2003.2612	The deceased was participating in a car race meeting. He lost control of his vehicle on approach to the fourth turn on the circuit. The vehicle left the race track, slid on grass for some distance, and then collided with a tyre earth retaining wall. Recommendation (by way of comment) That CAMS risk management approach to extending the use of head restraint devices (complying with an appropriate standard) generally within the sport is to be encouraged. Clearly the system is recognised within certain professional areas of motor sport as having the potential to save lives and reduce injury. It is being used by professional drivers. It should be widely adopted by all participating in the sport and industry. It is to be expected that events such as that being undertaken by the deceased will be included by CAMS in the list requiring the wearing of head restraint devices as soon as is possible.

Motor vehicle accidents continued	
VIC.2003.4081	The deceased was travelling along a freeway at high speed. His vehicle collided with the rear of another vehicle. The deceased's vehicle veered off to the right onto the median strip and impacted with a traffic advisory sign. The deceased's vehicle then caught on fire. Recommendation Following the recommendation of Coroner Toohey made (a few years ago), VicRoads revised its policy for median protection applicable to new freeways and divided highways. The revised policy was put into practice this year. I support the recommendation of Coroner Toohey (" *I recommend that VicRoads consider a review of the current median barrier guidelines with a view to installing appropriate median barriers on all Freeways or State Highways where necessary to prevent errant vehicles travelling onto carriageways in the opposite direction of travel.*") and extend it to include highway furniture such as the numerous unguarded traffic advisory signs that are placed on our freeways and highways. Two years has passed since VicRoads reviewed its policy. I recommend that VicRoads again review its median protection policy.
VIC.2005.1458	The deceased had been walking along a freeway in an area not intended for pedestrian access. A vehicle entered the freeway and struck the deceased, who was standing or had fallen over in the middle of the road. The deceased was then hit by a second vehicle. Recommendations I recommend that VicRoads give priority to installation of street lighting at the (...) interchange (where the accident occurred). Further, I recommend that VicRoads include assessment of and provision for consequential loss of lighting in all new road improvement project designs and funding.
VIC.2005.2124, 2125, 2126	This incident involved three deaths. The deceased were the driver and front seat passenger of the first vehicle, and the driver of the second vehicle. The driver of the second vehicle lost control of his vehicle on a roundabout, crossed to the wrong side of the road, and collided head-on with the first vehicle. Recommendation (A senior constable) of the Major Collision Investigation Unit (of Victoria Police) submitted a report to the Infrastructure Department, Planning and Development Division of (the relevant Local) Council recommending certain changes be made to (the) road. These changes include a lowering of the speed limit from 90 km/h to 80 km/h, signage indicating the approach of the railway line positioned 300 metres north west of the railway line, and road markings indicating the crest and trimming of vegetation on both sides of the road. I recommend these changes be adopted.
VIC.2005.2401	The deceased was walking along a street with the flow of the traffic when he was struck by a vehicle from behind. The driver rendered assistance, and an ambulance attended but the deceased passed away. The deceased was walking on the road due to water being on the footpath caused by heavy rain. Comments It is recommended that the relevant authority make investigations as to whether or not the gutters and drains in (the street) are blocked and need maintenance. It is also noted that attention may need to be paid
VIC.2005.2887	The deceased was the front seat passenger in a vehicle being driven by his son, who had recently obtained his learner's permit. The driver of the vehicle lost control of the car after hitting a soft patch on the road. The vehicle span out of control and collided with a tree. Recommendation I recommend that (the relevant) Shire review the quality of **grading** performed on unmade gravel roads

Psychiatric treatment/Intentional Self-Harm	
VIC.2004.1897	The deceased doused herself with mineral turpentine and set herself alight. Recommendations 1. I recommend that health services and health professionals develop models of care that are holistic and meet the multiple needs of patients. 2. I also recommend that the disciplines of psychiatry and general medicine develop a working relationship which results in better management of complex patients and in particular, avoids compartmentalising patient care.
VIC.2003.412	The deceased took her own life by taking an overdose of valproic acid. The deceased had a history of mental illness. She was suffering from bipolar affective disorder with a differential diagnosis of schizo-affective disorder. The deceased was on a community treatment order at the time of her death. Recommendations 1. Psychiatrists and general practitioners who prescribe medication for patients on Community Treatment Orders routinely interrogate the Health Insurance Commission Prescription Shopper Information Service or the Drugs and Poisons Branch in the Department of Human Services to determine whether or to what degree their clients are using alternative sources of medication. 2. That the Parliament of Victoria amend the *Mental Health Act* 1986 to require authorised psychiatrists to take into account longer-term variations in mental health when determining whether their patients meet the criteria specified in section 8. 3. That the Parliament of Victoria amend the *Mental Health Act* 1985 and other privacy legislation to require authorised psychiatrists to consult with other known service providers when determining whether their patients meet the criteria specified in section 8. 4. That the Parliament of Victoria amend the *Mental Health Act* 1985 and other privacy legislation to allow authorised psychiatrists to consult with family members when determining whether their patients meet the criteria specified in section 8 and developing case management plans for involuntary treatment in the community. 5. That the Government of Victoria review its allocation of resources for community based psychiatric services with a view to improving the capacity of Crisis Assessment and Treatment teams to provide on-going treatment and monitoring services to patients on involuntary orders living in the community. 6. The Alfred Hospital Psychiatry Department and other psychiatric services in Victoria re-consider their hierarchical structures with respect to Crisis Assessment and Treatment teams to enable priority responses to the urgent needs of current involuntary patients when requested by the consultant psychiatrist responsible for supervision of the patient's involuntary order. 7. Consultant psychiatrists include orders for routine analyses for their patients' prescription medication levels in the Management Plans for patients discharged on Community Treatment Orders particularly when masking of symptoms is a known issue and discharge is subject to Crisis Assessment and Treatment team involvement.
Sport/leisure activities	
QLD.2003.710	The deceased (a tourist holidaying in Australia) was a novice diver undertaking an introductory dive course with a qualified dive instructor. Water entered her mask and she ascended quickly to the surface. She did not expel sufficient air from her lungs to avoid the expanding air volume to cause a pulmonary barotrauma. She soon lapsed into unconsciousness and was unable to be subsequently revived. Recommendations The recommendation I make in this matter is that the Recreational Diving Industry, in conjunction with the Division of Workplace Health and Safety do as follows: 1. Review the training materials and programs used for the training of resort divers to ensure they meet best practice standards; 2. That included in such training materials clear advice be given to novice and/or resort divers of the dangers associated with diving generally, and specifically, but not limited to, the dangers of a rapid ascent from any depth. 3. Review the training programs of instructors to ensure they are aware of the factors which can cause panic in a diver and are able to better recognise those factors when exhibited by potential divers and to enable them to make decisions minimising a risk of injury or death to that person. Those decisions may include more training and instruction for the novice diver, or prohibiting the dive or cutting short a dive.

Sport/leisure activities (continued)	
VIC.2001.1030	The deceased was competing in a bantamweight boxing match of eight rounds, when towards the end of the sixth round he fell to the canvas having sustained a number of blows to the head. Recommendations As indicated, boxing is regulated through the Professional and Combat Sports Act 1985, with the purpose of the Act being stated, in part, *to promote safety*. It has been said, that boxing is the only sport where the object of the exercise is to physically disable your opponent. Accordingly, given its physically hazardous nature, boxers should be fully aware of the possible adverse consequences of participation. It is recommended that conditional upon becoming registered, a boxer be required to sign a form of "informed consent", similar to that given to patients prior to undergoing major surgery. It is further recommended that the information provided includes the following description of possible brain injury: (information to be provided to boxers outlined in finding).
VIC.2004.668	The deceased was part of a group undertaking their final dive prior to receiving their dive ticket. The deceased ascended to the surface rapidly, for unknown reasons. He was found floating on the surface of the water deceased. Resuscitation was conducted but he could not be revived. Recommendations 1. Adopting a suggestion put by (a sergeant from) Police Search and Rescue, I recommend that at the initial training course ascent training - both theory and practice - occur very early in tuition and certainly not later than the very first open water dive. 2. Before completing this finding I arranged an updated search of the National Coroners Information System (NCIS) (which may be an underestimate). The sheer numbers of SCUBA diving deaths, particularly involving novice recreational divers, compel me to comment that very serious consideration be given before any reduction in the standard for diver training is contemplated. In light of the apparent degree of under regulation and the absence of even a Code of Practice in some States the industry would be well advised to consider the formation of a peak industry body to oversight a more robust level of self regulation.
VIC.2004.2428	The deceased was undergoing open water scuba diving certification in a bay when he was found drowned 20 metres away from a nearby pier in 3.4 metres of water. Recommendations 1. When a dive instructor has not been involved in the earlier tuition of a trainee, but takes over for the open water training dives, he/she be fully briefed by the initial instructor as to the water competence and other pertinent aspects pertaining to the student/s for whom he/she will assume responsibility. 2. When there are trainees and qualified divers in a group to avoid confusion in the mind of the instructor (as occurred here) either the trainees or the qualified divers should wear something to distinguish them to enable immediate identification of the novice. 3. I adopt the recommendations made by (the police officers) and observing it was relevant in both this and another inquest heard on the same day, I formally recommend that more emphasis at an early stage in training be given to weight release; with two weighing systems -weight belt and weights integration in BCD's, it is imperative that trainees are adequately instructed in the use and safety aspects of both.
VIC.2005.1565	Rock-fishing related death—see page 3

Work-related	
QLD.2003.337	The deceased, who was employed as a driller on a drilling rig, was standing on timber matting on the ground next to the driller. The deceased was positioning a large metal pipe when the pipe smashed through the wooden matting and suck into the ground. The force of this has caught the deceased and pinned him between two large metal pipes. Recommendation I recommend that the Petroleum and Gas Inspectorate consult with participants in the gas drilling and extraction industry to design an education package that should then be mandated by regulation. I recommend that the package address the training needs of rig workers, supervisors and senior drilling company personnel. In the case of rig managers and supervisors, I recommend that the education package mandate a tertiary education course as a component of the required qualifications.
QLD.2004.442	The deceased died as a result of crush injuries sustained when he was struck by and pinned under a heavy wheel as a result of an industrial accident. Recommendations 1. I recommend that (the organisations involved) engage a competent consultant with an industrial or organisational psychology background to review the safety culture of the operation with a view to better informing management of how safe work practices can be internalised by staff of the mine. 2. I recommend that the Mines Inspectorate investigate how meaningful supervision can be delivered to a heterogeneous workforce of skilled autonomous workers engaged on a disparate site and that they publish their findings and practical examples applicable to various mining activities. 3. I recommend that the Mines Inspectorate, SIMTARS and industry participants continue with the revision of AS 4457 and that special attention be given to tyre handling, lock ring retention and rim maintenance
QLD.2005.626	The deceased was a deckhand working onboard his father's trawler. The vessel overturned after the trawler nets hooked up on a unknown underwater object in rough seas. Recommendations - that Marine Safety Queensland (MSQ) liaise with the Queensland Seafood Industry Association and other relevant representative bodies '..with a view to curtailing any concessions that exclude the application of safety design requirements to any commercial fishing boats so that the National Standard for Commercial Vessels is applied to all trawlers and that if necessary regulations be amended to make mandatory the inspection and approval of any changes to trawling equipment that could impact upon a vessel's stability.' - that the installation of quick release mechanisms on trawl cables be mandated for all commercial trawlers - that MSQ investigate to identify the most appropriate type and models of inflatable life raft and hydrostatic release, PFD and EPIRB to ameliorate the dangers faced by trawler men and that the Transport Operations Marine Safety Act regulations be amended to mandate that trawlers carry such life rafts, and commercial fishermen wear such PFDs and carry such EPIRBs when working offshore whenever they are on deck.
TAS.2003.400	The deceased was assisting in the moving of a 6.5 tonne boat by crane onto the back of a truck. When the boat was a few inches from the trailer it suddenly moved. The deceased jumped out of the way to the driver's side of the truck at the same time as the crane toppled over onto its driver's side, the boom striking the deceased and killing him instantly. Recommendations - that the model of crane be recalled and fitted with an amended capacity chart which shows load derating when operated on gradients which exceed 8.75% and articulation angles which exceed 10 degrees; - that an inclinometer be fitted in the operator's cabins of these cranes and that such a device should be 'redlined' to show an operating exclusion zone beyond 8.75% gradient in any direction; - that a formal approach should be made to Standards Australia for AS1418.5 Mobile Cranes Code and AS2550.5 Safe Use of Mobile Cranes to be amended to include inclinometers and gradient derating charts as mandatory requirements on this type of crane regardless of capacity.
TAS.2005.586	The deceased sustained fatal injuries when he was struck either by a falling tree or by a limb from that tree. Recommendation that all employers in the forestry industry adopt a drug policy and that such policy incorporates a provision for random testing of employees, particularly when working in the bush.

Work-related continued	
VIC.2004.3068	The deceased was driving a fertilizer spreader in a paddock. The deceased suffered a fall whilst operating the spreader. The deceased was discovered slumped over the steering wheel of the vehicle, deceased. Recommendations 1. Worksafe should ensure (if it has not already done so) that if there are other spreader units with a similar safety problem which are being used by the farming community or contractors the owners of these units should be contacted by the manufacturer and advised in writing of the need for modification. 2. WorkSafe consider issuing an "ALERT" to farmers and relevant contractors about the circumstances in this case and the need to look at design issues for access and egress to heavy farm equipment (in this case the spreader cabin and bin). 3. As part of its involvement in the national compliance project, Worksafe may wish to consider the following investigatory issues. All fatality investigations that may involve equipment design or design safety issues the investigators for the Coroner (WorkCover or Police) should consider, by way of a guide only, the following issues: · The original design brief for the manufacture of the equipment (examining how safety issues are addressed in the design brief); · A statement from the manufacturer addressing issues such as the original design brief, understanding of safe design issues as applying to the equipment in question, knowledge of previous incidents; · Knowledge of designer/manufacturer of previous incidents involving the safety of the equipment in question, service or maintenance documents that may deal with safety issues or modifications to the equipment. How these ongoing issues are identified and addressed by the manufacturer; · Copies of instruction or operators manuals for the equipment in question; · Records from the designer and/or manufacturer about the issues under investigation; · Number of units in the field and how to contact owner/operators in the event that a safety problem is identified. 4. As part of its involvement in the national compliance project Worksafe may wish to consider developing a basic information pack for designers/engineers and engineering companies on aspects of safe design to assist with the development or modification of equipment. Worksafe may wish to consider involving an Engineering Department at a University (i.e: The James Goldstone School of Engineering and Physical Systems and/or Monash University School of Engineering) in this part of the project.
Miscellaneous	
VIC.2003.1435	The deceased had a history of Down's Syndrome and was in the care of the Department of Human Services. She resided in a residential care unit. One morning she was given breakfast (cheese sandwiches), choked on the breakfast and collapsed. Recommendation It is recommended that care workers involved in the management of the mentally disabled and the elderly, be alert to the potential for choking on particular foods and that they remain vigilant in the supervision of their clients, when these foods are being consumed.
VIC.2004.4046	The deceased fell from a balcony at the hospital—see page 2.
NT.2005.60	The deceased was admitted to hospital with an abscess. She was removed from by her father without the knowledge of the hospital. A week later she arrived back at the hospital in respiratory distress, and died the following day. Recommendation The Coroner recommended that the Commissioner of Police review the position of the Coroners Constable in the Central Region (viz. Alice Springs and Tennant Creek) with particular regard as to whether the responsibilities of the position require more fulltime attention or an additional constable.

Index

The following is an index of recommendations (by broad topic area) summarized by the NCIS within the 11 editions of Fatal Facts produced thus far.

Please note that cases can often focus involve multiple topic area or themes, and therefore may be included in the list below more than once.

Editions 6-10 of Fatal Facts can be found on the NCIS website, at http://www.ncis.org.au/web_pages/publications.htm#a1

Editions 1-5 of Fatal Facts are only available in hard copy format. To request a copy of any of these editions, please contact Stephen Morton at the NCIS on (03) 9684 4442 or at stephenm@vifm.org.

Topic/theme	See Fatal Facts Edition(s)...
Adverse effects or reactions to medical/surgical care	All
Aged care	6
Child deaths	10, 9, 8, 7, 6, 4
Diving, scuba diving, snorkeling	9
Domestic/leisure incident	9, 8, 4
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Product-related	7, 4, 3
Sports-related	10
Transport-related	All
Water-related (general)	All
Water-related (recreational fishing/boating)	10, 9, 7, 6, 5, 1
Work-related	All

Acknowledgement

The NCIS team thanks the Research Centre for Injury Studies and Emily Caruana (from the *University of Adelaide)* for allowing their work to be included in this edition of Fatal Facts.

Building Better Balconies and Balustrades

This research was prompted by the serious injuries sustained by an 18 year old woman after she fell six metres over the side of a balustrade. This incident, and others like it, lead to the development of a project to investigate the regulation height and effectiveness of
safety barriers or balustrades that aim to protect people from accidental falls. The three questions which the research aimed to find answers to were:
What are the current regulations and standards for the height of these types of barriers in Australia?
What impact does the height of a person's centre of gravity have on their chances of falling?
Given all of that information, is the current regulation safe or does it need to be changed?

Current building regulations and standards

The latest edition of *The Australian Building Code* (BCA) is the 2005 Edition which was adopted by all Australian states and territories on 1st May 2005.**2**

The following article is based on excerpts from a report prepared by Emily Caruana, a student at the University of Adelaide. Emily undertook research into the safe design of barriers and balustrades as a requirement of a public health internship she completed at the Injury Prevention and Control Unit in the Department of Human Services in Adelaide.

The 2005 *BCA* requires that a continuous balustrade be provided alongside all horizontal walkways that are more than 1,000mm above the level below (see Photo 1 for an example of this type of balustrade). The BCA also specifies the height of barriers alongside stairs or ramps (including escalators); these must be at least 865mm in height.**2** In actual fact, the specifications have changed very little since the first uniform *Australian Building Code* was published in 1988.

The Standards Association of Australia published the third edition of its standard relating to the height of guardrails in November 1992.**3**

The recommended height given by Standards Australia for a barrier alongside any kind of walkway that is more than one metre above the level below should be no less than 900mm and no more then 1,100mm in height.**2**

Photo 1: First level shopping centre balustrade

Centre of Gravity

The centre of gravity of an object is the location at which the entire mass of the object is concentrated. "A body behaves as if it's entire mass acts or is acted upon at its centre of gravity."**4** This means that if a person's centre of gravity was to be higher than the barrier/balustrade there would be a greater chance that their centre of gravity would go over the side of barrier, causing them to loose their balance and fall. Therefore, in order to determine how effective the current regulations are in preventing falls, it is necessary to know what the height of the centre of gravity of most of the population is.

The last notable studies to investigate the location of centre of gravity in the human body were conducted in 1922 for males and 1938 for females. The results of the first of these studies, done in 1922 by Croskey et al., were quoted by Dr. Leo D'Acquisto from Central
Washington University. D'Acquisto's study concluded that for males, when standing in the anatomical position, the centre of gravity was located at 56.18% of their height.**5**

The second study undertaken in 1938 by Hellebrandt et al.**6** was quoted by Nicholas O'Dwyer from the School of Exercise and Sport Science at the University of Sydney. O'Dwyer found that, when standing in the anatomical position, the centre of gravity of the female body was approximately 55% of a woman's height.**7** This difference between men and women is believed to be due to the fact that in the female body "more weight is concentrated in the pelvis area and thighs compared to a man".**5**

Using data collected by the Australian Bureau of Statistics (ABS) in 1995 on the measured height of around 10,000 respondents aged 18 years or over, the height of centre of gravity of the population at this time was calculated.**8**

The mean height of centre of gravity for males was 98.2cm (based on 56.18% of average height of 174.8cm), however the maximum height recorded for males was 200.6cm which means centre of gravity would be located at 112.7cm. In fact, the ABS reported that 24.5% of the male respondents were 180cm or more in height**.7** Therefore, they would have a centre of gravity that was 101.1cm or higher. Among females, the average measured height was 161.4cm which means the average centre of gravity would be 88.8cm. But the maximum height for females was 184.5cm and therefore the maximum height of centre of gravity would be 101.5cm. In 2001 there was another survey done that focused on women's measurements. It was called the *National Size and Shape Survey*.**9** This survey found that the average height for women was 162.4cm. This finding would therefore increase the average centre of gravity for women to 89.32cm and could potentially mean that there was also an increase in the maximum height for women.

Factors infl uencing location of centre of gravity

Gender is not the only factor that can alter the location of centre of gravity.

Height, weight and age can all affect the position of centre of gravity within the human body. The height and weight of the Australian population has significantly changed over time therefore changing the location of centre of gravity in the population.

The height of 10,000 respondents was measured in 1995 by the ABS as previously mentioned. This study by the ABS looked at both males and females.

However, since then, the only height measurements recorded were for females in the 2001 *National Size and Shape Survey*.

Over the period 1995–2001, the average height of Australian women increased by 1cm from 161.4cm to 162.4cm.

According to another study by the ABS, Australians are also carrying more excess weight".**10** Between 1989–90 and 2001 the average weight for an Australian adult increased by more than 4kg from 70.1kg to 74.3kg. That is "equivalent to each Australian gaining more than 350g per year on average over that time".**10** This excess weight will affect the location of the centre of gravity differently depending on where it is placed on the body. If the excess weight has been put on around the hips and thighs then the centre of gravity will be lower, however if it has been put on around the stomach or chest then the centre of gravity will be higher.

Emerging issues

Physical Characteristics

Data was collected in France in 1981–82 on stature with feet flat on the ground and stature while on tiptoes. There was a significant difference recorded between the two, the mean stature for males while fl at footed was 1,719mm and while on tiptoes was 1,748mm that is a difference of 29mm. For females the mean stature while flat footed was 1,604mm and while on tiptoes was 1,652mm that is a difference of 48mm.**11**

This significant increase in stature between being flat footed and on tiptoes is likely to be found in all populations including the Australian population.

This increase in height is likely to increase the height of centre of gravity and being on tiptoes also reduces the size of the base that is supporting the body, therefore making it easier to overbalance and fall.
Given that it is a common occurrence for people to be on tiptoes while leaning over the side of a balustrade this could be an important factor when deciding on an appropriate balustrade height for ensuring public safety.

Altering Centre of Gravity

Load carrying is a recent arising issue when it comes to factors that can alter centre of gravity. Large backpacks are of particular concern for school age children and adolescents. One study looked at how "backpack loads produce changes in standing posture" in adolescents.**12**

Photo 2: Escalator balustrade

The study found that as the backpack load increased, regardless of where the backpack was positioned on the back, the response of the adolescents "was to place all anatomical points progressively more anterior to the ankle ... because of the need to adjust the body's centre of gravity to accommodate a posterior load".**12** Therefore, load carrying could potentially be an important factor in the chances of falling.

Conclusions and recommendations

Falls from a height of more than one metre can cause serious and sometimes fatal injury. One way of helping to prevent these types of falls is by having balustrades on the upper levels of buildings that are higher than the centre of gravity of as much of the population as possible. The current *Building Code* regulation for balustrade height has, in effect, not been altered since 1988, and may be insuffi cient to protect the public from injury. The information available about the height and weight of the Australian population and how it has changed over time shows that Australians have a very different physical build today than they did in the 1980s and this can alter the location of their centre of gravity.
Therefore, their chance of falling over the side of a balustrade that is 1,000mm in height, as required by the *Building Code*, will also have altered.
Given that, in 1995, at least 24.5% of males had a centre of gravity higher than 1,010mm means that the minimum height of 1,000mm specified by the current *Building Code* is insufficient. It would seem that the time has arrived for the relevant clauses of the *BCA* and the *Australian Standard AS 1657–1992* be reviewed. Part of this review process should be an updated survey of the height, weight and physical build of the Australian population. There should be a detailed examination of the centre of gravity, where it might be located, what factors cause it to be altered and what impact this has on the chances of someone falling.

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