WA DROWNING REPORT 2015/16

Royal Life Saving
THE ROYAL LIFE SAVING SOCIETY WESTERN AUSTRALIA INC

GOVERNMENT OF WESTERN AUSTRALIA
PARTNER


ROARING FORTIES
SAFETY MARINE AUSTRALIA

SNAPSHOT OF FINDINGS

35
PEOPLE DROWNED

117
HOSPITAL ADMISSIONS

112
EMERGENCY DEPARTMENT PRESENTATIONS

67% **33%**

TOP 3 LOCATIONS

47% OCEAN/ HARBOUR

26% HOME POOL

12% BEACH

TOP 3 ACTIVITES

29% FISHING

26% BOATING

21% RECREATING

TOP 3 REGIONS

PILBARA | MID-WEST | KIMBERLEY

HELP MAKE YOUR COMMUNITY FREE FROM DROWNING

WEAR A LIFEJACKET

SUPERVISE CHILDREN

LEARN TO SWIM AND SURVIVE

LEARN CPR & FIRST AID

LEARN LIFESAVING SKILLS

DROWNING DEATHS IN 2015-16

There were 35 unintentional drowning deaths recorded in Western Australian waterways between 1 July 2015 and 30 June 2016. While this is below the 10 year average and a slight decrease from the previous year, numbers of drowning deaths have remained stable over the past few years.

Despite the number of drowning deaths remaining steady over the past few years, the rate of drowning has decreased significantly in WA due to population growth. In 2015-16 the crude drowning rate was 1.30 deaths per 100,000 population which remains below the 10 year average and represents a 2.3% decrease from 14-15 and a 12.8% decrease over the past 10 years.

Nationally, WA recorded the fourth highest rate of drowning in Australia in 2015-16 behind the Northern Territory, Tasmania and Queensland.

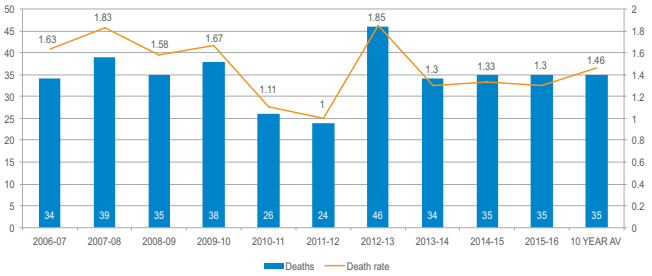


Figure 1: Drowning deaths in WA 2006-07 to 2015-16

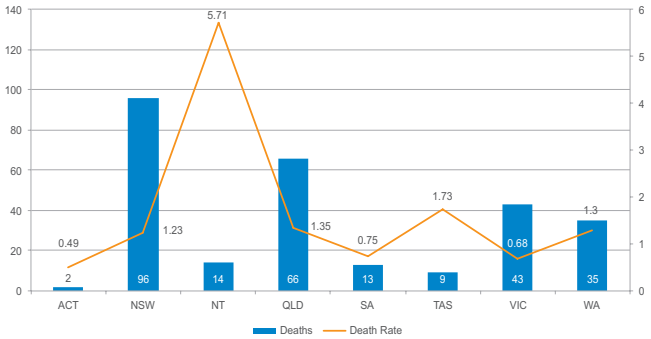


Figure 2: Drowning deaths nationally 2015-16

WHO DROWNS?

Gender

Males were again at a significantly higher risk of fatal drowning than females in WA. Of the 35 people that drowned in 2015-16, 88.6% (N=31) were male and the remaining 11.4% (N=4) were female. This represents a 34% increase from 2014-15 in the proportion of drowning deaths involving males. The crude rate of drowning for males was 2.27 deaths per 100,000 compared with 0.30 deaths per 100,000 population for females. This means that in 2015-16, males were 7.6 times more likely to die from drowning than females.

Age

The average age of those involved in a fatal drowning incident was 41.8 years and ranged from 1 to 88 years of age. The average age was slightly lower for males (41.7 years) than for females (42.3 years).

In 2015-16, toddlers aged 0-4 years were at the greatest risk of fatal drowning in WA with a crude rate of 1.66 per 100,000 population (54.5% increase from 2014-15). Similar to previous years, children aged 5-14 years were at the lowest risk of drowning with no drowning deaths recorded amongst this age group.

Rates of drowning amongst young people aged 15-24 years increased significantly with a crude drowning rate of 1.11 deaths per 100,000 population, an 83.3% increase from 2014-15. While older adults were still at a high-risk of drowning, the rate of drowning amongst this age group decreased by 22.2% in 2015-16 compared to the previous year.

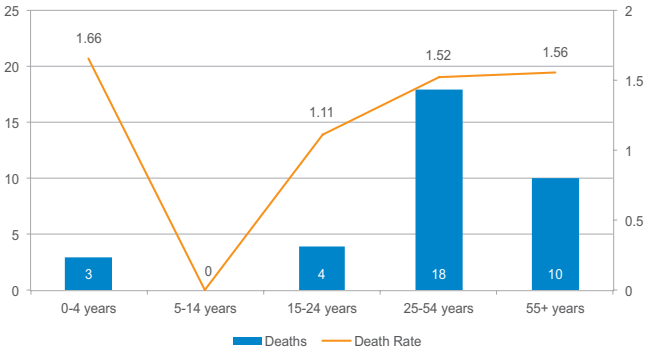


Figure 3: Drowning deaths by age 2015-16

Socio-Economic Status

The majority of people involved in fatal drowning incidents in 2015-16 were from areas of high socio-economic advantage with 48.4% (N=15) of people residing in areas classified in the highest quintile for socio-economic advantage. Overall, 9.7% (N=3) of people were from low socio-economic areas.

Aboriginal Status

There were no drowning deaths recorded involving Aboriginal Australians in 2015-16. However, Aboriginal Australians remain at a greater risk of drowning compared to other Australians with 6.4% of drowning deaths involving Aboriginal Australians over the past 10 years.

Born Overseas

Overall, 34.3% (N=12) of drowning deaths recorded in 2015-16 involved people that were born overseas. This is a 33.3% increase from 2014-15. Of these, 50.0% (N=6) of people were born in an English speaking country (United Kingdom, New Zealand and USA). The remaining 50.0% (N=6) were from non-English speaking backgrounds, with the majority born in Asian countries.

WHEN DO THEY DROWN?

Drowning occurs throughout the year, however in 2015-16 the highest number of drowning deaths occurred during the spring months (N=11; 31.4%). Summer, autumn and winter all recorded the same proportion of drowning deaths (N=8; 22.9% each). This differed from previous years where drowning deaths were most likely to occur during summer and autumn months. The highest number of drowning deaths were recorded in January, July, October and November (N=5; 14.3%) and lowest recorded in February (N=0).

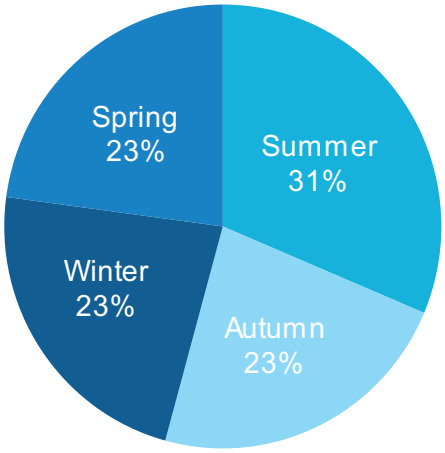


Figure 4: Drowning deaths by season 2015-16

Drowning deaths were most likely to occur on Sunday (N=9; 25.7%), Wednesday (N=6; 17.1%), Tuesday (N=6; 17.1%) and Saturday (N=6; 17.1%). They were least likely to occur on Thursday (N=2; 5.7%). Overall, 42.8% (N=15) of drowning deaths occurred on the weekend and 8.6% (N=3) occurred over a long weekend and/or public holiday.

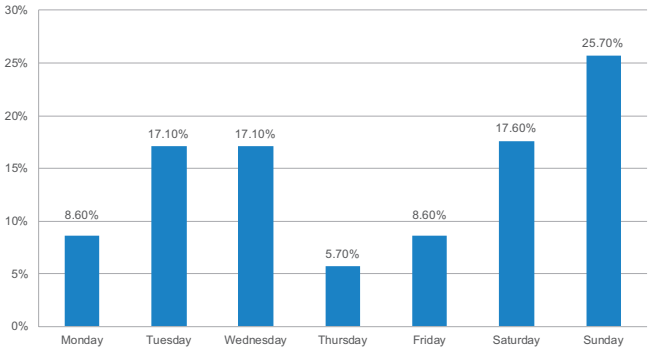


Figure 5: Drowning deaths by day of the week 2015-16

Similar to previous years, drowning deaths were most likely to occur in the afternoon between 12.01pm to 6.00pm (N=15; 42.9%), followed by the morning between 6.01am to 12.00pm (N=9; 25.7%). Time of the incident was unknown in 17.1% of cases as the person was participating in activities in, on or around the water alone making it difficult to determine the time of death.

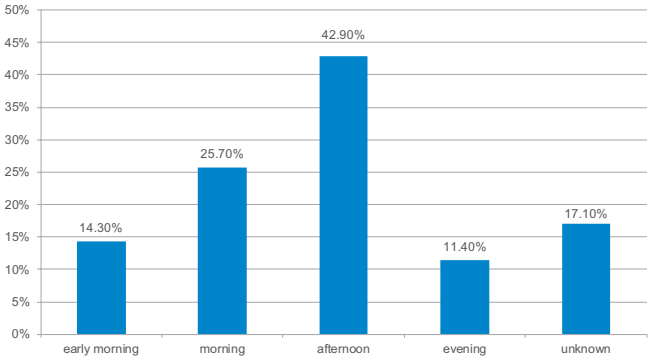


Figure 6: Drowning deaths by time of day 2015-16

WHERE AND HOW DO THEY DROWN?

The rate of drowning in regional and remote areas of WA continued to be significantly higher than the Perth metropolitan area. Overall, 51.4% (N=18) of drowning deaths occurred in regional and remote areas in 2015-16. However, when taking into account population distribution, people were 3.6 times more likely to die from drowning in a regional or remote area (2.99 deaths per 100,000 population) than in the Perth metropolitan area (0.84 deaths per 100,000 population).

The highest number of drowning deaths was recorded in the North Metropolitan (N=9) and Pilbara regions (N=7). The highest rates of drowning were recorded in the Pilbara region (9.83 deaths per 100,000 population) followed by the Mid-West region (5.70 deaths per 100,000 population). Multiple fatality incidents contributed to the increased rates recorded in these regions. Rates were lowest in the Wheatbelt and Goldfields regions where there were no drowning deaths were recorded in 2015-16.

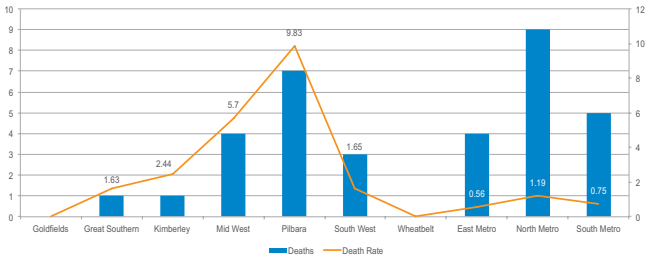


Figure 7 : Drowning deaths by region 2015-16

*Note – regions included within this report have changed from previous years due to recent updates to the WA health region boundaries within the Perth metropolitan area

While the majority of drowning deaths occurred in major cities in 2015-16 (N=16; 45.7%), a significant proportion occurred in remote (N=7; 20.0%) or very remote (N=7; 20.0%) locations, most of which were in regional WA (92.9%). This has implications for drowning outcomes as most of these locations have limited access and mobile phone coverage meaning that there are often delays in emergency services attendance.

Similar to previous years, drowning deaths were most likely to occur at coastal locations with 60.0% (N=21) recorded along the WA coastline. This was a 25.3% increase from 2014-15. Of these, 81.0% (N=17) occurred at ocean/harbour locations, which was again the most common location for fatal drowning in 2015-16. The proportion of drowning deaths recorded at beaches almost halved from 2014-15 with 11.4% (N=4) of all drowning deaths occurring at these locations.

The home swimming pool emerged as the second most common location for drowning deaths in 2015-16 with 25.7% (N=9) of incidents occurring at these locations. This was more than double the proportion recorded in 2014-15 and highlights the need for ongoing home pool safety education within the community.

There was a significant decrease in the number and proportion of drowning deaths occurring at inland waterway locations in 2015-16 with 8.6% (N=3) of deaths occurring at these locations (compared with 18.4% in 2014-15).

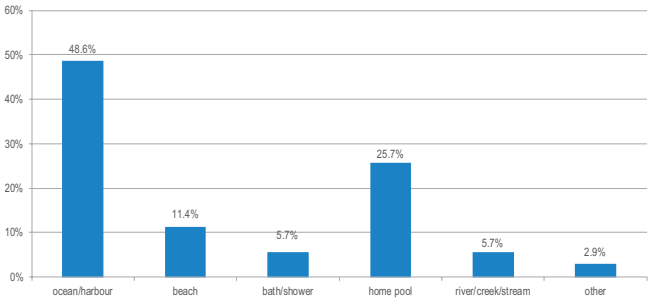


Figure 9: Drowning deaths by aquatic location 2015-16

Figure 8: Drowning deaths by remoteness classification 2016-17

Fishing (N=10; 28.6%) and boating (N=9; 25.7%) were the most common aquatic activities being undertaken at the time of the incident in 2015-16. Both activities recorded significant increases from 2014-15, mainly due to a number of incidents resulting in multiple fatalities. This year cliff jumping also emerged as a high risk activity resulting in drowning deaths with 8.6% (N=3) of incidents involving this activity.

Of the drowning deaths recorded in 2015-16, 40.0% (N=14) occurred while the person was in the water participating in an aquatic activity. The remaining 60.0% (N=21) occurred when the person unintentionally entered the water after slipping, falling or being swept in. This means that they were unprepared to enter the water which affects their ability to get themselves to safety following the incident.

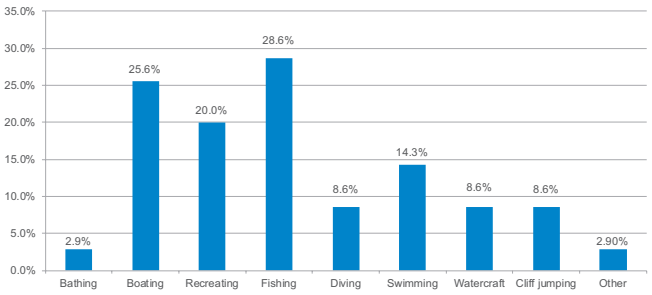


Figure 10: Drowning deaths by activity 2015-16

A rescue was attempted in 65.7% (N=23) incidents with it most likely to have been performed by someone known to the person including a parent/carer (N=12; 52.2%) or friend (N=4; 17.4%). Where there was no rescue attempted, common reasons included that the person was participating alone, the conditions were unsafe to perform a rescue or that persons at the location at the time of the incident didn't possess the necessary skills to perform a rescue.

NON-FATAL DROWNING

There were 117 people admitted to hospital following a non-fatal drowning between 1 July and 2015 and 30 June 2016. This is a 4.5% increase from 2014-15 and is slightly higher than the five year average. Despite the increase in the number of hospital admissions, the crude rate has remained similar to 2014-15 at 4.35 hospitalisations per 100,000 population.

In addition, there were 112 presentations to the emergency department in the Perth metropolitan area in 2015-16. This is a 30.2% increase from 2014-15 and is the highest number of presentations recorded in the past five years. The crude rate of emergency department presentations also increased in 2015-16 by 26.1% to 5.27 presentations per 100,000 population.

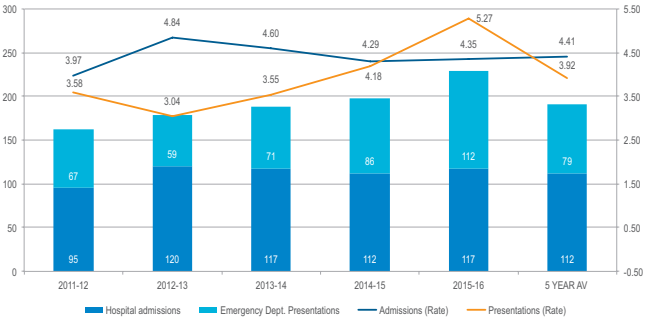


Figure 11: Non fatal drowning in WA 2011-12 to 2015-16

Overall, there were 264 people affected by drowning in 2015-16 at a crude rate of 9.77 incidents per 100,000 population. This means that for every fatal drowning in 2015-16, there were seven non-fatal drowning incidents. It is likely that this is an underestimation given that emergency department presentations are currently only collected in the Perth metropolitan area and don't include those recorded in regional WA.

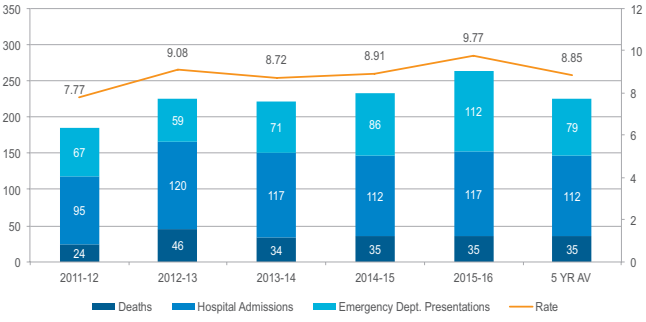


Figure 12: Total drowning burden 2011-12 to 2015-16

WHO DROWNS?

Gender

Males were also at a higher risk of non-fatal drowning than females in WA, although not to the same extent as for fatal drowning. Of the 117 people that were admitted to hospital following a non-fatal drowning incident in 2015-16, 63.2% (N=74) were male and the remaining 36.8% (N=43) were female. The crude rate of drowning amongst males decreased by 6.9% to 5.42 admissions per 100,000 in 2015-16, while the rate amongst females increased by 19.6% from 2014-15 to 3.24 admissions per 100,000 population. This means that in 2015-16 males were 1.7 times more likely to be admitted to hospital following a non-fatal drowning incident than females which is significantly lower than previous years.

In addition, of the 112 people that presented to the emergency department following a non-fatal drowning incident in 2015-16, 65.2% (N=73) were male and the remaining 34.8% (N=39) were female. Presentation rates increased from 2014-15 for both males (35.9% increase) and females (11.1% increase). The crude rate for males was 6.85 presentations per 100,000 population and 3.68 presentations per 100,000 population for females. This means that in 2015-16 males were 1.9 times more likely to present to the emergency department following an immersion than females which was significantly lower than previous years.

Overall, two thirds (N=178; 67.4%) of drowning incidents involved males in 2015-16 (including both fatal and non-fatal) and the remaining 32.6% (N=86) were female. The crude rate of drowning for males was 13.03 incidents per 100,000 population and 6.48 incidents per 100,000 population for females. This means that in 2015-16, males were twice as likely to be involved in a drowning incident as females.

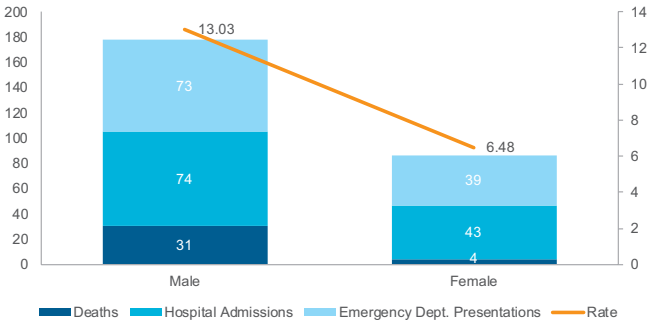


Figure 13: Drowning by gender 2015-16

Age

Similar to trends seen in fatal drowning data in 2015-16, toddlers aged 0-4 years were at the greatest risk of non-fatal drowning. Almost half (N=57; 48.7%) of hospital admissions and 68.8% (N=77) of emergency department presentations were toddlers aged 0-4 years.

Similarly, the rate of non-fatal drowning decreased with age with older adults over 55 years of age recording the lowest rate of hospital admissions (N=9; 2.97 admissions per 100,000 population) and emergency department presentations (N=8; 0.64 presentations per 100,000 population).

Over the past five years, the average annual change in the rate of non-fatal drowning has increased for toddlers aged 0-4 years (14% increase in hospital admissions and 23% increase in emergency department presentations) and children aged 5-14 years (11% increase in hospital admissions and 14% increase in emergency department presentations). There were decreasing trends recorded amongst all other age groups.

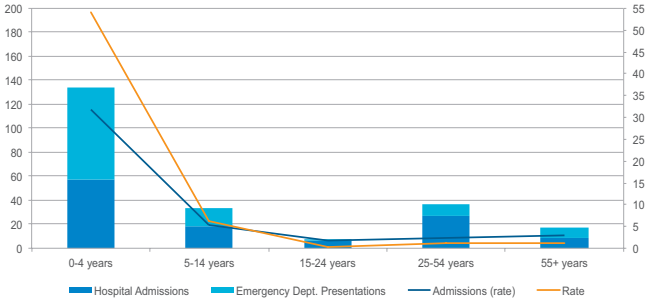


Figure 14: Non-fatal drowning by age group 2011-12 to 2015-16

Overall, toddlers aged 0-4 years were at the greatest risk of drowning (N=137; 76.24 incidents per 100,000 population) followed by children aged 5-14 years (N=34; 10.25 incidents per 100,000 population). Young adults aged 15-24 years were at the lowest risk of drowning in 2015-16 with a crude drowning rate of 3.63 incidents per 100,000 population (N=11).

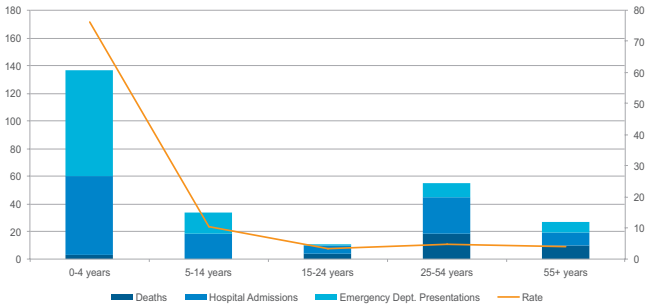


Figure 15: Overall drowning by age group 2015-16

Aboriginal Status

Aboriginal Australians were 1.3 times more likely to be admitted to hospital (5.36 admissions per 100,000 population compared to 4.12 admissions per 100,000 population) and 2.6 times more likely to present to the emergency department following a non-fatal drowning incident than other Australians (13.59 admissions per 100,000 population compared to 5.13 admissions per 100,000 population) in 2015-16.

WHERE AND HOW DO THEY DROWN?

Region

The rate of non-fatal drowning in regional and remote areas of WA was slightly higher than the Perth metropolitan area. Overall, 25.6% (N=30) of hospital admissions following a non-fatal drowning incident occurred in regional and remote areas in 2015-16. However, when taking into account population distribution, people in regional and remote areas were 1.3 times more likely to be admitted to hospital following a non-fatal drowning incident (5.29 admissions per 100,000) than those in the Perth metropolitan area (4.09 admissions per 100,000 population).

The highest number of hospital admissions following a non-fatal drowning incident was recorded in the South Metropolitan (N=30) and North Metropolitan regions (N=29). However, when taking into account the population distribution, the highest rates of non-fatal drowning were recorded in the Kimberley region (12.23 admissions per 100,000 population) followed by the Wheatbelt region (7.18 admissions per 100,000 population).

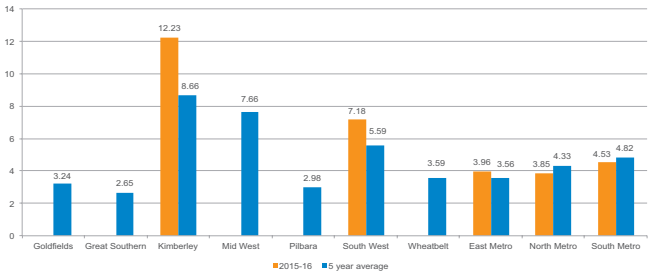


Figure 16: Hospital admissions by region 2015-16

The highest rate of emergency department presentations following a non-fatal drowning incident was recorded in the North Metropolitan with a crude presentation rate of 5.70 presentations per 100,000 population (N=43) followed by the East Metropolitan region with a crude rate of 5.37 presentations per 100,000 population (N=38). It is important to note that data relating to emergency department presentations only includes those who attended metropolitan emergency department as most regional/rural emergency departments do not use ICD - 10 codes making data collection difficult. This will result in the underestimation of non-fatal drowning in WA.

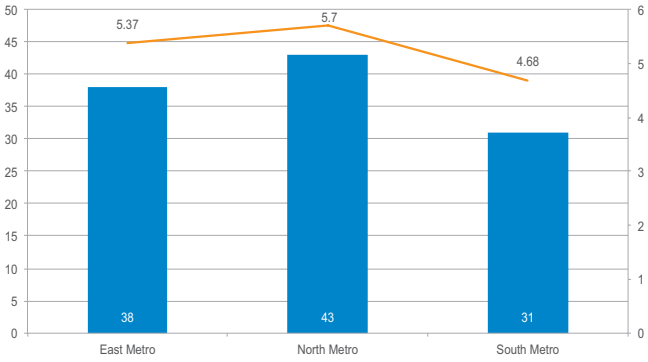


Figure 17: Emergency department presentations by region 2015-16

When combining data for fatal drowning and hospital admissions following a non-fatal drowning incident, the Kimberley region recorded the highest rate of drowning with a crude rate of 14.67 incidents per 100,000 population, followed by the Pilbara (14.05 incidents per 100,000 population) and the South West region (8.83 incidents per 100,000 population).

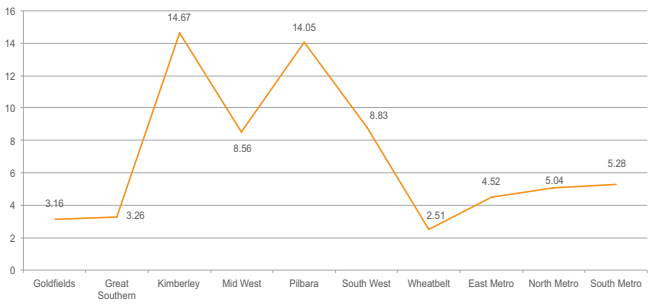


Figure 18 :Total drowning burden by region 2015-16

Length of Hospital Stay

The length of time spent in hospital varied by age in 2015-16. Toddlers aged 0-4 years recorded the longest length of stay of seven nights, followed by adults aged 25-54 years of age with an average of three nights.

It should be noted that the high average length of stay and large standard deviation for toddlers 0 to 4 years, compared to other age groups and compared to this age group last year, suggests that the result is being influenced by an outlier and should be interpreted with caution.

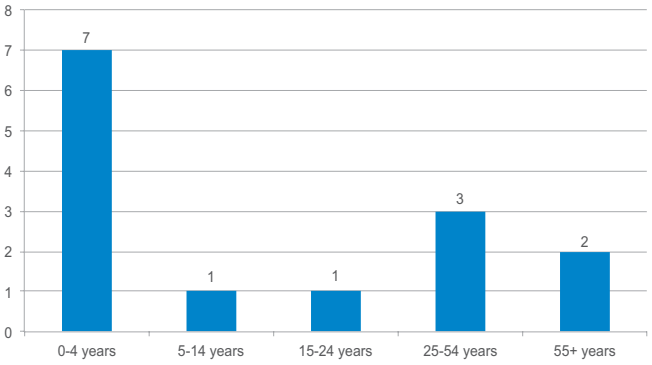


Figure 19: Length of hospital stay (days) by age 2015-16

Brain Injury Outcomes

Over the past five years 4.8% (N=27) of non-fatal drowning incidents in WA resulted in brain injury. Toddlers aged 0-4 years were at the greatest risk of brain injury following a non-fatal drowning incident (N=8; 0.94 cases per 100,000 population) followed by young adults aged 15-24 years (N=6; 0.35 cases per 100,000 population). These cases often result in severe and ongoing health issues for the person involved and have a significant impact on their families, friends and communities.

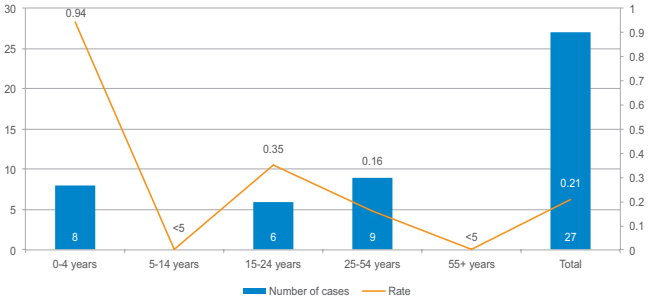


Figure 20: Brain injury outcomes 2011-12 to 2015-16

CASE STUDY

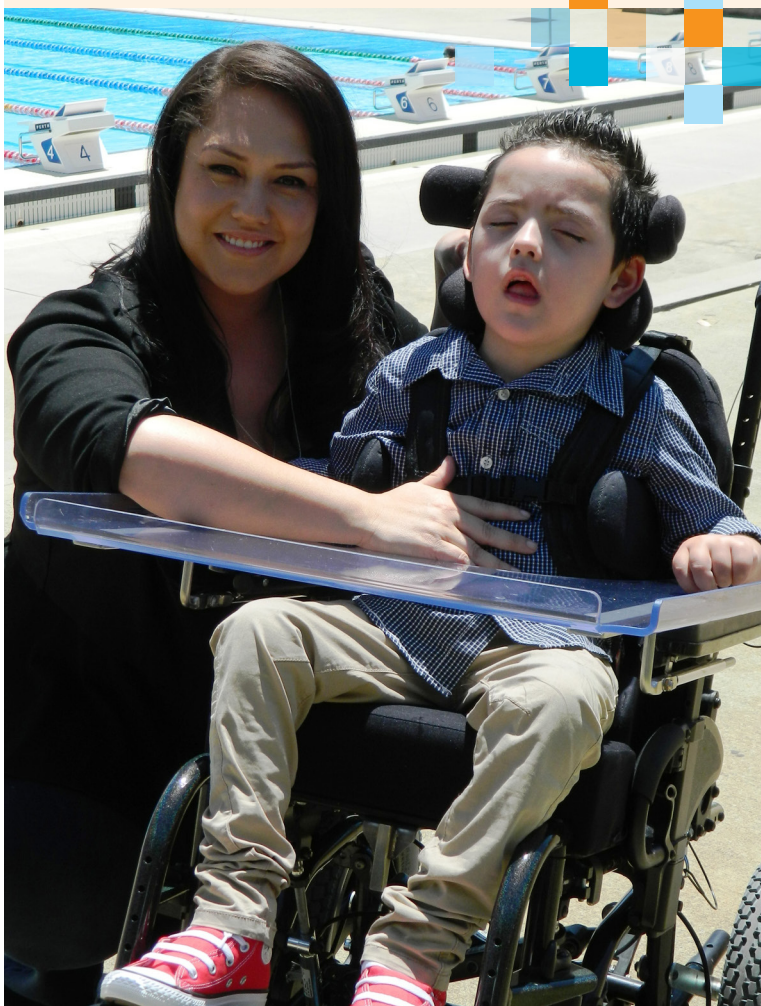
IMPACT OF NON FATAL DROWNING

Non-fatal drowning is a significant problem with over 200 incidents recorded each year in WA.

Unfortunately, many of those involved in a non-fatal drowning incident suffer ongoing health outcomes as a result of their incident which has a significant impact on the individual, their family and friends, and the community as a whole.

Simone Soto-Flores knows all too well the impact that non-fatal drowning can have on a family after her son Ari was left with severe brain damage after falling into the water while on holidays. Simone has not let this near tragedy conquer her, but instead is determined to ensure other families don't go through the same heartache. In 2014 she became an Ambassador for the Keep Watch toddler drowning prevention program, and passionately spreads the word about the importance of parents and carers being aware whenever their kids are around water.

"The trauma and impact on the victim and the families and friends is enormous and maybe by sharing our story we can help other families in our situation and make everyone that little bit more aware of how to make sure that this doesn't happen to them."



HOME SWIMMING POOLS

In 2015-16, 25.7% (N=9) of drowning deaths occurred at home swimming pools. This has doubled from 2014-15 and the proportion of home pool drowning deaths has increased by 33.3% over the past five years in WA making it a high risk location for drowning.

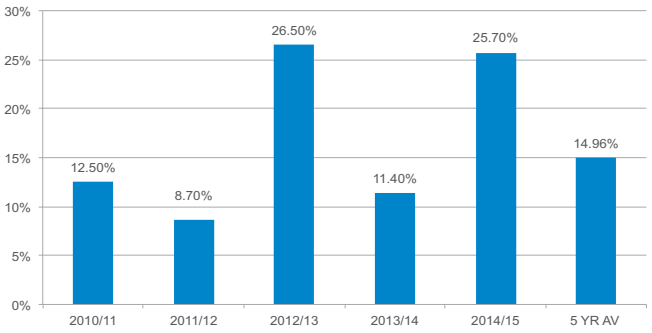


Figure 21: Home pool drowning deaths 2011-12 to 2015-16

Of the nine drowning deaths occurring at home swimming pools in 2015-16, the majority (N=5; 55.6%) occurred at the person's place of residence while the remaining 44.4% of incidents occurred either at a relative or friend's home.

Toddlers aged 0-4 years and older adults over 55 years of age were at the greatest risk of drowning in home swimming pools. Factors contributing to the drowning incident varied by age group. For toddlers, a lack of appropriate adult supervision was a contributing factor in almost all incidents and while there was a barrier installed at the majority of locations, the child gained access to the home pool through a gate that had been propped or unintentionally left open or by climbing the fence. For older adults, pre-exiting medical conditions were the most common factor contributing to the incident. Often older adults were also participating alone at the time of the incident meaning that there wasn't anyone to perform a rescue, decreasing their likelihood of survival.

All of the drowning deaths recorded at home swimming pools in 2015-16 were in the Perth metropolitan area with the majority of deaths (N=5; 55.6%) occurring in the North Metropolitan region where home pool ownership is highest.

CASE STUDY: HOME POOL BARRIER COMPLIANCE RESEARCH

Home swimming pools are an integral part of Australian culture and utilised frequently as a method of tolerating the hot climate. There are an estimated 170,000 home swimming pools in WA and there are 6,000-8,000 new swimming pools constructed each year. WA legislation mandates the maintenance of home swimming pools according to set regulation focusing on construction, design, upkeep and security.

The Royal Life Saving Society of WA (RLSSWA) is contracted by a number of Perth Local Government Authorities (LGAs) in the Perth metropolitan area to undertake barrier inspections for home swimming pools in their area and determine areas of non-compliance. Pools that fail three inspections are referred to the LGA for appropriate action.

The most recent report analysed the results of 44,832 inspections conducted across 28,143 pools in 14 LGAs between 1 July 2011 and 30 June 2016. Average cumulative pass rate at inspections 1, 2 and 3 was 64.6, 84.5 and 92.3% respectively.

Of the sample, 7.7% failed the third inspection and 12.5% were referred to the council. The presence of climbable objects/structures, gates not self-closing or latching and inadequate window childproofing were the most common reasons for inspection failure.

Figure 22: Barrier compliance 2011-12 to 2015-16

CHILDREN 0-14 YEARS

Overall, toddlers and young children were at the greatest risk of both fatal and non-fatal drowning in WA in 2015-16.

Toddlers aged 0-4 years

Toddlers aged 0-4 years recorded the highest rate of both fatal and non-fatal drowning of any age group in 2015-16 with the overall burden of drowning amongst this age group having more than doubled the past five years in WA.

In 2015-16, there were 137 toddler drowning incidents recorded within WA with a crude drowning rate of 76.2 incidents per 100,000 population. This is a 41.4% increase from 2014-15 and remains significantly above the five-year average for this age group.

There were three toddler drowning deaths recorded in 2015-16 with a crude drowning rate of 1.7 deaths per 100,000 population. This was a slight increase from 2014-15, however over the past five years the rate of fatal toddler drowning in WA has decreased by 38.9%.

Non-fatal drowning amongst toddlers continued to increase in 2015-16. A total of 57 toddlers aged 0-4 years were admitted to hospital following a non-fatal drowning incident in 2015-16, with a crude rate of 31.7 admissions per 100,000 population. This was a 38.4% increase from 2014-15 and remains significantly higher than the five year average for this age group.

In addition, 77 toddlers presented to the emergency department following a non-fatal drowning incident in 2015-16 with a crude rate of 54.1 presentations per 100,000 population. This was a 42.7% increase from 2014-15 and remains significantly higher than the five year average for this age group.

Overall, for every toddler that died from drowning in 2015-16, there were 19 admitted to hospital and 26 who presented to the emergency department following a non-fatal drowning incident.

Similar to previous years, boys were at greater risk with two thirds of deaths involving boys. All of the incidents occurred in the Perth metropolitan area with the home swimming pool the most common location.

The child gained access to the swimming pool through an open gate or by climbing over the fence using nearby objects. In all cases, the rescue and resuscitation was performed by a family member or carer.

Lack of supervision was again a common factor contributing to drowning deaths amongst this age group with the incidents occurring within 2-15 minutes where supervision was absent while parents were performing household duties or caring for other children.

Children aged 5-14 years

Young children aged 5-14 years recorded the second highest overall rate of drowning of any age group in 2015-16. In total, there were 34 child drowning incidents recorded within WA in 2015-16 with a crude drowning rate of 10.3 incidents per 100,000 population. This is a 10.9% increase from 2014-15 and remains slightly above the five-year average for this age group.

There were no drowning deaths recorded amongst young children aged 5-14 years in 2015-16. However, 18 children were admitted to hospital following a non-fatal drowning incident (5.4 admissions per 100,000 population) and a further 16 children presented at the emergency department following a non-fatal drowning incident (6.2 presentations per 100,000 population).

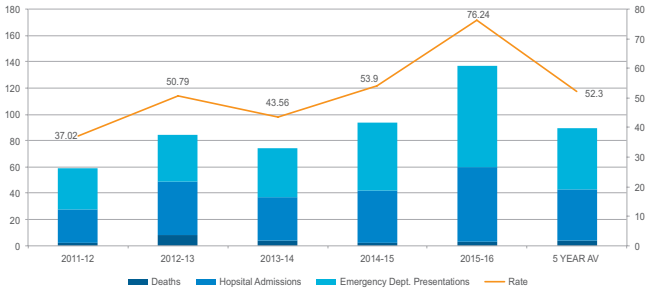


Figure 23: Drowning in toddlers aged 0-4 years, 2011-12 to 2015-16

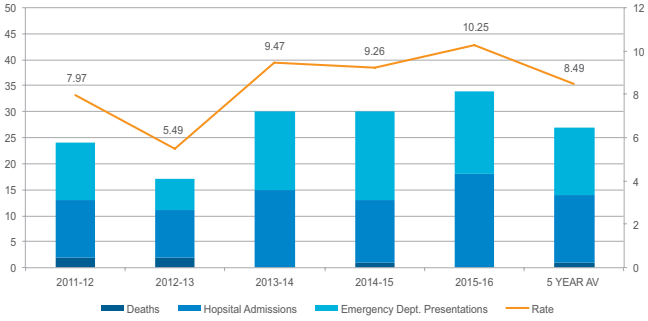


Figure 24: Drowning in children aged 5-14 years, 2011-12 to 2015-16

SWIM AND SURVIVE

Teaching children water safety and personal survival skills is the most important investment any community can make to prevent childhood drowning.

In 2015-16, at total of 195,615 children participated in the Royal Life Saving Society's Swim and Survive program in WA, giving them vital swimming and water safety skills to encourage safe participation in a range of aquatic activities.

The challenge we face as a community is to ensure each new generation acquires these lifesaving skills and that no one misses out. Currently, sectors of our community from diverse cultural backgrounds, disadvantaged circumstances and regional areas do not have this opportunity. The Swim and Survive Access and Equity program aims to increase access to swimming and water safety programs for high risk communities. In 2015-16, 49 programs were run throughout the state with 1,676 participants.

Together, these programs have been integral to achieving the low rates of drowning amongst this age group over the past five years in WA.

Royal Life Saving
THE ROYAL LIFE SAVING SOCIETY - WESTERN AUSTRALIA INC.

Swim and Survive

YOUNG PEOPLE 15-24 YEARS

Young people aged 15-24 years recorded the lowest rate of drowning of any age group in 2015-16 with the overall burden of drowning amongst this age group having more than halved over the past five years in WA.

In 2015-16, there were 11 drowning incidents involving young adults recorded within WA with a crude drowning rate of 3.1 incidents per 100,000 population. This is a 63.5% decrease from 2014-15 and remains significantly below the five-year average for this age group.

There was a significant increase in fatal drowning recorded amongst young people in 2015-16 with four deaths recorded in 2015-16 and a crude drowning rate of 1.1 deaths per 100,000 population amongst this age group. This was an 83.3% increase from 2014-15, however over the past five years the rate of drowning amongst young people in WA has decreased by 23.0%.

Non-fatal drowning amongst young people continued to decrease in 2015-16. A total of seven young people aged 15-24 years were either admitted to hospital or presented to the emergency department following a non-fatal drowning incident in 2015-16, with a crude rate of 1.9 admissions per 100,000 population (64.8% decrease from 2014-15) and 0.3 presentations per 100,000 population (90.3% decrease from 2014-15) respectively.

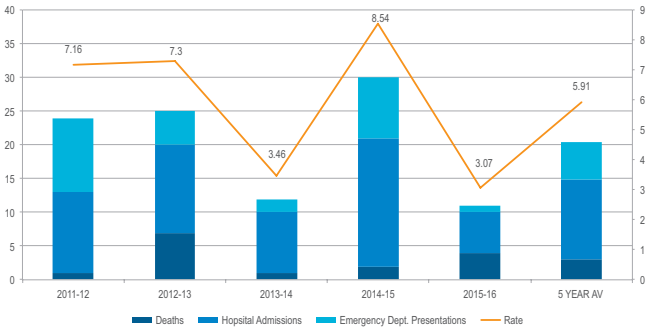


Figure 25: Drowning in young adults aged 15-14 years, 2011-12 to 2015-16

Similar to previous years, all of the drowning deaths in this age group involved males with an average age of 21 years. The majority of deaths occurred at coastal locations in the Perth metropolitan area with all of those involved participating in an aquatic activity at the time of the incident. Half of the incidents were contributed to by alcohol with an average blood alcohol concentration of 0.116 recorded, which is more than double the legal limit for driving. In addition, half of the deaths recorded amongst this age group involved people who were born overseas and had been in Australia for less than 10 years.

ADULTS 25-54 YEARS

Adults aged 25-54 years recorded the third highest rate of both fatal and non-fatal drowning of any age group in 2015-16 with the overall burden of drowning amongst this age group having remained stable over the past five years in WA.

In 2015-16, there were 54 adult drowning incidents recorded within WA with a crude drowning rate of 4.6 incidents per 100,000 population. This is a 13.2% increase from 2014-15, however, the rate remains slightly below the five-year average for this age group.

There were 18 adult deaths recorded in 2015-16 with a crude drowning rate of 1.5 deaths per 100,000 population amongst this age group. This was a 16.7% decrease from 2014-15, however over the past five years the rate of adult drowning in WA has increased by 20.5%.

Non-fatal drowning amongst adults increased in 2015-16. A total of 27 adults aged 25-54 years were admitted to hospital following a non-fatal drowning incident in 2015-16, with a crude rate of 2.3 admissions per 100,000 population. This was a 21.1% increase from 2014-15, however it remains below the five year average for this age group.

In addition, 10 adults presented to the emergency department following a non-fatal drowning incident in 2015-16 with a crude rate of 1.1 presentations per 100,000 population. This was almost double the rates recorded in 2014-2015 however it remains below the five year average for this age group.

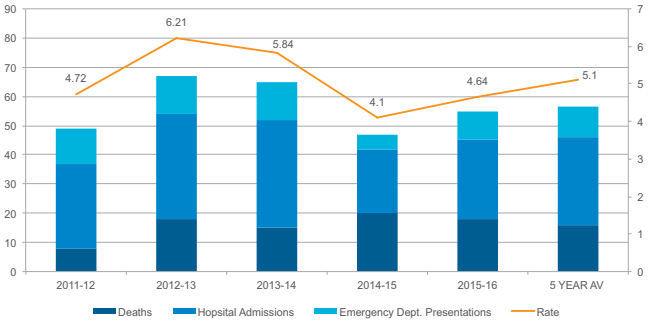


Figure 26: Drowning in adults aged 25-54 years, 2011-12 to 2015-16

In a continuing trend, the majority of drowning deaths involved males (N=17; 94.4%) however, the proportion of males was significantly higher than seen in previous years. The average age of people drowning in this age group was 38.3 years in 2015-16 which was slightly higher than 2014-15. People aged 35-44 years were at the greatest risk and accounted for 38.9% (N=7) of drowning deaths recorded amongst this age group. Adults aged 25-34 years accounted for 33.3% (N=6) of deaths and the remaining 27.8% (N=5) were adults aged 45-54 years.

The majority of drowning deaths recorded amongst adults aged 25-54 years in 2015-16 occurred in regional and remote areas of Western Australia (N=12; 66.7%). Overall, adults were eight times more likely to drown in regional and remote areas of Western Australia (4.8 deaths per 100,000 population) than in the Perth metropolitan area (0.6 deaths per 100,000 population). The highest rates were recorded in the Pilbara (11.4 deaths per 100,000 population), Mid-West (6.8 deaths per 100,000 population) and Kimberley regions (4.86 deaths per 100,000 population).

Overall 38.9% (N=7) of adult drowning incidents involved a person born overseas, almost double that recorded in 2014-15. Of these, 57.1% (N=4) were from non-English speaking countries with half (N=2) new arrivals, having lived in WA for less than four years. In addition, 50.0% (N=9) of incidents involved tourists, with the majority of these (N=8; 88.9%) involving intrastate visitors travelling within WA.

Ocean/harbour (N=11; 61.1%) was the most common location for drowning incidents amongst this age group. Other common locations included rivers/creeks/streams, home swimming pools and beaches (N=2; 11.1% each).

Fishing (N=7; 38.9%) and boating (N=5; 27.8%) were the most common activities being undertaken at the time of the incident and often involved multiple fatalities which contributed to the increased drowning rate amongst this age group in 2015-16. Other common activities being undertaken at the time of the incident included diving, swimming, watercraft activities and cliff jumping (N=2; 11.1% each).

Entry to the water was unintentional in 61.1% (N=11) of incidents meaning that the person wasn't prepared to enter the water. A rescue was attempted in 55.5% (N=10) of incidents.

Pre-existing medical conditions contributed to 22.2% (N=4) of incidents amongst adults in 2015-16 which was a reduction from previous years. Alcohol was found to be a factor in 33.3% (N=6) incidents amongst this age group, a 4.7% increase from 2014-15. A blood alcohol content of greater than 0.05 was recorded in two thirds (N=4) of cases with the average blood alcohol content recorded being 0.095 (ranged from 0.019 to 0.325). Other common contributing factors included not wearing a lifejacket while boating, participating in unsafe behaviours, inexperience with the activity being undertaken at the time of the incident, being unfamiliar with the aquatic location and its conditions and environmental factors such as poor weather and water conditions.

OLD4NEW LIFEJACKET UPGRADE

Recent fatal boating-related drowning data shows that only 8% of people were wearing a lifejacket at the time of the incident. Studies have found that wearing a lifejacket doubles a person's chance of survival once immersed in water.

Royal Life Saving Society WA, in partnership with the Department of Transport, has implemented the Old4New initiative as part of a lifejacket awareness campaign. The Old4New campaign was developed to promote the wearing of lifejackets at all times while boating and provides an incentive for people to act and upgrade their old uncomfortable lifejacket to a new easy to wear slim style jacket.

As part of the initiative a new inflatable lifejacket, along with educational material, is being provided under a trade-in scheme where people can surrender their old, damaged or obsolete lifejacket for a self-inflating, slim-fitting style lifejacket at a discounted price.

In the past year, 12 Old4New lifejacket upgrade events were held throughout regional and metropolitan areas in WA, with 672 old lifejackets upgraded.

OLD4NEW
LIFEJACKET UPGRADE

OLDER ADULTS 55+ YEARS

Older adults aged 55 years and over recorded the second lowest rate of drowning of any age group in 2015-16, with the overall burden of drowning amongst this age group decreasing by 8.5% over the past five years in WA.

In 2015-16, there were 27 drowning incidents involving older adults recorded within WA with a crude drowning rate of 3.9 incidents per 100,000 population. This is the lowest rate seen in the past five years and remains significantly below the five-year average for this age group.

Drowning incidents recorded amongst this age group were more likely to be fatal than non-fatal with older adults recording the second highest rate of fatal drowning. In 2015-16, there were 10 drowning deaths recorded amongst older adults with a crude drowning rate of 1.6 deaths per 100,000 population. This was a 20.0% decrease from 2014-15 and over the past five years the average rate of drowning amongst older adults in WA has decreased by 4.8%.

Non-fatal drowning amongst older adults continued to decrease in 2015-16. A total of nine older adults over 55 years of age were admitted to hospital following a non-fatal drowning incident in 2015-16, with a crude rate of 1.4 admissions per 100,000 population. This was a 54.8% decrease from 2014-15 and represents a 16.3% decrease in the average rate of hospital admissions over the past five years.

In addition, eight older adults presented to the emergency department following a non-fatal drowning incident in 2015-16 with a crude rate of 1.2 presentations per 100,000 population. This is the highest rate recorded amongst this age group in the past five years and was almost double the rate seen in 2014-15.

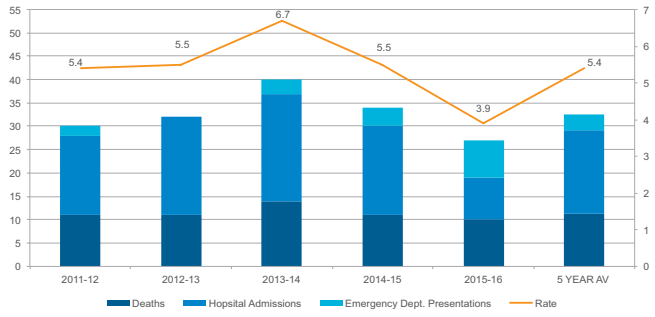


Figure 27: Drowning in adults aged 55+ years, 2011-12 to 2015-16

In a continuing trend, the majority of drowning deaths involved males (N=8; 80.0%) and the average age of people drowning in this age group was 68.4 years in 2015-16 which was similar to previous years. People aged 55-64 years were the greatest risk, accounting for half (N=5) of drowning deaths recorded amongst this age group.

While the proportion of drowning deaths amongst older adults was greater in the Perth metropolitan area (N=6; 60.0%), older adults were 2.3 times more likely to drown in regional and remote areas of WA (2.8 deaths per 100,000 population) than in the Perth metropolitan area (1.2 deaths per 100,000 population). The highest rates were recorded in the Pilbara (12.5 deaths per 100,000 population) and the Mid-West regions (10.8 deaths per 100,000 population).

Overall 20.0% (N=2) of older adult drowning incidents involved a person born overseas, a 13.9% decrease from 2014-15. In addition, 50.0% (N=5) of incidents involved tourists, with the majority of these (N=4; 80.0%) involving intrastate visitors travelling within WA.

Home swimming pools (N=4; 40.0%) and ocean/harbour (N=4; 40.0%) were the most common locations for drowning incidents amongst this age group. There were no incidents recorded at inland waterway locations in 2015-16.

Half of the incidents occurred while the person was recreating around an aquatic location (N=5; 50.0%) meaning that they weren't prepared to enter the water. Boating and fishing were also common activities being undertaken at the time of the incident (N=2; 20.0%).

Pre-existing medical conditions contributed to 70.0% (N=7) of incidents amongst older adults in 2015-16. Other common contributing factors included not wearing a lifejacket while boating, participating alone and environmental factors such as poor weather and water conditions. There were no alcohol-related drowning deaths recorded amongst this age group.

DROWNING RISK FACTORS

PRE-EXISTING MEDICAL CONDITIONS

Of the 35 drowning deaths recorded in 2015-16, 37.1% (N=13) were contributed to by the presence of a pre-existing medical condition. This is a 7.5% decrease from 2014-15. The most common medical conditions contributing to these incidents were cardiac events (N=8; 61.5%), followed by respiratory conditions (N=2; 15.4%) and physical conditions/disabilities (N=2; 15.4%).

Older adults aged 55 years and over were at the greatest risk (1.09 deaths per 100,000 population), followed by toddlers aged 0-4 years (0.55 deaths per 100,000 population) and adults aged 25-54 years (0.33 deaths per 100,000 population).

The majority of deaths occurred at locations in and around the home (N=9; 69.2%), most commonly the home swimming pool (N=7) or the bathtub/shower (N=2). People were most likely to have fallen into water while recreating alone and were unable to get to safety due to their medical condition.

ALCOHOL CONSUMPTION

The consumption of alcohol prior to undertaking activity in, on or around the water has been found to increase the risk of drowning as it impairs a person's judgement, slows reaction times, impairs coordination and results in greater risk taking behaviour.

Of the drowning deaths recorded in 2015-16, 22.9% (N=8) were found to have had alcohol in their bloodstream at the time of the incident. This is a slight decrease from previous years. Of these, 50.0% (N=4) recorded a blood alcohol concentration less than 0.05 and the remaining 50.0% recorded levels exceeding 0.05. The average blood alcohol concentration recorded was 0.100 and ranged from 0.019 to 0.325 (which is 6.5 times the legal limit for driving).

The highest rate of alcohol-related drowning occurred amongst young males aged 15-24 years (0.55 deaths per 100,000 population) followed by those aged 25-54 years (0.50 deaths per 100,000 population).

Alcohol-related drowning deaths were 6.5 times more likely to occur in regional and remote areas of the state (1.10 deaths per 100,000 population) than in the Perth metropolitan area (0.17 deaths per 100,000 population).

These incidents were most likely to occur on the weekend (N=5; 62.5%), particularly over a long weekend, at coastal (N=4; 50.0%) and inland waterway locations (N=3; 37.5%). People were participating in a range of aquatic activities at the time of the incident including swimming, boating, cliff jumping and paddling watercraft.

VISITOR STATUS

Overall, 42.9% (N=15) of people involved in a fatal drowning incident in 2015-16 were classified as visitors to the location. Of these, 20.0% (N=3) were international tourists and the remaining 80.0% (N=12) were intrastate visitors travelling to other locations within WA.

The majority of drowning deaths involving intrastate visitors occurred in regional areas (N=11; 91.7%) and at coastal (N=10) or inland waterway locations (N=2) while people were boating and/or fishing. Incidents were most likely to occur during autumn and spring months and on the weekend (N=7; 58.3%). People aged 24-35 years and 45-64 years were at the greatest risk.

Common factors that contributed to the incident included inexperience with the activity being undertaken at the time of the incident, lack of familiarity with the aquatic location and the location being in remote or very remote areas with limited mobile phone coverage and access resulting in delayed emergency responses.

13

PEOPLE DROWNED WHO HAD PRE-EXISTING MEDICAL CONDITIONS

8

PEOPLE DROWNED WHO RECORDED POSITIVE READINGS FOR ALCOHOL

15

PEOPLE WHO DROWNED WERE VISITORS TO THE INCIDENT LOCATION

METHODS

This report includes information on fatal and non-fatal drowning incidents recorded in Western Australian waterways between 1 July 2015 and 30 June 2016. Information presented in this report was collated using a number of data sources including the WA Coroner's Office, the National Coronial Information System (NCIS), WA Police and the Department of Health WA, Epidemiology Branch.

Fatal drowning cases were identified through media reports, notifications from the NCIS, reports provided for non-boating related aquatic deaths from WA Police and searches run through the WA Coroner's Court. All data was checked against the Royal Life Saving National Drowning Database to ensure consistent reporting at a national level. Only unintentional drowning deaths were included within this report. Exclusions from this report include: deaths as the result of suicide or homicide, deaths from natural causes, shark attacks or deaths involving asylum seekers.

At the time of this report 71.4% (N=25) of cases had been closed by the WA Coroner. Of the remaining cases, the majority had not been closed at the time of reporting due to inquests into the circumstances surrounding the deaths being scheduled later in the year. However, sufficient information was available for inclusion within the report.

Non-fatal drowning data was collated by the Department of Health WA Epidemiology Branch and included hospital admissions and emergency presentations data. ICD codes were used to identify cases and included ICD-10 coding for near-drowning (T75.1; W65; W66; W67; W68; W69; W70; W73; W74; V90; V92) and brain injury (striking the head S06.xx; anoxic brain damage G93.1; and cerebral complications G93.x). While hospital admissions data is collected state-wide, emergency presentations data from the metropolitan area only has been include within this report due to most regional emergency departments not using the ICD-10 coding system. Therefore, non-fatal drowning numbers may be under-represented within this report.

Drowning rates were calculated per 100,000 population using ABS data provided by the Department of Health WA Epidemiology Branch.

All care is taken to ensure that the information included within this report is as accurate as possible; however, statistics may change due to ongoing coronial enquiries and investigations.

ACKNOWLEDGEMENTS

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- WA Coroner's Office
- Department of Health WA, Epidemiology Branch
- National Coronial Information System (NCIS)
- WA Police
- Royal Life Saving Society Australia

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The Royal Life Saving Society WA would like to acknowledge and thank the WA Coroner's Office, Department of Health, the National Coronial Investigations System (NCIS) and the Royal Life Saving Society Australia for this assistance in producing this report.

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