

# REDUCING THE BURDEN OF NON-FATAL DROWNING: SYMPOSIUM DECLARATION



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## AUSTRALIAN WATER SAFETY COUNCIL

The Australian Water Safety Council (AWSC) is deeply committed to drowning prevention in Australia and is a collective voice for Australia's leading water safety organisations. The Council acts as a consultative forum comprising of the major water safety and related government agencies and focuses on the presentation of key water safety issues to governments, industry and the community.

The Australian Water Safety Council is committed to improving water safety in Australia as demonstrated through the production and implementation of four National Water Safety Plans/Strategies. These documents have generated bipartisan support for water safety in Australia and have seen the improvement of water safety throughout the country.

The Australian Water Safety Council member bodies continue to demonstrate their commitment to water safety by directing resources of their respective organisations towards the development and implementation of the Australian Water Safety Strategy.

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The Australian Water Safety Council Non-Fatal Drowning Symposium was facilitated by Royal Life Saving Society – Australia, with support from Surf Life Saving Australia and the Australian Government.

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# AUSTRALIAN WATER SAFETY COUNCIL NON-FATAL DROWNING SYMPOSIUM

In June 2017, more than forty delegates including many researchers, policy makers, advocates and practitioners, convened at the Australian Water Safety Council (AWSC) Non-Fatal Drowning Symposium in Sydney. The Symposium aimed to extend our knowledge and commitment to drowning prevention with an emphasis on those who survive drowning.

The Symposium explored key themes in research, policy and advocacy, across four sessions with an emphasis on group and panel discussion. The final session focused attention on the identification of key actions that may increase understanding, build strong policy and advocacy outcomes, as well as focusing on the needs of individuals and their families.

The AWSC would like to thank all session presenters and delegates who engaged in this important event. Delegates are listed on page 8.

## Symposium outline

### Session 1: National Research Findings and Lessons From Other Areas of Injury

- National trends in hospitalisations due to drowning, Alison Mahony, Royal Life Saving Society - Australia
- Surveillance of non-fatal injury in Australia: Lessons for drowning from other types of serious injury, Dr Sophie Pointer, Research Centre for Injury Studies (incorporating the National Injury Surveillance Unit)

### Session 2: Research, Data and Methodologies

- Childhood drowning 0-19yrs in Queensland: Counting those who survive, Dr Belinda Wallis, The University of Queensland Child Health Research Centre
- Costs of non-fatal drowning in Australia, Dr Paul Barnsley, Royal Life Saving Society – Australia
- Epidemiology of fatal and non-fatal drowning patients attended by paramedics in Victoria, Dr Bernadette Matthews, Life Saving Victoria
- Non-fatal drowning and aquatic incidents along our coastline, Shane Daw, Surf Life Saving Australia

### Session 3: The Human Impact

- Video: Western Australian parents share stories of toddler drowning
- Samuel's Story, Michael Morris, Samuel Morris Foundation
- Lessons from the Westmead Study "Long-term effects on the development of children who experience a near drowning episode", Amy Peden, Royal Life Saving Society – Australia on behalf of The Children's Hospital at Westmead
- Supporting families impacted by non-fatal drownings, Allan Godfrey, Royal Life Saving Society – Western Australia
- Joining the panel: Professor John Pearn, Lady Cilento Children's Hospital

### Session 4: Group Work Discussion: Workshopping the Symposium Declaration

- Research – Where are the gaps in our knowledge and what is the research agenda?
- Policy – Can policy make a difference? What policy adjustments need to be made, and where and how?
- Advocacy – How do we use the full burden of drowning to advocate for better outcomes?
- Support – How do we better provide support for family, friends and loved ones of those who experience non-fatal drownings?



## DECLARATION ON NON-FATAL DROWNING

This Declaration reflects the key insights and outcomes shared by the participants and actions developed on behalf of the many Australians who have been impacted by non-fatal drowning.

### Non-fatal drowning matters

After considering and debating the latest research, presentations from organisations and advocates, delegates reinforce the importance of a focus on the full burden of drowning.

#### A common understanding of non-fatal drowning starts with a clear definition

Drowning is defined as “the process of experiencing respiratory impairment from submersion/immersion in liquid. Drowning outcomes should be classified as death, morbidity and no morbidity” (1). People who experience a non-fatal drowning may: be rescued without needing further treatment, receive ambulance assistance, present to an emergency department and/or be admitted to hospital. Those who survive may or may not experience persisting effects as a result of the non-fatal drowning.

#### A National Study outlines the magnitude of the non-fatal drowning challenge

In order to study the magnitude of the issue in Australia, non-fatal drowning data was collated from state and territory based health surveillance systems with the assistance of the Australian Institute of Health and Welfare (AIHW). For the purpose of report, non-fatal drowning is considered to mean a drowning incident which requires admission to hospital but does not result in death.

#### The results of the Royal Life Saving report “A 13 year national study of non-fatal drowning in Australia: Data challenges, hidden impacts and social costs” (2) show that:

- A total of 6,158 people have been hospitalised as a result of a non-fatal drowning, an annual average of 474 non-fatal drowning incidents between 2002 – 2015
- Non-fatal drowning has increased by 42.4% since 2002, compared to fatal drowning which has decreased by 17.2% during the same period
- This is considered an under-estimate due to gaps and inconsistencies in drowning definitions, ICD coding for drowning and coding structures (i.e. only primary cause identified)
- The ratio of fatal to non-fatal drowning incidents was 1:2.8

#### Non-fatal incidents are highest in children

##### The National study (2) shows that:

- Children aged 0-4 years accounted for 41.9% of all non-fatal drowning incidents requiring hospitalisation
- The ratio of fatal to non-fatal drowning incidents was 1:7.6 in children aged 0-4years, which is between 5 and 14 times higher than any other age group

#### The social and economic costs of non-fatal drowning are borne by individuals, their families and Government

##### The National study (2) shows that:

- The economic costs of non-fatal drowning are approximately \$188 million per year
- While the average cost per incident is low, the 5% of incidents leading to long-term disability generate 88% of the total cost burden of non-fatal drowning, with each incident leading to average costs of \$6.91 million
- The impacts on individuals, families and communities are in many cases immeasurable

#### Non-fatal drowning is more common in swimming pools than natural waterways

##### The study shows that:

- More than a third (35.6%) of non-fatal incidents occurred in swimming pools, including both home and public pools
- Swimming pool ratio of fatal to non-fatal drowning is 1:4.3. For natural water it is 1:0.9

Some state-based studies highlight similarly high rates in children

**A study of fatal and non-fatal drowning in Queensland in children aged 0-19 years from 2002-2008 shows (3):**

- There are an average of 185 drowning events (fatal and non-fatal) every year in Queensland among children and adolescents and of these 17 children and adolescents die
- This represents a ratio of fatal to non-fatal drowning of 1:10

**A study of fatal and non-fatal drowning patients attended by paramedics in Victoria between 2007 and 2012 found (4):**

- 170 cases of fatal drowning across the study, with 339 cases of non-fatal drowning across the same period, which represents a ratio of fatal to non-fatal drowning of 1:2.0
- Children 0-4 years recorded the highest crude incidence of fatal and non-fatal drowning 7.95 per 100,000 population

Non-fatal data doesn't always show the impact of rescue services in preventing drowning

**A Surf Life Saving Australia review of lifesaving service data shows that:**

- Lifesavers recorded 342 fatal and non-fatal drowning incidents between 2013 and 2016 along the coast, excluding Victoria and other non-SLS services
- Of those patients where CPR or defibrillation was undertaken between 2013 and 2016, 51.9% were deceased at time of transport, 24.5% unconscious and 16.0% conscious. The status of the patient was unknown in 7.5% of cases

Non-fatal surveillance has improved policy advocacy in other areas of injury

**AIHW presented the experience of other injury sectors which shows that:**

- Advocacy has resulted in trauma registries of particular issues, such as spinal cord injuries and burns
- Non-fatal drowning should explore the feasibility of State and Territory Departments of Health identifying non-fatal drowning as an area of particular interest within trauma registries
- Existing data sets should also be interrogated with a view to identifying severity of outcome and length of hospital stay for non-fatal drowning incidents
- Lessons for non-fatal drowning include linking to existing trauma registries, establishing a partnership of facilities, working with advocates to bring about change

Non-fatal drowning often has significant and hidden impacts on individuals and their families

**The experience of individuals and their families shows that:**

- Non-fatal drowning is often a hidden issue, overshadowed by a focus on fatal drowning and rescues
- The individuals and their families have unique needs and are often either unable to find the support they require, or are unwilling to ask for help due to the grief and guilt associated with their experience
- A study undertaken at the Children's Hospital at Westmead found that 22% of children (out of 23 participants) who showed no obvious neurological impairment when discharged from hospital after a non-fatal drowning, showed behavioural problems, learning difficulties or poor fine motor skills within five years post the non-fatal drowning incident
- Although a small sample size, this is double the prevalence estimated in the general child (under 12 years) population for behavioural and learning difficulties (10%)

## Action on non-fatal drowning

The non-fatal drowning symposium makes the following recommendations:

### Research

**Research into non-fatal drowning should be strengthened by:**

- Conducting an audit of existing national, state and territory trauma registries and datasets
- Investigating long-term outcomes of people hospitalised due to non-fatal drowning
- Exploring opportunities for data sourcing, sharing and linking datasets
- Examining the level of treatment and length of hospital stay(s)
- Enhance understanding of the long term impacts on rescuers, including lifeguards and lifesavers

### Policy

**Policies that support non-fatal drowning should be strengthened by:**

- Strengthening organisational policy to improve data collection and reporting by Government Departments of Health and Emergency Services, including exploring the feasibility of inclusion of non-fatal drowning into trauma registries and ambulance service agreements
- Explore opportunities to strengthen health data collection, coding and the reporting processes for drowning, including clinician and coder training to support the collection of incident, location and activity data
- Encouraging policy makers to take into consideration the full economic, social and health impacts of non-fatal drowning
- Improving community, lifeguard and emergency services first response in drowning incidents, such as cardio-pulmonary resuscitation, supervision, rescue equipment and training
- Ensuring that water safety organisations incorporate information relating to the risk of non-fatal drowning into drowning prevention and water safety programs

### Advocacy

**Non-fatal drowning advocacy should be strengthened by:**

- Adopting and promoting non-fatal drowning terminology to stakeholders including government, researchers, the media and the public. These must have both clinical and public awareness applications
- Water safety organisations and industry should build awareness of non-fatal drowning through education materials and integration into training programs
- Building Government, health sector, media, the aquatic industry and community understanding and awareness of the burden of non-fatal drowning
- Championing the case for improved support services for patients, families and responders affected by non-fatal drowning
- Working with advocates and community members to champion non-fatal drowning perspectives
- Reinforcing agreed non-fatal drowning terminology
- Promoting the benefits and techniques of cardio-pulmonary resuscitation, supervision, basic rescue and drowning prevention to the community
- Highlight that non-fatal drowning cases can also involve adults and natural water locations

### Support

**Support for individuals and families impacted by non-fatal drowning should be strengthened by:**

- Investigating the role of the National Disability Insurance Scheme (NDIS) and services to those who experience non-fatal drowning
- The establishment of a fund to support families of those affected by drowning
- Investigating referral models to specialist counselling services including development of mental health plans through Medicare, and the private health insurance system
- Developing an industry-wide approach to providing information (information sheets, resources) to affected families
- Establishing a mechanism for families impacted by drowning to contribute to drowning prevention should they wish, with clear opportunities for opting in and out on their terms

### Collaboration

- Many of the actions are multisectorial and cross cutting. This declaration does not attempt to assign responsibility but rather suggests next steps moving forward

## Closing Statement

Having reviewed the available non-fatal drowning research and policy perspectives, and considered the impacts on individuals and their families, the Australian Water Safety Council, AWSC member organisations and Symposium organisers - Royal Life Saving and Surf Life Saving, restate our commitment to;

- Staying focused on human impacts of non-fatal drowning, and ensuring that these experiences continue to drive policy change, improved prevention strategies, support investments in research and support services
- Ensuring the Australian Water Safety Council and the drowning prevention sector take all necessary steps to reinforce and achieve the research, policy, advocacy and support actions
- Incorporating non-fatal drowning perspectives into the Australian Water Safety Strategy and its implementation efforts
- Incorporating non-fatal drowning perspectives into the Royal Life Saving Society - Australia National Drowning Reports and Surf Life Saving Australia National Coastal Safety Reports
- Advocating to international networks, including the World Health Organisation, for the development and use of a world-level accepted non-fatal classification system
- Working together to reduce drowning in all its forms

### Justin Scarr

Chair

Australian Water Safety Council

## References

1. van Beeck, E. F., C. M. Branche, D. Szpilman, J. H. Modell and J. J. L. M. Bierens (2005). "A new definition of drowning: towards documentation and prevention of a global public health problem." *Bulletin of the World Health Organization* 83(11): 853-856.
2. Mahony A, Barnsley PD, Peden AE, Scarr J (2017) A thirteen year national study of non-fatal drowning in Australia: Data challenges, hidden impacts and social costs, Royal Life Saving Society – Australia: Sydney.
3. Wallis B.A., Watt K., Franklin R.C., Nixon J.W. and R. M. Kimble (2015). "Drowning Mortality and Morbidity Rates in Children and Adolescents 0-19 yrs: A Population-Based Study in Queensland, Australia." *Plos One*.
4. Matthews BL, Andrew E, Andronaco R, Cox S, Smith K (2017) Epidemiology of fatal and non-fatal drowning patients attended by paramedics in Victoria, Australia. *International Journal of Injury Control and Safety Promotion*. May 2016: 1-8

## Delegate List

The Non-Fatal Drowning Symposium was attended by the following individuals:

Paul Barnsley, Royal Life Saving Society – Australia  
Louise Cooke, Surf Life Saving New South Wales  
Shane Daw, Surf Life Saving Australia  
Allan Godfrey, Royal Life Saving Society Western Australia  
George Hill ESM, Surf Life Saving Queensland  
Jagnoor Jagnoor, The George Institute  
Melissa King, Surf Life Saving Australia  
Peta Lawlor, Surf Life Saving Queensland  
John Lipmann, Divers Alert Network  
Alison Mahony, Royal Life Saving Society – Australia  
Brent Manieri, Surf Life Saving New South Wales  
Bernadette Matthews, Life Saving Victoria  
Louella Monaghan, Kids Health, the Children’s Hospital at Westmead  
Michael Morris, Samuel Morris Foundation  
Oliver Munson, Surf Life Saving New South Wales  
Lauren Nimmo, Royal Life Saving Society Western Australia  
Kimberley Noffs, Royal Life Saving Society New South Wales  
Joan Ozanne-Smith AO, Monash University  
John Pearn, Lady Cilento Childrens Hospital  
Amy Peden, Royal Life Saving Society – Australia  
Sophie Pointer, Research Centre for Injury Studies, (incorporating the National Injury Surveillance Unit)  
Malcom Poole, Recreational Fishing Alliance New South Wales  
Lucy Rae, Royal Life Saving Society – Australia  
Eveline Rijkssen, Surf Life Saving Australia  
Craig Roberts, Royal Life Saving Society – Australia  
Floss Roberts, Royal Life Saving Society Northern Territory  
Eva Saar, National Coronial Information System  
Justin Scarr, Royal Life Saving Society – Australia  
Jennifer Schembri-Portelli, AUSTSWIM  
Monique Sharp, Royal Life Saving Society – Australia  
Chrissie Skehan, Surf Life Saving Western Australia  
Pene Snashall, Royal Life Saving Society – Australia  
Teresa Stanley, WaterSafe Auckland  
Gary Toner, Australian Coaches and Swim Teachers Association (ACSTA)  
Chris Twine, Surf Life Saving New South Wales  
Belinda Wallis, The University of Queensland Child Health Research Centre  
Brendan Ward, Australian Coaches and Swim Teachers Association (ACSTA)  
Sue Wicks, Kids Health, the Children’s Hospital at Westmead

### Government attendance

Delegates from a range of State and Territory governments across portfolios including Health, Transport and Emergency Services attended the symposium. Attendance does not indicate endorsement or adoption of the actions in this declaration.

Sarah Anderson, New South Wales Office of Emergency Management

Erica Davison, Western Australian Department of Health

Jack Hannan, Transport for New South Wales

Melissa Irwin, New South Wales Ministry of Health

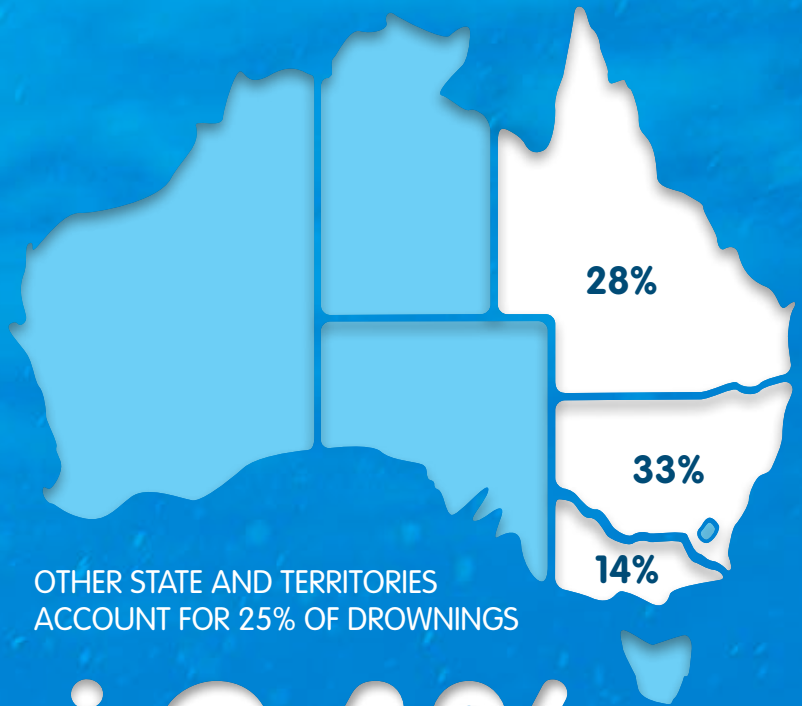
### Infographic source:

Mahony A, Barnsley P, Peden AE, Scarr J (2017) A thirteen year national study of non-fatal drowning in Australia: Data challenges, hidden impacts and social costs, Royal Life Saving Society – Australia. Sydney.



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CASES OF NON-FATAL DROWNING BETWEEN 1 JULY 2002 AND 30 JUNE 2015



474

CASES OF NON-FATAL DROWNINGS ON AVERAGE EACH YEAR

OTHER STATE AND TERRITORIES ACCOUNT FOR 25% OF DROWNINGS



66%



34%

## TOP 3 AGE GROUPS

42%

0-4 YEARS

8%

18-24 YEARS

8%

25-34 YEARS

## LOCATION

36%

SWIMMING POOLS

30%

OTHER OR UNSPECIFIED

26%

NATURAL WATER

## REMOTENESS CLASSIFICATION

64%

MAJOR CITIES

32%

INNER AND OUTER REGIONAL

4%

REMOTE AND VERY REMOTE

## PREVENTION STRATEGIES

- Active adult supervision for children
- Adequate and well maintained pool fences and gates
- Basic swimming skills and water safety knowledge
- Be aware of limitations in skills and fitness
- Check conditions and hazards before entering the water
- Never swim alone
- Learn lifesaving skills (CPR, rescue skills)

EVERYONE CAN BE A LIFESAVER



**Royal Life Saving**

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