

Vanishing visitors: strategies to address coastal drowning rates

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Abstract

As we are obliged to look after the coastal environment, we are just as obliged to look after the people who use it. In 2013, 27% of drowning deaths in Australia occurred in a beach environment (Royal Life Saving Society, 2013). In New South Wales (NSW) alone, beach drowning deaths made up 50% of coastal drowning; with 44% being domestic visitors who lived up to 50 kilometres away from where they drowned. In particular, Western Sydney residents have been identified as being most at risk of coastal drowning compared to any other population in NSW and Australia (Surf Life Saving Australia, 2013). Visitors are the livelihood of many coastal communities and one drowning can cause a detrimental and lasting effect.

Surf Life Saving clubs are a vital component of the Australian coastal landscape and have an important role in keeping the public safer on and off the beach. Surf Life Saving takes a comprehensive approach in delivering coastal safety education (including eco-surf awareness) across NSW, from pre-school to older adults and this approach supports a 'life-long learning' strategy, which encourages knowledge to be passed on for future generations.

Community education aims to build a culture of being safe in the coastal environment. Behavior change is a long term outcome and the ultimate goal is to reduce injury and drowning through increasing awareness, knowledge and skills e.g. swimming between the red and yellow flags and respecting the water. This paper will explore the relationship of surf education in reducing coastal drowning deaths and injuries and, address strategies targeting coastal visitors.

Introduction

Australia is well known for beaches with golden sand and shimmering blue water, attracting tourists from around the country and overseas alike. However, some people who are drawn to the coast may be unfamiliar with the environment and lack basic knowledge and skills to keep themselves and their families' safe when visiting these areas, compared to those who have grown up learning about water safety.

Between 2013-2014, 266 people drowned in Australia, with a drowning rate per capita of 1.4 per 100,000 of the population. The majority of drowning victims were male (82%), one third (33%) were of people aged 55 years and older and 26% were visitors to the location where they drowned (Royal Life Saving Society [RLSS], 2014).

This paper will discuss recent research investigating visitor beach knowledge and introduce practical strategies that SLS NSW are implementing to address this issue.

Background

Visitors

Over one quarter (26%) of all drowning deaths in Australia were a visitor to the location where they drowned, indicating that they may have been unfamiliar with the area that they were visiting, of those 37 people lived 100km or more from where they drowned. Overseas visitors accounted for 77 drowning victims and the most common environment was oceans/harbours (RLSS, 2014). Over half of all coastal drownings in 2013 were at a beach location (58%), with 28% of those drowning victims living more than 50km away from where they drowned (see figure 1). Additionally, November through to May are the highest months for coastal drowning, indicating that people are in the water at least six months of the year (SLSA, 2014) and this suggests that perhaps tourists travelling from

cooler climates may be enjoying the warmer weather and water temperatures that Australia has to offer.

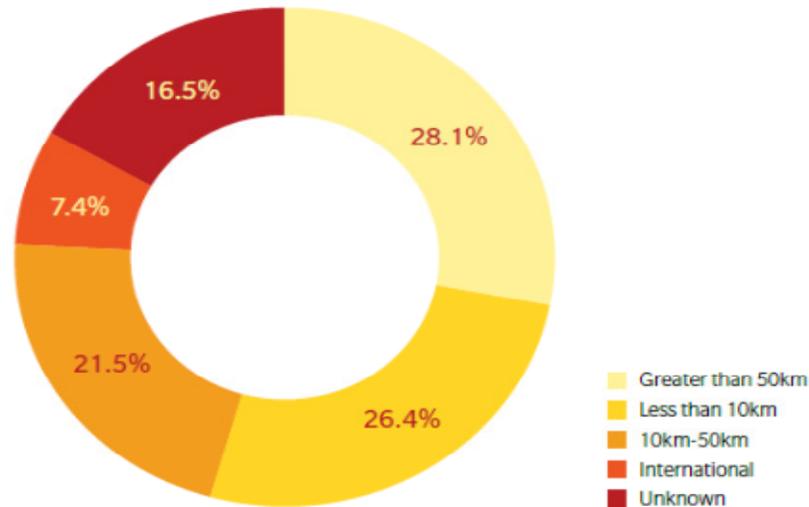


Figure 12

2012-13: Distance from residence to drowning location (n=121)

34 individuals (28.1%) lived greater than 50 kilometres from the drowning location. Nine coastal drowning deaths (7.4%) involved international tourists.

Figure 1: 2012-2013 Distance from residence to coastal drowning location (SLSA, 2013)

NSW drowning statistics

One third of all drowning deaths occurred in NSW (34%), with NSW recording the highest number of beach related drownings Australia-wide. Populations identified as being high risk for drowning in NSW include males, those aged 25-29 and 60-65 years old, and residents from Western Sydney (SLSA 2013). Residents from Western Sydney have been identified as having a dramatically increased risk of coastal drowning and death, with more than twice as many coastal drowning victims as residents than any other area in NSW and Australia (see figure 2 and 3).

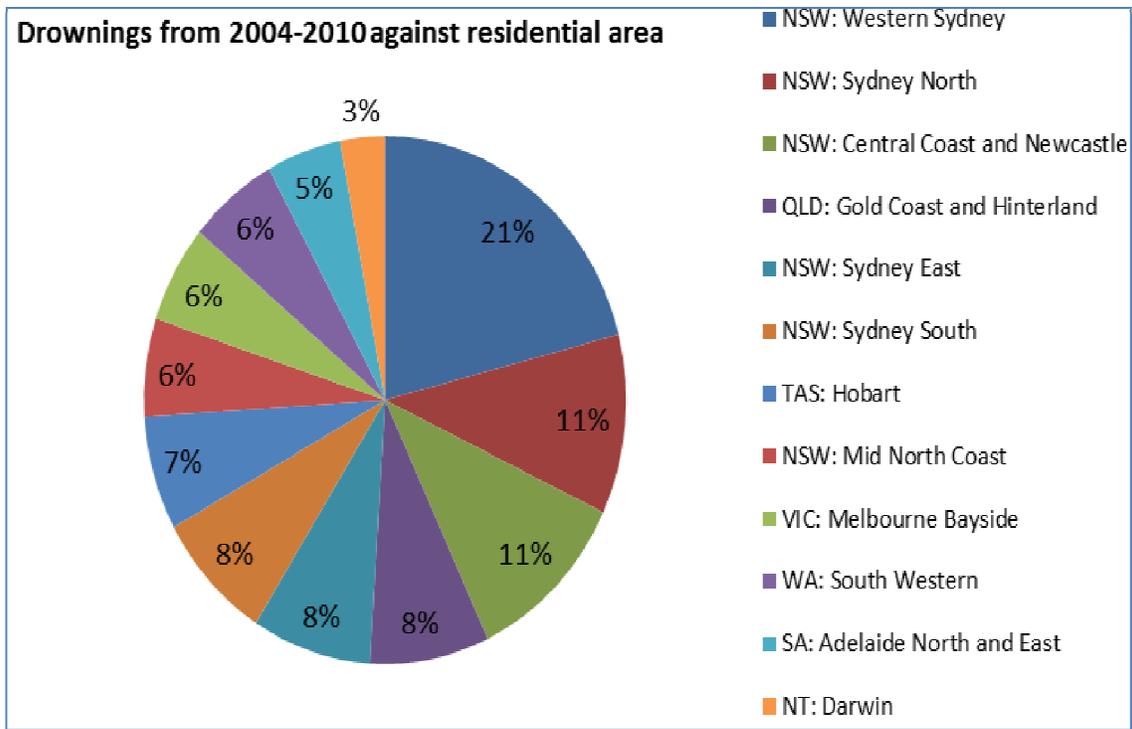


Figure 2: Drownings from 2004-2010 against residential area (SLS NSW, ND)

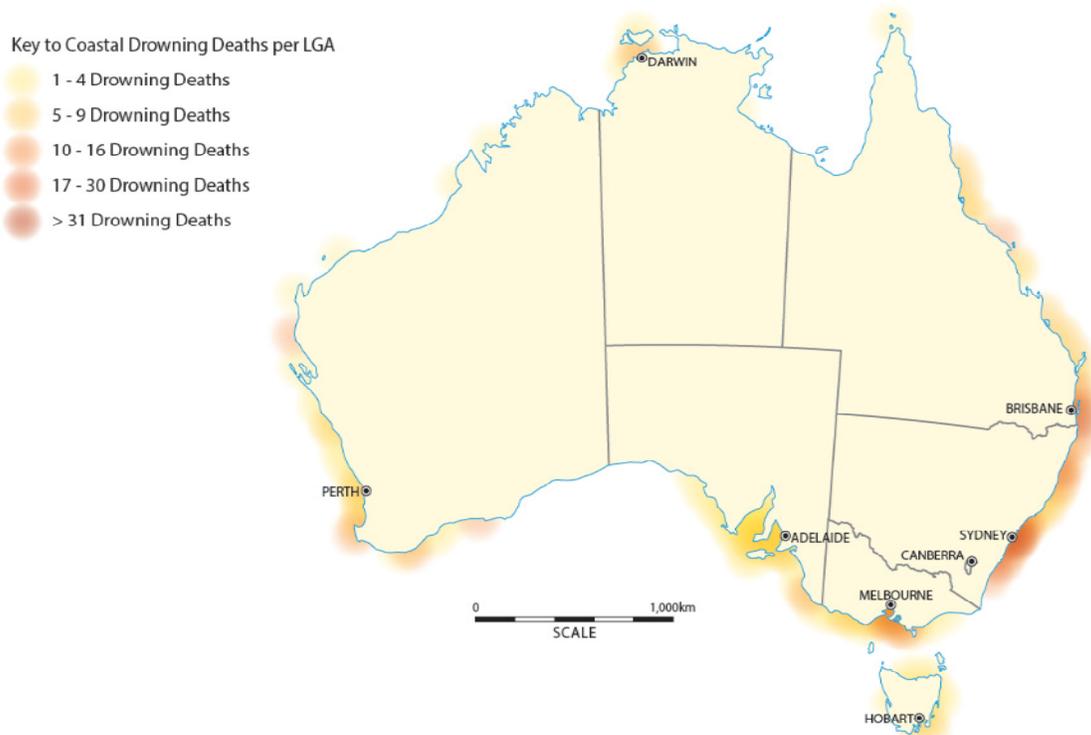


Figure 3: Coastal death per LGA (SLSA 2014)

These statistics support the need for continued measures to increase understanding of hazards, awareness and knowledge to make safer decision when around water, especially around the coastal environment.

The role of Surf Life Saving Clubs

In 2013, SLS clubs in NSW performed 4433 rescues, 150921 preventative actions and 5995 first aids (see figure 4) (SLS SNW, 2013). The presence of lifesaving/lifeguarding services are an effective measure in reducing coastal drownings worldwide and have been a presence on the Australian Coast since 1907 at Bondi Beach. The value of Surf Life Saving clubs across Australia cannot be underestimated. A report by PwC (2011) found that volunteer surf lifesavers play a key role in preventing unintentional death and injury on Australian beaches. The report calculated that without the presence of Surf Life Saving services, over one year there would have been:

- 596 additional drowning deaths (excluding rescues that results from a preventative action)
- 555 additional permanent incapacitations (including rescues that result from a preventative action), and
- 2,591 additional minor injuries or first aid treatments

In addition, the statistical value of a life has been estimated as 3.7 million dollars (PwC, 2011). When multiplied by 34 beach drowning's in 2013-2014, let alone the 266 total drownings, the impact that these drownings have on the community both economically and socially is staggering. One drowning is one too many! More research needs to be done to investigate the impact of a beach drowning within the coastal community and if potential visitors are likely to choose an alternative holiday destination after a drowning episode.

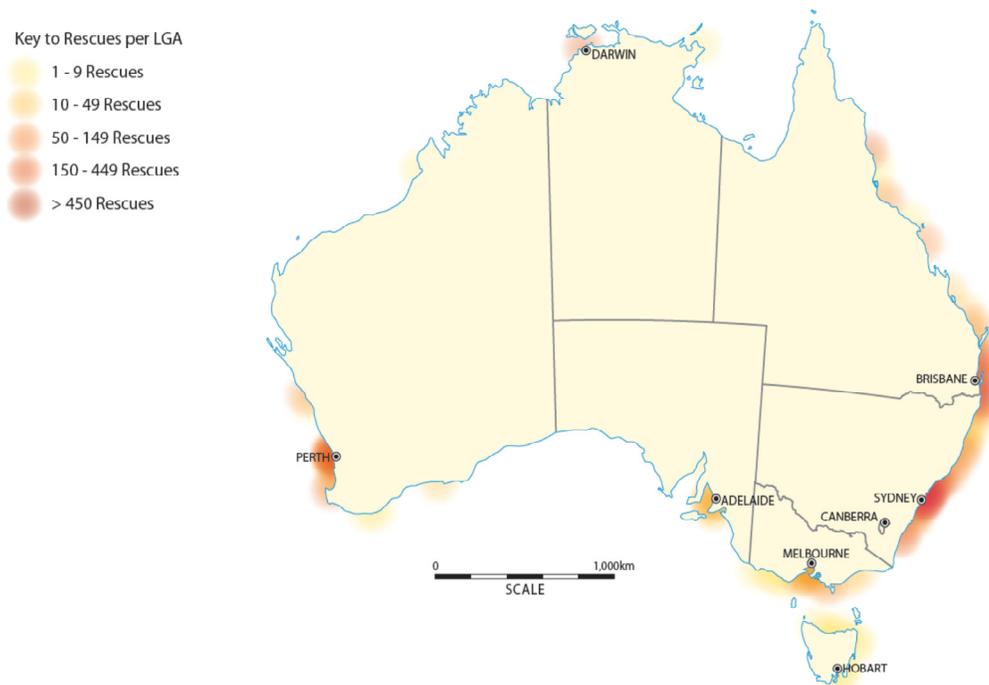


Figure 4: Coastal rescues per LGA (SLSA, 2014)

Rip currents

Rip currents are cited as the main natural hazard at surf beaches around the world. Rip currents account for more human fatalities each year in Australia than bushfire, floods and cyclones combined (Brander et al., 2013). In 2013, 15% of coastal drowning were attributed to rip currents (SLSA, 2013).

Briefly, rip currents can be defined as "...strong, narrow seaward flowing current that extend from the shoreline and through the surf zone" (Sherker et al., 2010). The danger for swimmers is that they can be swept offshore quickly into deeper water, causing panic and fatigue when trying to get back to shore. Much research has been done over the last five years, particularly research of physical characteristics such the water flow, direction and energy of the water (Brander et al., 2011; Drozdowski et al., 2012) along with surveying rip current survivors which has provided new and valuable information, prompting changes to public

rip current education campaigns such as how to identify a rip on a beach and what to do if caught in a rip current.

Are visitors really more at risk of drowning?

Recent studies (SLSA, 2014; Brander, McKay & Goff, 2014; Williamson et al., 2012) investigating beach goers current knowledge and behaviour when visiting the beach revealed that generally that most people surveyed, including international visitors, were aware of the importance of swimming between the flags at a patrolled beach, with rural inland visitors being twice as likely to make safe choices of swimming between the flags compared to other Australian beachgoers and international visitors (Brander et al., 2014). The National Safety Survey undertaken by SLSA in May 2014 revealed that up to one only one third of the respondents considered the coast as 'not very hazardous' and a similar number (38%) did not consider the beach as a very hazardous environment.

Rip current knowledge among visitors was consistent across the studies. Rip currents were considered a significant hazard by beach goers and many were aware of the presence of rip currents when swimming at the beach, even though they may not be always able to identify one which is consistent with other international studies (SLSA, 2014; Matthews et al., 2014; Williamson et al, 2012; Moran 2008).

In regards to safety signage, less than half of the beachgoers (45%) observed any signage at all and when signage was notice, beachgoers were more likely to notice hazard symbols (96.4%) than any other information signs (Matthews et al., 2014).

Another recent study investigating coastal tourists parks in relation to the risk of drowning found that up to 90% of coastal tourist parks in NSW are closest to surf beaches rated as being moderately or highly hazardous and that 35% of all coastal tourist parks are closest to unpatrolled surf beaches. Additionally, 42.8%

of all coastal tourist parks that are close to patrolled beaches, were only patrolled less than 50% of the year (Brander, McKay & Goff, 2014), which provides the argument for perhaps focussing efforts on more rural and remote areas that may be highly populated during the summer months by people who may be travelling from inland and may not be familiar with coastal safety practices and cannot rely on lifesaving services being present.

Methods & Strategies

SLS NSW along with our partner organisations have undertaken a number of drowning prevention strategies targeting visitors across the state. All drowning prevention education campaigns are aligned to the Australian Water Safety Strategy and the International Life Saving Federation Drowning Chain (see figure 5).

Some of the most common strategies are listed below. As the focus of this paper is on beach safety targeting to visitors to Australia beaches, only current education initiatives will be discussed in the results section.

- Coastal risk assessment
- Signage
- Lifesavers and lifeguarding services (council and volunteers)
- Education programs
- School-based surf education programs
- Community based education programs
- Tourism avenues – accommodation providers etc.
- Locally based surf education programs

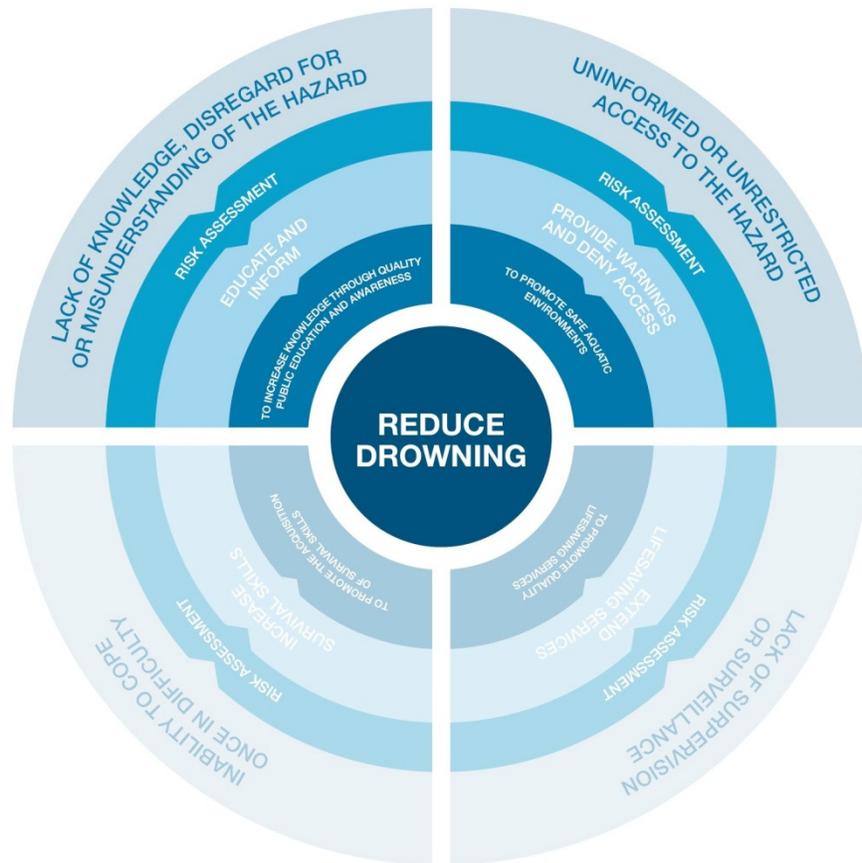


Figure 5 : The International Life Saving Federation Drowning Chain (2008)

Results

Key community education programs that are targeting inter-state, domestic and international visitors:

- **Western Sydney Blackspot Surf School project:**

This Surf Education project was developed to specifically address the identified issues contributing to drowning among two high risk populations 1) Western Sydney residents and 2) Those aged 15-24. This program is delivered within Western Sydney and provides an opportunity to deliver vital safety information all students before the summer break which may reduce risky behavior around the water, as suggested by current research (Moran, 2013).

By the end of 2014, over 3,000 Western Sydney high school students would have received Surf Education. Early evaluation of the project as of August 2014 reports that students mostly visit popular inner-city Sydney beaches such as Bondi, Cronulla, Manly and Brighton le Sands, as well as Wollongong Beaches. These beaches were chosen as the students thought it was a 'safe' location and a patrolled beach.

- 64% know what to do if themselves or someone gets into trouble
- 90% could identify one or more characteristics of a rip current
- 73% could identify where to find beach safety information
- 73% intended to Swim Between the Flags in the future
- 81% intended to check beach signage in the future
- 62% intended to check surf conditions prior to going to the beach

Increasing knowledge and awareness is the first phase of the project with the next phase in 2015 focusing on practical skills. The program evaluation indicates that students understand the safety messages being delivered and can identify potential risks at the beach and further follow up is required to ascertain follow through of behavior change. However, the results are providing a new insight into the aquatic habits of Western Sydney youth and their families, and will be used to inform future interventions for this high risk population

- **Beach to Bush**

The Beach to Bush Program is the most significant educational initiative of Surf Life Saving and has been delivered to rural NSW and ACT schools for over 20 years. The program began as a result of research which highlighted that 50% of people rescued from the surf live more than 50km from the beach. The program aims to educate young people about safety at the beach and other aquatic environments. This year the program will reach over 13,000 school children in 70 primary schools over eight tours. Each year different areas are targeted so that each area is generally visited every 3-5 years to allow the program to have a wide reach across the state. More research is due to actually evaluate the full

impact of this program, however anecdotal stories from lifesavers on the beach have reported that students have visited those patrolled beaches as a direct result of learning about swimming between the patrol flags through the Beach to Bush program.

- **Coastal accommodation network**

This is a network of coastal accommodation providers has been established to deliver beach safety information to their visitors in response to increasing number of tourist drownings (domestic and inter-state). During 2013-2014, over 10,000 resources have been distributed to 150 providers across the state. Coastal accommodation providers are visited by SLS NSW personnel where possible to distribute beach safety information. So far, resources have been distributed to providers and visitor information centers in the Far North, North Coast, Sydney, South and Far South Coast regions.

- **Club based programs**

Surf Life Saving Clubs (SLSC) often deliver surf education programs over the summer months to meet the needs of their community. The impact of SLS clubs in coastal communities has been discussed previously. An excellent example is Forster SLSC who identified the need to educate children and their families who visit the Forster area during the Christmas school holidays. In the three years the club has been running the *Surf Awareness School*, 360 children have been educated in surf safety, basic first aid, board paddling and surf swimming as part of this program. Participants have come from Walgett, Bourke, Parkes, other country NSW towns, Western Sydney, Country Victoria, ACT, Country Queensland, Forster, Tuncurry and overseas – as far away as Alaska. The *Surf Awareness School* has gained a positive reputation within the Forster community as a fun and worthwhile Christmas School holiday activity. As a tourist destination many local businesses recommend the school to visitors with children.

- **Websites, apps, social media and resources**

The Beach Safe website has materials translated into over 20 languages, along with the Beach Safe App free to download and has all patrolled beaches (Including council operated beaches) across Australia. A suite of multilingual beach safety resources have been developed by SLSA, including: posters, fliers and DVD outlining basic key surf safety messages

- **Other strategies: Public Events**

SLS NSW is attends a number of high profile public events that attract a varied and a large audience from around the state e.g. The Royal Easter Show to increase awareness of Surf Life Saving and the safety messages when going to the beach and other aquatic environments.

Discussion

The risk of drowning has been well document previously, and it is not within the scope of this paper to go into depth on this, however it is widely accepted that the coast and other aquatic environments pose a high risk of drowning and there have been an abundance of drowning prevention strategies implemented worldwide. Statistics clearly demonstrate that drowning is an issue in Australia and a number of factors contribute to the vulnerability and individual risk of drowning. Strategies need to be considered from a holistic perspective and in context of the situation, for example pool safety strategies may not be applied in the same way when in a beach or river environment, and different age and cultural groups may also require slightly different approaches.

There were 34 beach drowning deaths last year which is a 32% reduction of beach drowning when compared to the 10 year average of 50 (Royal Life Saving Society, 2014) and suggests positive progress in drowning prevention efforts focussed on beach and surf safety but this does not mean complacency when considering future drowning prevention strategies.

The results of the studies presented indicate that the higher drowning risk for rural residents in particular may not be due to lack of awareness, more so the fact that beaches that they visit tend to be more rural and remote locations that are not patrolled. Fewer than half the Australian beachgoers and rural residents were able to make safe choices about swimming between the flags and just over half of each group could correctly identify a rip (SLSA, 2014; Brander, McKay & Goff, 2014; Williamson et al., 2012). Overall, rural inland residents were found not visit the beach very often, only a few times a year at the most compared to Australian beachgoers whom visited the beach at a minimum once per fortnight and this was consistent across all the studies. Similarly, international tourists may have less exposure to the beach and therefore have limited knowledge of water safety principles to help them make safer choices when visiting Australian beaches.

Conclusion

This paper highlights key drowning prevention strategies that are targeting visitors to coastal locations. Despite a clear reduction in coastal drownings, this does not mean efforts should be minimised, in fact current research strongly supports continued efforts targeting visitors to coastal locations and more so in rural and remotes areas with limited or no access lifesaving services. Community education along with other practical measures such as signage and provision of lifesaving services form an overall culture of beach safety that has been entrenched into those living in coastal locations and major cities, but needs to be extended to those living inland and international tourists who visit our abundant number of beaches. The changes in drowning statistics have happened due to a long term commitment across the sector with a targeted approach to reducing drowning which needs to continue especially for those vulnerable populations with limited knowledge of the beach and it's environment.

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