

Bega Cheese Scholarship Submission

Title: Child Drowning – A disparate public health issue in rural areas

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Spending time enjoying the water, either at the beach, in a pool or at a local dam is a favorite Australian past time and one that is inherent to our culture. Rural Australia offers many beautiful locations to cool off on a hot summers day. Regrettably, these wonderful recreational locations also present a public health problem in the form of drowning risks. Data from the Australian Institute of Health and Welfare (AIHW) indicates that during the 2013/14 period there were 266 drowning deaths recorded, and many near drowning incidents associated with significant morbidity. A disproportionate number of these deaths occur outside urban areas, in rural and farming communities. Furthermore, children under 5 are overrepresented in drowning deaths, accounting for 7.5% of this mortality. Many of these deaths were associated with falling or wondering into water, despite adequate supervision.

Any death as a result of accidental drowning is considered preventable, and these figures, although part of a steady decline, represent an unacceptable loss of life. This raises the question, why, despite Australia's active water safety campaigns of the past two decades, is the incidence of drowning in particular demographics, especially children, still much higher in rural and farming communities? Perhaps more importantly, how is this being addressed?

Rural Australian life presents a number of distinct challenges in ensuring child water safety. Research indicates that implementation of Australian legislation and standards for fencing around drowning risk sites has primarily contributed to reduced drowning mortality in the urban setting. Although barriers provide a good solution for water safety in this context, this is not always feasible. Many swimming locations include dams, beaches, rivers/creeks, estuaries, harbors, irrigation channels, water troughs and water tanks. These are all venues that can't practicably fenced or sequestered due to their uncontrolled nature.

Other factors affecting drowning incidents in children that are unique to rural farming communities are associated with geography, and the provision of health services in these locations. Generally, data indicates that in any emergency, shorter ambulance response times and hospital admission is directly related to improved outcomes including reduced morbidity and mortality. Data indicates that ambulance response times in rural and remote Australia are longer than those in urban areas. This is not as a result of shortfalls in the health service - as there is extensive investment in road and aerial evacuation - but can be attributed to the sprawling geography of many paramedic catchments. Furthermore, access to an Emergency Department equipped hospital may take longer, again due to the distances between major health service centers.

Additionally, there are a number of other risk factors common to both the urban and rural setting. In particular a sporadic lack of swimming and water safety education, absence of supervision, or having a water body located within 300 meters of a residence.

Despite these challenges, as a public health issue, there are a number of water safety plans in place to mitigate risks. These entail a heavier focus on prevention rather than dependence on treatment in drowning. An example of this is the Royal Life Saving Society's (RLSS) "Keep Watch" campaign, which is specific to rural communities, with particular emphasis on child safety in the farming context.

The RLSS's "Keep Watch" campaign focuses on the four principles of supervision, restricting access, water awareness and resuscitation. These principles are consistent with those used in urban drowning prevention however there are a number of nuances associated with the inimitability of the rural setting that must be considered. Practical implementation of these techniques is more challenging rurally, due to the difficulty in restricting access. Accordingly,

an increased focus on supervision, water awareness and resuscitation proficiency should occur.

With respect to supervision, the RLSS recommends the establishment of safe play areas, particularly on farms where water is not the only hazard for young children. The “Keep Watch” program calls for a high level of vigilance from carers in supervising swimming children.

Additionally, water awareness at all ages has been shown to be significant in the reduction of drowning incidents. Improved access to water safety classes would lead to safer outcomes for children when swimming. Familiarization could include community or school lead programs to ensure a good baseline level of swimming ability. Furthermore, education on suitable use of Personal Flotation Devices (PFDs), judging water depth, current or flow strength and the general assessment of safe swimming locations for children and young adolescents is critical in ensuring safe swimming habits.

Finally, resuscitation is key in ensuring survivability in the event of an incident. As the majority of hypoxic damage associated with drowning occurs early after exposure, immediate CPR contributes greatly to survivability. First aid courses include instruction on basic resuscitation techniques however these courses are time consuming and not conducted as frequently or conveniently as in metropolitan areas. The United Kingdom Resuscitation Council initiated a successful television campaign that not only made the intricacies of CPR memorable, but effective enough to ensure that those requiring resuscitation received it in a timely manner. This focus on effective and immediate CPR would be much more suitable and cost effective in rural communities compared to complete community attendance at first aid courses.

As noted, accidental drowning in children remains a disparately high public health issue in rural and farming communities. The reasons are not as a result of civic ignorance or irresponsibility but can be attributed to the unique setting in which swimming occurs in these areas. Clearly a more tailored approach is required to reduce poor outcomes. Encouragingly, there currently exists an excellent framework for the continued reduction of drowning incidents. Balanced on the rural and farming specifics for supervision, isolation, familiarization and resuscitation, there are many practices and potential for programs that will improve child water safety. For the most part, these practices can be efficiently and efficaciously implemented within the community. Not only will this avoid a horrific situation for the families, it will allow the continued enjoyment of many of the beautiful waterways and beaches that this country is so fortunate to have.