



Curtin University

# ADULT WATER SAFETY PROGRAM 2020 FORMATIVE EVALUATION

COLLABORATION FOR EVIDENCE, RESEARCH & IMPACT IN PUBLIC HEALTH



# KEY FINDINGS & IMPLICATIONS

## Background

Drowning is the third leading cause of unintentional death worldwide,<sup>1</sup> however the rate of drowning among older people is likely to rise as Australia's ageing population increases.<sup>2</sup> This report presents the formative evaluation of the Adult Water Safety Program (AWSP), a newly formed program to address an emerging strategic priority for drowning prevention in Western Australia (WA), namely adults aged over 45 years.

The AWSP will focus on two age groups: those over 45 years, and those over 65 years. The program aims to increase awareness and knowledge of general water safety and drowning prevention issues (e.g., alcohol-related drowning, impact of pre-existing medical conditions and holiday safety) and improve water safety, lifesaving and swimming skills through increased program participation.

## Evaluation approach

The evaluation employed a mixed methods approach. A seven-step collaborative model was used, briefly: 1). A review of current literature (rapid desktop review); 2). Coronial data analysis of drowning deaths in WA; 3). Interviews (in-depth, semi-structured interviews with target group members); 4). Development and implementation of a survey of the target group; 5). Development of theory based campaign messages; 6). Testing of concepts with the target group; and 7). Refinement of messages.

Formative evaluation findings presented in this report align with step 4 above. An online or paper based self-administered survey assessed baseline awareness and knowledge of general water safety and drowning prevention issues. It explored the: demographics; water based activity; general health and wellbeing; travel; source of health information; and knowledge, attitudes, beliefs and behaviour. A Qualtrics survey link was sent to key community organisations across WA to promote within their networks. Individuals were encouraged to forward the link to family and friends where relevant. An initial 503 responses were collected; after cleaning 414 responses were included in analysis. WA population data was used to guide collection protocols: an equal proportion of males and females; an 80%/20% metropolitan/regional split; and representative age categories of 65% 45 – 64 years, 20% 65-74 years and 15% 75 years and older. Descriptive statistics were used to summarise the variables of interest.

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<sup>1</sup> World Health Organization, *Global report on drowning: preventing a leading killer*. 2014.

<sup>2</sup> Mahony, A.J., et al., *Fatal, unintentional drowning in older people: an assessment of the role of preexisting medical conditions*. Healthy Aging Research, 2017. 6(1): p. 1-8.

## Key findings and implications

This formative evaluation generated a number of significant insights which have relevance for the new program. Using report results and the current peer-reviewed literature we present a summation of key findings and implications for practice. Recommendations and implications relate to the development and refinement of the AWSP messages, prevention strategies and considerations to improve the next phases of the evaluation methods and process.

### *Swim ability and water-based activities undertaken*

Participants were mostly confident swimmers and engagement in water-based activities was common, though around half reported not swimming for fitness. Given that the location of the participants' residential post-code and data collection methods potentially attracted those who more likely to swim and engage in activities in and around the water, this was not an unexpected finding. Swimmer confidence, perceived ability to swim longer distances, and reported completion of formal swimming lessons declined as participants aged. As an imperative, investment is required in prevention activities that enable individuals to better retain their ability and confidence to engage in, and continue to swim and participate in low impact water based activities such as kayaking and stand-up paddle boarding despite any decreases in physical capacity. For many older adults, water activities can preserve quality of life and increase overall health and social wellbeing.<sup>2,3</sup>

### *Knowledge*

Very few participants could identify the locations where the most drownings occur within Australia. This is consistent with the broader literature which suggests that a lack of geographical knowledge may play a role in increasing risk for drowning.<sup>4</sup> As many older Australians are mobile and spend time travelling within and around Australia<sup>5</sup> this suggests the target group may not always realise when they are *at most* danger of drowning, for example near swollen river-beds and driving through flooded road ways at certain times of the year.<sup>6,7</sup> Accordingly consideration of spatial and temporal factors is critical.

Environmental cues and signage, Apps that provide warnings (similar to traffic congestion warnings) indicating where potential drowning risks exist may be especially relevant for older (or all) travellers who may lack local knowledge. Participants were however, able to identify key drowning risks for people their age including: fitness; overestimation of abilities; and alcohol; this is consistent with the

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<sup>3</sup> Hamilton, K., et al., *Alcohol use, aquatic injury, and unintentional drowning: A systematic literature review*. Drug and Alcohol Review, 2018. 37: p. 752-773.

<sup>4</sup> Quistberg, D. A., Bennett, E., Quan, L., & Ebel, B. E. (2014). *Low life jacket use among adult recreational boaters: A qualitative study of risk perception and behavior factors*. Accident Analysis & Prevention, 62, 276-284.

<sup>5</sup> Burgin, S. and N. Hardiman, *Crocodiles and grey nomads: a deadly combination?* Current Issues in Tourism, 2016. 19(1): p. 60-63.

<sup>6</sup> Hamilton, K., et al., *Driving through floodwater: Exploring driver decisions through the lived experience*. International Journal of Disaster Risk Reduction, 2019. 34: p. 346-355.

<sup>7</sup> Hamilton, K., et al., *Stop there's water on the road! Identifying key beliefs guiding people's willingness to drive through flooded waterways*. Safety Science, 2016. 89: p. 308-314.

broader drowning prevention literature<sup>3</sup> and the small body of literature examining older adults.<sup>8,9,10</sup> Consideration of the development of a knowledge score would be worthwhile, as used in the Youth Water Safety Program baseline evaluation. This may facilitate greater specificity when assessing participant knowledge of water safety in future surveys.

### ***Attitudes and beliefs***

Overall, participants reported positive attitudes towards water safety measures. Interestingly, younger participants were more likely to agree *it's okay to consume alcohol on a boat* whilst those aged over 75 years were more likely to believe *you only need a lifejacket on boats if you cannot swim or water conditions are rough*. The literature demonstrates that alcohol consumption combined with participation in boating and fishing increases the risk of drowning, particularly in Australian males.<sup>9</sup> Partnerships should be actively pursued with other injury prevention agencies e.g. Injury Matters, COTA Australia or those more broadly across the system that engages older adults e.g. recreational boating and fishing agencies, the caravan and camping industry, Swimming Pools and Spas Association, to maximise outreach opportunities and a collaborative approach towards injury prevention including drowning prevention.

Personal risk assessment and risk assessment for other people their own age was consistent across both age groups. Most participants agreed they looked out for safety signs when visiting the beach or pool. Younger, older adults (45 – 64 years) were more likely to agree their swimming competence would keep them safe when swimming, which is consistent with the literature which suggests that higher levels of perceived swim ability may reduce perceptions of drowning risk.<sup>11</sup> This reinforces the call for environmental cues as part of the strategy mix for this age group across settings. Those aged 45 – 64 years old (younger, older adults) were less likely to consider *participating in activities around water alone* as risky behaviour, potentially because of greater confidence in their own swim ability. Participants aged 75 years and over were less likely to agree that *others are at greater risk when swimming* and more likely to agree that *drowning is always in the back of their mind* when in and around water, indicating personal risk assessment increased with age. These findings are consistent with the literature which suggests that age differences will be found in recreational risk taking from middle age to older age as a reflection adults' changing attitudes toward risk of potential harm.<sup>12</sup> These results mirror skill and confidence levels around swim ability within this study. Given there has been little research into risk perception in older adults<sup>13</sup> this may provide an opportunity for future applied research.

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<sup>8</sup> Queiroga, A. and A. Peden, *Drowning Deaths in Older People: A 10 Year Analysis of Drowning Deaths in People Aged 50 Years and Over in Australia*. Sydney: Royal Life Saving Society–Australia, 2013.

<sup>9</sup> Peden, A.E., R.C. Franklin, and A.C. Queiroga, *Epidemiology, risk factors and strategies for the prevention of global unintentional fatal drowning in people aged 50 years and older: a systematic review*. *Injury prevention*, 2018. 24(3): p. 240-247.

<sup>10</sup> Pearn, J.H., A.E. Peden, and R.C. Franklin, *The influence of alcohol and drugs on drowning among victims of senior years*. *Safety*, 2019. 5(1): p. 8.

<sup>11</sup> McCool, J., Ameratunga, S., Moran, K., Robinson, E. 2009. Taking a risk perception approach to improving beach swimming safety. *International Journal of Behavioural Medicine*, 16(360). <https://doi.org/10.1007/s12529-009-9042-8>

<sup>12</sup> Rolison, J.J., et al., *Risk-taking differences across the adult life span: a question of age and domain*. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 2014. 69(6): p. 870-880.

<sup>13</sup> Abercromby, M., *Exploring water safety amongst older adults (65+ years) in Western Australia: A mixed-methods study*, in *School of Public Health*. 2019, Curtin.

## **Behaviour**

An individual's perception of risk often reflects their own position in the life-course (e.g. age, financial status) and typically risk aversion increases among older adults.<sup>10</sup> However, findings suggest that two thirds of participants reported taking part in risk-taking behaviours in the past twelve months, including activity in or around water alone, leisure activities on a boat without a life jacket and activities in or around water after consuming alcohol. Reported participation was higher in males, which is also consistent in the literature regarding risk-taking<sup>10</sup> and current drowning prevention research findings.<sup>7,14</sup> A substantial proportion of the participants reported they had engaged in high risk behaviours and only a small proportion of participants could identify locations where people drown. Accordingly, in order to better influence behavioural intention and change, program design could adapt components of the PRAGMMATIC 10 step model by: building messages; choosing channels; developing partnerships; freeing up resources; generating publicity; heightening the highs; inventing fresh content; and joining up strategies at the local level.<sup>15</sup> The AWSP may need to explore self-efficacy and social norms in the next evaluation phase to encourage more protective behaviours and to reduce harm from risk taking behaviour.

## **Campaign recall**

To establish a baseline for the first phase of the AWSP, we explored recall of existing water safety and drowning prevention advertising. Prompted recall of any water safety messaging in the previous three months was high, noteworthy, RLSSWA child drowning prevention campaigns were most frequently recalled. This is a very positive outcome for Keep Watch and RLSSWA who have delivered child drowning prevention messages to parents, grandparents and carers of children aged 0-4 in WA for more than 15 years. We anticipate that a proportion of those who recalled the advertisements now comprise our target population (45 years plus). Very few participants had heard of Royal Life Saving Society Australia's (RLSSA) Grey Medallion Program. This is an expected finding, as promotion and delivery of the Grey Medallion program has been more common in the Eastern States than in WA.<sup>16</sup> Many participants indicated a willingness to participate in a similar program that aimed to improve their fitness, taught them to swim and built on their safety skills. A program developed for a WA target group should take a multi-strategy, life-course approach that includes skills, education, opportunities to promote physical, mental and social health benefits that reflect the dynamic needs of the cohort.

## **Factors influencing drowning**

When developing the instrument for the evaluation of the AWSP a number of diverse factors were considered for inclusion ranging from alcohol consumption to tobacco use and fast food

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<sup>14</sup> Moran, K., et al., *Where the evidence and expert opinion meet: A review of open-water recreational safety messages*. International Journal of Aquatic Research and Education, 2011. 5(3): p. 5.

<sup>15</sup> Bellew B, Bauman .A., Leavy J., *The communication domain: mass media-based social marketing campaigns for physical activity*, in Bellew B, Nau T, Smith B, Bauman A (Eds.) *Getting Australia Active III. A systems approach to physical activity for policy makers*. 2020. The Australian Prevention Partnership Centre and The University of Sydney: Sydney.

<sup>16</sup> Mahony, A, Peden, AE. *NSW Evaluation of the Grey Medallion: A Water Safety and Lifesaving Skills Initiative for Older Australians*. Royal Life Saving Society – Australia. Sydney, 2018.

consumption to swimming ability. Due to length and response rate the final factors included: travel (local, national and international), health and wellbeing (specifically health status, alcohol consumption, physical activity, prescription medication); and their potential to impact on drowning prevention and water safety.

### General Health and Wellbeing

Overall, participants were healthy. However, while only one in ten participants indicated they did no form of moderate intensity physical activity in the past week, few reached levels of moderate intensity physical activity for good health, as recommended by the Australian Physical Activity and Sedentary Behaviour Guidelines.<sup>17</sup> Pre-existing health conditions, prescription medication and alcohol consumption increase the risk of drowning in older adults.<sup>2,8,9</sup> Our findings indicate that alcohol was mostly consumed at low risk levels, and consumption reduced with age. This is supported by Australian data which suggest that those aged over 70 are more likely to drink two or less standard drinks on a single occasion, though older Australians typically drink alcohol more frequently than younger Australians. Consistent with general Australian alcohol risk patterns, males drank at higher risk levels than females.<sup>18</sup> Interestingly, half of the participants reported taking prescription medication, mostly for cardiovascular disease. Antidepressant and cholesterol medication were cited, whilst diabetes medication increased in those over 75 years of age.

Recent Australian research has highlighted an increased risk when in and around water because of pre-existing medical conditions and the effects of ageing.<sup>2</sup> This is important as research suggests physical capabilities can act as a barrier to participation in activities in and around the water.<sup>19</sup> Accordingly, medications to address these conditions, any physical limitation as a result of ageing and compromised health (e.g. dementia and the interaction of alcohol and some prescription medications) all need to be managed as part of the drowning prevention strategy mix for older adults. The general health and well-being findings in their current form create a blunt snapshot of health and wellbeing. An exploration of physical activity (e.g. intensity and duration), social support (e.g. social networks) together with a more rigorous breakdown of prescription medication (e.g. naming dosage, length of time prescribed), is required for a more sophisticated analysis of their potential impact on water safety. By further investigating these factors, the leverage for physical and social benefits of safe participation in activities in and around the water may become more apparent.

### Travel

Participants were regular travellers. Almost all had travelled in the past five years. When travelling within WA, the majority travelled by car and stayed in hotel/motels, with friends and family or at camping grounds. The majority travelled with at least one other person, although one in five travelled solo. Travel was mostly booked directly with service providers, though the use of travel agent

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<sup>17</sup> Australian Government, *Australia's Physical Activity and Sedentary Behaviour Guidelines and the Australian 24-Hour Movement Guidelines*, Department of Health, Eds. 2014: Canberra.

<sup>18</sup> Australian Institute of Health and Welfare (AIHW). *2016 National Drug Strategy Household Survey (NCETA) secondary analysis*, 2018

<sup>19</sup> Evans, A, B., & Sleaf, M. (2013). "Swim for Health": Program evaluation of a multiagency aquatic activity intervention in the United Kingdom. *International Journal of Aquatic Research and Education*, 7(1), 24-38. doi:10.25035/ijare.07.01.04

services increased with age. None of these findings are unexpected. However, this is a very unusual year and circumstance locally, nationally and globally with regards to travel. The findings should be reviewed with the effects of the current COVID-19 pandemic travel restrictions, in mind. It is reasonable to expect that international travel will decrease below the levels indicated in the report findings and travel within WA and Australia will most likely increase due to effects of COVID-19 and related border closures and government focus on encouraging local tourism and travel. An emphasis on individual, environmental and advocacy efforts to support drowning prevention and water safety for both metropolitan and regional destinations within WA are likely to be of greater importance, and should take priority in the planning and delivery of strategies in the short-medium term. Engagement with online booking sites for advertising opportunities as well as regional service providers may have utility.

### Media and Health information

More than one in five participants indicated that they never look at posters in doctors' surgeries. This increases to one in three for doctors' surgery leaflets. One in four never look at leaflets in the mail and public transport posters were never looked at by 30% of participants. These findings regarding participants' media consumption should be considered when developing future dissemination channels for AWSP strategies.

Older participants (75 years plus) were likely to watch TV daily and read the newspaper in its traditional format. As age increased, respondents were less likely to engage in social media. After the age of 65 years, online sources of information were used less and advice from GP increased. These findings are consistent with media consumption over the past decade for this age group,<sup>20</sup> however this is a time of rapid change in consumption and patterns of media use by older adults and assumptions around what older adults 'use' and 'do not use' should be avoided.

The healthy ageing literature suggests grandparents seek digital support from grandchildren.<sup>18,21</sup> This, together with participants' belief that all children should be taught to swim and the importance of first aid and water safety skills, may prove to be an opportunity to combine old and young water safety initiatives. In addition, engagement in media and digital technologies by older Australians should be regularly reviewed over the five year period to best shape and direct the use of media and technologies as the landscape evolves. Innovative evaluation methods will also be required in order to produce high-quality evidence in an appropriate timeframe to facilitate evidence informed decision-making in practice. This recommendation is consistent with a very recent review on healthy ageing and digital technology.<sup>22</sup>

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<sup>20</sup> Sagacity Research, *The Connectivity Report*. 2018, Sagacity Research.

<sup>21</sup> Portz, J.D., et al., "Call a Teenager... That's What I Do!" - Grandchildren Help Older Adults Use New Technologies: Qualitative Study. *JMIR Aging*, 2019. 2(1): p. e13713.

<sup>22</sup> Buyl, R., et al., *e-Health interventions for healthy aging: a systematic review*. *Systematic Reviews*, 2020. 9(1): p. 128.

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