



AUSTRALIAN WATER SAFETY CONFERENCE 2012

FROM STRATEGY TO ACTION

Program and Proceedings
Novotel Hotel Brighton Beach, Sydney - June 2012





AUSTRALIAN WATER SAFETY CONFERENCE 2012

CONTENTS

Background/Membership Australian Water Safety Council	4
Committees	5
Foreword - Senator the Honourable Kate Lundy <i>Minister for Sport, Minister for Multicultural Affairs, Minister Assisting for Industry and Innovation</i>	6
Introduction - Australian Water Safety Council <i>Rob Bradley, Convenor, Australian Water Safety Council</i>	7
Conference Program	8
Australian Water Safety Strategy 2012-15	12
Abstracts - Conference Sessions	
Session 1 - Lifestages	17
Children 0-4 / Young People 15-24	
Session 2 - Locations	25
Surf Beaches	
Session 3 - Challenges	31
Alcohol and Drugs/Recreation Activities/ High Risk Populations	
Session 4 - Lifestages	39
Children 0-14 / Young People 15-24	
Session 5 - Locations	49
Surf Beaches/Aquatic Industry/Inland Waterways	
Session 6 - Challenges	57
High Risk Populations	
Session 7 - Lifestages	65
Children 0-14 / Young People 15-24	
Session 8 - Locations	73
Surf Beaches/Aquatic Industry/Programs	
Session 9 - Challenges	79
Recreational Activities	
Session 10 - Lifestages	85
Session 11 - Locations and Medical	95
Session 12 - National and International Perspectives	105
Workshop	
Drowning and Disasters Workshop	113
Poster Presentations	117
Tradeshow/Exhibitors	128
Index of Abstracts by Author/s	130
Contacts	135



ABSTRACTS 17



AUTHOR INDEX 130

Program and Abstracts

The Australian Water Safety Council made the call for abstracts against the themes of the Australian Water Safety Strategy 2008-2011, linking directly to the 14 goals and the 4 key priority areas. It was recommended that all abstracts be aligned to the 2008-2011 Strategy.

Please note, these goals have been modified in the release of the 2012-15 strategy which will be launched at the conference.

Abstracts are included for all presentations received by 11 May 2012 and are listed by conference session. The presenting author is highlighted in bold text. Authors and their abstracts are also referenced via the index of abstracts at the end of this booklet.

Disclaimer

The Conference Program and Abstracts were correct at the time of printing however presentations and/or presenters may change due to circumstances beyond the control of the organisers, which may necessitate substitutions or alterations to the conference program. Information presented in this document does not necessarily reflect the views of the Australian Water Safety Council or those of the Organising Committee.

BACKGROUND - AUSTRALIAN WATER SAFETY COUNCIL

The Australian Water Safety Council (AWSC) was officially formed in February 1998 as a result of strong industry consultation and with the support of the then Federal Minister for Sport and Tourism, the Hon Andrew Thomson MP. The Council acts as a consultative forum comprising 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 does not represent an additional layer of organisational bureaucracy and does not receive funding directly. The Council provides a collective voice for its member organisations. It liaises closely with kindred bodies at State, National and International levels.

The AWSC is committed to improving Water Safety in Australia as demonstrated through the production and implementation of three National Water Safety Plans. These plans have generated bipartisan support for Water Safety in Australia and have seen the improvement of Water Safety throughout the country. The AWSC 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.

This is the seventh Water Safety Conference undertaken by the AWSC, with previous conferences held:

- 5 May 1998 at Melbourne Sports and Aquatic Centre
- 22 November 2000 at Canberra Convention Centre
- 22-23 September 2003 at Swiss Grand Hotel Bondi Beach Sydney
- 17-18 August 2006 at the Holiday Inn Surfers Paradise Queensland
- 15-16 May 2008 at the Crowne Plaza Darling Harbour Sydney
- 13-14 May 2010 at the Novotel Hotel Brighton Beach Sydney

All conferences involved a broad cross-section of the Australian Water Safety Community which included representatives of government departments, agencies and statutory authorities from throughout Australia.

The recommendations and spirit of cooperation engendered at the Conference in September 2003 was incorporated into the 2004-2007 National Water Safety Plan which was released in September 2004.

Recommendations from the 2006 Conference and the AWSC Planning Workshop held in 2007 were used as the basis for the development of the 2008-2011 Australian Water Safety Strategy, Reducing drowning deaths by 50% by 2020.

Each conference allows for reflection on the water safety strategy and provides direction for future water safety activities. Current and past National Water Safety Strategies can be downloaded from www.watersafety.com.au.

The 2012 conference will see the launch of the Australian Water Safety Strategy 2012-15. The conference will provide a forum to discuss the challenges for implementation and how to best ensure that everyone can be kept safe when in, on and around the water.

This proceedings document joins the papers presented from the previous conferences, which can be found on the Australian Water Safety Council website www.watersafety.com.au.

AWSC MEMBERSHIP

Robert Bradley (Convenor)
Royal Life Saving Society - Australia (RLSSA)

Brett Williamson OAM
Surf Life Saving Australia (SLSA)

Gordon Mallett
The Australian Council for the Teaching of
Swimming and Water Safety (AUSTSWIM)

Stan Konstantaras
Australian National Sportfishing Association (ANSA)

Adam Pine
Swimming Australia

John Lippmann OAM
Divers Alert Network (DAN) Asia Pacific

Eric Chalmers
The Child Accident Prevention Foundation
of Australia (Kidsafe)

Emily Herde
Farmsafe Australia

Australian Recreational Boating
Safety Committee

Chris Symington
Surfing Australia

Gary Penfold
Australian Leisure Facilities Association

David Speechley
Australian Swimming Coaches and
Teachers Association (ASCTA)

Paul Anderson
Standing Committee on Recreation and Sport

Australian Local Government
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COMMITTEES

The Australian Water Safety Conference 2012 has been made possible by the support of the following committees.

Conference Organising Team - Australian Water Safety Conference 2012

Justin Scarr, Chief Operating Officer, Royal Life Saving Society – Australia

Monique Sharp (Conference Organiser/Secretariat), National Manager Events, Royal Life Saving Society – Australia

Matthew Thompson, Coastal Safety Services Manager, Surf Life Saving Australia

Jared Wilson, Business Centre Coordinator – NSW, AUSTSWIM

Amy Peden, Senior Project Officer- Programs and Policy, Royal Life Saving Society - Australia

Thematic Review Committees

Over 60+ Abstract Submissions were received for program consideration. Thematic Review Committees assessed abstracts against key priority areas and pre-determined criteria. The thematic review committees included representatives from across Royal Life Saving Society – Australia, Surf Life Saving Australia and AUSTSWIM.

Thematic Committee 1: Lifestages [AWSC Strategy - Priority Area One - Adopt a Life Stages Approach]

Amy Peden, Royal Life Saving Society - Australia

Anthony Bradstreet, Surf Life Saving Australia

Jared Wilson, AUSTSWIM

Jade Hanson, AUSTSWIM

Thematic Committee 2: Locations [AWSC Strategy - Priority Area Two - Address High Risk Locations]

Matt Griffiths, Royal Life Saving Society – Australia

Bree Corbett, Surf Life Saving Australia

Matthew Thompson, Surf Life Saving Australia

Thematic Committee 3: Drowning Challenges [AWSC Strategy - Priority Area Three - Meet Key Drowning Challenges]

Dr Kim Alexander, Royal Life Saving Society – Australia

Vanessa Brown, Surf Life Saving Australia

Melissa Savage, AUSTSWIM

Susan Sturt, AUSTSWIM

Thematic Committee 4: Drowning Prevention Pillars [AWSC Strategy - Priority Area Four - Strengthen Drowning Prevention Pillars]

Associate Prof. Richard Franklin, Royal Life

Saving Society Australia

Monique Sharp, Royal Life Saving Society Australia

Barbara Brighton, Surf Life Saving Australia

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FOREWORD

Senator the Honourable Kate Lundy

Minister for Sport; Minister for Multicultural Affairs; Minister Assisting for Industry and Innovation

Welcome to the Australian Water Safety Conference 2012.

Water based sport and recreation activities are an important part of Australian culture.

The Australian Government wants all Australians and visitors to our shores to be able to participate in water activities safely, and enjoy the benefits that come from this participation.

The conference provides a valuable opportunity for water safety stakeholders from across Australia and overseas to come together to advance our common goal of reducing drowning deaths and related injuries.

The signing of the Memorandum of Cooperation between the Australian Water Safety Council and Water Safety Nippon will be another positive step in advancing international cooperation in this important area.

The conference will also see the launching of the goals and strategies within the new Australian Water Safety Strategy 2012-15.

The Australian Government continues to support this strategy and its goal to reduce drowning deaths by 50 per cent by 2020.

The ongoing development of the strategy and improvements in drowning prevention to date reflect the hard work and investment from all parties involved including water safety organisations, governments, community groups and individuals.

Working together we can build on the progress that has been made to further improve safety, and reduce drownings over the period to 2015 and beyond.

Thank you for your participation in the conference and for your ongoing contribution to water safety.

Senator the Honourable Kate Lundy

Minister for Sport; Minister for Multicultural Affairs; Minister Assisting for Industry and Innovation



INTRODUCTION

Australian Water Safety Council

Dear Colleague

On behalf of the Australian Water Safety Council (AWSC) I would like to welcome you to the Australian Water Safety Conference 2012. You will see from the Conference Proceedings that we have an excellent program planned for you – one we believe you will thoroughly enjoy.

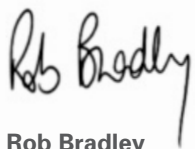
Over the past twelve years there has been a significant increase in the public awareness of water safety issues and a giant leap forward in terms of government and corporate support at national, state and local levels. During the years to 2008 we had seen an improving trend of reduced drowning and you may recall we were optimistic in setting ourselves the task of “Reducing Drowning by 50% by 2020” during our last major conference. Although the drowning numbers have been set above 300 in the past two years the Australian Water Safety Council is still focussed on achieving our aspirational goal.

During the conference we will launch the new Australian Water Safety Strategy for 2012-15 which sets our priorities for the coming period. We will sign an historic international Memorandum of Cooperation with Water Safety Nippon and we will be joined by Minister for Sport The Hon Senator Kate Lundy during the conference dinner.

Preventing drowning is everyone’s responsibility and, along with my colleagues from the AWSC, I look forward to joining you for a most important event.

Brett Williamson OAM, Surf Life Saving Australia
Gordon Mallett, AUSTSWIM
Adam Pine, Swimming Australia
Emily Herde, Farmsafe
Chris Symington, Surfing Australia
Gary Penfold, Australian Leisure Facilities Association
Paul Anderson, Standing Committee on Recreation and Sport (SCORS)
Bert Kelly-Johnston and Dean Salzke, Australian Government – Office of Sport
Stan Konstantaras, Australian National Sportfishing Association
Eric Chalmers, Child Accident Prevention Foundation of Australia (Kidsafe)
David Speechley, Australian Swim Coaches and Teachers Association
John Lippmann OAM, Divers Alert Network

We hope you enjoy the conference.



Rob Bradley

*Australian Water Safety Council Convenor,
Chief Executive Officer – Royal Life Saving Society Australia*



MONDAY 4 JUNE 2012

8:00am	REGISTRATION (FOYER-ENDEAVOUR BALLROOM)
CONFERENCE OPENING (ENDEAVOUR BALLROOM 1&2)	
9:30am	Conference Opening: Australian Water Safety Conference 2012 - From Strategy to Action Brett Williamson OAM, Chief Executive Officer, Surf Life Saving Australia Gordon Mallett, Chief Executive Officer, The Australian Council for the Teaching of Swimming and Water Safety
9:45am	Overview and Launch: Australian Water Safety Strategy 2012-15 (Towards a nation free from drowning) Rob Bradley, Convenor, Australian Water Safety Council and Chief Executive Officer, Royal Life Saving Society – Australia
10:15am	Official Signing – Memorandum of Cooperation with Water Safety Nippon Hideharu Hirowatari, Chairman of Water Safety Nippon
10:30am	MORNING TEA - Includes Tradeshow & Poster Displays (Foyer-Endeavour Ballroom)

CONCURRENT SESSIONS			
	LIFESTAGES Children 0-14 Young People 15-24	LOCATIONS Surf Beaches	CHALLENGES Alcohol and Drugs Recreational Activities High Risk Populations
	SESSION 1 Endeavour Ballroom 1&2	SESSION 2 Endeavour Ballroom 3	SESSION 3 Sirius Room
11:00am	Session Intro	Session Intro	Session Intro
11:10am	A Nine Year Analysis of Drowning In Children and Adolescents Aged 0-19 Years In Australia (Pg 18) Amy Peden ¹ , Royal Life Saving Society – Australia ¹	Rip Current Related Drowning Deaths and Rescues In Australia, 2004-11 (Pg 26) Barbara Brighton ¹ , Dr Shauna Sherker ¹ , Anthony Bradstreet ¹ and Matthew Thompson ¹ , Surf Life Saving Australia ¹	Tailoring Don't Drink & Drown - 'One Size Does NOT Fit All' (Pg 32) Thomas Shalders ¹ , Royal Life Saving Society Western Australia ¹
11:30am	A Survey Of Household Attitude Towards Queensland Home Pool Fencing Legislation Changes (Pg 19) Associate Professor Richard Franklin ^{1,2} , Amy Peden ¹ , Associate Professor Kerriane Watt ² and Professor Peter Leggat ² , Royal Life Saving Society - Australia ¹ , Anton Breinl Centre, James Cook University ²	The Ripsafe Project - A Holistic Approach To Understanding The Rip Current Hazard (Pg 27) Dr Robert Brander ¹ , Dr Danielle Drozdowski ¹ , Dr Dale Dominey-Howes ¹ , Dr Ian Turner ¹ , Dr Wendy Shaw ¹ , Robert McCarroll ¹ , Mischa Moraza ¹ , Dr James Goff ¹ and Dr Shauna Sherker ² , The University of New South Wales ¹ , Surf Life Saving Australia ²	Snorkeling Fatalities in Australia (Pg 33) John Lippmann ¹ and Professor John Pearn ² , Divers Alert Network Asia-Pacific ¹ , Royal Life Saving Society - Australia ²
11:50am	Keeping Country Kids Safe: Child death data informing rural drowning prevention strategies (Pg 20) Reyelle McKeever ¹ , Commission for Children and Young People and Child Guardian (QLD) ¹	Coastal drowning deaths in Australia: Is a 50% reduction by 2020 within reach? (Pg 28) Dr Shauna Sherker ¹ , Barbara Brighton ¹ and Matthew Thompson ¹ , Surf Life Saving Australia ¹	AUSTSWIM NSW Indigenous Project 2011 (Pg 34) Melissa Savage ¹ , The Australian Council for the Teachers of Swimming and Water Safety ¹
12:10pm	Drowning deaths in children with underlying medical conditions: Are they preventable? (Pg 22) Associate Professor Richard Franklin ¹ , Professor John Pearn ¹ , Amy Peden ¹ and Justin Scarr ¹ , Royal Life Saving Society - Australia ¹	Surf Rescue – Emergency Response System (NSW) (Pg 29) Dean Storey ¹ , Surf Life Saving New South Wales ¹	Drowning Prevention within a Refugee Community in Melbourne (Pg 36) Sarah Grace ¹ , David Holland ¹ and Dr Bernadette Matthews ¹ , Life Saving Victoria ¹
12:30pm	LUNCH - Includes Tradeshow & Poster Displays (Foyer-Endeavour Ballroom)		

CONCURRENT SESSIONS			
	LIFESTAGES Children 0-14 Young People 15-24	LOCATIONS Surf Beaches Aquatic Industry Inland Waterways	CHALLENGES High Risk Populations
	SESSION 4 Endeavour Ballroom 1&2	SESSION 5 Endeavour Ballroom 3	SESSION 6 Sirius Room
1:30pm	Session Intro	Session Intro	Session Intro
1:40pm	Perspectives on teaching swimming and water safety skills to children: AUSTSWIM and Royal Life Saving Society – Australia (Pg 40) Dr Kim Alexander ¹ , Susan Sturt ² , Amy Peden ¹ , Melissa Savage ² and Penny Larsen ¹ , Royal Life Saving Society - Australia ¹ , AUSTSWIM ²	A Review of Australian Spinal Injury Management Practices (Pg 50) Sarah Grace ¹ , Dr Bernadette Matthews ¹ , Dr Natalie Hood ^{2,3} and Mr Stuart Wall ¹ , Life Saving Victoria ¹ , Australian Resuscitation Council ² , Surf Life Saving Australia ³	Making Aquatics a Terrific Experience - AUSTSWIM MATE (Pg 58) Jennifer Schembri-Portelli ^{1,2} and Maria Burn ¹ , Austswim ¹ , Water Safety Exercise Training Service ²
2:00pm	AUSTSWIM – Moving Out of the Lane (Pg 42) Gordon Mallett ¹ and Meredith King ² , Austswim ¹ , MaKquatic Consult ²	Assessing safety standards and the impact of aquatic facility operational models in aquatic facilities in 2011 (Pg 52) Matt Griffiths ¹ , Royal Life Saving Society – Australia ¹	A coordinated and sustained approach to Water safety education for each community in order to reduce ethnic drowning in New Zealand (Pg 59) Cory Sweeney ¹ and Matt Claridge ¹ , Water Safety New Zealand ¹
2:20pm	The need to develop transferrable swimming and water safety skills for open water environments (Pg 44) Anthony Bradstreet ¹ , Jared Wilson ² , Penny Larsen ³ and Melissa Savage ² , Surf Life Saving Australia ¹ , AUSTSWIM ² , Royal Life Saving Society ³	A nine year analysis of drowning deaths in inland waterways in New South Wales (Pg 54) Amy Peden ¹ , Royal Life Saving Society – Australia ¹	The Aqua English Project: The Development & Implementation of Drowning Prevention Programs for High Risk Populations (Pg 61) Sarah Blaubaum ¹ and Julia Dixon ¹ , The Aqua English Project ¹
2:40pm	Kids can drown in inflatable pools too! (Pg 45) Erin Simmonds ¹ and Candace Douglass ¹ , Kids Health, The Children's Hospital At Westmead ¹	Drowning reduction strategies for inland waterways: The ACT Experience (Pg 55) Sean Hodges ¹ , Matt Griffiths ² and Amy Peden ² , Royal Life Saving ACT ¹ , Royal Life Saving Society - Australia ²	VICSWIM Cultural: a sustainable program based on collaboration. (Pg 63) Kristen Kruse ¹ , Aquatics and Recreation Victoria ¹
3:00pm	AFTERNOON TEA - Includes Tradeshow & Poster Displays (Foyer-Endeavour Ballroom)		

AUSTRALIAN WATER SAFETY CONFERENCE WORKSHOP	
DROWNING AND DISASTERS (Endeavour Ballroom 1 & 2)	
3:30pm	Disasters, particularly natural disasters such as flooding, storm surges and Tsunamis affect millions of people globally every year. Drowning is a common consequence during these events. Discussion will focus on these natural disasters and the impact they have had within Australia. Further the role of lifesavers and lifesaving organisations in disaster risk reduction will be discussed (see page 114 for further details). Guest Speakers: <ul style="list-style-type: none"> • Matthew Thompson, Coastal Safety Services Manager, Surf Life Saving Australia (Workshop Chair) • Raelene Thompson, Chief Executive Officer, Australian Emergency Management Institute (AEMI) • Stephen Opper ESM, Director Community Safety - Corporate Services & Planning, NSW State Emergency Service • George Hill, Chief Operating Officer, Surf Life Saving Queensland • Queensland Police Service
5:00pm	CONFERENCE DAY ONE CLOSE
CONFERENCE DINNER – OLYMPICS 2012 (Endeavour Ballroom 1 & 2)	
7:00pm	Welcome - Guest Speakers Senator the Honourable Kate Lundy Minister for Sport; Minister for Multicultural Affairs; Minister Assisting for Industry and Innovation Ms. Mai Nakamura (Japan) Sydney Olympic Silver Medalist in Women's 100M Backstroke First Round of Olympic Trivia Main Meal Served Second Round of Olympic Trivia Dessert Served Prize Winners and Lucky Door Prizes, DJ and Dancing
11:30pm	CONFERENCE DINNER CLOSE

TUESDAY 5 JUNE 2012

8:00am	REGISTRATION (FOYER-ENDEAVOUR BALLROOM)
MAIN PLENARY SESSION (ENDEAVOUR BALLROOM 1&2)	
9:00am	Day Two – Opening Address Brett Williamson OAM, Chief Executive Officer, Surf Life Saving Australia Gordon Mallett, Chief Executive Officer, The Australian Council for the Teaching of Swimming and Water Safety
9:10am	Open Forum – Challenges for Implementation of the Australian Water Safety Strategy 2012-15 Panel Includes: Australian Water Safety Council Members Interactive session focused on the challenges to the implementation of the AWSC 2012-15 with panel members (from the Australian Water Safety Council) and Conference delegates presenting their own unique perspectives.
9:50am	Mobilising a State to Support Drowning Prevention Legislation – Introduction of Home Pool Fencing Legislation in QLD Glen Brumby, Executive Director, Building Codes Queensland, Department of Housing and Public Works
10:30am	MORNING TEA - Includes Tradeshow & Poster Displays (Foyer-Endeavour Ballroom)

CONCURRENT SESSIONS			
	LIFESTAGES Children 0-14 Young People 15-24	LOCATIONS Surf Beaches Aquatic Industry PROGRAMS	CHALLENGES Recreational Activities
	SESSION 7 Endeavour Ballroom 1	SESSION 8 Endeavour Ballroom 2	SESSION 9 Endeavour Ballroom 3
11:00am	Session Intro	Session Intro	Session Intro
11:10am	Benchmarking Australian children's swimming and water safety skills: Challenges and opportunities (Pg 66) Amy Peden ¹ and Associate Professor Richard Franklin ¹ , Royal Life Saving Society - Australia ¹	VEGEMITE SurfGroms - Surfing Australia's new junior participation program for 5-12 year olds (Pg 74) Chris Symington ¹ , Surfing Australia ¹	Rock fishing in NSW: An evidenced based approach to reduce severe injury and drowning risk. (Pg 80) Anthony Bradstreet ¹ , Dr Shauna Sherker ¹ , Barbara Brighton ¹ , Adam Weir ¹ and Matthew Thompson ¹ , Surf Life Saving Australia ¹
11:30am	Sealord Swim for Life Initiative Empowering Regional New Zealand (Pg 67) Cynthia Thomas ¹ , Water Safety New Zealand ¹	Connecting Lifeguards through Pool Lifesaving Sport (Pg 75) Matt Griffiths ¹ and Emma MacMillan ¹ Royal Life Saving Society - Australia ¹	Meeting the challenge of preventing drowning deaths on the rocky coast (Pg 81) Dr David Kennedy ¹ , Barbara Brighton ² , Prof Colin Woodroffe ³ , Adam Weir ² and Dr Sherker Sherker ² , The University of Melbourne ¹ , Surf Life Saving Australia ² , The University of Wollongong ³
11:50am	The Swim and Survive Fund - Leveraging the Power of Collaboration (Pg 68) Kristal Grainger ¹ , Royal Life Saving Society – Australia ¹	From Research Strategy to examining skill acquisition and cold water immersion. (Pg 76) Alexander Brunt ¹ , Water Safety New Zealand ¹	From strategy to action: An immediate collaborative response to prevent further drowning among Pacific peoples when net fishing (Pg 82) Barbara Venville ¹ and Dr Kevin Moran ² , WaterSafe Auckland ¹ , University of Auckland ²
12:10pm	Water Safety Education for Pre-Schoolers - The missing link? (Pg 69) Michael Morris ¹ , Samuel Morris Foundation ¹	Accredited Training: What's the big deal? (Pg 77) Pamela Simon ¹ , Surf Life Saving NSW ¹	
12:30pm	LUNCH - Includes Tradeshow & Poster Displays (Foyer-Endeavour Ballroom)		

The conference organisers reserve the right to change the date and time of presentations as required. Presentations and/or presenters may change due to circumstances beyond the control of the organisers, which may necessitate substitutions or alterations to the conference program.

CONCURRENT SESSIONS			
	LIFESTAGES	LOCATIONS MEDICAL	NATIONAL AND INTERNATIONAL PERSPECTIVES
	SESSION 10 Endeavour Ballroom 1	SESSION 11 Endeavour Ballroom 2	SESSION 12 Endeavour Ballroom 3
1:30pm	Session Intro	Session Intro	Session Intro
1:40pm	Water Safety Skills for Reluctant Swimmers - Teaching adults who fear the water (Pg 86) Assoc Prof Jenny Blitvich¹ , G.Keith McElroy ¹ and Dr Emma Siesmaa ¹ , School of Health Sciences, University of Ballarat ¹	Risk Assessments; where does the data go? Collaborative and interactive platforms to help manage drowning and injury prevention in the aquatic environment. (Pg 96) Nick Mulcahy¹, Brett Sullivan¹ and Jonathon Alsop ² , Surf Life Saving New Zealand ¹ , IT Effects Ltd ²	Singapore's National Water Safety Strategy (Pg 106) Richard Ming Kirk Tan¹ , National Water Safety Council Singapore ¹
2:00pm	Trends in world wide swimming and water safety Teacher education (Pg 87) David Speechley¹ , Australian Swimming Coaches and Teachers Association ¹	Drowning related out-of-hospital cardiac arrests: characteristics and outcomes. (Pg 97) Kylie Dyson ¹ , Janet Bray ¹ , Dr Amee Morgans¹ , Dr Bernadette Matthews² , Dr Shelley Cox ¹ and Dr Karen Smith ¹ , Ambulance Victoria, Monash University ¹ , Life Saving Victoria ²	Adapt Between The Flags - Enhancing the capacity of Surf Life Saving to cope with extreme weather and climate change (Pg 107) Dr Shauna Sherker¹ , Barbara Brighton ¹ , Dr Marcello Sano ² , Dr Russell Richards ² , Dr Oz Sahin ² , Daniel Ware ² , Prof Rodger Tomlinson ² and Norman Farmer ¹ , Surf Life Saving Australia ¹ , Griffith University ²
2:20pm	The questions that Coroners don't get to ask. (Pg 88) Andrew Plint¹ , Hannah's Foundation ¹	Surf Lifeguard Response to Drowning: the SENTINEL System revisited. (Pg 98) Jonathon Webber^{1,2,3} , Surf Life Saving New Zealand, Wellington, New Zealand ¹ , Clinical Skills Centre, Auckland City Hospital, New Zealand ² , Department of Anaesthesiology, The University of Auckland, New Zealand ³	The Australian Safe Communities Foundation - Drowning Prevention as a Component of Safety Promotion (Pg 108) Professor John Pearn^{1,2} , Royal Life Saving Society – Australia ¹ and Australian Safe Communities Foundation ²
2:40pm	YMCA Sydney- Incorporating Home Pool Safety into Mainstream Lessons! 2 years on (Pg 89) Tracey Ayton¹ , YMCA ¹	Recognition and Comprehension of Aquatic Safety Signage (Pg 100) Robert Andronaco ^{1,2} , Dr Bernadette Matthews¹ , Sarah Grace ¹ , Dr Austin Adams ³ and Assoc Prof Colin Arrowsmith ² , Life Saving Victoria, Melbourne Australia ¹ , RMIT University, Melbourne Australia ² , James Cook University, Singapore ³	Northern Territory Water Safety Advisory Council - A Success (Pg 109) Daphne Read¹, Peter Cookson² and Lynn Finlay ¹ , NT Water Safety Advisory Council ¹ , Water Safety Branch, Department of Housing, Local Government and Regional Services ²
3:00pm	SwimSAFER Layers of Protection: Focus on Emergency Action Plan (Pg 91) Siria Thomas ¹ , Ross Gage¹ and Ross Smith ² / Swim Australia ¹ , CPA Australia & board member on Australian Resuscitation Council ²	'Project Blue-Print'-Coastal Public Safety Risk Assessments of all beaches and coastal rocks/ headlands in NSW. (Pg 101) Dean Storey¹ , Surf Life Saving New South Wales ¹	Water safety education and drowning prevention in Bali, Indonesia. (Pg 110) Emma Larssen¹ and Norman Farmer ¹ , Surf Life Saving Australia ¹
3:20pm	AFTERNOON TEA - Includes Tradeshow & Poster Displays (Foyer-Endeavour Ballroom)		
MAIN PLENARY SESSION (ENDEAVOUR BALLROOM 1&2)			
4:00pm	Summary and Future Directions Rob Bradley, Convenor, Australian Water Safety Council and Chief Executive Officer, Royal Life Saving Society Australia Brett Williamson OAM, Chief Executive Officer, Surf Life Saving Australia Gordon Mallett, Chief Executive Officer, The Australian Council for the Teaching of Swimming and Water Safety		
5:00pm	CONFERENCE DAY TWO CLOSE		

AUSTRALIAN WATER SAFETY STRATEGY 2012-15

TOWARDS A NATION FREE FROM DROWNING - FROM STRATEGY TO ACTION - 2020

In 2008 the Australian Water Safety Council established an ambitious aspirational goal of achieving a 50% reduction in drowning deaths by the year 2020.

At our conference in 2010 we observed a concerning increase in drowning deaths across the range of demographics, locations and activities. Unfortunately, in 2009 the 300 level had been breached and again in 2011 there were 315 drowning deaths recorded.

At the Australian Water Safety Strategy Review and Planning Workshop, held on 29 September 2011 and attended by key stakeholders, it was unanimously decided to maintain our focus and commitment and to continue striving for the originally set 2020 target of a 50% reduction in drowning.

There were three clear messages from the September AWSC Review and Planning Workshop:

- Maintain the original aspirational Goal to achieve a 50% reduction by 2020
- Maintain the existing framework used within the Australian Water Safety Strategy 2008-11 with some streamlining of goals and additional focus on critical areas.
- Recapture Australia's Water Safety Culture by boosting participation at key life stages

With the revision of several key goals in the 2012-15 Strategy, the numbers have been revised in line with the updated 3 year average (2008-09 to 2010-11). The goal is to save 153 lives overall, with reductions in the key goal areas as outlined in Figure 2 (refer to the Australian Water Safety Strategy 2012-15, Pg 9).

Australia's culture of water safety and our aquatic recreation lifestyle is the envy of many nations. The AWSS 2012-15 also aims to ensure this culture is revitalised and reinforced by increasing access, education and participation opportunities for all Australians.

Three Key Drivers for Drowning Reduction

The AWSC will maintain the three key drivers that will achieve the reduction aimed for in the AWSS 2012-15.

- Taking a life stages perspective
- Targeting high risk locations
- Focusing on key drowning challenges

Mid-term Progress Report – Towards the Aspirational Goal of a 50% Reduction by 2020

As stated above the overarching goal of the AWSS 2012-15 remains the achievement of a 50% reduction in all drowning deaths by the year 2020. With this in mind, the goal areas of this strategy have been revised from those incorporated within the AWSS 2008-11.

Of particular note is the expansion of the life stage for children to include children aged 5 to 14 years and a move in focus from reducing drowning deaths in males 18-34 who consume alcohol to reducing drowning in all people aged 15 to 24 years. The issue of alcohol and illegal drug related drowning deaths has been elevated to be a goal area of the AWSS 2012-15 in its own right.

Priority Area Two now focuses on reducing drowning deaths in inland waterways, an area of extreme concern. Strengthening the aquatic industry becomes Goal 6. This change recognises the importance of the Australian aquatic industry in keeping people safe around water, both through the use of qualified lifeguards at public swimming pools and providing a controlled environment for recreational activities, including learn to swim.

PRIORITY AREAS AND GOALS OF THE AUSTRALIAN WATER SAFETY STRATEGY 2012-15

There are three Priority Areas and ten associated goals of the AWSS 2012-15 to be released during this conference:

PRIORITY AREA 1: TAKING A LIFE STAGES APPROACH



1. Reduce Drowning Deaths in Children Aged 0-14
2. Reduce Drowning Deaths in Young People Aged 15-24
3. Reduce Drowning Deaths in People Aged 55+

PRIORITY AREA 2: TARGETING HIGH RISK LOCATIONS



4. Reduce Drowning Deaths in Inland Waterways
5. Reduce Surf Beach Drowning Deaths
6. Reduce Drowning Deaths by Strengthening the Aquatic Industry

PRIORITY AREA 3: FOCUSING ON KEY DROWNING CHALLENGES



7. Reduce Alcohol and Drug Related Drowning Deaths
8. Reduce Drowning Deaths Attributed to Watercraft and Recreational Aquatic Activities
9. Reduce Drowning Deaths in High Risk Populations
10. Reduce the Impact of Disaster and Extreme Weather on Drowning Deaths

AIM OF THE CONFERENCE

The Australian Water Safety Conference 2012 will bring together the key policy and decision makers in drowning prevention and water safety from across Australia. Attending the conference will be members of the Australian Water Safety Council, representatives from non-government agencies and commercial providers and with valued input from the three levels of government from across the range of interested portfolios.

The conference will:

- Review the achievements of the Australian Water Safety Strategy 2008-2011
- Launch and highlight the new Australian Water Safety Strategy 2012-15
- Receive presentations on Best Practice and Innovations in Water Safety
- Facilitate networking and sharing ideas
- Reaffirm our commitment and impetus for achieving the aspirational goal of a 50% reduction by 2020

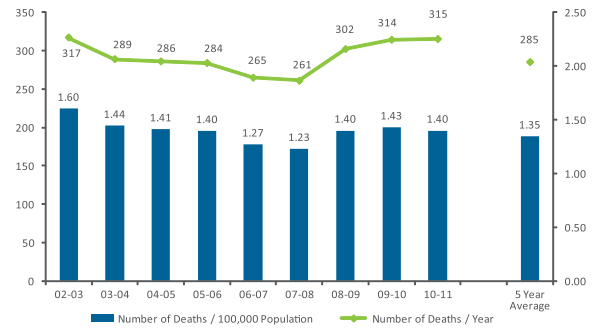
DROWNING IN AUSTRALIA 2012

- Over 285 Australians drown every year (five-year average)
- The 300 level was breached for the first time in 7 years in 2009 and is still above 300
- Drowning is the third highest cause of accidental death
- In the 0-4 age group it is the No.1 killer
- Almost **every** drowning is preventable



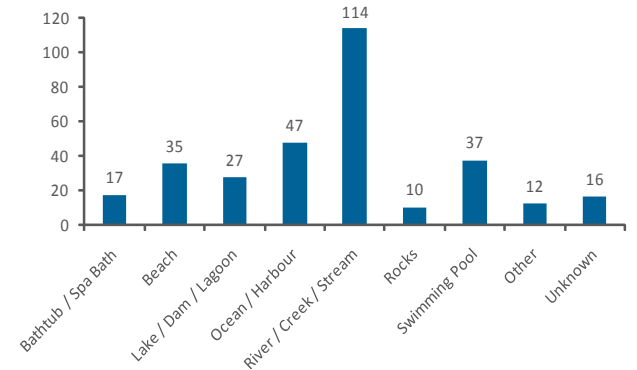
RLSSA National Drowning Report 2011 reveals the following trends in numbers, location and activities prior to unintentional drowning deaths in Australia.

Figure 1: Unintentional Drowning Deaths and Death Rates, Australia 2002/03 to 2010/11, 5 Year Average



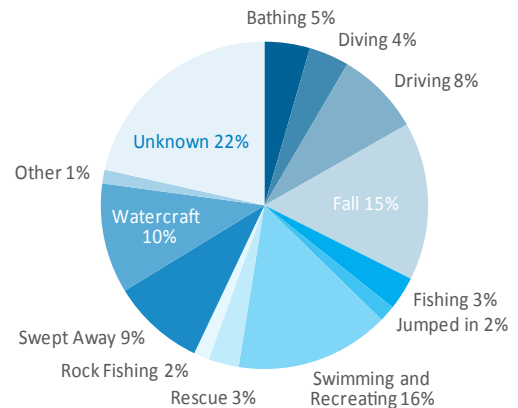
Location at time of Deaths

Figure 2: Drowning Deaths by Location, 2010/11



Activity at time of Deaths

Figure 3: Drowning Deaths, Activity Immediately Prior, 2010/11



THE AUSTRALIAN WATER SAFETY COUNCIL

- AWSC is an industry driven Lobby Group representing the key Water Safety organisations
- Officially formed in February 1998
- Striving to work more closely with State Governments and stakeholder groups
- *Australian Water Safety Strategies* – 1998-2003, 2004-2007, 2008-2011 and 2012-15

Purpose of the Australian Water Safety Strategy

In the diverse & complex Aquatic Industry we aim to:

- Provide a bipartisan framework that will ...
 - Reduce Duplication of Effort and Resources
 - Share ideas and strategies
 - Identify the responsibilities of stakeholders
 - Focus on establishment and maintenance of standards and consistency of message
 - Policy and decision making underpinned by an evidence base
 - Help us Save Lives

Stakeholders of the Australian Water Safety Strategy

- A complex issue with many layers of stakeholders
- Water Safety sits across Governmental portfolios:
 - Health and Ageing
 - Sport and Recreation
 - Education
 - Tourism
 - Emergency Services
 - Local Government and Local Councils
 - Primary Industry
 - Transport
 - State Water Safety Councils
 - National Water Safety organisations
 - state and territory branches
 - National / State organisations with a water safety interest
 - Commercial operators and private providers

Structure of the Plan

- Identifying the Priority Areas where we can make most impact
- Strategies supported by an evidence base and industry expertise
- Case Studies and Best Practice
 - Using Case Studies to highlight major issues and profile success stories across states and territories
 - Identify and promote the importance of Best Practice
 - Refine and implement strategies to translate the Best Practice nationally
- Integration of the work of States and Territories
- Benchmarks and Target Setting
 - Underpinned by research
 - Ensuring maintenance of standards and consistency of message
- Build on positive “Political Will”
 - Whole of Government approach
 - Identify the State Government “lead agencies”
- Continue the Evaluation Methodology and Review Timeframe

Communication Strategy

- AWSC committed to ongoing reporting to, feedback from and dialogue with stakeholder groups
 - as the plan is rolled out
 - linked to the formal annual evaluation strategy
 - stronger communication links between AWSC & State Water Safety Councils
- Specific Issue Analysis
 - forums held to discuss single issues in detail eg: Rural and Remote Water Safety, Home Pool Fencing Legislation and Surf RIP workshops held during the past 2 years
 - involving the specific stakeholders with interest/expertise in the area
 - evidence based decision making and policy
- Water Safety Interest Group Conferences and Workshops
 - Ensuring the opportunity for input from interested groups and subject matter experts

Next Steps

- Launch and implement the new Australian Water Safety Strategy 2012-15
- Prepare for the final assault on the aspirational target through Australian Water Safety Strategy 2016-2020.



A nine year analysis of drowning in children and adolescents aged 0–19 years in Australia

Amy Peden¹

Royal Life Saving Society – Australia¹

Introduction

Drowning in children aged under five accounts for just over 50% of all child and adolescent (0–19) drowning deaths. Royal Life Saving has long campaigned to reduce drowning in children under five by promoting the use of strategies such as supervision, barriers, water familiarisation and CPR education that are supported by years of research and evaluation. There has been limited analysis of drowning deaths that occur in children and adolescents aged 5 to 19 years. In an attempt to further understand the problem, a comprehensive analysis of fatal drowning in children 0–19 years of age in Australia between 1 July 2002 and 30 June 2011 was conducted.

Methods

The 0–19 years age range has been chosen to explore both child and adolescent drowning, with the World Health Organisation defining children as being aged from 0–9 years and adolescents as being aged 10–19 years. Information was collected from State and Territory coronial offices, the National Coroners Information System (NCIS) and media reports. Drowning deaths as a result of suicide, homicide, natural causes, shark attack, crocodile attack, hypothermia were removed from the analysis where known.

Results

Between 1 July 2002 and 30 June 2011 there were 589 drowning deaths in the 0–19 years age group in Australia. Of these, males (68.7%) were more likely to drown than females.

There were 318 (54%) drowning deaths in the 0–4 years age group compared with 271 drowning deaths in the 5–19 years age group.

When examining drowning deaths by location, children aged 0–4 years are significantly more likely to drown in aquatic locations around the home. Swimming pool drowning deaths dropped from 51% of all drowning deaths in the 0–4 years age group to 15% of drowning deaths in the 5–19 years age group. Bathtub and spa bath drowning deaths also drop from 14% of all drowning deaths in the 0–4 years age group, to 7% in 5–19 year olds.

The number of falls into water declines from 50% for 0–19 year olds to 19% in the 5–19 years age group. Swimming and recreating related drowning deaths increase from 20% in the 0–19 years age group, to 38% when the 0–4 years drowning deaths are removed from analysis.

Discussion

Gender plays a key role in drowning deaths, with 63% of drowning deaths in the 0–4 years age group being male, increasing to 87% of all drowning victims in the 15–19 years age group. Males were also far more likely to consume alcohol prior to drowning with 81% of all cases involving alcohol being male victims.

The risk of drowning changes as children age. Children 0–4 years are at a greater risk of drowning as they become increasingly mobile without understanding risks and the consequences of their actions. Drowning then decreases in the primary and high school years which may be related to an increase in swimming and water safety skills.

Twenty four percent of drowning victims in the 15–19 years age group were visitors to that location. This highlights the notion that adolescents gain increasing independence and may venture further away from their immediate surroundings and put themselves at a higher risk of drowning.

Conclusion

Drowning in children aged 5 to 19 years in Australia is a significant issue that has been neglected largely due to the comprehensive efforts to reduce the high rates of drowning experienced in children aged 0–4 years. The increase in drowning in late adolescence points to the importance of swimming and water safety education in schools to build resilience through the use of knowledge and skills in the face of increased exposure to risks and hazards.

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A survey of household attitude towards Queensland home pool fencing legislation changes

Associate Professor Richard Franklin^{1,2}, Amy Peden¹, Associate Professor Kerrienne Watt² and Professor Peter Leggat²
Royal Life Saving Society – Australia¹, Anton Breinl Centre, James Cook University²

Introduction

Effective pool fencing legislation is a cornerstone of child drowning prevention efforts, but what makes such legislation effective and when is it effective?

Aims

The aims of this study were to:

- Estimate the prevalence of swimming pools per 100 households in Queensland
- Estimate the prevalence of children under 5 years per household swimming pool
- Explore perceptions regarding effectiveness of the introduction of updated pool fencing legislation in Queensland

Methods

Data from the 2011 Queensland Social Survey (QSS), were used. The QSS is an annual state-wide random telephone survey of people over 18 years of age, conducted in July and August of 2011. The questions about swimming pools were: 'How many children under the age of 5 years reside at your residence?'; 'Do you have a swimming pool at your residence?'; 'How effective do you think that tightening the pool fencing legislation will be in reducing child drowning deaths?'

Results

The final QSS sample included 1,265 respondents (response rate = 32%), each response reflects a household in Queensland. Under 45's were under represented and over 55's were over represented. Of the sample surveyed, 26 per 100 had a swimming pool and 3 per 100 households with pools had children under five. The percent of households with children less than 5 years old did not differ significantly for households with (11.4%) and without (12.5%) a swimming pool ($p>.05$). While over half of respondents believed tightening pool fencing legislation would be effective in reducing child drowning deaths (22% 'very effective' 35% 'effective'), 40% of respondents were either unsure or doubtful about the effectiveness of the legislation (15% – neither effective nor ineffective, and 25% 'ineffective' or 'very ineffective'). Interestingly, pool owners were significantly more likely to doubt the effectiveness of tightening the legislation (effective: 20%; vs 'effective': 38%) who believed it was ineffective ($P<0.5$). Among respondents at whose residence there was a pool, perceptions of effectiveness of the legislation did not differ as a function of the presence of children under 5 years ($P>0.5$).

Discussion

In this study, the number of swimming pools per 100 households in QLD was estimated, together with the number of pool households at which children under 5 yrs were resident, which provides important information about exposure.

In 2010 there were 1,676,000 households in Queensland, and 236,000 (14%) included resident children under the age of 5 years (ABS 2010 - 4102.0). The survey sample identified slightly less households with children which is likely to be related to the underrepresentation of under 45 year olds. From the survey we estimate that there are approximately 26,900 households with swimming pools and children under 5 years of age in Queensland and a further 402,300 households with swimming pools but no children under the age of 5 years. Between 1 July 2008 and 30 June 2011 there were fourteen children who drowned in home swimming pools in Queensland (RLSSA Data) or 4.5 per annum at a rate of 1.7 per 10,000 swimming pools per annum.

Of interest is that pool owners were less likely to think that tightening the legislation would be effective in preventing drowning. One possible reason may be that they are more realistic about the problems with ensuring a compliant fence. It may also be that their perception about effectiveness is actually a proxy for unwillingness to comply with, inconvenience of, or out of pocket costs associated with additional regulation. As the impact of the current legislation in Queensland increases (i.e. more pools will comply), it is hoped that the downward trend in the number of children under five who drown in Queensland home pools will continue.

Reference

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Keeping Country Kids Safe: Child death data informing rural drowning prevention strategies

Reyelle McKeever¹

Commission For Children and Young People and Child Guardian (Qld)¹

Background/Introduction

- In 2004, the Commission for Children and Young People and Child Guardian (Qld) commenced its management of the Child Death Register, with detailed information on deaths of over 3800 children and young people reviewed to date(1).
- Keeping Country Kids Safe focuses on preventing accidental death and injury to children under 18 years in Queensland country areas.
- The Commission identified a significant trend that between 1 January 2004 and 31 December 2008, children living in rural communities were 2.4 times more likely to die as a result of non-intentional (accidental) injury than those in the city(2).
- In addition, children from country communities face a number of risks unique to their environment, such as exposure to dams and other open waterways.

Methods

- The project commenced in 2009 with the release of a Discussion Paper, sharing findings from the Commission's analysis of child death data from 2004–08(3). The Discussion Paper was distributed to key government and non-government agencies as well as rural industry as part of a broad consultation process. The Keeping Country Kids Safe Community Survey was also distributed to residents throughout rural Queensland, and encouraged farmers to share their view and propose practical solutions to improve safety for children and young people in rural areas.
- In preparing the Keeping Country Kids Safe Final Report, we received 321 responses from members of rural communities (mostly farmers) and 19 responses from government and industry(2). We also travelled to agricultural shows to speak with farmers and children who work and live on the land, and met with safety experts in government and academia.
- The Commission collated and analysed the results from this consultation and delivered the Final Report in October 2011, which outlined key issues from the consultation process and identified potential future actions to reduce rural injury and deaths, including drowning fatalities.

Results/Evaluation

- Drowning accounted for 43 of the 253 (17.0%) child injury deaths that occurred in rural areas between 2004–08. The majority occurred in acreage properties and involved water hazards unique to these environments, such as dams and troughs(2).
- Supervision was identified as a key risk factor, with 5 of the 31 children under the age of 5 years left unsupervised while in and around water. A further 17 (54.8%) were left unsupervised for more than 5 minutes, with an average length of time between when these children were last seen alive and when they were noticed missing of 19 minutes. An additional 9 children were intermittently supervised.
- Of the farmers surveyed, one third reported that they did not have a fenced area where their children could safely play away from hazards like waterways, pools, chemicals, machinery or livestock(2).

Discussion

- Clarifying a duty of care is owed to children on farms. While there is not currently specific legislation in place targeting the management of risks posed to children by water (and other) hazards on farms, the Workplace Health and Safety (Qld) legislative scheme establishes an onus on those people or organisations in charge of workplaces to proactively assess and manage risks to individuals who may enter a workplace. This includes 'other people', such as young children, who are not workers.
- Given the number of drowning deaths that have occurred on Queensland farms, and some uncertainty expressed about the application of Workplace Health and Safety legislation in the community consultation process, scope appears to exist for greater clarity in relation to the duty of care owed to children on farms.
- Also considering, that despite consistent calls for the use of safe play areas for children on farms, rates of drowning in rural water hazards persist. Scope may exist for further consideration to be given by government to implementing some form of regulatory arrangement to help manage the risk of drowning, for example, by increasing the uptake of safe play areas as well as develop creative partnerships with industry to produce effective, low-cost products that can be easily adapted to the unique environments of farms.

Conclusion

- The Commission recommends that young children should be within the line of sight of an adult at all times when a water hazard is present.
- While supervision is the key to drowning prevention, toddler-proof fences constructed around the family home can act as a critical means of preventing access to rural water (and other) hazards, should a lapse in supervision occur. Creating safe play areas is an economic and practical mechanism to reducing drowning on rural properties.

Acknowledgements

- The Keeping Country Kids Safe project was completed by the Queensland Commission for Children and Young People and Child Guardian, under its statutory Child Death Review functions.

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- (1) Commission for Children and Young People and Child Guardian, 2011, Annual Report: Deaths of children and young people, Queensland, 2010–11, Queensland Government, Brisbane.
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- (3) Commission for Children and Young People and Child Guardian, 2009, Keeping Country Kids Safe Discussion Paper, Queensland Government, Brisbane.

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Drowning deaths in children with underlying medical conditions: Are they preventable?

Associate Professor Richard Franklin¹, Professor John Pearn¹, Amy Peden¹ and Justin Scarr¹
Royal Life Saving Society – Australia¹

Introduction

Drowning in Australia is still a significant cause of preventable child mortality and children with existing medical conditions may be at a higher risk of drowning than those without. Having a comprehensive understanding of how children with underlying medical conditions drown will allow for the development of appropriate strategies to help prevent future incidents.

Aim

To describe the circumstances surrounding the drowning deaths of those children who were known to have an underlying medical condition prior to their death.

Methods

This presentation will explore the drowning deaths of children 0–14 years of age who drowned during the period 1 July 2002 to 30 June 2010. Information is sourced from the RLSSA drowning database which includes information on all unintentional drowning deaths in Australia from 1 July 2002. For some included cases, information was incomplete or unknown because: the coronial case was open (13.5%); the person was alone at time of drowning; the Coroner was unable to make a ruling on circumstances surrounding the death; the body was heavily decomposed or not located. A case was identified as having an underlying medical condition if it was mentioned that the child suffered from any form of illness, disease or medical condition prior to the drowning death.

Results

There were 415 children aged 0–14 years who drowned between 1 July 2002 and 30 June 2010 or an average of 52 deaths per annum. Males represented 62.8% of all child deaths for the period 1 July 2002 to 30 June 2010 and children under 5 represented 70.0%.

There were 36 (8.7%) children who had an underlying medical condition, of these 24 (66.7%) were males, 10 (27.7%) were aged 0–4 years, 14 (38.9%) were aged 5–9 years and 12 (33.3%) were aged 10–14 years. There were also 79 (19.1%) children where their underlying medical status was unknown, due to the case still being investigated or the lack of documentation about the case.

Of the 36 children who had an underlying medical condition two children were feeling unwell and may have had a transitory illness which they may have recovered from if not for their untimely death. There were 16 children who had a seizure related disorder which included epilepsy (one of which was also developmentally delayed and had autism), chronic seizure disorder, Landau Kleffner Syndrome, febrile convulsions, seizures, Lennon-Gastaut Syndrome, Foetal Alcohol Syndrome, epileptiform seizures (and also cerebral palsy) and Tuberous Sclerosis. Of the other underlying medical conditions identified, there were eleven who suffered from Autism (of which one also had Down Syndrome and another was developmentally delayed and suffered epilepsy), two from asthma, two from Down Syndrome (of which one also had Autism), and one each of Cystic Fibrosis, a physical disability, Duchenne Muscular Dystrophy, Myocarditis, and Right Renal Agenesis.

Discussion

It is unclear how much the underlying medical condition (i.e. seizure related disorders) contributed to the deaths of these children. It was known in at least one case that the child was having an epileptic fit at the time they were being removed from the water. What is clear however is that as children age those with an underlying medical condition represent a greater proportion of drowning deaths (i.e. 3.4% of 0–4 year olds, 17.7% of 5–9 year olds, and 26.1% of 10–14 year olds).

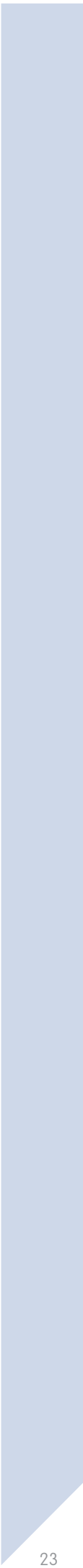
Conclusion

There are a range of possible prevention strategies for preventing deaths of children with underlying medical conditions. These include limiting the depth of the water they are in, improved supervision, compliance with medication regime, pool fencing, wearing life jackets, parental/carer CPR, improved swimming skills, use of aquatic alarms, setting appropriate rules, and ensuring parents and children are aware of the dangers of water and have appropriate prevention strategies in place.

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Rip current related drowning deaths and rescues in Australia, 2004–11

Barbara Brighton¹, Dr Shauna Sherker¹, Anthony Bradstreet¹ and Matthew Thompson¹
Surf Life Saving Australia¹

Background/Introduction

The aim of this paper is to describe rip current related drowning deaths and rescues in Australia from 2004 to 2011. Rip currents are narrow, strong currents that move seaward through the surf zone. Rip currents are the number one hazard on surf beaches globally. Rips present a high risk because they often appear to be calm sections between breaking waves but can quickly pull a swimmer out of their comfort zone and lead to panic. A comprehensive review of rip current related drowning and rescue has not been reported to date.

Methods

A retrospective search was undertaken for fatal and non-fatal rip related drowning incidents from the National Coroners Information System (NCIS), SurfGuard Incident Reporting Database (IRD), and Media Monitors, between 1 July 2004 and 30 June 2011. Non-fatal rip related incidents were included if they involved a major rescue, which includes a rescue where a person who required assistance was returned to shore (or place of safety) and who, without assistance would have drowned or become injured.

Incidents were considered rip related if the incident reports included an associated 'rip type' or included the option 'rip type' within the 'contributing factors' category; or the 'incident description' included the patient being caught in a rip. Descriptions included as 'rip related' in this analysis include text such as: 'swept/washed offshore/out to sea'; 'struggling in currents unable to return to shore'; or 'caught in strong current' (except where incident is at a river mouth or creek).

Results

There were 629 total fatal coastal drowning deaths recorded and rip currents were a factor in 145 fatalities (22.9%), an average of 21 per year. The activities involved included swimming/wading (110, 32.6%), attempting a rescue (20, 13.8%), and watercraft use (9, 6.2%).

There were a total of 1246 'major rescues' recorded from 1 July 2004 to 30 June 2011. Lifesavers reported the involvement of rip currents in 602 rescues (48.3%), an average of 86 per year. The activities of the individuals involved included swimming/wading (499, 83.2%), watercraft use (69, 11.5%), and attempting a rescue (12, 2.0%). The age groups most represented were 10–14 (75, 12.5%), 15–19 (90, 15.0%), and 20–24 (44, 7.3%). Males were involved in at least 292 (48.7%) incidents; Females were involved in at least 156 (26.0%). There were 152 (25.3%) incidents where gender was not recorded.

Discussion

International Operational statistics from 2004–2005 to 2010–2011 describe rip related rescues as 53.7% of the total rescues in the US, 57.9% in the UK, 49.4% in NZ and 48.3% in Australia. The resulting range of 48–58% is much lower than 80–89% traditionally cited.

According to the Australian Bureau of Statistics, people aged 15 and older continue to report swimming activities in the top six activities participated in (females #3, males #6). Children aged 15–19 were found to be the highest represented in the major rescue reports associated with rip currents (15%) while children aged 10–14 were second (12.5%). It is imperative that education programs continue to target these school age children so they can identify and therefore avoid rip currents at surf beaches.

Conclusion

Priority strategies for rip related drowning prevention include educating beach-goers to: swim between the flags; identify rip currents; and appropriate responses if caught in a rip. Interventions should target young males in particular, as they are overrepresented in rip related drowning incidents.

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The RIPS SAFE Project – A Holistic Approach to Understanding the Rip Current Hazard

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The University of New South Wales¹, Surf Life Saving Australia²

Introduction

Rip currents represent the greatest drowning risk to bathers on Australian surf beaches. Annually, rips account for 21 confirmed drownings and almost 90% of the tens of thousands of surf rescues(1). This paper describes an ongoing research project involving collaboration between The University of New South Wales (UNSW) and Surf Life Saving Australia (SLSA) titled 'RIPS SAFE – Rip Current Swimmer and Float Experiments'. RIPS SAFE is globally unique as it combines physical measurements of rip current flow, measurements of actual rip current swimmer escape strategies with questionnaire surveys and interviews with individuals who have been caught in rip currents.

Methods

Field experiments were conducted at Bondi Beach in September 2010 and Shelly Beach, Central Coast, NSW in December 2011. Groups of 4–6 pvc drifters with attached GPS devices were released into rip currents at several locations along the beach. Simultaneously, teams of volunteers with a GPS attached entered rips and were given instructions at various times to: swim parallel left or right to escape the rip, stay afloat, or swim against the rip. At Shelly Beach, five volunteers wore heart rate monitors to record the exertion associated with each action. Measurements were conducted approximately three hours each day around low tide. These experiments are ongoing.

An online and hardcopy survey was designed to obtain information on the demographics, swimming background, rip and beach safety knowledge and overall experience of people who have been caught in a rip current before. The 'rip current survivor' survey was launched in November 2010. Interviews with rip current survivors who had completed the survey have commenced and will continue through the duration of the project.

Results and Discussion

Over 200 GPS drifter deployments have been made with more than 90% re-circulating within the surf zone. Most of the exits were associated with topographic rips. Swimmers entered the rip currents over 300 times during the experiments. Almost all (99%) of the swimmers who were instructed to swim parallel left or right reached the adjacent sandbars and 99% of the swimmers who simply floated were recirculated onto the sandbars where they could stand up. Swimming parallel generally had shorter rip escape times to floating, but escape times and energy expenditure varied depending on the swim direction and starting location.

Over 1500 online and 200 hardcopy 'rip survivor' surveys have been collected as of March 2012. Over 20 interviews will be conducted between March–June 2012. Survey respondents were predominantly an informed group in terms of rip current knowledge and had a high self-rated swimming ability. Preliminary insights from the survey show that most respondents recalled a 'swim across the rip/parallel to the beach' message when caught in the rip and most escaped unassisted by acting on this message. However, while nearly a quarter of respondents recalled a message of 'not to panic', short answer responses revealed that the onset of panic inhibited some respondents from recalling or enacting any other type of beach safety message when caught in the rip current.

Conclusions

Floating and swimming parallel were both viable options for escaping rip currents under the conditions measured. Floating is a temporally longer escape strategy, but uses less energy. Swimming parallel can provide a faster escape, but choice of swimming direction is crucial and energy expenditure is generally greater. Survey results are dominated by an informed group of respondents. The ongoing focus is on surveying respondents with less beach experience and knowledge of rip currents. The outcomes of this study will have significant implications for future development and implementation of public rip current education strategies.

References

(1) Surf Life Saving Australia (2011). National Coastal Safety Report 2011.

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Coastal drowning deaths in Australia: Is a 50% reduction by 2020 within reach?

Dr Shauna Sherker¹, Barbara Brighton¹ and Matthew Thompson¹
Surf Life Saving Australia¹

Objective

To describe coastal drowning death in Australia and to assess compliance with the Australian Water Safety Strategy (AWSS) drowning reduction targets.

Design

A retrospective epidemiological review of all coastal drowning deaths in Australia from 1 July 2004 and 30 June 2011. Data was collected from the National Coroners Information System, Surf Life Saving Australia Incident Report Database (SurfGuard) and Media Monitors. Drowning projections to 2020 were estimated and tested against AWSS drowning reduction targets.

Results

The number of coastal drowning deaths in Australia from 2004–2011 was 625, or on average 89 deaths per year. The average annual drowning rate was 0.42 per 100,000 population. Most deaths were male (85.1%) and aged 20–39 years (36.4%). Most occurred in NSW (40.6%), Queensland (15.9%) and Victoria (14.8%). Common activities undertaken at the time of drowning were swimming/wading (34.1%), boating (17.6%) and rock fishing (12.4%). Of the swimming/wading related drowning, 42% involved a rip current. The projected coastal drowning rate for 2020 is 0.27 per 100,000 pop., which is a 44% reduction from the baseline coastal drowning rate of 0.48 per 100,000 pop.

Conclusions

In Australia, coastal drowning deaths are over-represented in swimming/wading, boating, and rock fishing activities. If the current trend continues, the AWSS goal of a 50% reduction in coastal drowning deaths by 2020 will not be achieved. Efforts in coastal drowning prevention must be increased. A strong focus on providing quality lifesaving services and promoting a safe coastal aquatic environment is warranted. Public education regarding rip currents, boating and fishing safety is essential.

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Surf Rescue – Emergency Response System (NSW)

Dean Storey¹

Surf Life Saving NSW¹

Background/Introduction

On average 36(1) people drown off NSW beaches and rocks/headlands each year, most as a result of being caught in a rip current or falling into the water when rock fishing. These tragedies are most commonly occurring at unpatrolled locations/times when no immediate lifesaving assistance is at hand 85%(2) – for someone struggling in the surf, ‘time until rescue’ is a critical factor to survival.

In January 2008, SLSNSW implemented the Surf Rescue – Emergency Response System to improve the response of all lifesaving services to coastal in-water emergencies. The program provides a coordinated and quality-assured approach to emergency response of lifesaving services 24/7/365. It does this through a highly effective communications system, whereby Police and Emergency Services have a single point of contact (13SURF) for all surf life saving and lifeguard services in NSW.

This is delivered through a managed communications/information program based from the SLSNSW State Operations Centre (Sydney). Any call (24/7/365) from emergency services will be taken by the on-shift State Duty Officer and disseminated to the most appropriate services under a coordinated all-agency approach.

Key stakeholders include NSW Police, Ambulance Service of NSW, SES, SLS volunteer clubs/services, Australian Lifeguard Service (SLS) resources and Council Lifeguard Services.

Results/Evaluation

Between December 2009 – December 2012, 6066(3) emergency calls were made to 13SURF by NSW Police and Emergency Services. These calls related in the response by lifesavers/lifeguards to 990(4) emergencies, saving 542(4) lives as a result. Quality assurance remains a key priority, with an operating objective of 100% answer rate for all emergency calls. The program continues to strengthen the relationships among surf life saving/lifeguard services and police/emergency services.

Discussion

The program will continue to benefit the NSW community through:

- Improved joint response of lifesaving/emergency services
- Reduction in lives lost
- Improved safety of lifesaving and emergency service personnel

The program is being replicated in all other states/territories of Australia. With the establishment of the State Operations Centre (SOC) the opportunity exists to better align radio communications and response protocols with all Council Lifeguard Services. Work continues with the Ambulance Service of NSW to improve awareness and joint-operations for coastal fringe emergencies (land/rock based).

Conclusion

Over the last three years the Surf Rescue Emergency Response System has succeeded in bringing together the experts in coastal drowning prevention under a coordinated drowning prevention model, and saved 542 lives to-date.

Acknowledgements

NSW Police Force, Ambulance Service of NSW, State Emergency Service (SES), Surf Life Saving NSW, Australian Lifeguard Service, Westpac Lifesaver Rescue Helicopter, Coffs Harbor City Council, Port Macquarie – Hastings Council, Newcastle City Council, Lake Macquarie Council, Wyong Shire Council, Gosford City Council, Warringah Council, Manly Council, Waverley Council, Randwick Council, Sutherland Shire Council, Wollongong City Council, Shellharbour City Council, Kiama Municipal Council.

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Tailoring Don't Drink & Drown – 'One Size Does NOT Fit All'

Thomas Shalders¹

Royal Life Saving Society WA¹

Don't Drink & Drown has been running for the past eight years and was the first alcohol and water safety program in the country. This came about because of the alarming increase in the rates of alcohol related drowning deaths in young Western Australians aged 15–29. With alcohol being such a large scale problem impacting on various different demographics in a number of ways, the way that an organisation needs to approach this issue can vary dramatically from group to group. This discussion will briefly summarise how our different strategies have been adapted to suit different and changing demographics, all with the aim of preventing injury and death due to the influences of alcohol on aquatic activities.

These subtle changes have been brought about by a careful understanding of risky populations and trends in coronial drowning data. For example, over two-thirds of alcohol related drowning deaths in young people occur in regional areas, with the risk rating in areas like the Kimberley, being 13 times higher than that of Perth. Indigenous populations, older adults, the boating community and young adults congregating in high densities were also seen as a high priority.

Preliminary evaluations have shown what changes we have had to make to ensure the message remains current and effective, however we are the middle of large scale review of our program and have decided against a state-wide roll out of any new campaign material while the review is underway. Pilot programs have shown that small changes in our strategies have been working so far and have the ability to change behaviour with an effective roll-out.

Don't Drink & Drown has identified, amongst others, five key demographics which require a slight adjustment to our strategies and messages in order for them to be effective and appropriate for the varied groups. They are as follows: 'Leavers' who congregate in large numbers at hot-spots to usually drink large amounts in a short period of time; Indigenous Australians who are at higher risk of drowning in remote areas; older adults who for some reason are continuing the drinking habits into the 30–59 age group; the boating community that are in control of heavy motor vehicles, not bound by the same laws of the road equivalents and young social media users, who require 'short and sharp' messages to grab their attention.

These adaptations stress the importance of pilot studies and constant evaluation to ensure that the program remains valid. Each of these varying groups are vastly different in terms of our messages and approaches to alcohol and water safety, but through community participation, we feel we are on the right path to influencing real behavioural change in Western Australians, in a culture where alcohol remains truly ingrained in our day-to-day behaviour.

The key lesson to take from this is that, what works for one group, of which Don't Drink & Drown has for adults aged 15–29, will not necessarily work for other groups, even with the same risks and key messages. Common themes also within this include the importance of community participation, partnerships with local government, pilot testing, and appropriate campaign evaluation. With these factors in mind, any program can be adapted to suit at risk populations, now and into the future.

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Snorkelling Fatalities in Australia

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Introduction

Although drowning rates have fallen in Australia, both the incidence and rates of snorkelling deaths have remained unchanged over the last decade. This paper is a retrospective analysis (1994–2006) and 13-year total population study of every recorded snorkelling death in Australia.

Methods

Case-finding comprised a multi-portal case-identification of every recorded snorkelling death in Australia using the separate databases of (a) Divers Alert Network (DAN Asia-Pacific); (b) annual Australian Drowning Reports compiled by Royal Life Saving Society – Australia; the National Coronial Information Service; and coronial files from all States and Territories. In most cases, case-identification from these multiple portals was mutually inclusive.

Results

The details of 130 snorkelling deaths were analysed in this unselected total population study. Four syndromic groups were identified – (a) suspected cardiac deaths; (b) drowning in inexperienced snorkellers; (c) drowning following hyperventilation during breath-hold diving by experienced snorkellers; and (d) traumatic deaths.

Discussion

Preventative approaches indicated by this study include the necessity of medical assessments for all the history of cardiac disease and of those with a family history of sudden unexpected death. This study highlights the mortal risk of hyperventilating prior to apnoeic diving by snorkellers.

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AUSTSWIM NSW Indigenous Project 2011

Melissa Savage¹
AUSTSWIM¹

In 2011 AUSTSWIM NSW secured funding from Communities NSW, Sport and Recreation to trial the delivery of the NEW Indigenous AUSTSWIM Teacher of Swimming and Water Safety qualification to communities around Northern NSW.

The overall aim of this project was to provide Indigenous AUSTSWIM Teachers of Swimming and Water Safety to Indigenous Communities and improve the safety, health and fitness of children in the Indigenous communities through learn to swim and water safety programs.

Project goals included

- Deliver the modified AUSTSWIM Teacher of Swimming and Water Safety training.
- Utilize the newly developed AUSTSWIM presenter and candidate training and assessment resources for the indigenous learner.
- To link the Indigenous candidates in with their local aquatics facilities to provide them with a mentor that will assist them in completing the on the job supervised teaching and assessment requirements.
- To create opportunities for the indigenous candidate to gain employment opportunities in swimming and water safety programs in their local community.
- To increase the number of AUSTSWIM presenters regional who can deliver this training.

The stakeholders we worked with included Emerton Leisure Centre, Woorimi Land Council, YMCA Great Lakes, Tobwabba AMS, Sport and Recreation- Tamworth, Royal Life Saving Northern, the Aquatics Team at the Moree Hot Artesian Bath Complex.

In 2011, courses were run at Emerton, Nelsons Bay, Forster and Moree. From these courses we had 30 Indigenous candidates undertake the training, so far 25 of those have gone on to commence their supervised training hours, with seven completing their qualification and gaining part time employment within the Industry.

In addition, four AUSTSWIM Specialist Presenters have been successfully trained to deliver further training to indigenous communities in NSW. This will enable AUSTSWIM to ensure the ongoing delivery of the training course to indigenous communities.

Trials

Getting candidates to: commit to the full extent of the training, to understand the importance of completing all requirements, to communicate barriers to attending and completing the training.

The amount of time it takes to mentor the candidates from beginning to end for both AUSTSWIM and the facilities is substantially high therefore impacting on the cost of running the Indigenous Training.

Solutions

Having an information day at the facility prior to the course commencing, engage mentor within the facility who is interested in working with their local indigenous community, trouble shoot any barriers to attending and find a solution ie child care, transport, ensure that catering is organised for all days, either the Business Centre of facility Mentor constantly follows up the candidates throughout the entire process.

Other unexpected benefits

Other Indigenous communities around NSW have contacted the AUSTSWIM Business Centre to enquire about running Indigenous courses.

Due to the success of the modified delivery we have been able to trial two indigenous courses for yr 12 students over 10 weeks at two Mid North Coast high schools – this delivery structure also works well. Our national partner, Hyclor, runs an Indigenous Pool Operators Support program, in which they offer initial and ongoing chemical supply and technical support to pools used for Indigenous Learn to Swim. They now support the Worrami Land Council Pool in Williamstown NSW which allowed them to start offering Learn to Swim to their local Indigenous community in Jan 2012.

Thanks to NSW Blackspot funding we will be able to offer free swimming lessons to Indigenous children in Term 3 of 2012 using our currently trained or almost completed Indigenous teachers to run this program.

Based on the success and observed need of this training we are looking to further extend the program in 2012 to other high risk areas of NSW. AUSTSWIM NSW will be employing an Indigenous project worker to assist in facilitating the project to ensure that candidates are mentored through the qualification pathway, to support the facilities offering mentoring and to further develop the program beyond 2012 in NSW.

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Drowning Prevention within a Refugee Community in Melbourne

Sarah Grace¹, David Holland¹ and Dr Bernadette Matthews¹
Life Saving Victoria¹

Introduction

Fatal and non-fatal drowning in those from multicultural communities within Australia has been a highlighted issue in recent years. There are a number of barriers to participation in water safety and swimming activities that may ultimately place culturally and linguistically diverse (CALD) communities at a higher risk for drowning. Therefore strategies are required to reduce drowning in this population. Improved swimming ability may decrease the risk of drowning, but can also play a vital role in improved social inclusion and settlement for refugee groups. The Learning for Life program aimed to improve water safety knowledge and swimming ability within the refugee Karen community in Werribee, 30km west of Melbourne, and make participants and their families more comfortable in their newly adapted community.

Methods

Seventy children aged 4–15 years were invited to participate in the Swim and Survive program at the Wyndham Leisure and Events Centre, attending one swimming lesson per week for up to three terms. Surveys were conducted with children in the swimming lessons to determine swimming ability and water safety knowledge before and after participating in the program; these improvements were validated against class attendance records and swimming improvement as measured by progression through the Swim and Survive levels. Participants were also surveyed on program satisfaction and enjoyment.

A focus group was conducted with parents of children who had participated in the program, to determine their attitudes toward swimming abilities and water safety prior to arriving in Australia, and after being involved in Learning for Life, as well as any improvements in settlement within their new community.

In-depth interviews were also conducted with the Karen project officers, staff involved in the program at Wyndham Leisure and Events Centre, Western English Language School, and The Smith Family, to understand observational outcomes of the program from the various stakeholders.

Results

The Learning for Life program ran from 2008–2011 for a total of four years and included swimming lessons, water safety education and beach safety activities. Over a thousand people were reached through this program, with 255 children enrolled directly into swimming lessons, an additional 364 participated in water safety education activities, and an even greater number accessed the pool facilities through family benefit cards.

Almost one quarter of participants in the swimming component (24%) attended less than 50 lessons, 14% attended more than 100 lessons, with the majority attending between 50–99 lessons (62%). Only 4% had been swimming in Australia prior to being enrolled in the program, with swimming ability and water safety knowledge minimal to none. All students rated significant improvements in their swimming ability and water safety knowledge, reflected in the progression through the Swim and Survive levels, with almost half (48%) progressing through two or three levels. Other positive outcomes included 94% self-rated improvement in English language skills and extended vocabulary, as well as greater settlement of students, bridging the 'Aussie way of life' with 80% making friends with non-Karen participants.

Parents of participants were more aware of the importance of water safety and swimming ability, however they highlighted that financial burdens would prevent them from continuing lessons after the program ceased. They were also more aware of services within their community and felt more comfortable using these, especially the leisure centre.

Conclusions

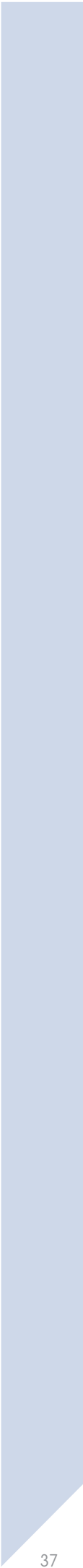
A longer term swimming program for a refugee community shows improvements in water safety knowledge and swimming ability, as well as additional benefits such as improved English skills and social inclusion. While the direct benefits of a program such as this are seen in participants in swimming lessons, indirect benefits are also seen within families of participants, and the wider community.

This project was funded by VicHealth.

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Perspectives on teaching swimming and water safety skills to children: AUSTSWIM and Royal Life Saving Society – Australia

Dr Kim Alexander¹, Susan Sturt², Amy Peden¹, Melissa Savage² and Penny Larsen¹
Royal Life Saving Society - Australia¹, AUSTSWIM²

Background/Introduction

Aquatic skills gained in the formative years are essential for safe aquatic participation and underpins drowning prevention strategies. In order to understand more about the quality and effectiveness of swimming and water safety programs, a survey of teachers of swimming and water safety was conducted. Of interest were factors influencing children's swimming and water safety skill and knowledge levels, and the ability of teachers and parents to assess a child's swimming and water safety abilities. In addition, several vocational issues were explored such as teacher's training, access to accreditation and renewal, and the career aspirations of teachers of swimming and water safety.

Methods

An online survey with qualitative and quantitative questions was administered during January 2012 that consisted of nine sections with 57 detailed questions using Survey Monkey™, primarily using the AUSTSWIM database. Data were analysed using IBM SPSS Statistics Version 20. And qualitative answers collated to inform quantitative responses.

Discussion of findings

Survey findings (N=5652) suggests the workforce has a predominantly female workforce largely engaged in non-full time employment often teaching at swim facilities close to their residence. While offering flexible employment, workforce issues mentioned were limited working hours, managing several workplace duties at swim centres, juggling professional employment with casual/part-time swim teaching, and lower wages. The workforce was mostly accredited through AUSTSWIM and could be teaching for a number of organisations e.g. Department of Education, local council, private organisations in a variety of lesson periods.

There was general agreement that formalised swimming and water safety activities for children continue to be appropriate as outlined in RLSSA Swim and Survive guidelines¹. Almost 60% of respondents felt that 50-100 metres was the most appropriate range of swimming competency with 29% supporting 50 metres and 28% supporting 100m distance. Over 68% of respondents suggested that greater than two competitive strokes and two survival strokes should be achieved. Respondents indicated they felt that treading water for two minutes (22%), three minutes (21%) or greater than five minutes (35%) was important. Children should acquire a comprehensive rescue capability. Over 29% of respondents felt it would be sufficient wearing shorts and a shirt, with the rest claiming children should be able to survive in more clothing. Safe entry requirements were considered adequate and cardiopulmonary resuscitation activities should be included in courses targeted at children 9 years and older. Hence instructions in cardiopulmonary resuscitation in lifesaving publications and inclusion in course content in children's swimming and water safety lessons is recommended.

Teachers of Swimming and Water Safety indicated that parents had different expectations of swimming lessons than the courses provided. Parents could benefit from knowing more about the acquisition of swimming and water safety skills and children's cognitive processes, rather than focussing on attainment of competitive swimming strokes. In addition, parents should receive information about the benefits of learning swimming and water safety skills and personal safety skills and be more engaged in the children's learning and practice swimming experiences. Consideration of the provision of water skill programs for parents who can't swim would be helpful to the aquatic industry.

Attracting more Teachers of Swimming and Water Safety by further integrating qualifications into educational courses is recommended and by offering flexible accreditation pathways. More recruitment programs, attention to retention strategies, mentoring, scholarships, subsidies or financial support of trainees should be considered.

The diversity of Teachers of Swimming and Water Safety in terms of cultural backgrounds, members of CALD populations, people in various stages of life and geographical distribution indicates opportunities to engage with marginalised groups, lower socio-economic groups and those in remote and regional areas should this sector be more engaged by the aquatic industry.

¹ Swim and Survive Level 4: swim continuously 50m of stroke(s) with above-water arm recovery and 25m of stroke(s) with underwater arm recovery. In addition, a child is recommended to achieve a safe entry, 2 minutes treading water, conduct a throw rescue and swim with shorts and t-shirt. The current Swim and Survive Active program (2009-2012) is more prescriptive; 50m freestyle, 50m backstroke, 25m backstroke, 15m breaststroke, 10m sidestroke and scissor strokes.

The public has many opportunities to access swimming and water safety programs from organisations and government departments, and there is a range of employees required to maintain the workforce. Given the number of swimming and water safety programs offerings, affordability rather than access is most likely the greatest consideration for parents when choosing suitable swimming and water safety programs. However, further research is required to indicate which children manage to access swim services and whether there is sufficient opportunity to surpass barriers of; distance to water/swimming facilities, cost of lessons/pool entry and access to qualified instructors and pool space. One way to ameliorate lack of access to swimming and water safety lessons would be to for the Department of Education to make swimming and water safety programs compulsory in primary schools as advocated by RLSSA.

Finally, teachers of swimming and water safety deserve greater recognition of the importance in drowning prevention. Improved financial rewards and incentives to engage and stay in the aquatic industry would benefit the industry as a whole.

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AUSTSWIM – Moving Out of the Lane

Gordon Mallett¹ and Meredith King²
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Moving Out of the Lane

Goal 11 – Lifesaving People:

Strengthen the Skills, Standards and Contribution of Drowning Prevention People

Lifesaving people are seen as those beyond teachers of swimming and water safety. AUSTSWIM contends that drowning prevention starts with teachers of swimming and water safety through provision of aquatic education. AUSTSWIM maintains that any goal to strengthen the skills, standards and contribution of drowning prevention people must include teachers.

Goal 13 – Collaboration:

Foster Collaborative Approach to Drowning Prevention

Achievement demands swim schools challenge current attitudes and methods to swimming and water safety in four key areas:

1. Profit versus education and safety
2. Contribution to public education and safety
3. Value for money and educational worthiness
4. Innovation and challenge.

Profit versus Education and Safety

Australians commit to children swimming, believing it makes them water safe.

Swim schools are a business needing a surplus to survive, but has the sector become too greedy?

The learning year is often up to 50 weeks, with claims of increased learning. While mainstream education sectors still provide regular 'learning breaks' for students and teachers.

The challenge is to research practices that are educationally sound and OH&S friendly. A failed balanced approach could result in:

- 'educational burnout' and early drop out (anecdotal evidence already exists)
- increased workers compensation claims for implications from teachers increased water immersion

Current Contribution to Public Education and Safety

Anecdotally public perception is one of distance equating to water safety.

Industry created and feeds this perception as:

- Reward focuses on stroke competency
- Students channel early into squads where distance and strokes are a central focus

So convinced are parents that swimming strokes are paramount, swim schools present water safety as end of class/program events or once a term/year activity, contributing little to public education or safety.

Value for money and educational worthiness of current practice

Learning to swim in a straight line, performing a technically correct stroke is a worthy physical achievement, but has little to do with water safety and be of limited use in outdoor settings.

The aquatic industry is highly successful in teaching swimming; if that's the aim then it's great value for money with worthy educational practices. But does the same hold for water safety?

Are students prepared for what lies beyond the black line or the pool they're taught in?

The challenge is to contribute to public safety and re-shape public education through curricula that's meaningful and effective.

Innovation and challenge in swimming and water safety education

1. Drowning does not occur due to a lack of swimming skills. Drowning results from a lack of ability to gain and maintain an effective body position for the intake of air and the upkeep of breathing.
2. Water safety is defined as:
 - All round aquatic skill
 - Knowledge of general and local conditions
 - An attitude of healthy respect for the aquatic environment and for human error
 - The ability to make correct judgement in risk situations.

1. & 2. Keig Stallman, Robert, 2011, Water Safety Education is more than Teaching Swimming Skill, ILS World Conference on Drowning Prevention

- Do Australian curricula meet these outcomes?
- Do resources for implementation and student assessment feature and combines swimming with water safety or as separate components?
- What are teachers actually delivering?
- Are students challenged to think, discuss and decide or commanded to perform physical feats?
- Is simulation of aquatic environments a standard program approach?
- Is water safety incorporated into every activity or is it the fun/play bit at lesson's end?

Summation

Goal 13 – Collaboration:

AUSTSWIM contends collaboration between agencies must include 'grass roots' education and calls on major stakeholders for the development of a national aquatic education curriculum charter that's endorsed by agencies, government and community.

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The need to develop transferrable swimming and water safety skills for open water environments

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The prevailing trends of aquatic education and skill development in Australia are perceived to be based on market forces, rather than evidenced based approaches to drowning prevention.

Observation of swimming lessons, assumptions made by swim schools and reports from teachers of swimming and water safety demonstrate that the pressure to focus on competitive stroke development is the priority in lessons rather than water safety. While this may result in competency to swim certain distances in a pool, questions have been raised about the lifelong benefits afforded to the individual in this model. Particularly taking into account the various aquatic environments people commonly recreate later in life.

An assessment of the current trends in aquatic skill development indicates:

- 1) Children are generally the primary target to large scale learn to swim schemes or private programs.
- 2) There is a bare minimum of water safety related education and skill development compared to competitive strokes and many claim they are providing personal survival skills to retain GST exemption.
- 3) Water safety component aims to address parents short term expectations of their child's relationship with the water e.g. 'we have a backyard pool so just want them to be safe'.
- 4) Minimal preparation for transition of independent aquatic skills in open water.
- 5) Minimal exposure or experience in learning water safety and survival skills under supervision in open water.

The epidemiological data reflects a disconnection between skill development and drowning. Children are generally learning water familiarisation and safety in a swimming pool to prevent domestic drowning deaths (commonly backyard pools or inflatable pools)[1]. However, a significant disconnect can be identified for the majority of drowning cases which are adults, particularly males who are drowning at open water locations [1] [2]. These casualties are often drowning while participating in a recreational activity many years after ceasing formal learn to swim lessons in a pool, with little or no formal skill development in open water.

The question for discussion: is our current model of education adequately empowering individuals with the skills to safely participate in a lifetime of recreational aquatic activities?

Discussion from representatives of Australia's key water safety education and training organisations will highlight the key issues, strategies to address the transfer of water safety skills for open water environments and the aquatic industry's role in ensuring that individuals have the necessary skills for a level of protection in open water.

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Kids can drown in inflatable pools too!

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Kids Health, The Children's Hospital Westmead¹

Background/Introduction

Children can drown in a range of locations including inflatable swimming pools. Data in NSW is available for swimming pools but not specifically for inflatable or portable pools. Inflatable swimming pools are increasing in popularity due to their easy set up and affordability, especially among low socioeconomic communities who may not be able to afford a permanent swimming pool and the costs associated with installing a permanent child-resistant fence. Kids Health designed a campaign in 2011 to educate the community about the dangers of inflatable pools and that by law, any pool capable of being filled with 300mm of water or more requires a four sided fence.

Methods

In 2012, Kids Health will further develop its existing inflatable pool campaign in English and three of the predominant languages spoken in NSW communities (Arabic, Chinese and Vietnamese). The dissemination of these resources will be supported by a media campaign using radio and print media. Three community service announcements (CSAs) have already been developed in English and will be translated into Arabic, Cantonese, Mandarin, and Vietnamese to extend the reach of radio media to Culturally and Linguistically Diverse (CALD) groups. Media advertisements and media releases will be developed in English and the above mentioned languages and displayed in relevant newspapers and magazines.

Results/Evaluation

Kids Health received a lot of media exposure in 2011–12 on television, on radio and in print and is expecting similar outcomes in 2012–13.

To involve the community in the development of a culturally appropriate campaign themes and messages, the community will be invited to participate in a number of focus groups. These focus groups will not only assist with message development and message testing of the inflatable pool safety resources, but determine the effectiveness of the messages in changing people's behaviour. That is, whether inflatable pool owners or the general community will decide to purchase fencing around large inflatable pools, decide not to purchase these types of pools or only purchase smaller inflatable pools after becoming aware of the legislative requirements and safety issues associated with these products. The focus groups will include a range of parents, genders, ages, socio-economic backgrounds, household compositions and non-English speaking backgrounds targeted in this campaign.

Discussion

The risk of drowning is higher in inflatable or portable pools as the majority of these products don't have fences due to the fact that this product is very cheap and readily accessible from most major department stores and online shops. Not being able to empty large inflatable or portable swimming pools means they pose the same drowning hazard as a 'permanently installed pool' if not more of a risk as a large proportion of inflatable or portable swimming pools are not fenced. There is a serious need to educate the public on inflatable pool safety, providing them with the option of making an informed decision, on whether to purchase pool fencing around large inflatable pools or only purchase smaller inflatable pools that don't require fencing and can be easily emptied and stored away after use.

Conclusion

Kids Health intends to educate the public on the issue of inflatable pool safety and work towards finding a long term solution to prevent the future deaths and near drowning of young children. The initial stage of the project will involve focus testing of campaign materials to ascertain the understanding of the message and receptiveness for change. Focus groups will also be asked to provide feedback on the best methods to address this issue within the community. As a final stage, Kids Health will then work towards sustainable changes within the inflatable pool industry guided by the feedback from focus groups.

Acknowledgements

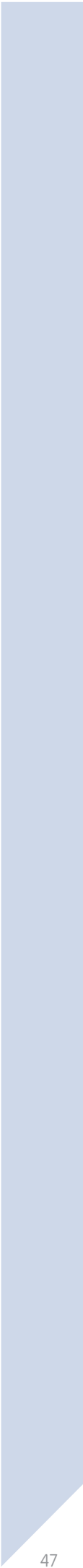
This project is based on one of the recommendations of the Swimming Pool Safety Report produced in March 2011 by The Children's Hospital at Westmead. This paper includes a number of recommendations that Kids Health believe are needed to improve swimming pool safety among children under the age of five in NSW. The Swimming Pool Safety Report is available on the Kids Health website at: http://kidshealth.chw.edu.au/sites/kidshealth.chw.edu.au/files/attachments/754/briefing_paper_swimming_pool_safety_2.pdf

The CSAs and media releases developed by Kids Health in 2011–12 are available on our website at <http://kidshealth.chw.edu.au/media/drowning-prevention/radio-advertisements> Further information on swimming pool safety is also available on our projects page at <http://kidshealth.chw.edu.au/projects/drowning-prevention/swimming-pool-fencing>

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A Review of Australian Spinal Injury Management Practices

Sarah Grace¹, Dr Bernadette Matthews¹, Dr Natalie Hood^{2,3} and Stuart Wall¹
Life Saving Victoria¹, Australian Resuscitation Council², Surf Life Saving Australia³

Introduction

Aquatic related spinal cord injuries (SCI) account for almost 10% of all traumatic SCI cases in Australia. Trained surf lifesavers and lifeguards treat over 300 suspected SCI on Australian beaches each year(1). Pre-hospital SCI management in this setting is essential for stabilising vital functions of injured patients. With over 1,400 trained in the Surf Life Saving Australia (SLSA) Spinal Management Certificate each year(1), it is essential that this training equips lifesavers and lifeguards with the skills needed to minimise the risk of further neurological damage through correct management strategies. Secondary injury caused through improper management can have tragic effects and increase the risk of mortality and morbidity.

A literature review was undertaken to determine current international best practice for pre-hospital SCI management. The objectives of this review were:

- To make recommendations for updating the current Australian Resuscitation Council (ARC) guidelines on SCI management
- To make recommendations for updating the SLSA learner and trainer manuals for the 'Spinal Management Certificate' based on the highest levels of research evidence
- To ensure Australian lifesavers and lifeguards are receiving the best training consistent with international best practice

Methods

A literature search was conducted using a variety of databases including, the Cochrane Database of Systematic Reviews, Ovid- Medline, CINAHL, and EMBASE. Hand searching of reference lists and relevant journals, including SCI related journals was also conducted. Relevant articles were reviewed and rated by two reviewers for methodological quality and consultation with two medical experts in the context of pre-hospital management techniques, in particular, those relevant to the setting of Australian lifesaving organisations was undertaken. Studies were rated using the ARC rating of Good/Fair/Poor, as well as the NHMRC levels of evidence.

Studies were included that examined the effectiveness of spinal immobilisation in the emergency care of suspected SCI patients, relevant to the pre-hospital setting. These were included for patients with suspected SCI or in healthy patients.

Studies were excluded if they were opinion papers or animal studies, if there were no relevant outcome measures, examining advanced or surgical spinal stabilisation, helmet removal techniques or studies reporting on spinal clearance criteria.

Results

Recommendations for updating the ARC Guideline have been made and are currently under review. Evidence from the literature review will be used to support the current SLSA Spinal Management Certificate, and recommendations for changes in the Certificate will be presented to SLSA for a formal review.

Discussion

There is a significant lack of research in some important areas of spinal immobilisation. Children 10–14 years represent 26.9% of all lifesaver and lifeguard reported injuries on Australian beaches(2), however there were very few studies focussing on this age group. There are no studies that examine spinal immobilisation within trauma patients, limiting the applicability of those studies in healthy patients.

It is hoped that the recommended evidence based changes made to the ARC Guideline and SLSA Spinal Management Certificate will improve learning outcomes for course participants, and health outcomes of all potential SCI patients treated in a pre-hospital setting by trained surf lifesavers and lifeguards.

Conclusion

There are many studies documenting the effectiveness of various spinal immobilisation techniques to reduce spinal mobility, as well as the adverse effects such as discomfort and restricted airway capacity in healthy adult human subjects. However, there are no studies documenting the effects of spinal immobilisation techniques in a beach setting or in trauma patients, and limited evidence regarding spinal immobilisation of children. Overall, more studies on SCI management are needed to clearly define management procedures in a pre-hospital setting.

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Assessing safety standards and the impact of aquatic facility operational models in aquatic facilities in 2011

Matt Griffiths¹

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Introduction

The Aquatic Facility Safety Assessment (AFSA) continues to be used as an important measure of safety and compliance in aquatic facilities throughout Australia. Utilising the Guidelines for Safe Pool Operation as its primary assessment criteria has allowed facility operators to compare their facility against the accepted industry standard.

Results of those assessments conducted in 2011 have been used to examine the correlation between various classifications of aquatic facilities (e.g. operating period or management model) and compliance and to gain a measure of the current state of Australia's aquatic industry.

Aims

1. To identify any changes in the overall performance of aquatic facilities in 2011 in comparison with previous years.
2. To compare the performance of aquatic facilities in the AFSA when divided into categories based on geographical classification, seasonality, facility or management type.

Method

The data was collated from the results of AFSA's conducted between 1 April 2010 and 31 March, 2011. During this period 186 assessments were conducted across ACT, NSW, Qld, SA, Tas and Vic.

Given the variety of operational models across the industry it was important to assess the impact that varied classifications may have on compliance measured by the AFSA. In order to do this, facilities were grouped based on their geographical classification, facility type, operating period and management.

Results

2011 saw an overall improvement in the industry's performance in the AFSA with an increase in mean compliance to 83.6%. Whilst there was an overall improvement, the First Aid (87.3%), Technical Operations (78.3%) and General Supervision (87.9%) sections all reported a decline in compliance in 2011.

Compliance in supervision related items were positive with mean compliance of 89.3% however 16% of facilities were reported to have employed lifeguards without a current qualification.

Compliance across all assessments for outdoor facilities was 10.4% less than those with indoor elements. Year round facilities report compliance 11.8% higher than seasonal facilities. Given that 84% of seasonal facilities were also outdoor facilities this similarity is not surprising. This holds true for year round operations and those facilities with indoor aquatic elements.

There is clear evidence of a decline in compliance moving away from major cities towards outer regional facilities with compliance in outer regional facilities 19.1% lower than that in major cities.

Discussion

Qualifications and training are fundamental to the safety of an aquatic facility and contribute significantly to effective lifeguard supervision and emergency response. It was disappointing to identify that 16% of facilities had employed lifeguards without current qualifications.

A lack of induction and in-service training provided by employers was also concerning. Induction and in-service training provides the opportunity to develop specific knowledge of the facility, its policies and procedures, develops communication and the ability to work effectively as a team. Qualified staff may be equipped with generic knowledge and skills to deal with some emergencies but that response may be inhibited by a lack of communication and effective execution of the emergency action plan.

It is difficult to determine the reasons for disparity between seasonal and year round facilities. The demand on time and resources in seasonal facilities may prevent the operators from being able to fulfil all requirements and therefore only comply with those that present the highest risk. The ability to attract and retain staff, the opportunity for continuous improvement, the maintenance of infrastructure and the implementation and growth of programs and services may all be impacted by the 'stop-start' nature of a seasonal pool.

Conclusion

The results of the Aquatic Facility Safety Assessment in 2011 have again demonstrated an overall improvement in the level of compliance with the Guidelines for Safe Pool Operation. The results also suggest that regional and remote facilities are likely to report lower levels of compliance compared with those in major cities or inner regional areas. Seasonality also appears to have a significant impact on aquatic facilities compliance in the AFSA.

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A nine year analysis of drowning deaths in inland waterways in New South Wales

Amy Peden¹

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Introduction

Addressing drowning deaths in high risk locations is the second priority area of the Australian Water Safety Strategy 2008–2011. Achieving a significant reduction in drowning deaths in these locations will enhance the likelihood of achieving a 50% reduction in all drowning deaths by the year 2020.

A high number of drowning deaths occur in inland waterways every year and targeted research is required to determine the circumstances surrounding these deaths and to identify trends such as key locations, high risk activities and at risk populations.

Inland waterway deaths in New South Wales (NSW): What do we already know?

Inland waterways are rivers, creeks, streams, lakes, dams and lagoons. The Royal Life Saving National Drowning Report 2011 identified that 45% of all drowning deaths that occurred nationally between 1 July 2010 and 30 June 2011 took place in inland waterways.

A nine year analysis of drowning deaths in children and adolescents aged between 0 and 19 years identified inland waterways as a drowning location of concern, particularly within the 5 to 19 years age group. Between 1 July 2002 and 30 June 2011, 62 (19%) children under the age of five drowned in inland waterways, while 124 (46%) children and adolescents aged 5–19 years drowned. Inland waterways were of most concern in the 15–19 years age group, with 132 (41%) of all drowning deaths in this age group occurring there.

To determine the scale of fatal drowning in inland waterways in NSW, analysis of drowning deaths across the nine year period was conducted.

Methods

Information on drowning deaths that occurred in NSW was collected from the National Coroners Information System (NCIS) and media reports. Drowning deaths as a result of suicide, homicide, natural causes, shark attack, crocodile attack and hypothermia were removed from the analysis where known.

All drowning deaths that occurred in inland waterways (that is rivers, creeks, streams, lakes, dams and lagoons) in NSW between 1 July 2002 and 30 June 2011 were included for analysis. Analysis was conducted in SPSS.

Results

Between 1 July 2002 and 30 June 2011, there were 931 drowning deaths in NSW. Of these, 270 (29%) occurred in inland waterways. Rivers, creeks and streams was the category with the most drowning deaths with 201 compared to 69 in lakes, dams and lagoons. Men are overrepresented in inland waterway drowning statistics with men accounting for 81% of all drowning deaths in rivers, creeks and streams and 94% of all drowning deaths in lakes, dams and lagoons.

Common activities prior to drowning were using watercraft (20%), non-aquatic transport (19%) and falling into water (13%). There were a high proportion of cases where people were on their own and as such activity prior to drowning was unknown in 23% of cases.

Alcohol was known to be present in a third (31%) of all inland waterway drowning deaths.

Conclusion

Drowning in rural areas is a significant issue and this presentation aims to elucidate some of the issues associated with drowning in inland waterways and strategies for prevention.

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Drowning reduction strategies for inland waterways: The ACT Experience

Sean Hodges¹, Matt Griffiths² and Amy Peden²

Royal Life Saving ACT¹, Royal Life Saving Society – Australia²

Background

Inland waterways (such as rivers, creeks, streams, lakes, dams and lagoons) are an area of high risk for drowning, with 44.8% of all drowning deaths that occurred in the 2010/11 financial year occurring in inland waterways. With the number of drowning deaths in inland waterways showing no sign of decreasing, action must be taken to reduce this loss of life and increase the likelihood of achieving a 50% reduction in all drowning deaths by the year 2020. In support of the Australian Water Safety Strategy 2008–2011, Safe Waters ACT developed the 2010–2013 Action Plan of which a key objective was to conduct open and urban water safety inspections of ACT lakes, rivers and pond areas.

The Statistics: What do we know?

Over the last nine financial years (1 July 2002 to 30 June 2011) in the ACT there have been 19 drowning deaths. Of these, inland waterways accounted for 42% of all drowning deaths. 88% of those drowning in inland waterways in the ACT were male. The most common activities being conducted prior to drowning in inland waterways were falls (16%), followed by swimming and recreating (11%) and using watercraft (11%). Activity prior to drowning was unknown in one inland waterway drowning death. Fifty percent of drowning deaths at inland waterways were known to involve alcohol.

Lake Burley Griffin was the most common location, with 21% of the drowning deaths over nine years.

Methods of Assessment

Yarralumla Beach (on the shores of Lake Burley Griffin) and Yerra Beach (on the shores of Lake Ginninderra) were identified by Safe Waters ACT as being key areas of interest for inland waterway drowning reduction in the ACT. Yarralumla Beach was identified as a priority area due to a recent fatal drowning involving the use of a swimming pontoon. Yerra Beach was identified due to recent development of the area by the ACT Government and the anticipated high usage as a result.

Activities undertaken at each of these locations included fishing, swimming, rafting, canoeing, boating for small (non-motorised) craft, running, cycling, walking and general family and community social events. Both locations had been developed to provide a multi-purpose recreation area containing picnic tables and benches, toilet amenities and a swimming enclosure.

RLS conducted a site inspection of each location encompassing all immediate areas along the length of the waterfront, adjoining access paths leading to the waterfront and adjacent car parks leading off the main entrances for the purpose of developing drowning reduction strategies for Yarralumla and Yerra Beaches.

Outcomes of Assessment

Following the site inspections conducted by Royal Life Saving, a risk register was compiled and risk treatments developed for each location. A number of risk treatment strategies were common to both locations including the removal of swimming/diving platforms, education programs, development and implementation of Emergency Action Plans, separation of swimming and boating areas, implementation of a safety signage system, provision of lifeguard services and the provision of public access rescue equipment.

Significant barriers were identified to the implementation of the proposed risk treatments. Despite overall responsibility for these areas being accepted by the ACT Government, different departments within the ACT Government were responsible for the management of the water and the foreshore. This created significant confusion in regards to responsibility for implementation of recommendations made as a result of the assessments conducted by Royal Life Saving ACT.

Conclusion

Despite the uniqueness of each location a number of risk treatments were common to both. Further research is required to assess the suitability and effectiveness of these treatments as drowning reduction strategies for inland waterways. In addition, there is a need for greater ownership from relevant bodies for the implementation of drowning reduction strategies.

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Making Aquatics a Terrific Experience - AUSTSWIM MATE

Jennifer Schembri-Portelli^{1,2}, and Maria Burn²
Austswim¹ Water Safety Exercise Training Service²

Background

Physical activity is universally recommended for the maintenance of good health and well-being. Unfortunately, for people with a medical condition and or disability including injuries, options for conventional activity on land may be limited, however the aquatic environment in this case offers a viable solution! The AUSTSWIM MATE seminar was developed to service the gap in community aquatic access and inclusion skills.

The innovative seminar aims to:

- Optimise health and wellness opportunities for people with a medical condition and or disability
- Promote aquatic accessibility for specific population groups
- Encourage confidence for aquatic activity for the support person
- Provide broad and balanced information for support people to be safe and effective in aquatic activity practice for people with a disability and or medical condition.

This National community seminar was launched by AUSTSWIM at the National Conference in July 2011 and has been delivered on numerous occasions in every state of Australia. NT and ACT have earmarked May 2012 for their initial seminar dates.

Community members, aquatic, fitness, disability and aged care sectors have aligned and supported the seminars with great zest and fervour.

Method

The MATE seminar comprises of an informative two-hour lecture with numerous film clips, case studies, group tasks and problem solving scenarios included in the curriculum. Topics include safe entry and exits, physiological, psychological and social benefits of activity in the aquatic environment. The remaining duration of the seminar is spent in the pool and provides the carers and support people with aquatic activities that promote functional daily movement patterns in a fun and enjoyable setting.

Results & Evaluation

To date approximately 500 attendees have participated in the seminar. MATE attendees complete evaluation forms on conclusion of the seminar ranking content, presentation style and resources. An additional on line evaluation is forwarded to attendees to evaluate the continuous inclusion of aquatic activity. Results from the attendees are yet to be collated but will be available at time of the conference.

Discussion

The MATE seminar has received interest from academic institutions in relation to measuring the physiological and psychological adaptations to activity in an activity environment on a regular basis for this population group. Maintaining good health and well-being involves more than just treating a medical condition or disability. Equally important are fulfilling work and leisure activities, satisfying personal relationships, a strong network, a meaningful place in the community and adequate attention to oneself.

The MATE seminar is self-funded and offers a discounted fee to attendees who are holders of a concession card.

Conclusion

More than one in eight Australian's provide care for people in the community. Carers provide unpaid support to family and friends with medical conditions and/or disabilities. Caring requires effort, energy and empathy. AUSTSWIM recognises the physical, social, emotional and financial implications of caregiving, especially in an aquatic environment and has developed high quality resources and an interactive MATE seminar to assist carers and support people in their roles. The support person may accompany their child, client, friend, parent, partner, sibling or extended family member to the pool. The MATE may be a confident swimmer, a non-swimmer, dependent on one or two person in the pool. The variables are diverse but all addressed in the AUSTSWIM MATE seminar.

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A coordinated and sustained approach to Water safety education for each community in order to reduce ethnic drowning in New Zealand

Cory Sweeney¹ and Matt Claridge¹
Water Safety New Zealand¹

New Zealand has some of the most extensive and beautiful waterways in the world. The seas, rivers, beaches, and lakes provide endless opportunities for all to enjoy water activities such as swimming, diving, and fishing.

The number of overall drowning in New Zealand has been decreasing (Compare the 131 people who drowned in 2011 to the 210 drowning in 1980), however the number of ethnic people who are drowning is still growing. New Zealand is made up of a number of diverse ethnic groups each with concerning drowning statistics.

Maori, Pacific and Asian communities are all overrepresented in the New Zealand drowning statistics. Water Safety New Zealand has developed specific programmes for Maori and Pacific communities which take a proactive step in attempting to empower these communities to reduce drowning.

The purpose of the ethnic projects is to provide a coordinated and sustained approach to water safety education for each community in order to reduce ethnic drowning in New Zealand. For each ethnic group, water plays a significant role in their life, both physically and spiritually. Therefore, each programme puts emphasis on cultural relevance and specificity to each ethnic group.

WSNZ provide:

Leadership

- Extend water safety education and leadership into sectors and communities that
- Have different needs and considerations.
- Continue to extend water safety education and leadership into ethnic communities and organisations.

And Resourcing

- Develop and maintain a suite of programmes and resources relevant to water safety
- Education priorities that reflect effective public education approaches.
- Coordinate the development and delivery of water safety education resources across
- The sector and across the community.

Methods

The continual development of new initiatives to meet the needs of the each community requires:

- Collaboration
- Engagement
- Empowerment
- Implementation

Specific focus is on:

- The regional coordination of swim and survive events and education through ethnic appropriate channels and networks including Regional Sports Trusts and Territorial Local Authorities.
- Development of region specific Ethnic Water Safety programmes to increase children, teenagers and family participation and develop the knowledge and skills necessary to enjoy the water safely.
- Build positive and personal relationships with key people from these communities that will continue to positively influence attitudes and behaviours in, on and around water from within.
- Empower the ethnic community to deliver swim and survive programmes specific to each ethnic group through professional development.

Results/Evaluation

Databases are kept for activity which include:

Activity, recall of message, participant numbers, behavioural change.

Results are measured through uptake of resources, programme engagement and implementation into existing programmes.

Discussion

Engagement with each community has been critical to ensure uptake and ownership. Personalising the key water safety messages and the effect they have on their region and their community has created momentum of the new water safety initiatives.

The Ethnic Water Safety programme extends beyond a swim and survive programme into the historical activity and important local and cultural knowledge, while promoting a safety first approach to each different environmental based activity.

Conclusion

Ethnic drowning has highlighted the need for specific programmes to address this issue. National leadership from Water Safety New Zealand of ethnic programmes provide each community the opportunity to learn about New Zealand environments and the skills required to keep them and their families safe around water, through the guidance and direction of their own.

Acknowledgements

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Maritime New Zealand
ACC

References

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The Aqua English Project: The Development & Implementation of Drowning Prevention Programs for High Risk Populations – What’s working, what isn’t and how we can improve through collaboration, and a change in policy

Sarah Blaubaum¹ and **Julia Dixon¹**

The Aqua English Project¹

Background/Introduction

What are the aims and objectives for the project/program/service?

The Aqua English Project is a preventative drowning strategy for English as second language (ESL speakers, including international students and visitors, migrant and refugees/new arrivals.

Why was the project/program/service developed?

To work towards a reduction in drowning fatalities of English as Second Language (ESL) speakers in Australia.

Where is it located?

South East Queensland, including but not limited to The Gold Coast, Brisbane, Toowoomba, Sunshine Coast, Whitsundays and Logan.

Who are the target group/stakeholders?

Refugees and humanitarian entrants, international students and visitors, migrants.

Was there any community participation?

12,500 participants from 32 different nationalities.

Methods

How has the project/program/service been implemented?

Community collaboration and partnership with key aquatic industry stakeholders, education institutions, multicultural groups, not for profit organisations, state and local government.

What has been the timeframe?

2005 – present.

Results/Evaluation

Has the project/program/service achieved its aims/objectives?

80% completion with one major policy and program objective remaining incomplete.

Have there been any unexpected outcomes? What were they?

The research results for each nationality and community cluster as well as language ambiguity and lack of swimming and water safety awareness. A measurement of the brochure approach to water safety and its outcomes.

Discussion

How will the project/program/service and its benefits continue into the future?

With community consultation and a holistic approach to water safety and multiculturalism to address the needs of high risk populations.

Can the project/program/service be replicated with other groups and in other areas?

It can with correct instructor and bilingual training, grassroots methodologies and adequate partnerships and community support/awareness.

What did you and other stakeholders learn from the project/program/service?

The true needs of the ESL community which have not been substantially researched for correct program implementation that responds to their actual and not perceived needs.

What were the main challenges in implementing the project/program/service?

Funding, recruiting and partnerships.

How did you meet these challenges or difficulties?

Time and effort spend with positive approaches to program development with a dynamic team and workplace sourced from the community as well as important aquatic industry stakeholders.

Did anything unexpected happen? How did you handle this?

Lack of funding for certain years, as well as the true amount of non swimmers who are from an ESL background.

What would you do the same/differently if you implement such a project/program/service again?

The approach would be the same except that we would work harder to get more of the aquatic industry on board to assist us with lobbying for funding to keep program running.

Any advice for others implementing a similar project/program/service?

Collaborate and partner. It's not a job that can be completed without assistance from other groups and resources.

Conclusion

Provide a brief summary of the major findings from the project/program/service

- 9/10 refugees and new arrivals cannot swim
- 8/10 international students cannot swim
- Over ten languages do not have appropriate translation for key water safety works
- Duty of care is an unusual concept for many cultures
- Pool entry and swimming lessons are not affordable
- Education + Swimming = ESL drowning solution
- More ESL speakers are needed in aquatic employment
- Translated pool signage to match translated beach signage
- Too many words in the Keep Watch Campaign
- Swim Between the Red & Yellow Flags is still a foggy message for cultures
- If the pool is too expensive then the river or beach is better (free)
- Current translated brochures had not been cross checked and were wrong (judged by the community)
- The cultural needs need to be understood by swimming centres to attract more than the average Australian population to pools

Acknowledgements

What was the project/program/service budget and/or funding source?

Varying and dependent on grants and funding from local and state government bodies as well as private school contracts.

List any contacts, links or resources that you found particularly useful in carrying out the project/program/service which could be helpful to others.

Local and state government grass roots approach, TAFE (MSIT) and educational institutions as well as ASCTA and RLSSQ.

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VICSWIM Cultural: a sustainable program based on collaboration among individuals, communities and organisations providing opportunity in personal skill development, knowledge enhancement, capacity building and vocational opportunities

Kirsten Kruse¹

Aquatics and Recreation Victoria¹

The VICSWIM Cultural program developed due to the collaborative efforts of Aquatics and Recreation Victoria (ARV) with Local Government, facilities, service organisations, individuals and their communities. The program is conducted at numerous sites in Victoria where it builds capacity, teaches aquatic safety skills and knowledge (delivered bi-lingually) and has a proven vocational pathway. Each program is extensively reviewed and analysed to ensure it remains sustainable and relevant.

Newly arrived Australians and Indigenous groups are noted as key players. Significant work is done to encourage mind shifts toward prioritising Aquatic Education in families and individuals in communities and also with Multicultural Organisations so that funds are allocated effectively.

Successes are plenty. The model is solid. Aquatic Education in swimming and water safety has become a priority. The risk of drowning has been reduced for some.

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Benchmarking Australian children's swimming and water safety skills: Challenges and opportunities

Amy Peden¹ and Associate Professor Richard Franklin¹
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Introduction

Over the past three years, Royal Life Saving Society – Australia has been researching the swimming and water safety skills of Australian children. The research questions sought to increase our understanding of participation rates, achievement levels, gaps in provision and barriers to access of swimming and water safety education among primary school aged children in Australia.

Methods

This research involved several discrete investigations that have contributed to a more detailed understanding of the factors that influence the current swimming and water safety skill and knowledge levels of Australian children. A key component was the investigation of primary school aged children's achievement against the standard set in the Australian Water Safety Council's (AWSC) National Swimming and Water Safety Framework, which states that 100% of children should be able to achieve competencies equivalent to Level 4 of the Swim and Survive program prior to completing primary school(1). Data from swimming and water safety education programs in the ACT, SA and Tas was collected and analysed.

Results

Data analysis showed that although the standard is achievable prior to leaving primary school, achievement rates varied from 68.6% in Tas, to 8.8% in SA, and in fact, in no state or program were 100% of students achieving skills equivalent to the AWSC's benchmark.

Data analysis highlighted that indigenous children and children born outside Australia were less likely to achieve the benchmark than non-Indigenous children and those born in Australia. Indigenous children, children from rural and remote areas and children with a greater socio-economic disadvantage were underrepresented in those participating in swimming and water safety education.

The data collection process identified many challenges, the greatest being the difficulty in comparing programs due to the diversity in provision. An ongoing process of data collection in the ACT has shown the power of regularly collecting data over a period of time in a useable format and the ability to collect information on broader issues that may have an impact on swimming and water safety competencies such as home pool ownership and frequency of informal engagement with aquatic locations.

Discussion

The benchmarking process identified a range of issues and barriers to the achievement of swimming and water safety skills for all Australian children and identified a number of actions that need to be taken over the next five years. These goals and recommendations will require the cooperation and collaboration of many different players and include improving access for children of all backgrounds, consolidating a national swimming and water safety standard, increasing the capacity of the swimming and water safety instructor workforce and the Australian school sector to provide swimming and water safety education among others.

The benchmarking process has also raised further questions about factors impacting upon the achievement of swimming and water safety skills and the effectiveness of strategies for improving access for all children to a quality swimming and water safety education.

Conclusion

As a result of this benchmarking research, a number of strategies have been proposed which aim to improve the swimming and water safety skills and knowledge levels of Australian primary school aged children. These strategies are diverse and require the support and action of a range of players including Departments of Education, the aquatics industry and parents and carers among others. The challenge remains ensuring that all Australian children learn the skills and knowledge they need to protect themselves from drowning.

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Sealord Swim for Life Initiative Empowering Regional New Zealand

Cynthia Thomas¹

Water Safety New Zealand¹

Water Safety New Zealand's Sealord Swim For Life (SSFL) initiative takes a proactive step to empower New Zealand communities to reduce drowning and at the same time address a dramatic decline in swimming ability of our youth. The national initiative calls to action regional communities to get primary school students into the water and improve their swim and survive skills.

Background/Introduction

New Zealand's annual drowning toll is one of the highest in the developed world (twice that of Australia's on a per capita basis). Our geography and demographic composition contribute to the drowning toll. Unfortunately, there is a lack of supporting policy to ensure New Zealand children are in the water developing swim and survive skills. This lack of policy extends to little or no provision for school pool maintenance, or programme support for schools.

This puts all New Zealand children at risk and reflects a society that has put a reduced emphasis on the value of swim and survive education. Our nation's water safety and swimming skills are crucial to achieving a reduction in drowning statistics.

Methods

In late 2010 Swim For Life underwent a rebirth and was re-launched as Sealord Swim For Life. The SSFL initiative has two major components:

1. The regional coordination of swim and survive education in schools
2. A communications campaign that increases awareness of the importance of learning to swim and survive for primary school children.

Results/Evaluation

Robust evaluation and outcome reporting methodology is utilised to track individual skill achievement progress and performance variables. Specifically, the skill development of every child is tracked in order to show evidence of skill acquisition and the achievement of the project outcomes. Outcome reporting has been fundamental to maintaining and securing additional community funding.

Discussion

Building and maintaining national, regional and local relationships is key to developing regional plans that meet the needs of the community and gets buy in from community stakeholders. Utilising a collaborative and solution focused approach has strengthened community relationships and empowered key stakeholders to develop sustainable learn to swim and survive initiatives and increase the number of school children participating in SSFL.

Conclusion

The Sealord Swim For Life initiative is having an impact on regional New Zealand communities and the swim ability of primary school students.

Primary school students' swimming skills have already improved significantly; poolside role modelling has been a valued form of professional development for teachers delivering learn to swim and survive education and community engagement has had a direct effect on the cost of delivery.

Acknowledgements

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The Swim and Survive Fund – Leveraging the Power of Collaboration

Kristal Grainger¹

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Introduction

The importance of swimming and water safety education has never been more pressing with 50,000 children leaving primary school every year without the skills to Swim and Survive(1). While many children are learning these skills, thousands of Australian children are missing out, putting them at grave risk of drowning.

Royal Life Saving research has found that children from lower socio-economic areas, Indigenous communities, culturally or linguistically diverse backgrounds or those that live in rural and remote locations are most likely to miss out because of a lack of access or through financial disadvantage(1). To address this issue, Royal Life Saving developed the Swim and Survive Fund.

Established in 2010, the Swim and Survive Fund aims to provide free or subsidised Swim and Survive courses for underprivileged children. This year, our target is to provide 10,000 children with the opportunity to learn vital skills in swimming, personal survival and basic rescue.

Aims

1. Enhance community awareness that children are missing out on learning vital water safety skills
2. Establish strong partnerships by adopting a collaborative approach to strengthen the voice of the Aquatics Industry
3. Raise funds to provide swimming and water safety lessons for underprivileged children.

Discussion

To ensure the success of the Swim and Survive Fund initiative, Royal Life Saving Partners, municipal councils and program sponsors were invited to support the fund. Generous commitments of support were received in the form of monetary donations, placements in courses and peer-to-peer fundraising activities.

In further support of the initiative, UNCLE TOBYS and Royal Life Saving developed Swim Kids Operation 10,000. Swim Kids Operation 10,000 enhanced community awareness of the issue and raised funds for the provision of Swim and Survive courses. Operation 10,000 was launched in February, receiving a high level of media interest which included Channel Nine's 'Today Show', Channel Ten's 'The Project' and Channel Seven's 'The Morning Show', radio interviews, print and online media articles.

The campaign obtained the support of Federal Minister for School Education, Early Childhood and Youth, Peter Garrett AM MP, who visited the event to address the media and participate in a lifesaving demonstration. Such engagement provides an avenue to lobby government to include swimming lessons as a compulsory part of the new primary school curriculum. At the time of writing, Royal Life Saving is well advanced in achieving its goal of providing 10,000 Swim and Survive courses with the support it has received from a range of corporate, government, industry stakeholder groups and individuals. During the presentation I will highlight the generous contributions to the Swim and Survive Fund from UNCLE TOBYS, Belgravia Leisure, the Canberra Labor Club, Royal Life Saving Partner facilities, local councils and members of the community.

Royal Life Saving has identified the following challenges in relation to the Swim and Survive Fund:

- Overcoming cultural, social and physical barriers to participation
- Accessing the communities in need of financial assistance
- Sensitively selecting the children who will receive the Swim and Survive courses
- Maintaining the privacy of the children who are selected to participate
- Being able to assist every family that has expressed interest in participating in the Swim and Survive Fund program
- Fundraising in a competitive market.

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Water Safety Education for Pre-Schoolers – The missing link?

Michael Morris¹

Samuel Morris Foundation¹

Background/Introduction

The Samuel Morris Foundation supports the goals contained within the Australian Water Safety Strategy 2008–2011.

The 2011 NSW Drowning Report shows 12 deaths of children aged 0–14 representing 11% of all drowning deaths in NSW. These deaths represent a 50% increase over the 2009/10 figure and a 13.2% increase over the five year average.

The Australian Institute of Health and Welfare report (2008) on Deaths and Hospitalisations from drowning shows that nationally, for every drowning death there are 314 hospital admissions from near drowning accidents, and almost one quarter (23.7%) of these hospitalisations will result in some form of moderate to severe long term morbidity.

In NSW the hospitalisation of children following a near drowning has also been on an upward trend. During the 2010/2011 summer period the Sydney Childrens Hospital Network (Sydney Childrens Hospital Randwick and Childrens Hospital at Westmead) saw the highest number of near drowning cases on record. The current ratio of death to hospital admissions in NSW is approximately 1:8.

The Samuel Morris Foundation's core focus is on children aged 0–4, this group is statistically over-represented in drowning and near drowning figures.

Methods

This project will result in:

- Development of a water safety curriculum that is developmentally appropriate for children at ages 1–4 with direct linkages to existing water safety campaigns such as Keep Watch and Swim Between the Flags
- Water safety lesson plans which can be implemented by appropriately qualified early childhood teachers
- Draft resources kits ready for full scale production – kits which will become available to pre-schools, long day care centres, play groups etc to assist in the implementation of a water safety program within their pre-school/long day care centre based on the curriculum and lesson plans.
- Resources that provide direct linkages to existing and established water safety messages targeted at the parents of children aged 0–4 to reinforce the importance of those messages.

Results/Evaluation

This project will result in:

- Resources ready for a water safety program that can be delivered to children aged 0–4 directly exposing them to water safety messages which are developmentally appropriate for a pre-school setting
- Industry agreed key water safety messages being delivered in a consistent and educationally appropriate manner to a target population that is over-represented in drowning statistics
- Clear linkages to existing and already funded water safety messages aimed at parents of children aged 0–4
- Leveraging of the 'child as teacher' principle: children relay the lessons they have learned (similar to the 'Fire-Ed' program within Fire and Rescue NSW and other fire services throughout Australia)
- A program with the ability to reach all children of pre-school age who attend an educational setting including children who may never be enrolled in a learn to swim program and would otherwise not be exposed to water safety messages during these formative years
- Minimises the costs to individual families as the program would be integrated into existing educational programs associated with the attendance of a child at a preschool
- Each of these outcomes will be evaluated using a program logic evaluation methodology throughout the development, delivery and maturation of the program.

Discussion

Long Term Evaluation

A project evaluation team will also be assembled from project stakeholders and using a peer program logic toolkit and workshop will develop the long term quantitative and qualitative project, evaluation criteria, and the data collection methods.

It is proposed that long term evaluation will be informed by data collection methods, which will be incorporated into the program delivery at preschools. With some form of pre-program delivery baseline data collection, and then post-program delivery data collection, and data being obtained from early childhood teachers and/or others who deliver the program, parents of children aged 0–14 and from children who participate in the program.

As there are ethical issues associated with research which involves the participation of children long-term project evaluation data collection methods will be developed with the education consultants to ensure that they are developmentally appropriate and their implementation will be guided by use of 'Understanding Consent in Research Involving Children: The Ethical Issues – A handbook for Human Research Ethics Committees and Researchers' produced by the Royal Childrens Hospital, Melbourne.

Long-term data analysis will be used to assess the effectiveness of the program against the outcomes defined in the program logic model, to inform further development of the project, and will be used to produce conference and journal submissions detailing the development and outcomes of the program.

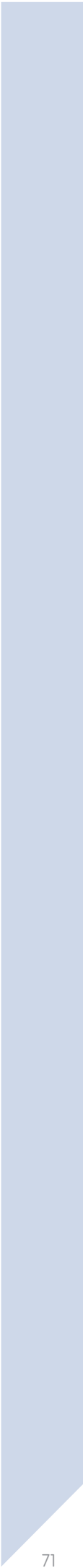
Conclusion

As any parent ever exposed to Fire Safety education programs delivered by firefighters will tell you, children come home and ask LOTS of questions about fire safety, what they should do in an emergency, what the families fire safety plan is, where they should meet in the event of a fire etc etc. The aim of this project is to replicate this pattern, and enlist pre-school aged children as conduits for introducing water safety education into as many homes as possible.

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VEGEMITE SurfGroms – Surfing Australia’s new junior participation program for 5–12 year olds

Chris Symington¹
Surfing Australia¹

On 8 October 2011, Surfing Australia’s new junior participation program for 5–12 year olds called VEGEMITE SurfGroms was launched at Bondi Beach by the then Minister for Sport the Hon Mark Aribib. The program was designed to provide a structured introduction to primary aged children to the sport of surfing.

The introduction of water safety principles is very much a key element of learning to surf and with VEGEMITE SurfGroms this was treated as a priority in developing the program. Over the five levels outlined in the program, each has dedicated content that ensures the participants gain a thorough respect and understanding of the ocean. The starting point for the VEGEMITE SurfGroms program is the 10 surf safety rules, these form the basis for the theoretical content provided over the five levels. Even if a participant is a gifted surfer they cannot progress through the levels until they demonstrate a sound understanding of these surf safety rules.

In addition to the theoretical elements of surf safety incorporated into the program, the practical progression of surfing skill instruction is designed to give participants maximum confidence every time they enter the water. The end goal of the VEGEMITE SurfGroms program is to have confident and competent primary aged surfers who understand the ocean and the etiquette involved with surfing. They should also be able to get themselves or others out of difficulty if required.

In Year 1 we plan to put through approximately 8000 new participants and are dedicated to growing that number even further as the program gains greater exposure and traction within the community. This is a good result for surfing and for the Australian Water Safety Councils (AWSC) goal of reducing surf beach drowning deaths.

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Connecting Lifeguards through Pool Lifesaving Sport

Matt Griffiths¹ and **Emma MacMillan¹**
Royal Life Saving Society – Australia¹

Introduction

The Lifeguard Challenge Series links to Goal 11 of the Australian Water Safety Strategy 2008–2011 – Lifesaving People. The Lifeguard Challenge Series aims to strengthen the skills, standards and recognition of our paid drowning prevention workforce by combining lifeguarding skills with pool lifesaving sport activities. Pool lifesaving sport aids this by strengthening the skills, standards and recognition of everyday community lifesavers. Training and ongoing professional development are key components of supporting pool lifeguards. By providing the opportunity for lifeguards to participate in the Lifeguard Challenge series, aquatic facilities are able to promote ongoing professional development and refreshment of lifeguards skills and knowledge on a regular basis.

What is the Lifeguard Challenge?

The Australian Lifeguard Challenge Series is a team sporting and skills event with 4 – 6 lifeguards representing an aquatic facility. The Lifeguard Challenge has been designed specifically for pool lifeguards and combines skills and events from pool lifesaving sport and the opportunity for social activities and networking with other lifeguards within a local area, state or across Australia.

Lifeguard Challenge Event Outline

The Lifeguard Challenge consists of modified pool lifesaving sport events. A lifeguard challenge can be held as a short course (25m) event or a long course (50m) event.

The key event in the Lifeguard Challenge is the Team Initiative. The objective of the Team Initiative is to assess the initiative of lifeguards in applying lifesaving skills in a simulated emergency situation. The situation is not previously revealed to competitors and allows lifeguards to develop confidence in dealing with emergencies in a low-stress environment. In the Team Initiative, points are awarded to teams who demonstrate safe and effective rescue techniques with good judgment in performing rescues. The Team Initiative is an important tool for continual lifeguard training and development.

Other events included in the Lifeguard Challenge program are the Obstacle Swim, Manikin Carry and Line Throw. The Obstacle Swim requires lifeguards to swim under obstacles immersed in the water. The Manikin Carry event requires lifeguards to swim and recover a submerged manikin and carry it to the pool edge simulating a submersion rescue. The Line Throw requires lifeguards to demonstrate their ability to rescue a patient using a throw rescue with an unweighted rope within a specified distance and time limit.

Pilot Event – ACT Lifeguard Challenge 2012

The inaugural ACT Lifeguard Challenge was held at Dickson Aquatic Centre on 9 February 2012. Twenty-eight lifeguards from the Australian Institute of Sport, Canberra International Sport and Aquatic Centre and Dickson Aquatic Centre participated in the Lifeguard Challenge with members of the ACT State Pool Lifesaving team demonstrating the pool lifesaving events.

'The Juggernauts' from Dickson Aquatic Centre took out the 2012 ACT Lifeguard Challenge and will return in 2013 to defend their title.

Following the inaugural event an evaluation survey was sent to participants. Results of this survey indicated that those aquatic facilities and lifeguards involved in the Lifeguard Challenge had undertaken additional training in the lead up to the event that they would not have done otherwise. It was also reported that the Lifeguard Challenge provided an added incentive to undertake training in rescue skills and emergency response.

Future Plans

Given the success of the inaugural ACT Lifeguard Challenge event in motivating lifeguards to undertake ongoing training, Royal Life Saving has identified the Lifeguard Challenge series as an important initiative. Planning is underway to host Lifeguard Challenges across Australia incorporating regional and State events working towards a National Lifeguard Challenge in the future.

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From Research Strategy to examining skill acquisition and cold water immersion

Alexander Brunt¹

Water Safety New Zealand¹

Background

Water Safety New Zealand (WSNZ) is New Zealand's national organisation responsible for water safety education, awareness and prevention. It represents 35 organisations within New Zealand that have an interest in water safety. During 2008 / 2009 WSNZ established a Research Advisory Group (RAG). This RAG produced a research strategy that contains the national research objectives and outcomes for New Zealand over the next three–four years.

As part of implementing this strategy into action, a project was devised with the University of Otago that sought to investigate the following:

1. To contrast initial responses to sudden water immersion in temperate (27°C) versus cold (10°C) water
2. Are behavioural responses to sudden water immersion explained by underlying physiological responses (i.e. disrupted breathing and brain blood flow)?
3. Does swimming skill influence the physiological or behavioural responses following sudden water immersion?
4. Can inexperienced swimmers be trained to suppress hyperventilation following sudden cold water immersion?

Methods

The project was tendered with Otago University and Associate Professor Chris Button being awarded the project. Participants aged between 18 and 45 years of age from the Dunedin area were recruited by the University. 44 took place in phase one and a further 15 in phase two. Swimmers were divided into three groups, competitive, recreational and novice.

Two phases of testing were undertaken. Phase one examined the effect of swimming ability upon the physiological and behavioural response to sudden water immersion at either 27°C or 10°C. Phase two examined the influence of cold water habituation and mental skills training using a controlled trial intervention with additional cohorts of inexperienced swimmers. All participants were tested in a purpose built swimming flume wearing a full body harness.

Results

- Irrespective of swimming ability, all participants were susceptible to cold water shock
- Swimming capability reduced when immersed in cold water. Even competent swimmers may find 100m very difficult
- If an individual can breath hold for 5–7 seconds upon immersion this may reduce the reflex of gasping for oxygen and thus inhaling water
- Many unaware of the cold shock response and the likelihood of hyperventilation, and thus how to deal with the situation
- Targeted training and education is helpful, particularly teaching individuals to float or tread water. Treading water as a skill can be improved quickly through simple feedback.

Conclusion

More emphasis is required within learn to swim programs on teaching treading water and on survival techniques such as what to do if immersed in cold water if New Zealand is to reduce its drowning rate further.

Future Research Planned

- Do children and adults display a similar habituation response to cold water immersion?
- What is the longevity of habituation training to sudden cold water immersion amongst children and adults?
- Can cold water habituation and associated survival skills training be effectively integrated into swimming education delivered in NZ schools?

Acknowledgments

Chris Button, James Croft, Matthew Graham, Aviroop Dutt Mazumder, Jim Cotter, Sam Lucas, Ken Hodge and Shayne Galloway

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Accredited Training: Whats the big deal?

Pamela Simon¹

Surf Life Saving New South Wales¹

What is accredited training?

Who is Surf Lifesaving NSW?

Why do enterprises become Registered Training Organisations?

- evolving nature of business

Why did Surf Lifesaving go down the path of accredited training?

- transferable skills
- ongoing viability
- in line with best practice
- gain an edge over other volunteer organisations

What are the benefits to the organisation as a whole in being an RTO?

- recruitment and retention of members
- customised training
- in line with Volunteering Australia's National Standards
- encourages standardisation of training
- consistent high standards, externally audited

What are the benefits to the volunteers?

- enhances performance
- values and draws on skills/knowledge already held
- improves morale

What does this mean in expanding the Australian Skills Base?

Motivating factor of formal training

- investment in membership
- using as mentors
- recognising excellence

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Rock fishing in NSW: An evidenced based approach to reduce severe injury and drowning risk

Anthony Bradstreet¹, Dr Shauna Sherker¹, Barbara Brighton¹, Adam Weir¹ and Matthew Thompson¹
Surf Life Saving Australia¹

Background/Introduction

The research project was commissioned following NSW Coronial recommendations (1). The project includes an epidemiological review, and an assessment of all current rock fishing safety interventions including education, engineering and enforcement. The aim is to provide evidence based recommendations for the improvement of rock fishing safety in New South Wales, Australia.

Methods

Rock fishing related deaths in NSW from [2000-2011] were obtained from NCIS data, while rock fishing related hospitalisations from [2003-2010] were obtained from NSW Population Health Survey program dataset . A critical literature review is presented, along with results of a stakeholder survey and in-depth interviews with a focus on the strengths and limitations of all current rock fishing safety interventions.

Results/Evaluation

Between 1992-2009, there were 142 rock fishing related fatalities averaging 7.9 fatalities per year (2). Of all fatalities, none of the decedents were wearing a lifejacket properly (3). Between 2002-2009, there were 55.4 rock fishing related hospital admissions per year in Australia (2). The problem is particularly significant in NSW where between 2003-2010, there were on average 38 hospitalisations per annum. 75% of rock fishing related hospitalisations were a result of a fall (4).

Discussion

Although there are a variety of intervention strategies in place; including public safety campaigns, education workshops and seminars, signage, public rescue equipment, dangerous surf warning systems, emergency communication systems and improved emergency service despatch systems; aside from yearly fluctuations, there has been no significant change in the number of fatalities per year between 1992-2010(2).

Conclusion

Findings to reduce the risk of injury and drowning from rock fishing in NSW will be discussed in the following themes:

1. Developing a coordinated state-wide rock fishing safety strategy;
2. Education and Communication Strategies;

The use of PFD while rock fishing; and Evidence supporting and opposing a variety of intervention strategies are discussed including; dangerous surf warning systems, signage, public rescue equipment, safer access, emergency service protocols, advertising, safety ambassadors, intervention review and assessment procedures, workshops and seminars. Future research priorities include developing a risk classification system for rocky platforms, developing a coastal public rescue equipment guideline, and improvements in data collection.

Acknowledgements

Funding for this research was provided through the New South Wales Government, Department of Primary Industries. An epidemiological review, literature review, and stakeholder survey analysis was conducted by the University of New South Wales, Transport and Road Safety Research Centre(TARS), in the School of Aviation and conducted by Dr Rebecca Mitchell and Dr Mike Bambach.

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Meeting the challenge of preventing drowning deaths on the rocky coast

Dr David Kennedy¹, Barbara Brighton², Prof Colin Woodroffe³, Adam Weir² and Dr Shauna Sherker²
The University of Melbourne¹, Surf Life Saving Australia², The University of Wollongong³

Rocky coasts account for 40% of Australia's shoreline with 18% of all drowning deaths occurring at these locations. From 2004/5–2010/11 summer seasons 113 drowning fatalities occurred, an average of 16/yr.

Rock fishers drowned in 78 (69%) of these tragedies, leading some to classify this activity as the most dangerous sport in Australia. Other activities undertaken before the fatal incident were rock walking or taking photos (23, 20.4%), attempting a rescue (6, 5.3%), or swimming/wading (2, 1.8%). The age groups most represented were 45–49 years (17, 15%), 30–34 (13, 11.5%), and 20–24 (12, 10.6%). Males were involved in 105 (93%) of the incidents. Rocky coasts therefore clearly represent a high risk location for drowning and one which presents significant challenges for water safety management. The remoteness of rocky shores poses significant challenges to managing public safety, namely because of its distance from established life saving services. This has been recognised by public education campaigns such as 'don't put your life on the line'; however, site specific risk management of drowning has not yet been possible.

Through an analysis of physical characteristics of rocky coast landforms this paper proposes the development of an integrated, location specific, risk index for the rocky shore. Key elements in the risk index include shoreline elevation, water depth, wave height and roughness of the rock platform/ledge. It is envisioned that this index will provide key data on which rocky coast areas are most hazardous and therefore pose the greatest risk to users. The development of such an index has the potential to drive management of water safety on the rock coast through developing priorities for resource allocation as well as reducing the vulnerability of rock fishers. The ability to adjust key elements within the index will allow managers to also predict the change in risk that will occur on rocky coasts as a result of various weather conditions, including sea level rise from climate change.

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From strategy to action: An immediate collaborative response to prevent further drowning among Pacific peoples when net fishing

Barbara Venville¹ and Dr Kevin Moran²
WaterSafe Auckland¹, University of Auckland²

Background

Recreational fishing often provides a valuable and relatively cheap food source and many Pacific families are resorting to their own means in order to provide for their families. There has been a movement of this fishing activity from Auckland's less demanding east coast to the more productive, yet hazardous, west coast.

While land and boat-based fishing have benefitted from safety interventions in recent years, the practice of net fishing at beaches and harbours has not. Net fishing in New Zealand waters is often more dangerous than that in the Pacific Islands, where fishing in warm lagoons with little or no surf is very different from the unpredictable and challenging sea conditions experienced on surf coastlines where traditional methods of fishing may require some modification to suit local conditions.

In October 2011, five Auckland Pacific men lost their lives in net-fishing related incidents within the space of a week, prompting an immediate call for action from the Pacific community. Pacific peoples are over-represented per capita, particularly in the Auckland region, accounting for one quarter (25%; n=32) of all drowning deaths in the past five years, while representing approximately 18% of the population. Men account for 87% of all Pacific drownings and a third (32%) of all land-based fishing drowning deaths involved Pacific peoples(1).

Methods

WaterSafe Auckland responded by calling a meeting of key stakeholders, resulting in the implementation of a collaborative project to address safety concerns and prevent further tragedy. Participants included Surf Life Saving New Zealand, Auckland Council, Accident Compensation Corporation (ACC), the Ministry of Pacific Island Affairs (MPIA), Pacific Peoples Advisory Panel (PPAP), Pasifika Injury Prevention Aukilana (PIPA), Pacific clergy, and lifejacket distributors Hutchwilco, RFD, and Safety at Sea. The group agreed to initiate a collaborative project with key short term outcomes for the 2011/2012 summer season. Key to this was capacity building, identifying what the issues were, who needed to be involved, and then developing and implementing appropriate strategies and resources.

Results

Key safety issues were identified including entrapment, overloading, surf, rips, holes, lack of flotation, lack of local knowledge, lack of safe fishing practice and high risk locations. A series of net fishing safety messages was developed that aligned with the New Zealand Safety Codes and the International Open Water Drowning Prevention Guidelines. Working with an experienced commercial net fisherman, a diagram depicting safe practice was also created then incorporated with the messages in a brochure and poster.

Recognising the high esteem of the church in the Pacific community, the key strategy focused on church activities, with clergy requested to highlight and promote safe net fishing practices and the use of lifejackets. Each was given an inflatable lifejacket to wear during services and distribute at their discretion to a parishioner. Supporting the spoken word were practical net fishing workshops, helping men become familiar with nets, lifejackets and associated safety equipment. Information was also delivered via Pacific and mainstream media and via Pacific-focused community events. Evaluation of the strategy will be used to make recommendations for an ongoing project.

Conclusion

By responding to the community's call for action and working collaboratively with them alongside key stakeholders it is hoped that the project will achieve impact, relevance, and cultural quality. That shared expertise and capacity can be utilized quickly and effectively to address death by drowning for specific target activities and communities is critical in the roll out of the intervention. The evaluation of the inaugural programme in three months will be the next phase of implementation prior to its anticipated continuation next season.

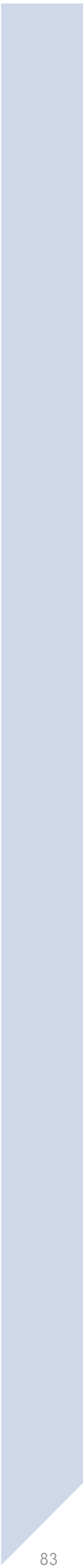
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Water Safety Skills for Reluctant Swimmers – Teaching adults who fear the water

Assoc Prof Jenny Blitvich¹, G.Keith McElroy¹ and Dr Emma Siesmaa¹
School of Health Sciences, University of Ballarat¹

Background

The Australian Water Safety Council aims to reduce drowning deaths by 50% by 2020 and to achieve this aim, water safety policy makers and practitioners need to impact on all sectors of the population, not just those who are more readily engaged. One group that is particularly difficult to reach is those people who fear the water. People who choose to avoid swimming because of their fear are not immune from drowning as illustrated by the 2011 Royal Life Saving Society's (RLSSA) National Drowning Report which indicates that in the 12 months prior, 47 deaths by drowning in Australia resulted from falling or wandering into water and 38 drowning deaths were related to the Queensland floods(1). These fatalities demonstrate that choosing not to swim does not eliminate the risk of death by drowning. At the University of Ballarat, we work with young adults studying Physical Education or Sport and Exercise Science who must reach a satisfactory standard in a compulsory Swimming and Water Safety unit of study which forms part of their first year of study. Commencing students demonstrate a wide range of aquatic competence, some arriving with a high level of competence, many with some aquatic background but in need of skill enhancement, and a small group each year whose commencing level of competence is very low. Many of those with low entry levels come from rural backgrounds, where access to swimming pools and aquatic education can be particularly limited.

Aims

The aim of this study was to investigate the factors that contribute to low commencing water safety competence among first year university students. It also explored the strategies that students found successful in enabling them to improve their aquatic competence and decrease their fear of the water.

Methods

Following completion of a short survey about personal aquatic background, one-on-one interviews were used to seek student opinions about their aquatic experiences. Interview questions were open ended in nature, and were designed to elicit rich data relating to students' experiences before and during their swimming course. Particular emphasis was placed on eliciting 'what worked' and 'what didn't' in practical classes. Thematic analysis of content was conducted and common themes were established.

Findings

The 'reluctant swimmers' in this study demonstrated many similar characteristics. Typically, on commencement of the course, they did not enjoy the water, and found participation in a large, university style class to be quite threatening. In contrast, students described a greater level of comfort when working with others who they perceived to be at a similar water competence level. They indicated feeling more willing to 'try' activities in the 'special' class setting, and appreciated the time devoted to developing 'relaxation skills' in the aquatic setting, finding that this was an important factor which assisted their ongoing aquatic skill development. Students indicated that the broader range of experiences provided through participation in special classes made a major contribution towards their skill enhancement. Examples of activities and strategies used with these students will be provided in the presentation.

Conclusions

The 'reluctant swimmers' who took part in this study successfully enhanced their aquatic competence, to achieve a sound level of water safety and survival skills. The teaching methodologies implemented were very different from our typical classes, and proved to be very successful with this group.

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Trends in world wide swimming and water safety teacher education

David Speechley¹

Australian Swimming Coaches and Teachers Association¹

Three years ago, the IFSTA embarked on a review of content and delivery mechanisms of all major teaching courses in the world. The actual content, resources, delivery mechanisms, accreditation and renewal processes were documented and compared.

One outcome has been the development of a resource mapping each course to every other course thus allowing comparisons to be made between courses. As a result this improved transportability of qualifications from one country to another.

Another development has been the defining of a minimum standard as to what constitutes a 'course' and what the key content of 'courses' should be.

This presentation details some of the trends evidenced in the delivery mechanisms, changes in content and philosophy of courses worldwide as a result of research, experience and feedback in various countries which became evident during the undertaking of the mapping exercise. The presenter was the prime architect of the mapping exercise and prime author of the final resource.

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The questions that Coroners don't get to ask

Andrew Plint¹

Hannah's Foundation¹

There are so many assumptions made in the drowning investigation.

The most common is the circumstances that contribute to a drowning. In the case of pool drownings, is it supervision, the fence or the swimming that failed? For beaches, is it swimming outside the flags or what is a rip. Boating, is it swimming, alcohol or life jackets or the weather. Creeks, rivers and floods come down to speed of water, swimming or hazards. Rock Fishing is life jackets.

State Coroners have been holding inquests for many years and have been making recommendations in relation to Drowning Prevention and it is through these recommendations that State Governments and National Bodies have been drafting and implementing programs.

The same questions have been asked, answered and recommendations made, time and time again without any real changes being made to the legislation, campaigns and the loss of lives through drowning.

What happens if coroners ask different and new questions; questions that challenge the status quo?

When you ask about rental properties and pool fences you find that the majority of toddler drownings occur in newly purchased or rental properties. This is because owners of pools have failed to maintain or inspect their fences for wear and tear over the years. This has led to Queensland overhauling State legislation and this coupled with a State based pool register and awareness campaign and significant reduction in drownings. But drownings and immersions still occur.

It has been accepted for many years that a level of swimming ability will help in the prevention of drowning. How does swimming a lap of the pool help when a child falls in fully clothed? How much do those clothes add in weight? Water survival skills (swimming) taught when fully clothed can make that difference in times of crisis or accident. Yet the topic has rarely come up at inquests.

Why don't swimmers drown in between the flags? Because lifesavers have identified the safe areas on a beach and are watching. What is a rip and how do you spot it? How do you better create that awareness?

How do you survive in flooded streams and rivers? Why don't you drive into flooded waterways? How do we change people's thinking?

There are too many drownings amongst the fishing community (rock and boating) and in the vast majority of cases a PFD would have saved these lives. How do you change the thinking and make PFD's a vital part of fishing as a hook, line or sinker?

There are so many other questions that need to be asked and answered but who is willing to ask those questions and more importantly who is willing to listen to the answers? After all there is no Cure for Drowning – there is ONLY prevention.

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YMCA Sydney – Incorporating Home Pool Safety into Mainstream Lessons! 2 years on

Tracey Ayton¹
YMCA¹

Implementing Home Pool Safety into your Mainstream Lesson Program

The aim of this program is incorporating home pool safety into mainstream lessons in the swim school environment. The objectives are to see this program develop and to increase Aquatic Safety Education in home pool scenarios across the swim school community.

The program was developed as it became apparent that the drowning statistics and near drowning statistics increased were continuing to increase, especially in the home pool situation. There is also an increase of the number of families having home pools in their backyards. These pools vary from in ground, to above ground and wading pools. Aquatic Educators are the only people at the forefront of this area. Aquatic Educators are the people with the audience of the families in the infant programs and therefore the ones that can lead the way in drowning prevention education.

The program is located at Cook & Phillip Aquatic Centre in Sydney and is now spreading to all YMCA Centres in NSW. It has also been adapted by other Learn to Swim Programs within Australia and even internationally e.g. Blue Buoys Swim School in California

The target groups are the parents/caregivers of over 30,000 children in aquatic programs across the YMCA as well as associated community groups.

Community participation specific to the Cook and Philip centre involve representatives acting in a volunteer capacity speaking at Birthing Rites Groups, Migration to Surf programs and the Rainbow Club Special Needs Program.

Other target groups to consider are visiting local pre-schools and library groups in remote or rural areas.

The program has been implemented by constant research of up to date statistics and information in drowning and drowning prevention and the ongoing training of our instructors in this area. Additions to the program include CPR courses for parents and inclusion of our Disability Families.

By constantly addressing the layers of protection within our program e.g. Supervision, Barriers, Swimming Lessons and Emergency Action Planning, including Family CPR, we are able to address the areas that can reinforce drowning prevention actions.

This project has been ongoing for two years and will continue to expand throughout the organisation and the greater swim school community.

The project has been monitored by continuous feedback from the Instructors and their families. CPR courses are run at the centre which includes emergency action planning as well as more structured language and skill taught in the programs.

The in-house CPR courses were a huge success and the constant reinforcement that flotation devices are not a substitute for supervision was a challenge.

The program will continue to benefit existing families and new families to the centre.

This program is adaptable to all swim schools.

Our Aquatic Education Teachers learnt of drowning statistics and near drowning statistics and were subject to real life stories that have happened to people in their homes. This made them think a little more as to why they were teaching children how to swim and that they were also teaching them how not to drown.

Challenges faced for the program was trying to get the parents to listen to instructors. A lot of people have the 'it can't happen to me' attitude which is hard to dispel. By also exposing the parents to real life stories and scenarios, parents realised that they could in fact be in this situation, and respect for the program grew.

Constant campaigning through newsletters, word of mouth and social media promoted our cause.

The addition of CPR Mate at our swim school heightened the Emergency Action Planning layer of protection and exposed many more of our families to learning CPR and not being afraid to act in an emergency situation.

One big issue that we also found was that the perception of the families of their children having swimming lessons resulted in them being less diligent in their supervision of the home pool situation which also reflected in the public pool supervision.

It was also found that the use of flotation jackets were being replaced by adult supervision and this needed to be addressed.

Conclusion

The findings two years on shows increased level of education regarding home pool safety across our families. It is also noted that the basic safety issues that are regarded as common knowledge to people in the industry are not known by the majority of parents with a home pool. There is no awareness of an emergency action plan by people with a home pool or knowledge of CPR. This program has greatly attributed to these issues. It has also been established that sadly, flotation devices are being used in a recreation situation in the place of adult supervision and that the 'arms reach' policy is often with the carer sitting outside of the pool with the child in the water which is totally unacceptable.

This presentation is a reflection of our last two years of work trying to establish an increased awareness of home pool safety in our centre.

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SwimSAFER Layers of Protection: Focus on Emergency Action Plan

Siria Thomas¹, **Ross Gage**¹ and Ross Smith²

Swim Australia¹, CPA Australia & board member on Australian Resuscitation Council ²

Organisation

Swim Australia is the Learn to Swim and Water Safety Division of the Australian Swimming Coaches and Teachers Association (ASCTA). Through ASCTA's affiliations, Swim Australia is linked with the Australian Water Safety Council, RLSSA's Guidelines for Safe Pool Operations Committee, the International Federation of Swimming Teachers Associations and Swimming Australia (the sport). Swim Australia was an integral member of the Federal Government's Reference Committee for the development of the Kids Alive Living With Water DVD.

Swim Australia registers Swim Schools and then works with these 'members' to enhance the learn to swim and water safety experience. Swim Australia has over 570 registered Swim Schools which, over the course of a year, deal with over 400,000 families and deliver over 15 million lessons.

Background and Aims

With childhood drowning statistics in Australia at an extremely distressing high, Swim Australia concurs with the AWSC in the value of raising awareness and education as key drowning prevention measures.

The SwimSAFER aim is to encourage and support member swim schools to increase their 'drowning prevention' campaigns and strives to help Swim Schools 'live the water safety message'. SwimSAFER features a 'layers of protection' concept that encompasses the common themes in water safety messages used by various authorities:

1. Supervision
2. Barriers
3. Swimming and Water Safety Skills
4. Emergency Action Plan.

Our goal is to help swim schools to educate parents and carers that no one of these layers will protect their children from drowning; but having as many of these layers in place as possible will provide the greatest protection from drowning – if one layers fails, another behind it may save their child's life.

After its official launch in 2009, the SwimSAFER program has gone from strength to strength, and has maintained interest from member Swim Schools who are engaged, readily seeing the benefits for themselves and their clientele.

SwimSAFER Focus 2012

This presentation will offer an overview of the SwimSAFER initiatives to date, and then focus in detail on our current project, which is the promotion of the layer of 'Emergency Action Planning'. The SwimSAFER team has been working with CPA Australia to develop and release the CPR Mate which is a device based on the 'Hands Only' CPR concept.

- This presentation will explain to attendees the 'theories' behind 'compression only' CPR and how breaking for breaths impacts on heart pressure. A bellows effect brings in 21% oxygen as opposed to 16% from someone blowing oxygen into the patient. The message is that obviously learning and updating full CPR certification is best, but hands only CPR offers something for those who do not want/or cannot do CPR
- CPR Mate to target those who are not fully trained in CPR. Also looking at CPR in schools, and how we can educate families through the children
- CPR Mate will also include free online training course, iPhone apps, and kids section
- CPR Mate will come with a DVD, from which content can be posted on swimschool's website, Facebook pages, Youtube channels etc.
- CPR Mate overall is a great addition for swimschools to market to families and the wider community to promote the need for having an Emergency Action Plan in and around water.
- An official launch for the CPR Mate and promotion of the importance of emergency planning, will take place in next few months. The launch will be chaired by a very well known Australian personality, and will also be supported by a family whose child was saved by CPR after a drowning accident.

Conclusion

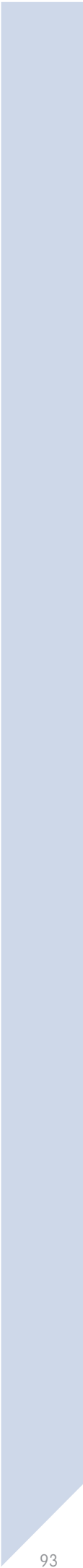
SwimSAFER's leadership team is continuing to develop and promote the message, devising new ideas and concepts, and is currently prioritising and strategising future projects.

Through SwimSAFER, Swim Australia is assisting its member swim schools to live and spread the vital water safety messages. As a consequence, member Swim Schools will achieve a better balance between teaching swimming and water safety skills and disseminating water safety messages. Our goal is to reduce childhood drowning in this country and to help Australia's children to Swim SAFER.

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Risk assessments: where does the data go? Collaborative and interactive platforms to help manage drowning and injury prevention in the aquatic environment

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The objective of a risk assessment is to quantify the level of risk at a specific location and formulate a plan to mitigate the risk if it is at an unacceptable level. The data gathered during the risk assessment process is then presented in the form of a report. Historically, there has been some disconnection between the production of a report and the communication of its findings to those responsible for the implementation of the risk mitigation plan. This presentation will focus on CodeBlue and Find a Beach, two interactive IT platforms designed to resolve this problem in the aquatic safety sector in New Zealand.

CodeBlue (www.codeblue.org.nz) and Find a Beach (www.findabeach.co.nz) were developed following the completion of risk assessments (referred to as Coastal Public Safety Assessments) at over 100 of New Zealand's highest risk beaches. With the expertise of IT Effect, a software development company, Surf Life Saving New Zealand set about transforming the risk assessment data onto the web to be readily available to two different, yet important audiences. The target audience for CodeBlue is those responsible for managing drowning and injury prevention (land managers, water safety agencies etc.) and for Find a Beach it is the general public.

CodeBlue is a state of the art information management system that stores all the data, findings and recommendations collected during Surf Life Saving New Zealand's Coastal Public Safety Assessments. The full report and recommendations are made openly available to all stakeholders on this website, providing a means to communicate water safety information efficiently and effectively. This system has the potential to streamline the implementation of safety interventions and drive on-going management of drowning and injury prevention in the aquatic environment.

This management system is intended to be the central point from which surf lifesaving personnel, territorial authorities, regional councils, government departments and all other stakeholders can access information on the safety measures (i.e. water safety signage, lifesaving services and education programmes) recommended for a particular site to reduce the risk of drowning and injury. Stakeholders will be able to submit comments on reports and update the status of the safety measures i.e. 'water safety signage has been implemented'. A wide range of additional data is also stored on this database including information on facilities and services i.e. public toilets, coastal access and images of a site.

Find a Beach is an information portal designed to share relevant risk assessment information with the general public; it takes data and makes it more relevant to their engagement with the coast. The site is designed to become the first point of call for everything beach related in New Zealand, whether it is checking out the weather and surf conditions, planning a holiday in another part of the country, or viewing current coastal conditions on one of the webcams. The site draws the public in firstly by providing a service: the latest weather forecasts and surf reports, in addition to information on accommodation, activities and facilities at over 100 beaches throughout New Zealand. At the same time valuable beach safety and education information specific to each beach is provided to the user to help them have fun and stay safe.

Surf Life Saving New Zealand has taken two new approaches to help facilitate risk management at some of the country's highest risk beaches and educate the public on surf safety. The two platforms are targeting two different audiences, however it is hoped that together they will help reduce the incidence of drowning and injury on New Zealand's coastline.

The development of these web-platforms has been supported by the Accident Compensation Corporation and State Insurance. We would like to acknowledge their support in helping prevent drowning and injury in New Zealand.

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Drowning related out-of-hospital cardiac arrests: characteristics and outcomes

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Introduction

Drowning inherently occurs in the prehospital environment and if not treated with cardiopulmonary resuscitation (CPR) will result in out-of-hospital cardiac arrest (OHCA) and death. Few studies exploring drowning related OHCA have followed victims from the scene through to hospital discharge. This population-based study aims to describe this cohort and their outcomes in the state of Victoria.

Methods

Cases and data were obtained from the Victorian Ambulance Cardiac Arrest Registry (VACAR). VACAR was searched for all Victorian cases of OHCA with a precipitating event of drowning attended by Emergency Medical Services (EMS) between October 1999 and December 2011. Obvious traumatic related drowning, where trauma was the likely cause of OHCA (e.g.. witnessed bridge suicides), were excluded.

Results

EMS attended 343 drowning related OHCA during the study period in Victoria (ranging between 15 and 33 per year) – representing <1% of all OHCA (<1% in adults and 7% in children). Of the 343, 65% occurred in a metropolitan location, 77% were adults, 66% were males and 78% were unwitnessed. Of the 23% of cases that were children 63% were under the age of 6 years. EMS attempted resuscitation for 155 (45%) cases (34% of adults and 82% of children), the remainder were deceased at the scene. In cases where EMS resuscitation was attempted 97% had received prior bystander CPR. Overall the proportion discharged from hospital alive was 3.6% (1.9% in adults and 9.3% in children). Among cases where EMS attempted resuscitation, 29% had pulse restored by arrival at hospital (30% adults and 27% of children) and 8.2% were discharged from hospital alive (5.9% adults and 11.5% of children). Most (92%) were discharged home after lengthy hospital stay (median 25 days, range 3–141 days).

Conclusions

Drowning is an infrequent cause of out-of-hospital cardiac arrest and survival is rare. Further work is planned reviewing individual cases for scene details to determine related causes and to explore predictors of survival in this group.

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Surf Lifeguard Response to Drowning: the SENTINEL System revisited

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Introduction

SENTINEL is an educational tool developed by lifeguards to improve drowning detection rates and the overall response to aquatic-based emergencies. Victims are assigned a numeric status code based on 'threat to life' and continually reassessed at each stage of the drowning process. The aim of SENTINEL is to prevent drowning and improve patient outcomes by ensuring that lifeguards provide the right response, to the right victim, in the right amount of time.

Background

The ability to recognise a victim in distress is a core lifeguarding skill [1]. With junior and less experienced lifeguards, these skills may be lacking. Cognitive and developmental issues can also impact on a junior lifeguard's ability to recognise a person in distress [2]. Preliminary research suggests that detection rates in both groups can, however, be improved with training and experiential learning [3], [4].

In 1970, Frank Pia's film *On Drowning* was first released. This observational study of actual drowning victims provided a rare insight into the behaviour of non-swimmers and furthered our understanding of the drowning process. Pia introduced the concept of the 'instinctive drowning response' and revealed surface-struggle times of only 20–60 seconds before submersion [5].

Subsequent research in the surf environment has identified swimmers demonstrate more subtle signs of distress, and that lifeguards may fail to recognise the seriousness of some in-water behaviours they observe. Victims in pre-terminal states of drowning are frequently left with no flotation if initial rescue attempts are unsuccessful, heightening the risk of submersion [6]. During mass rescue situations, often there is no in-water triage to ensure victims with the highest threat to life are rescued first.

Aims/Objectives/Method

This presentation revisits the SENTINEL system of drowning management and includes updated recommendations on lifeguard response and patient care. The strategic goal in drowning of removing a victim from the water is compared and contrasted to the tactical goal of providing buoyancy support in high-risk situations. Suitability of equipment on patrol for providing buoyancy support is reviewed, and in an attempt to reduce powercraft injuries and utilise lifesaving resources more efficiently, the rationale for a routine or 'non-urgent' rescue is discussed.

Results/Discussion

In drowning, the first priority (or tactical goal), is to interrupt the drowning process by providing buoyancy to the victim; this is especially true if the victim cannot be immediately removed from the water [7]. Buoyancy support as an interim measure to reduce submersion risk is a strategy not widely employed in aquatic emergencies. Most lifeguards tend to focus on the strategic goal of getting the victim out of the water even if there is a high threat to life, multiple victims, or delays in executing the rescue. In-water triage is a skill typically performed by highly experienced lifeguards only [8]. Furthermore, not all rescue equipment can be thrown with accuracy, deployed at a moment's notice, or is capable of supporting multiple victims.

A recent Australian study of lifeguard injuries revealed 30% were incurred through inflatable rescue boat (IRB) use. Of these, 41% occurred during lifesaving patrols [9]. IRBs undertake 60% of all rescues in New Zealand and accident investigation reports show some serious harm injuries are a result of responding to incidents at high speed [10]. In circumstances where the victim is not in immediate danger, a less-urgent response can be applied provided it does not affect rescuer or patient safety.

Conclusion

Improving surf lifeguard's knowledge of victim identification, in-water triage, buoyancy support and routine response to non-life threatening incidents may result in better patient outcomes and fewer lifeguard injuries. The SENTINEL system provides an educational framework, but more research is required to validate the effectiveness of the model.

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Recognition and Comprehension of Aquatic Safety Signage

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Introduction

Aquatic safety signs are designed to alert potential users of aquatic related hazards such as strong currents (rips), submerged rocks or dangerous marine life. Failure to recognise and understand aquatic safety signage may lead to serious consequences such as a spinal injury or drowning death. Each year in Victoria there are on average 17 coastal drowning deaths.

Very little research to date has focused on the specifics of effective aquatic safety signage. Standards have suggested a guide for safety signs, yet the extent of compliance with those signs, and the specific conditions leading to compliance, or lack of it, have not been systematically examined. Towards that end, this study aims to determine the extent of recognition and understanding of aquatic safety signage at Victorian beaches.

Methods

Interviews were conducted with over 377 coastal recreation users at two bay and two ocean beaches in Victoria on weekends and weekdays in February and March 2012. Interviews were conducted between 11am and 7pm as this is when the highest proportion of coastal drowning occurs. Coastal recreation users included both active and passive recreation users and were not limited to water users as many aquatic incidents, such as slips, trips or falls, occur when the person does not intentionally enter the water.

Participants aged 18 years or over were invited to participate in the study and were surveyed by trained interviewers. Each interviewer started in a designated location on the beach and selected participants on the basis that they were the next nearest person to the interviewer after each interview was completed. Any refusals, including the reason for refusal, were recorded.

Three different signage conditions were used: no signage, composite or single signs, and broken down signage. Temporary signs with content relevant to the foreshore environment and beach conditions were installed at each selected site. All signage was consistent with the hazards applicable to each site and was not misleading in any way. Signs were located so as not to obstruct access or interfere with beach activities.

A questionnaire was developed to measure hazard identification, likely consequences, and perceived injury severity resulting from the hazards identified; in addition to observations regarding beach hazard symbols, comprehension of the meaning of the symbols identified and whether changing the shape of the warning sign affects interpretation of the message. Demographic data were also collected.

Results

Analysis is in progress and will be reported at the conference.

Conclusions

The outcome of this research will provide data from which to model and select the position of aquatic safety signage placed on beaches. It will also provide insight into signage effectiveness as a risk treatment option. This information may flow back into the development of the various water safety signage standards.

Acknowledgements

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Project Blue-Print – Coastal Public Safety Risk Assessments of all beaches and coastal rocks/headlands in NSW

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Background/Introduction

NSW accounts for 50% of the national coastal drowning toll annually.

There were 262 coastal drowning deaths in NSW between July 2004 – July 2011.

SLSNSW proposes to conduct Coastal Public Safety Risk Assessments for every publically accessible beach and coastal rock platform in NSW.

This project will engage all key stakeholders and collect/correlate all existing data/evidence and initiatives available, to provide a coastal drowning prevention 'blue-print' for NSW. From this 'blue-print', an effective all-community drowning prevention strategy can be developed to meet the National and State goal to reduce drowning deaths by 50% by 2020.

SLSA 'CoastSafe Department' www.coastsafe.org.au has industry-leading coastal risk management experience, training and technology and will be the delivery agent of this exciting project. Stakeholders such as Councils/Land Managers, Emergency Services, and NPWS will be integral to the success of the project and its ongoing 'value-add' to drowning prevention in NSW.

Results/Evaluation

Stage 1 of the project will include:

- Coastal Public Safety Risk Assessments of the top-10 drowning black-spots in NSW (by Local Government Area). This will include the key black-spot swimming and rock-fishing locations at 223 beaches/headlands. These assessment reports will be provided to the NSW Government and other appropriate lead stakeholders.

Ranking	LGA	Coastal Drowning Deaths (2004-2011)
1	A	23
2	B	21
3	C	18
4	D	17
5	E	16
6	F	13
7	G	12
8	H	12
9	I	10
10	J	9

- Develop a State-wide Emergency Access Marker System for all 757 beaches/rock-platforms in NSW – to improve public reporting and emergency service response to coastal incidents.

Discussion

It is envisaged that outcomes of this project will help:

- Validate the significant excellent work already being conducted in many areas & replicate where needed and appropriate (decrease duplication of work/costs)
- Enhance the targeting of appropriate drowning prevention initiatives to the right groups/locations, at the right times
- Improve consistency and synergies of initiatives and plans at local, regional and state level
- Improve partnerships and coordination between stakeholders
- Provide a foundation of data from which stakeholders can review, update and compliance check - ongoing
- Reduce costs to councils/land-managers and organisations
- Save more lives on our coastline

Conclusion

This project aims to provide for and support a cohesive state-wide drowning prevention strategy, by engaging all stakeholders and by correlating all evidence and targeting best-practice drowning prevention options where they will be most effective.

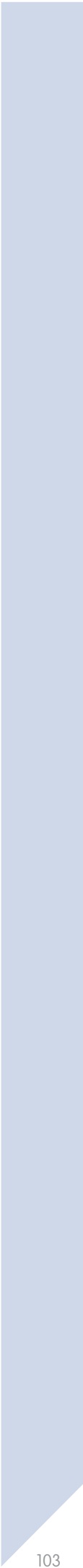
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Ministry for Police and Emergency Services

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Singapore's National Water Safety Strategy

Richard Ming Kirk Tan¹

National Water Safety Council, Singapore¹

In 2007, the Singapore Minister of Community Development, Youth and Sports set up the National Water Safety Council of Singapore (NWSC) to be the national co-ordinating body to drive and sustain longer term initiatives overseeing all aspects of water safety in the country.

Despite a short history, the NWSC has embarked on a number of initiatives and this paper describes the background to the setting up and the role of the NWSC. In addition, it will outline the main focus areas of the NWSC viz., safety awareness, swimming proficiency and rescue and environmental design. It will also deal with the NWSC's key initiatives which includes the SWIMSAFER swimming programme, the guidelines and code of practice relating to aquatic facilities and the moves to set up a volunteer lifeguard management system in the country. Finally, the paper will also cover some of the challenges and considerations faced by the NWSC in implementing its initiatives.

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Adapt Between The Flags – Enhancing the capacity of Surf Life Saving to cope with extreme weather and climate change

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Background

This research project seeks to elicit the vulnerabilities, adaptation options and adaptive capacity (Smit & Wandel, 2006) of Surf Life Saving operations and vulnerable assets under extreme weather and climate change. At the same time it aims to understand the role of Surf Life Saving clubs in reducing coastal hazard risks to coastal communities.

Surf Life Saving Australia (SLSA) has assets and facilities exposed to extreme weather, including 310 separately incorporated local surf life saving clubs (SLSCs) and more than 150,000 trained volunteers delivering services on the coastline. SLSA recognizes that the challenge posed by climate change is significant and that individual clubs will bear the brunt of associated impacts. In response, SLSA has developed a high level strategy to help the organisation adapt to climate change (Elrick et al., 2010). The strategy reviewed the vulnerabilities of SLSA and of specific SLSC facilities and infrastructure around the Australian coast and also highlighted the need to act on climate change issues as an organisation.

Approach

Drawing on the outcomes of Elrick et al., (2010) and using a case study approach, we apply advanced techniques for stakeholder consultation. Specifically, combine Systems Thinking (Sterman 2000; Ison 2010) and Bayesian Modelling techniques (Charniak 1991; Castelletti & Soncini-Sessa, 2007) to identify adaptive responses to climatic stresses and understand the determinants of adaptive capacity (Richards et al., 2011).

The project case studies are Currumbin SLSC, Gold Coast, Queensland; Cudgen Headland SLSC, Tweed Shire, New South Wales; Ulverstone SLSC, northern Tasmania; and SLSA (national level).

A series of participatory workshops, involving surf lifesavers, lifeguards, local council and community representatives will be run between April and October, 2012. These workshops will be focusing on asset management, lifesaving operations and the role of local clubs in increasing community resilience.

This presentation will focus on the implications of extreme weather and climate change on lifesaving operations to prevent drowning deaths. Preliminary results of the research are presented for discussion.

Acknowledgement

The research project 'Adapt Between the Flags - Enhancing the capacity of Surf Life Saving Australia to cope with climate change and to leverage adaptation within coastal communities (2012-2013)' is funded by the National Climate Change Adaptation Research Facility.

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The Australian Safe Communities Foundation - Drowning Prevention as a Component of Safety Promotion

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The promotion of safety, as an all-pervasive paradigm in the community, is the responsibility of every citizen. Experience gained and lessons learned in one focussed area of injury prevention can so often influence injury rates more generally. This paper describes the terms of reference and the outreach of the Australian Safe Communities Foundation. This Foundation is part of the world-wide International Safe Communities Network, with headquarters based at the WHO Collaborating Centre at the Karolinska Institute, Stockholm.

The Foundation is a forum which provides an infrastructure for local stakeholders to come together, to identify injury threats, to plan and implement preventive stratagems and to be certified as a National (or International) Safe Community. Besides water safety and drowning prevention, the Safe Community Foundation brings together partners in road safety, home safety, violence risks, recreation and hospitality industry safety, fire and building safety. The success of three primary principles of drowning prevention – (a) increased awareness of risks; (b) improved physical environment around water hazards; (c) safety legislation; and the principles of secondary prevention (improved rescue and resuscitation) are excellent models for safety improvement more generally. Volunteers and salaried members of the water safety and aquatic industries have much to contribute to this broader forum.

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Northern Territory Water Safety Advisory Council – A Success

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NT Water Safety Advisory Council¹, Water Safety Branch, Department of Housing, Local Government and Regional Services²

Introduction

Prior to 2003, the NT had the highest drowning rate per capita and drownings in under 5 age group were of particular concern. The NT Government developed a five point plan on water safety in response to these concerning statistics which included:

1. Swimming Pool Safety Act
2. NT Water Safety Advisory Council
3. Safe Pool Grant
4. Water Safety Awareness Program
5. Interest Free Loans for pool fencing

This collaborative approach to drowning prevention has enabled the NT to achieve a major reduction in drowning in the under 5 age group. There have been zero drownings in backyard swimming pools since the implementation of this plan.

Progress to date

In June 2002 the NTWSAC was formed with the aim of reducing the rate of drowning, near drowning and water related injuries. Working collaboratively, the NTWSAC has been able to promote and assist member organisations with Territory wide campaigns. These include:

Water Safety Awareness Program – implemented in 2002 the program has been a huge success in the Northern Territory with 6550 children completing all five sessions of the program (January 2012).

Water Safety Lesson Plans – Developed by the Water Safety Unit in conjunction with Department of Education and Training (Health Promoting Schools), the lesson plans are mapped to the NTG curriculum and delivered to school aged children across the Territory.

Crocwise Campaign – The Crocwise campaign was implemented in September/October 2009 to educate the public on the dangers of crocodiles in NT waters. Capital injection of the program was into staff for trapping and the removal of animals where required in a 'no-tolerance zone' 50km from Darwin and into the development of an education and awareness campaign. Since 2009, the 'Be Crocwise' education campaign has reached an average of 13800 students per year through school assembly presentations. There is ongoing interest in school presentations and several return and multiple visits. Over 250 Be Crocwise Teaching & Learning Kits have been sent to schools, as well as being available on-line.

Pipes and Drains Campaign – the campaign was modelled on the Cairns 'Use your brain, don't play in pipes and drains' campaign which was purchased by the NTG with the assistance of the Palmerston and Darwin City Councils. The campaign runs throughout the wet seasons and assists in educating people about the dangers of playing in pipes and monsoon drains.

Stinger Safety Campaign – The Stinger Safety Campaign includes seasonal media releases, press advertisements and education carried out in schools and through signs at beaches. Box Jellyfish are prevalent in NT ocean waters during the wet season, particularly between October and May.

Safe Boating Campaign – The Safe Boating Campaign was implemented at the Darwin Boat Show on 17–18 October 2009. Thirty-eight per cent of drowning incidents are boating related and the NT has extremely high rates of boat ownership. Various new materials were developed for the boating public including stickers, key ring floats, water proof fact cards, TV, radio, print advertisements and a new safety guide for pleasure craft. The target market was primarily existing boat owners, in particular males aged 18–50. Some new material is currently under development for 2012.

Current Priorities

Swimming in schools – increasing participation of all school based children attending learn to swim programs.

Boating Safety – High usage rates and limited regulation prompts challenges in promoting boating safety and the importance of safety equipment and risk reduction strategies relating to the use of alcohol, other drugs and other risk taking behaviours on the water.

Conclusion

The NT Water Safety Advisory Council has had many achievements and will continue to work collaboratively to assist in drowning prevention in the Northern Territory.

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Water safety education and drowning prevention in Bali, Indonesia

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Surf Life Saving Australia¹

Background/Introduction

The key objective of the assignment was to establish a system that would enable the ongoing development of sustainable and effective school and community water safety and lifesaving programs to support drowning prevention/reduction in Bali.

The program was developed in partnership with Surf Life Saving Australia (SLSA), Indonesia Surf Life Saving Association (Balawista-Indonesia) and AusAIDs Australian Youth Ambassadors for Development (AYAD) program. Balawista-Indonesia has very limited materials, resources and trained school and community educators to deliver swimming, water safety and lifesaving education to the Balinese community. The AYAD role was used to develop and deliver instructor/teacher training programs, in-country education programs and materials targeted at schools and local villages across Bali.

Methods

The program was implemented after discussion between SLSA and Balawista-Indonesia. A position description was designed and successful in its application and an AYAD (Emma Larssen) was chosen to deliver the assignment outcomes in Bali. Emma spent 12 months with Balawista-Indonesia from October 2010 to November 2011.

Collaboration and consultation took place between the AYAD and Balawista-Indonesia to review, update and implement training programs filling in gaps and providing sustainable skills and experience to continue the AYAD objectives.

Results/Evaluation

The program was monitored through both SLSA and AYAD with various reports submitted throughout stages of the program.

Short term changes included an update of resources and manuals to Australian and world lifesaving standards, as well as the introduction of 'S' send for help, which is part of resuscitation procedures. Various amendments were introduced so best practice is ensured for future training.

In the long term, all these up-skilling of resources and teachings will assist in correct information at training programs moving forward. There was also a sharing of skills in surf sports that members of the lifeguard team can use in the lead up to the World Surf Life Saving Championships in Adelaide that they will compete at later this year.

Overall the program achieved the main objectives. Further successes included the Nippers program and surf sports coaching saw a small team compete at the Arafura Games in Darwin and come away with a swag of medals. SLSA and Balawista-Indonesia have also had two more AusAID funded volunteer positions approved.

One very unexpected outcome was the high number of children that participated in the Nippers. The Bali Nipper program was run early on a Sunday morning from April–October. This attempt at running a Nippers program was the first of its kind on Kuta Beach and an aim was set for 30 registered children. On the first day 32 children signed up and by the end of the 30 week program there was a total of 105 children.

Discussion

The AYAD program strengthened ties between SLSA and Balawista-Indonesia and will continue to benefit not only the local Kuta-Bali community but also other parts of Indonesia. As the main lifesaving service trainer, Balawista-Indonesia can now share their training and experiences with other parts of the country that are realising the need for water safety education.

SLSA is currently servicing host organisations in Fiji, Samoa and Vietnam with further positions being explored in the Philippines, Vanuatu and Thailand.

Difficulties arose in terms of culture clash, religious differences and gender issues. There was only one trained female lifeguard in Balawista-Indonesia, however it was great to see that of our 105 nippers a fair number of these children were girls.

Advice for other organisations wanting to assist internationally would be to research the background and cultures of the area you want to go to. It is important to work with them rather than change them. Being adaptable is a great quality to have!

Conclusion

In summary, the AYAD program was very successful with both parties learning about one another and strengthening their relationship, skills, standards and drowning prevention goals.

Over 200 lifeguards were trained and up-skilled throughout the year from various organisations. A 'Nippers' program was established and is ready to take place again for the 2012 season and a number of school programs were held.

A very worthwhile project for all involved particularly with the formation of the Nippers program which was very well received and will continue to teach local children important water safety and lifesaving skills.

Funding

The AYAD program is funded by AusAID. There was also external funding and support from SLSA.

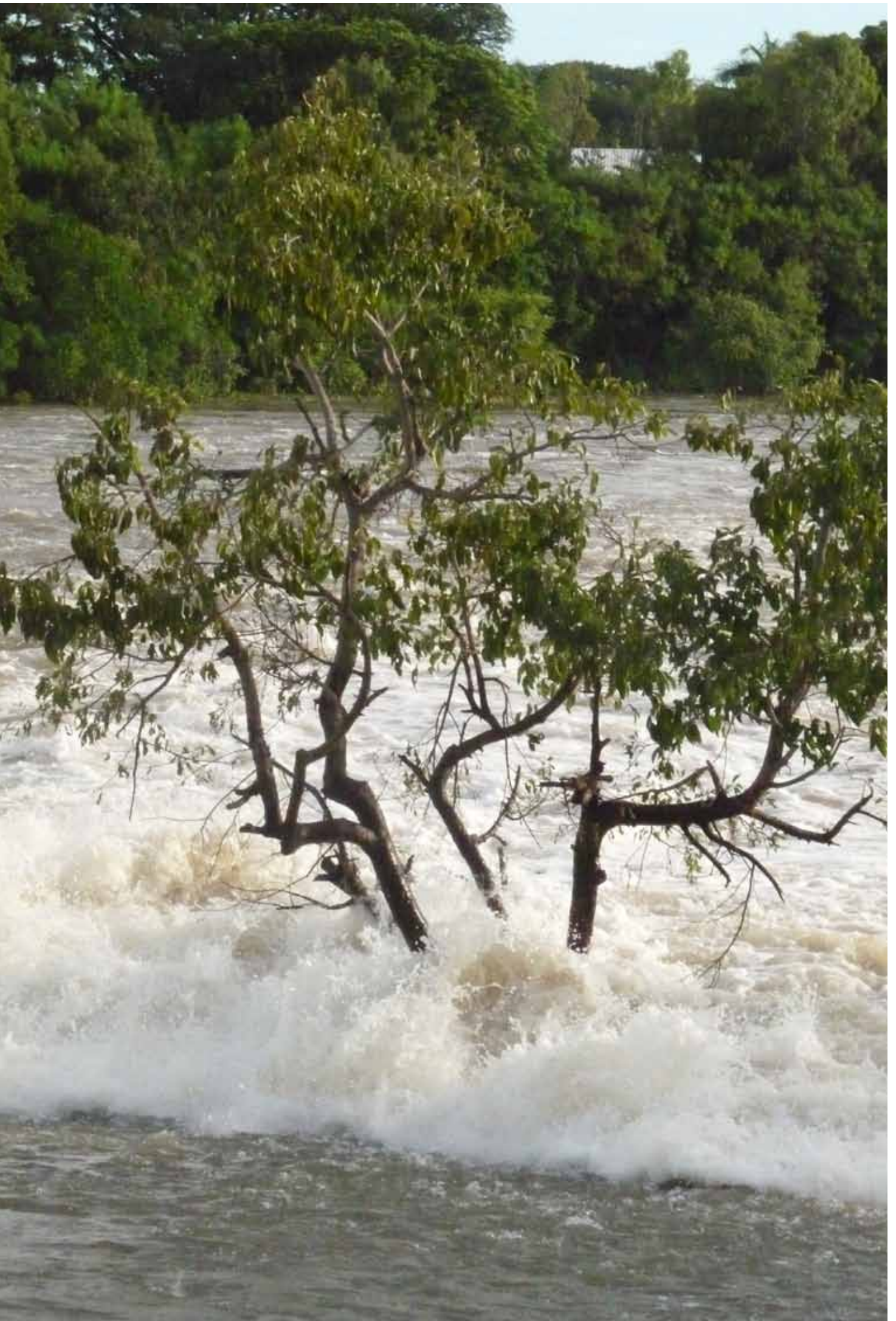
Acknowledgments

Indonesia Surf Life Saving Association
Surf Life Saving Australia www.sls.com.au
AusAID www.aid.gov.au
Austraining International
AYAD www.ayad.com.au
AVID (including VIDA) <http://volunteering.austraining.com.au>

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DROWNING AND DISASTERS: PREPAREDNESS, RESPONSE AND RECOVERY

Disasters, particularly natural disasters such as flooding, storm surges and Tsunamis affect millions of people globally every year. Drowning is a common consequence during these events.

Discussion will focus on these natural disasters and the impact they have had within Australia. Further the role of lifesavers and lifesaving organisations in disaster risk reduction will be discussed.

Flooding Case Study:

The recent extreme weather events in Australia highlighted the risks of life and property of major flooding events.

Nationwide there were 52 Flood related drowning deaths last year. 38 deaths in 2010/11 were as a result of the flooding in Queensland, 17 occurring within a tragic 12 hour period in Toowoomba and the Lockyer Valley, (Royal Life Saving National Drowning Report, 2011).

Whilst flooding is a common occurrence, the impact of events of this size create significant drowning risk to those in areas under threat from inundation, as well as the ongoing risk as waters take time to recede.

Drowning prevention strategies need to be incorporated into national, regional and local disaster risk reduction programs. Further community awareness needs to be heightened about the dangers associated with flooding.

Outcomes:

- Describe the impact of disaster on the drowning toll
- Describe the impact of flood, cyclone and tsunami on community and drowning
- Demonstrate the ability of an aquatic safety organisation contributing to Emergency Management
- Describe the role of community education in disaster mitigation

Action:

The role of and action items for the aquatic safety industry

Speakers:

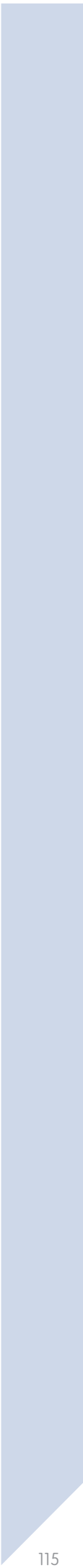
Matthew Thompson, Coastal Safety Services Manager, Surf Life Saving Australia (Workshop Chair)

Raelene Thompson, Chief Executive Officer, Australian Emergency Management Institute (AEMI)

Stephen Opper ESM, Director Community Safety - Corporate Services & Planning,
NSW State Emergency Service

George Hill, Chief Operating Officer, Surf Life Saving Queensland
Queensland Police Service

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Home Pool Safety in the Digital Age: The Home Pool Safety App

Andy Dennis¹ and Sarah Grace¹
Life Saving Victoria¹

Background

Home pool drowning of toddlers has been an ongoing issue within the area of water safety and drowning prevention. It has been found that the main contributing factors to toddler drowning in home pools are a lack of carer supervision immediately prior to the incident, and inadequate safety barriers(1). The issue of inadequate safety barriers has been highlighted on many occasions, including in a recent report by the Auditor-General in Victoria, which found that up to 96% of 401 home pool building permits audited did not meet basic safety standards(2). With so many different pieces of legislation covering the safety requirements of home pool safety barriers, home pool owners are often left confused about their responsibilities. It is estimated that there are over 216,000 private home swimming pools and spas throughout Victoria(3), therefore it is essential that there is a simple way for home pool owners to get the information they need in a clear and concise way.

The Home Pool App has been developed to provide home pool owners with a range of information covering safety, supervision and pool chemicals associated with their home pool, to be used on a mobile device. It is aimed to be a simple platform to allow home pool owners to understand their duty of care against the updated pool fencing regulations in Victoria. As Victoria currently does not have a mandatory inspection process for home pools, this App is designed to assist home pool owners in the ongoing maintenance of their safety barriers and to help them understand their responsibilities as a home pool owner, although is not intended to replace the formal audit process.

Methods

Current Victorian legislation and relevant Australian Standards concerning home pools were used to directly feed into the content of the mobile App. Cross referencing with the various home pool owner guidelines (e.g. SPASA Guide for Pool & Spa Owners) and formal inspection reports ensured that the content was user friendly, and the management of the maintenance process was easy to understand and follow.

Various stakeholders in the building and home pool industry were consulted to ensure that the information included was relevant and accurate, and that no essential information had been missed.

Results/Evaluation

Information obtained through users entering data will provide some insight into the extent, type, location and condition of home pools within Victoria. Users will also be prompted to enter their postcode, so that contact information for the appropriate municipal building surveyors office can be provided, with users encouraged to have a formal audit completed.

Ongoing evaluation of the tool will be conducted through a feedback option for users, to establish if there are any gaps in the swimming pool safety information, or if there are aspects that need to be made more user-friendly. Other evaluation will include total download numbers of the App.

Conclusion

The Home Pool App is designed to be a basic introduction to home pool safety, providing home pool owners the relevant information they need in a clear and simple manner. While there is no mandatory audit system in place for home pools, this App will be used to promote the formal audit process, linking users with building surveyors, which is expected to improve home pool safety throughout Victoria. The feasibility of the App to be redeveloped for other areas including pools in schools, holiday venues such as hotels and caravan parks, and strata complexes will also be looked into.

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Strengthening Community Lifesaving Skills through Pool Lifesaving Sport

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Pool Lifesaving Sport links with the Australian Water Safety Strategy 2008–2011 Goal 11 – Lifesaving People. Royal Life Saving provides opportunities for Pool Lifesaving sport participation to all pool lifesavers from community level to elite through the established Pool Lifesaving sport participation pathway.

Royal Life Saving is committed to the development of Pool Lifesaving sport through grassroots sports participation workshops, club and state Pool Lifesaving competition and elite programs and pathways for national and international competition. Royal Life Saving also provides development programs and workshops for coaches and officials of Pool Lifesaving.

Communities, clubs and facilities are invited to host sport development workshops to strengthen the lifesaving skills of the community in a dynamic and fun environment for participants of all ages. The sport of Pool Lifesaving tests a lifesaver's skills in rescue, accident prevention and emergency care.

A key Pool Lifesaving activity is 'Simulated Emergency Response'. The objective of the Simulated Emergency is to present an individual or a team of lifesavers with a previously unknown rescue scenario and assess the initiative of lifesavers in applying their lifesaving skills. Variations of this activity are used in all Royal Life Saving programs including Swim and Survive and Bronze Rescue.

Pool Lifesaving development can begin with school participation, by joining a local Pool Lifesaving club or through regional, state, national and international competitions. A number of national events are held across Australia each year to provide opportunities for lifesaving skill development. The annual Australian Pool Life Saving Championships are the key event in promoting the development of athletes, coaches and officials. Athletes can participate from 11 years of age as part of the Under 14s competition and progress through to Under 16s, Under 19s, Opens and Masters (30+ years) competition.

Royal Life Saving athletes have seen great successes in Australia and worldwide, representing Royal Life Saving at international competitions. Recent Royal Life Saving representative teams have competed at the Commonwealth Lifesaving Championships, the Arafura Games, and the Australian Masters Games. Royal Life Saving members will also participate in the upcoming World Lifesaving Championships (Rescue 2012) to be held in Adelaide, SA and the Commonwealth Lifesaving Championships to be hosted by RLSSA in Canberra, ACT in 2013.

The poster will discuss the development of Pool Lifesaving Sport in Australia and key events and activities which will strengthen the community's lifesaving skills and knowledge that could one day save a life.

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Beachsafe – Collaboration with industry, partners and SLS systems to provide accurate and important information to beachgoers to prevent drowning

Travis Klerck¹

Surf Life Saving Australia¹

Beachsafe – Collaboration with industry, partners and SLS systems to provide accurate and important information to beachgoers to prevent drowning.

Beachsafe is primarily located at www.beachsafe.org.au, or through the Apple iTunes app store.

With a wealth of data collected over a period of more than three decades, SLSA contained an unprecedented amount of important safety and mapping information which when combined, had the power to deliver real-time and historical safety information about every beach in Australia. As a free source of vital information, the project was seen as a way to communicate to the beach going community and a way of interacting with the public (both Australian and foreign nationals) in a simple and easy to understand manner. With funding provided by the government targeting 'Smarter Lifesaving Projects', SLSA found itself in a position to deliver on this key community initiative, which would play a key role in reducing drowning deaths and injury on the Australian Coast.

There is nothing else available to the Australian community that provides the level of detail that Beachsafe does. Beachsafe provides images, hazards, regulations, beach descriptions including swimming fishing and surfing, detailed service provider coverage information, car parking available, weather, tide, wind, swell and water temp for every beach in Australia.

Beachsafe has featured in the media on a number of occasions with an example below: <http://www.smh.com.au/digital-life/smartphone-apps/an-app-a-day-beachsafe-20110114-19q6f.html>

Feedback from some users of the App are below(1):

Sarah Seymour on 26 Dec 2011: As an avid beach goer – useful to know if beach is open and the wind direction for surf conditions.

Jo565665 on 13 Oct 2011: I use it to check out my local beach in Mona Vale. I don't like to swim in big surf so it saves me a wasted trip.

SLSA continues to receive valuable feedback from members of the public.

Statistics(2):

Since August 2011 the Beachsafe website has received an average of around 650 visitors each day and has grown steadily to an average of 950 visitors per day since December 2011. We can see based on visitation rates that there was a dramatic increase in the number of visitors between 25 December and 29 January with visitation peaking during New Year's Day and Australia Day. From these statistics alone we know that people are visiting the site on ideal beach days to determine the safest and most appropriate swimming location.

SLSA unexpectedly received a 'Highly Commended' award for Beachsafe in the 2011 Australian Safer Communities Awards. <http://www.em.gov.au/News/Awards/Pages/2011-Australian-Safer-Communities-Awards.aspx>

Later this year SLSA will be enhancing the website to provide real time locations for Hazards, Lifesaving Patrols and flags on the beach. This will be displayed to users so they know exactly where to safely swim on a real time basis.

Overall the Beachsafe suite of applications has achieved the outcome intended which was to be a highly visited site for any beachgoers who wish to learn about beach safety or assess the beach conditions before they go. The page visited the most on the website is the 'Visiting the beach' section which provides a wealth of information relating to beach safety and can be translated into over 30 different languages on the fly. Videos have been developed and targeted specifically at risk groups identified using drowning and rescue data collected by the SLSA organisation.

Conclusion

The valuable resources available, multilingual capabilities and extensive beach information (static and real time) have led to a website and application that provides everything the community needs in making informed and rational decisions on their beach visitation and activities.

Acknowledgments and References:

The funding for the Beachsafe project was provided by the Australian Government as part of their 'Smarter Lifesaving' initiative. The Bureau of Meteorology has been incredibly helpful with their detailed feeds available.

- (1) Apples App Store management
- (2) Google Analytics

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Diving Deep – Searching and Discovering Data for Fundamental Use in the Water Safety Sector

Felicity Fozard¹

Water Safety New Zealand¹

Background

Water Safety New Zealand (WSNZ) is New Zealand's national organisation responsible for water safety education, awareness and prevention. It represents 35 organisations within New Zealand that have an interest in water safety.

The Australian Water Safety Conference themes include Goal 14 – Research, which aims to extend the drowning prevention evidence base. One of WSNZ's Critical Enablers in its Strategic Direction 2007–2012 is research, and includes the objectives of being the leading water safety education knowledge base in New Zealand and supporting WSNZ's planning/communication/resource/programme development with evidence based research.

Methods and Evaluations

This poster presentation from Water Safety New Zealand (WSNZ) displays the organisation's use of technology and research in order to discover trends; target and focus water safety education; and inform the community.

Methods and data from current dynamic databases, such as DrownBase(TM)—the world's only integrated drowning database which contains records of all drownings in New Zealand since 1980—and the Sealord Swim For Life database—which tracks the swimming ability of New Zealand children—will be displayed, as well as GIS generated data on regions targeted for essential and immediate help in pool development.

A look to the future will be included, with a brief description of an upcoming Maori database; a database that also applies to the Australian Water Safety Conference Goal 8 – High Risk Populations.

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Protect Your Pool, Protect Your Kids

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Background/Introduction

Children under five years of age and home swimming pools have been identified as high risk and priority areas for drowning prevention(1). There is strong evidence that a large proportion of children under five years of age who drown in swimming pools, do so as a result of fencing that is not compliant with the Australian Standards(2–4). There is also evidence that pool owners have a lack of understanding of their requirements under the legislation and do not regularly check their pool fence for faults(5,7,10). The aim of the Protect Your Pool, Protect Your Kids video was to raise awareness of the importance of pool fencing maintenance and the vital role it plays in preventing drowning or near drowning incidents, particularly among children under the age of five.

Methods

The video script was developed based on the common faults with pool fencing according to the literature. Other safety issues to consider, including supervision, Cardiopulmonary Resuscitation (CPR) and water familiarisation were also incorporated in to the video script.

The Protect Your Pool, Protect Your Kids video was launched on 24 November 2010 and displayed on the CHW website. A checklist, posters and flyers promoting the video were developed and disseminated throughout NSW. In line with the launch of the video, CHW developed a media release which was coordinated by the Public Relations (PR) Department of CHW.

Results/Evaluation

As a result of this project, coverage was gained on television, radio and in a number of local Sydney metropolitan papers. A total of 3,687 posters and 302,481 flyers were distributed throughout NSW between 24 November 2010 and 31 March 2011. There were a total of 2,920 hits on the pool fencing webpage and 1,091 (37.4%) hits on the Protect Your Pool, Protect Your Kids video.

The knowledge of NSW requirements for safe pool fencing increased among 90% of online survey respondents and there were 29 (76%) respondents that increased their awareness of the importance of pool fencing in preventing drowning incidents. The three-month follow up survey results found pool owners checked and fixed their pool fence as a result of watching the online video.

Discussion

Despite the low response rate to the online survey, this video increased awareness and knowledge of those that viewed the video. This video has the potential to increase pool fencing compliance rates and reduce the risk of drowning if further promotion of the Protect Your Pool, Protect Your Kids video is carried out.

The distribution of DVDs has the potential to increase access among pool owners, to the drowning prevention information contained within the Protect Your Pool, Protect Your Kids video. Kids Health also received interest in using the video as a training resource for local council swimming pool inspectors.

Kids Health has since developed a small number of DVDs that were distributed to local councils in NSW in the summer season of 2011–2012. CHW is also looking at ways of working with other Government Departments and relevant stakeholders, especially local councils, to promote the video and identify other means of preventing drowning among young children in swimming pools.

Conclusion

It is too early to tell whether this campaign has led to a reduction in the incidence of young children drowning in backyard swimming pools. It is highly likely this campaign increased awareness of the importance of pool fencing and its role in the prevention of drowning through the large distribution of resources and media coverage during the campaign period. CHW is continuing to track the number of hits on the pool fencing webpage and the number of video views.

Acknowledgements

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The Protect Your Pool, Protect Your Kids video is available on the Kids Health website at <http://kidshealth.chw.edu.au/projects/drowning-prevention/swimming-pool-fencing>

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Assessing safety standards in aquatic facilities in 2011

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Royal Life Saving Society – Australia¹

Introduction

The Aquatic Facility Safety Assessment (AFSA) continues to be used as an important measure of safety and compliance in aquatic facilities throughout Australia. Utilising the Guidelines for Safe Pool Operation as its primary assessment criteria has allowed facility operators to compare their facility against the accepted industry standard.

Results of those assessments conducted in 2011 have been used to gain a measure of the current state of Australia's aquatic industry.

Aims

1. To identify any changes in the overall performance of aquatic facilities in 2011 in comparison with previous years.
2. To identify any areas where improvements need to be made across the industry.

Method

The data was collated from the results of AFSAs conducted between 1 April 2010 and 31 March, 2011. During this period 186 assessments were conducted across Australian Capital Territory, New South Wales, Queensland, South Australia, Tasmania and Victoria. Western Australia does not utilise the automated assessment system and therefore were not included in the analysis. No assessments were conducted in the Northern Territory during this period.

A statistical analysis was completed to identify key measures of facility performance.

Results

2011 saw an overall improvement in the industry's performance in the AFSA with an increase in mean compliance to 83.6%. This is a 1.4% improvement on compliance reported in 2010.

Whilst there was an overall improvement, the First Aid, Technical Operations and General Supervision sections all reported a decline in compliance in 2011. Technical Operations reported the lowest mean compliance at 78.3%.

Signage has consistently been identified as reporting low compliance for a number of years. Unfortunately 2011 was no exception with signage items reporting a mean compliance of 70.8% or 12.8% lower than the overall mean compliance.

Compliance in supervision related items of the AFSA were positive with mean compliance of 89.3% however there were a number of individual items that were concerning including policies and procedures for the deployment of lifeguards.

It was identified that 89.1% of facilities have staff with current qualifications appropriate to their role although 16% of facilities were reported to have employed lifeguards without a current qualification. It is quite alarming to see that 53% of privately owned and operated facilities employed lifeguards without current qualifications.

Discussion

Supervision is an area where the documentation of the risk management process in the consideration of criteria for the deployment of lifeguards was often found to be inadequate. This was surprising given the significance of supervision in the prevention of injury and in particular drowning. It is important that facilities undertake a comprehensive risk management process to determine their supervision needs.

Qualifications and training are fundamental to the safety of an aquatic facility and contribute significantly to effective lifeguard supervision, emergency response and the understanding and implementation of a facility's policies and procedures. Given the significance of qualifications and training, it was disappointing to identify that 16% of facilities assessed had employed lifeguards without current qualifications.

A lack of induction and in-service training provided by employers was also concerning. In-service training provides the opportunity to develop specific knowledge of the facility and its policies and procedures. It also develops communication and the ability to work effectively as a team. Qualified staff may be equipped with generic knowledge and skills to deal with some emergencies but that response may be inhibited by a lack of communication and effective execution of the emergency action plan.

Conclusion

The results of the Aquatic Facility Safety Assessment in 2011 have again demonstrated an overall improvement in the level of compliance with the Guidelines for Safe Pool Operation. A number of areas have been identified as being a source of concern both within individual facilities and across parts of the industry.

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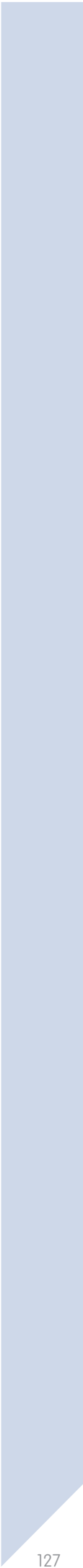
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AUSTSWIM is Australia's national organisation for the teaching of swimming and water safety™. AUSTSWIM has developed quality aquatic education programs for those wishing to enter the aquatic industry as a teacher of swimming and water safety™.

The AUSTSWIM accreditation is the industry standard for swimming and water safety teachers™ and is delivered and recognised in each state and territory of Australia and many countries overseas.

There are currently over 25,000 AUSTSWIM Teachers™ in Australia and internationally with over 10,000 licensed in teaching specific programs such as infants, people with a disability and adults. We work closely with aquatic facilities, education departments, peak industry organisations and partners to achieve the AUSTSWIM philosophy that all Australians should have appropriate and relevant swimming and water safety skills and understand the principles and practices of water safety.

Areas of training include:

- Swimming and Water Safety
- Infant and Preschool
- Adults
- People with a disability
- Towards competitive strokes
- Community education programs

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Royal Life Saving Society – Australia

Royal Life Saving Society – Australia works to prevent drowning and promote healthy, active lifestyles in the aquatic environment. There is no one reason why people drown, so there is no one simple solution. For that reason, our approach needs to reflect the complexity of the range of issues that result in drowning deaths.

Royal Life Saving is driven by:

- Innovative, reliable, evidence-based health promotion and advocacy;
- Strong and effective partnerships;
- Quality programs, products and services;
- Being a cohesive and sustainable national organisation.

For the past 118 years, Royal Life Saving has worked to harness the strengths of the communities we work with to reduce drowning and turn everyday people into everyday community lifesavers. As a dynamic, not-for-profit organisation, our tangible areas of activity include:

- Advocacy and awareness-raising
- Education
- Training
- Health Promotion
- Aquatic Risk Management
- Community Development
- Research
- Lifesaving Sport
- Leadership and Participation
- International Partnerships

Our guiding values are safety, quality, integrity and a humanitarian tradition. Royal Life Saving is active all over Australia. Our branches, members, volunteers, trainers, employees and lifesavers are found in almost all communities. Our approach is inclusive and some of our biggest achievements occur away from large capital cities.

Increasingly our skills and expertise are being utilised to assist the international communities most in need. Drowning rates in the Asia-Pacific region are frighteningly high and go largely unnoticed. Through our international partners, communities in Vietnam, Bangladesh and Thailand benefit from our direct assistance. Our drowning prevention activities include: Supporting research, trialling interventions, working with International NGO's and Government, and building local capacity.

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Surf Life Saving Australia

The Surf Life Saving movement is a part of the history, the fabric and the future of this country. It epitomizes the lifestyle, values and beliefs of the Australian culture. It protects life, it saves life. It promotes life.

Surf Life Saving creates a safe environment on and off our beaches, through patrols, training programs and education. Surf Life Saving is an active part of Australian local communities. Offering a place to belong, a place to grow and be safe. It provides mateship, education, experience.

With 158,806 members and 310 affiliated surf life saving clubs, Surf Life Saving is the largest volunteer movement of its kind in Australia. The majority of our services are provided by surf lifesavers who complete surf patrols voluntarily. We also operate the country's largest lifeguard service, contracting to local government and other coastal land managers.

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Royal Life Saving

ROYAL LIFE SAVING SOCIETY - AUSTRALIA

INDEX OF PRESENTATIONS BY AUTHOR/S

In alphabetic order by author's last name:

Name	Abstract	Page #
Adams, A	Recognition and Comprehension of Aquatic Safety Signage	100
Alexander, K	Perspectives on teaching swimming and water safety skills to children: AUSTSWIM and Royal Life Saving Society – Australia	40
Alsop, J	Risk assessments: where does the data go? Collaborative and interactive platforms to help manage drowning and injury prevention in the aquatic environment	96
Andronaco, R	Recognition and Comprehension of Aquatic Safety Signage	100
Arrowsmith, C	Recognition and Comprehension of Aquatic Safety Signage	100
Ayton, T	YMCA Sydney – Incorporating Home Pool Safety into Mainstream Lessons! 2 years on	89
Blaubaum, S	The Aqua English Project: The Development & Implementation of Drowning Prevention Programs for High Risk Populations	61
Blitvich, J	Water Safety Skills for Reluctant Swimmers – Teaching adults who fear the water	86
Bradstreet, A	Rip current related drowning deaths and rescues in Australia, 2004–11	26
Bradstreet, A	The need to develop transferrable swimming and water safety skills for open water environments	44
Bradstreet, A	Rock fishing in NSW: An evidenced based approach to reduce severe injury and drowning risk	80
Brander, R	The RIPS SAFE Project – A Holistic Approach to Understanding the Rip Current Hazard	27
Bray, J	Drowning related out-of-hospital cardiac arrests: characteristics and outcomes	97
Brighton, B	Rip current related drowning deaths and rescues in Australia, 2004–11	26
Brighton, B	Coastal drowning deaths in Australia: Is a 50% reduction by 2020 within reach?	28
Brighton, B	Rock fishing in NSW: An evidenced based approach to reduce severe injury and drowning risk	80
Brighton, B	Meeting the challenge of preventing drowning deaths on the rocky coast	81
Brighton, B	Adapt Between The Flags – Enhancing the capacity of Surf Life Saving to cope with extreme weather and climate change	107
Brunt, A	From Research Strategy to examining skill acquisition and cold water immersion	76
Burn, M	Making Aquatics a Terrific Experience - AUSTSWIM MATE	58
Claridge, M	A coordinated and sustained approach to Water safety education for each community in order to reduce ethnic drowning in New Zealand	59
Cookson, P	Northern Territory Water Safety Advisory Council – A Success	109
Cox, S	Drowning related out-of-hospital cardiac arrests: characteristics and outcomes	97
Dennis, A	Home Pool Safety in the Digital Age: The Home Pool Safety App	118
Dixon, J	The Aqua English Project: The Development & Implementation of Drowning Prevention Programs for High Risk Populations	61
Dominey-Howes, D	The RIPS SAFE Project – A Holistic Approach to Understanding the Rip Current Hazard	27
Douglass, C	Kids can drown in inflatable pools too!	45
Douglass, C	Protect Your Pool, Protect Your Kids	123
Drozdewski, D	The RIPS SAFE Project – A Holistic Approach to Understanding the Rip Current Hazard	27
Dyson, K	Drowning related out-of-hospital cardiac arrests: characteristics and outcomes	97
Farmer, N	Adapt Between The Flags – Enhancing the capacity of Surf Life Saving to cope with extreme weather and climate change	107
Farmer, N	Water safety education and drowning prevention in Bali, Indonesia	110
Finlay, L	Northern Territory Water Safety Advisory Council – A Success	109
Fozard, F	Diving Deep – Searching and Discovering Data for Fundamental Use in the Water Safety Sector	122

Franklin, R	Drowning deaths in children with underlying medical conditions: Are they preventable?	22
Franklin, R	Benchmarking Australian children's swimming and water safety skills: Challenges and opportunities	66
Franklin, R,	A survey of household attitude towards Queensland home pool fencing legislation changes	19
Gage, R	SwimSAFER Layers of Protection: Focus on Emergency Action Plan	91
Goff, J	The RIPS SAFE Project – A Holistic Approach to Understanding the Rip Current Hazard	27
Grace, S	Drowning Prevention within a Refugee Community in Melbourne	36
Grace, S	A Review of Australian Spinal Injury Management Practices	50
Grace, S	Recognition and Comprehension of Aquatic Safety Signage	100
Grace, S	Home Pool Safety in the Digital Age: The Home Pool Safety App	118
Grainger, K	The Swim and Survive Fund – Leveraging the Power of Collaboration	68
Griffiths, M	Assessing safety standards and the impact of aquatic facility operational models in aquatic facilities in 2011	52
Griffiths, M	Drowning reduction strategies for inland waterways: The ACT Experience	55
Griffiths, M	Connecting Lifeguards through Pool Lifesaving Sport	75
Griffiths, M	Assessing safety standards in aquatic facilities in 2011	125
Hodges, S	Drowning reduction strategies for inland waterways: The ACT Experience	55
Holland, D	Drowning Prevention within a Refugee Community in Melbourne	36
Hood, N	A Review of Australian Spinal Injury Management Practices	50
Kennedy, D	Meeting the challenge of preventing drowning deaths on the rocky coast	81
King, M	AUSTSWIM – Moving Out of the Lane	42
Klerck, T	Beachsafe – Collaboration with industry, partners and SLS systems to provide accurate and important information to beachgoers to prevent drowning	120
Kruse, K	VICSWIM Cultural: a sustainable program based on collaboration	63
Larsen, P	Perspectives on teaching swimming and water safety skills to children: AUSTSWIM and Royal Life Saving Society – Australia	40
Larsen, P	The need to develop transferrable swimming and water safety skills for open water environments	44
Larsen, E	Water safety education and drowning prevention in Bali, Indonesia	110
Leggat, P	A survey of household attitude towards Queensland home pool fencing legislation changes	19
Lippman, J	Snorkelling Fatalities in Australia	33
MacMillan, E	Connecting Lifeguards through Pool Lifesaving Sport	75
MacMillan, E	Strengthening Community Lifesaving Skills through Pool Lifesaving Sport	119
Mallett, G	AUSTSWIM – Moving Out of the Lane	42
Matthews, B	Drowning Prevention within a Refugee Community in Melbourne	36
Matthews, B	A Review of Australian Spinal Injury Management Practices	50
Matthews, B	Drowning related out-of-hospital cardiac arrests: characteristics and outcomes	97
Matthews, B	Recognition and Comprehension of Aquatic Safety Signage	100
McCarroll, R	The RIPS SAFE Project – A Holistic Approach to Understanding the Rip Current Hazard	27
McElroy, G	Water Safety Skills for Reluctant Swimmers – Teaching adults who fear the water	86
McKeever, R	Keeping Country Kids Safe: Child death data informing rural drowning prevention strategies	20
Ming Kirk Tan, R	Singapore's National Water Safety Strategy	106
Moran, K	From strategy to action: An immediate collaborative response to prevent further drowning among Pacific peoples when net fishing	82

Moraza, M	The RIPS SAFE Project – A Holistic Approach to Understanding the Rip Current Hazard	27
Morgans, A	Drowning related out-of-hospital cardiac arrests: characteristics and outcomes	97
Morris, M	Water Safety Education for Pre-Schoolers – The missing link?	69
Mulcahy, N	Risk assessments: where does the data go? Collaborative and interactive platforms to help manage drowning and injury prevention in the aquatic environment	96
Pearn, J	Drowning deaths in children with underlying medical conditions: Are they preventable?	22
Pearn, J	Snorkelling Fatalities in Australia	33
Pearn, J	The Australian Safe Communities Foundation - Drowning Prevention as a Component of Safety Promotion	108
Peden, A	A nine year analysis of drowning in children and adolescents aged 0–19 years in Australia	18
Peden, A	A survey of household attitude towards Queensland home pool fencing legislation changes	19
Peden, A	Drowning deaths in children with underlying medical conditions: Are they preventable?	22
Peden, A	Perspectives on teaching swimming and water safety skills to children: AUSTSWIM and Royal Life Saving Society – Australia	40
Peden, A	A nine year analysis of drowning deaths in inland waterways in New South Wales	54
Peden, A	Drowning reduction strategies for inland waterways: The ACT Experience	55
Peden, A	Benchmarking Australian children's swimming and water safety skills: Challenges and opportunities	66
Plint, A	The questions that Coroners don't get to ask	88
Read, D	Northern Territory Water Safety Advisory Council – A Success	109
Richards, R	Adapt Between The Flags – Enhancing the capacity of Surf Life Saving to cope with extreme weather and climate change	107
Sahin, O	Adapt Between The Flags – Enhancing the capacity of Surf Life Saving to cope with extreme weather and climate change	107
Sano, M	Adapt Between The Flags – Enhancing the capacity of Surf Life Saving to cope with extreme weather and climate change	107
Savage, M	AUSTSWIM NSW Indigenous Project 2011	34
Savage, M	Perspectives on teaching swimming and water safety skills to children: AUSTSWIM and Royal Life Saving Society – Australia	40
Savage, M	The need to develop transferrable swimming and water safety skills for open water environments	44
Scarr, J	Drowning deaths in children with underlying medical conditions: Are they preventable?	22
Schembri-Portelli, J	Making Aquatics a Terrific Experience - AUSTSWIM MATE	58
Shalders, T	Tailoring Don't Drink & Drown – 'One Size Does NOT Fit All'	32
Shaw, W	The RIPS SAFE Project – A Holistic Approach to Understanding the Rip Current Hazard	27
Sherker, S	Rip current related drowning deaths and rescues in Australia, 2004–11	26
Sherker, S	The RIPS SAFE Project – A Holistic Approach to Understanding the Rip Current Hazard	27
Sherker, S	Coastal drowning deaths in Australia: Is a 50% reduction by 2020 within reach?	28
Sherker, S	Rock fishing in NSW: An evidenced based approach to reduce severe injury and drowning risk	80
Sherker, S	Meeting the challenge of preventing drowning deaths on the rocky coast	81
Sherker, S	Adapt Between The Flags – Enhancing the capacity of Surf Life Saving to cope with extreme weather and climate change	107
Siesmaa, E	Water Safety Skills for Reluctant Swimmers – Teaching adults who fear the water	86

Simmonds, E	Kids can drown in inflatable pools too!	45
Simmonds, E	Protect Your Pool, Protect Your Kids	123
Simon, P	Accredited Training: Whats the big deal?	77
Smith, K	Drowning related out-of-hospital cardiac arrests: characteristics and outcomes	97
Smith, R	SwimSAFER Layers of Protection: Focus on Emergency Action Plan	91
Speechley, D	Trends in world wide swimming and water safety teacher education	87
Storey, D	Surf Rescue – Emergency Response System (NSW)	29
Storey, D	Project Blue-Print – Coastal Public Safety Risk Assessments of all beaches and coastal rocks/headlands in NSW	101
Sturt, S	Perspectives on teaching swimming and water safety skills to children: AUSTSWIM and Royal Life Saving Society – Australia	40
Sullivan, B	Risk assessments: where does the data go? Collaborative and interactive platforms to help manage drowning and injury prevention in the aquatic environment	96
Sweeney, C	A coordinated and sustained approach to Water safety education for each community in order to reduce ethnic drowning in New Zealand	59
Symington, C	VEGEMITE SurfGroms – Surfing Australia's new junior participation program for 5–12 year olds	74
Thomas, C	Sealord Swim for Life Initiative Empowering Regional New Zealand	67
Thomas, S	SwimSAFER Layers of Protection: Focus on Emergency Action Plan	91
Thompson, M	Rip current related drowning deaths and rescues in Australia, 2004–11	26
Thompson, M	Coastal drowning deaths in Australia: Is a 50% reduction by 2020 within reach?	28
Thompson, M	Rock fishing in NSW: An evidenced based approach to reduce severe injury and drowning risk	80
Tomlinson, R	Adapt Between The Flags – Enhancing the capacity of Surf Life Saving to cope with extreme weather and climate change	107
Turner, I	The RIPS SAFE Project – A Holistic Approach to Understanding the Rip Current Hazard	27
Venville, B	From strategy to action: An immediate collaborative response to prevent further drowning among Pacific peoples when net fishing	82
Wall, S	A Review of Australian Spinal Injury Management Practices	50
Ware, D	Adapt Between The Flags – Enhancing the capacity of Surf Life Saving to cope with extreme weather and climate change	107
Watt, K	A survey of household attitude towards Queensland home pool fencing legislation changes	19
Webber, J	Surf Lifeguard Response to Drowning: the SENTINEL System revisited	98
Weir, A	Rock fishing in NSW: An evidenced based approach to reduce severe injury and drowning risk	80
Weir, A	Meeting the challenge of preventing drowning deaths on the rocky coast	81
Wilson, J	The need to develop transferrable swimming and water safety skills for open water environments	44
Woodroffe, C	Meeting the challenge of preventing drowning deaths on the rocky coast	81

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