

INTERNATIONAL LIFE SAVING FEDERATION

DROWNING PREVENTION STRATEGIES

A framework to reduce drowning deaths in the aquatic environment for nations/regions engaged in lifesaving

2015 Edition



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CONTENTS

INTERNATIONAL LIFE SAVING FEDERATION	1
2015 Edition	1
Preface	5
The International Lifesaving Federation	5
The Rescue Commission	5
Drowning Prevention and Public Education Commission	6
The Rescue Operations and Education Committees	6
Forward – How To Use This Information	7
Working together we can make a difference	7
Executive Summary	8
Background	10
What is “Drowning” (a definition)	10
What is known about world drowning?	10
The cost of drowning	11
The cost of prevention.....	11
Contributing factors.....	12
Contributing factors include age, gender, supervision, ethnicity, and medical conditions.....	12
Drowning deaths across the various life stages	12
Partnering with other organisations.....	13
Evidence based principles	13
Preventative Measures.....	14
Primary Measures.....	15
<i>“Rescue agencies often refer to these activities as ‘indirect interventions’.”</i>	15
Secondary Measures	15
Tertiary Measures.....	16
Prevention programmes should take into consideration:	16
Death by drowning can be reduced	16
The Drowning Prevention Chain.....	18
The role of risk assessments	18
“Chain”	19
Pictorial Representation of the Drowning Chain	19
Aligning the Drowning Prevention Chain with the WHO Global Report on Drowning	20
The Drowning Prevention Chain – Summary of Control Measures.....	22
Factor One – Lack of Knowledge, Disregard or Misunderstanding of the Hazard.....	23
Factor Two – Uninformed, Unprotected or Unrestricted Access to the Hazard	55
Factor Three – Lack of Supervision	61

Factor Four – Inability to Cope Once in Difficulty	78
Appendix - Risk Assessment	90
Principles	90
Framework for the endorsement of risk assessment.....	90
Key stakeholders both internal and external are identified and engaged	90
Identify any historical data and statistics	90
Establish the operational environment	91
Determine what can happen	91
Establish a ‘risk score’	91
Conclusions.....	92
Recommendations.....	93
Organisations Interviewed	94
Acknowledgements	96
The ILS Rescue Committee	96
The ILS Education Committee.....	96
Acknowledged for their contribution to the 2008 ILS Drowning Prevention Strategy.....	96
Research and interview team.....	97
Peer Review Team	97
References	98

PREFACE

The International Life Saving Federation (ILS) is reviewing drowning prevention strategies. This third edition of *Drowning Prevention Strategies, A framework to reduce drowning deaths in the aquatic environment for nations/regions engaged in lifesaving*, reviews strategies that have been introduced within member federations. The first edition was published on 10th July 2008 with the second and third editions adding and updating additional strategies following a review by ILS member organisations.

The framework articulated within this document has been developed from the perspective of developed nations/regions with well-developed lifesaving practices. In providing a snapshot of key drowning prevention strategies from around the world this knowledge can be shared between nations and programs developed in one country can save lives in another.

ILS will further explore strategies and frameworks from the perspective of developing nations/regions, and if applicable, integrate the findings into a comprehensive drowning prevention strategy/framework.

THE INTERNATIONAL LIFESAVING FEDERATION

ILS is a global, non-profit federation of over 100 national lifesaving organisations around the world. ILS leads the worldwide effort to reduce injury and death in, on, or around the water. The vision of the ILS is "a world free from drowning"¹. The ILS pursues this vision through the work of its member lifesaving organisations and by delivering on the strategic goals of the organisation contained within the ILS Strategic Framework 2012-2015:

- Build the capacity to reduce drowning within targeted communities;
- Position ILS as the world authority of drowning prevention, lifesaving and lifesaving sport;
- Reduce the drowning of children globally through partnership and collaboration;
- Expand the scope, reach and recognition of lifesaving sport;
- Create a sustainable business model;
- Establish and promote global best practice; and,
- Engage with every nation.

THE RESCUE COMMISSION

The Rescue Commission (one of four ILS commissions) works to reduce the incidence of drowning and aquatic injuries throughout the world:

- through the development of organised lifesaving in areas of the world where it does not exist
- support for existing lifesaving organisations
- support for standardised public information and education
- tracking the incidence of drowning throughout the world and publishing this data
- development and identification of best medical practices
- reviewing, identification, and development of best practices in rescue
- identification of best practices in the training, staffing, and equipping of lifesavers

DROWNING PREVENTION AND PUBLIC EDUCATION COMMISSION

The ILS Drowning Prevention Commission provides leadership in the global effort to prevent drowning with an emphasis on reducing drowning of children, in developing countries, regions and populations with high drowning mortality and drowning as a result of aquatic disasters. The Commission will achieve this by;

- leveraging the drowning prevention expertise of the ILS and member federations
- providing evidence and information about drowning
- leading collaborations that aim to reduce global drowning
- advocate for the issues that reduce global drowning
- establishing an ILS Global Drowning Prevention or Reduction Network consisting of the people, products, processes, research, thinking and knowledge

THE RESCUE OPERATIONS AND EDUCATION COMMITTEES

The Rescue Operations and Education Committees are two of four sub-committees of the Rescue Commission.

The purpose of the ILS Rescue Operations Committee is to bring together leading international practitioners and subject matter experts on lifesaver rescue operations to enhance the quality of lifesaving and drowning prevention activities throughout the world through identification of best practice, development of recommended minimum standards, encouraging adherence to these standards, and dissemination of lifesaving information in the area of lifesaver rescue operations, thereby assisting in positioning the ILS and Member Organisations as the world authorities on lifesaver rescue.

The purpose of the ILS Education Committee is to bring together leading international practitioners and subject matter experts on lifesaver education to enhance the quality of lifesaving and drowning prevention activities throughout the world through identification of best practice, development of recommended minimum standards, encouraging adherence to these standards, and dissemination of lifesaving information in the area of lifesaver education, thereby assisting in positioning the ILS and Member Organisations as the world authorities on lifesaver education.

Drowning Prevention Strategies, A framework to reduce drowning deaths in the aquatic environment for nations/regions engaged in lifesaving, was developed by the ILS Rescue Operations Committee in conjunction with the ILS Education Committee from the perspective of lifesaving rescue and education.

FORWARD – HOW TO USE THIS INFORMATION

The International Life Saving Federation (ILS) has developed a framework to assist nations and organizations to provide the best response to drowning reduction. This framework can be used in more than one way and the choice of how it is used depends on the setting and identified issues within a target population.

For nations/regions with established lifesaving organisations and an effective drowning reduction programme, the framework is intended to assist in the fine-tuning of the drowning prevention strategies employed. The programmes and strategies that are currently in place should be listed against the section of the framework that they relate to. The planner can then identify gaps in drowning prevention strategies and refer to the lists of strategies that are in place elsewhere in the world. It is intended that a planner can follow the links in the Drowning Prevention Strategy framework back to the source country and collect the detail of how each strategy or programme is applied there. The objective is to refine the range of activities that are used to further reduce the incidence of death by drowning.

For nations/regions without an established drowning prevention or lifesaving organisation, the framework identifies the factors that cause people to drown and provides evidence-based measures regarding prevention and treatment. The document breaks out the causes and the broad responses that can be made for each cause. To help you establish a Drowning Prevention Strategy, there are lists of responses presented that have been used in other nations/regions to deal with each cause. Not all of these will be appropriate in your country, but considering all the possibilities should help you to refine your thinking. In most cases, links have been provided to the country of origin, so you get the opportunity to consider the context in which the strategy or programme was developed, as well as the detail of how it works.

It is helpful to understand the drowning problem and at-risk populations. The research will assist in determining the target and prevention strategies that would be most effective.

Highest priority should be assigned to active measures to prevent drowning death that are evidence-based; that is, that have been shown to succeed when used by a population most similar to the target population.

If you need assistance with this process at any time, you should follow this link (www.ilsf.org) to make contact with staff and volunteers who advocate and focus on Drowning Prevention, or consult with experts on the commissions, committees and working groups.

Working together we can make a difference.

EXECUTIVE SUMMARY

The World Health Organisation (WHO) Guidelines for safe recreational water environments suggest that "recreational water activities can bring health benefits to users, including exercise and relaxation. Effective management can control potential adverse health consequences that can be associated with the use of unsafe recreational water environments. Different stakeholders play different roles in the management of the recreational water environment." Use of guidelines, such as those available through WHO, can aid in 'the development of approaches to controlling hazards that may be encountered in recreational environments.'ⁱⁱ

The ongoing goal of the International Life Saving Federation (ILS) is to reduce death by drowning worldwide. Most importantly, ILS will assist in the development of control measures (intervention strategies) to employ scarce resources toward the most effective drowning intervention strategies. The ultimate goal is a meaningful reduction in the incidence of drowning worldwide.

Death by drowning is a serious threat to world health. United Nations world population projections suggest that we can anticipate that the drowning problem is going to get worse without significant intervention, especially in developing countries.ⁱⁱⁱ

As the *world water safety* organisation, ILS has an obligation to take a lead role in defining and articulating solutions to reduce the drowning problem. ILS will provide leadership in communicating the nature and scope of the world drowning problem and provide guidance to member organisations, governments and partners concerning solutions to the drowning problem.

Identifying the contributing factors allows ILS to provide effective prevention actions to the highest risk populations, locations and activities via its member federations. ILS plans to update these strategies with regular frequency. ILS will work with its member organisations and others to assist in finding effective solutions to assist in the reduction of drowning, either as a national project or as a development aid programme.

Drowning Prevention Strategies, A framework to reduce drowning deaths in the aquatic environment for nations/regions engaged in lifesaving, 2008 and subsequent editions will assist member federations in deploying their resources for the most effective drowning control measures aimed at high-risk target groups.

Prevention programmes in the most developed nations/regions should encompass strategies to address the needs of high-risk target groups and focus on:

- Environmental modification: removing hazards or creating barriers
- Protecting those at risk: promoting change in risk-taking supervision;
- Promoting swim and lifesaving skills development
- Training the general community in water safety and resuscitation.
- Provision of trained lifeguards to conduct patron surveillance and supervision at aquatic facilities and beach areas^{iv}

"USLA data during 1988-1997 indicate that more than three-quarters of drowning at USLA sites occurred at times when beaches were unguarded and that the chances of drowning at a beach protected by lifeguards trained under USLA standards is less than one in 18 million."^v

Prevention programmes in the less developed nations/regions should encompass strategies that focus on the establishment of primary education and public health systems, because these serve to save lives by increasing literacy and awareness.. This also enhances the economic and health capacity of the population. Drowning prevention strategies in these settings will be social adaptations such as the provision of day care, and the provision of structured school. Social change strategies are effective for unintended injury reduction, including drowning prevention.

Interventional strategies are most effective when they are conceived, enacted and researched by culturally sensitive persons (native/local leadership) from within the target nation, population, and region. To that end, it is important to have such interventional strategies be systematic, substantial, sustained and service-linked. For that approach will serve to build internal empowerment and expand capacity and confidence for those same strategies within the nation/region.

This document is not meant to imply that a control measure listed here for one nation/region will have the same impact in another nation/region. This document is designed to list ideas that have worked in different parts of the world that may assist in developing strategies to prevent drowning in other nations/regions. ILS is not attempting to dictate what the needs of the nations/regions are or should be. Instead, ILS encourages all nations/regions to decide for themselves what those needs are and, accordingly, how best to meet them. The purpose of this document is simply to offer some ideas that hopefully may be helpful.

More importantly, the reader should note that this document has been produced by the ILS Rescue and Education Committees through the lens of well-established lifesaving nations. ILS acknowledges that significant work needs to be done to understand and articulate appropriate control measures to assist developing nations. This work is currently being scoped by the ILS Drowning Prevention Commission.

Control measures work. This document is the first step in setting out a range of control measures that will assist in reducing death by drowning in developed nations/regions.

BACKGROUND

WHAT IS “DROWNING” (A DEFINITION)

Drowning is “The process of experiencing respiratory impairment from submersion/immersion in liquid”. Where that impairment leads to death, we note that the person has drowned. This report sets out control measures that both reduce the likelihood of a person experiencing “drowning” and more importantly, death by drowning.^{vi}

WHAT IS KNOWN ABOUT WORLD DROWNING?

In 2002, WHO reported a review of drowning based on data from the year 2000. These global burden of disease (GBD) figures underestimate drowning deaths since it excludes drowning due to disasters and, transportation accidents. The data from some nations/regions was modelled to estimate the global burden of drowning death. Even while acknowledging that drowning deaths are significantly underreported, WHO identifies drowning as the third leading cause of unintentional injury death after motor vehicle collisions and falls. WHO estimated 409 272 people died from drowning in 2000.^{vii}

The first World Drowning Report published by ILS in 2007^{viii} includes an analysis of data from 16 Member Organisations, identifies drowning trends, factors and high-risk groups and is consistent with that of the World Health Organisation *Factsheet on Drowning*.

UNICEF published Child Mortality and Injury in Asia in 2007.^{ix} This series summarizes the finding of 6 national and sub-national surveys in Asia, in Bangladesh, China, Philippines, Thailand and Vietnam. The results show that traditional health system data misses most injury deaths in this region. Death by drowning, greatly under-estimated using traditional methods of reporting, is the leading injury cause, being responsible for over half of all injury deaths in children. These surveys show that injury claims a significant share of the 10.5 million deaths reported in children under-five. Over ½ of all deaths under age 18 are due to injury. In Bangladesh 29% of the classifiable mortality age 1-4 was caused by injury. Drowning is the overwhelming cause of fatality in this age group.

The ILS Strategic Planning Session in Porto, Portugal in September 2007 showed that most death by drowning in developing countries is unrecorded by health information systems. As a result, in 2007 best estimates were that at least nine out of ten people who drown globally occur in the developing world. Most of these are in children under 18 years old and the largest portion is in children under five years old. The newest evidence shows that death by drowning is a public health epidemic on a global scale.

In 2014, the WHO *Global Drowning Report* clearly identified prevention as vital in relation to drowning since “once someone starts to drown, the outcome is often fatal”. This landmark report also places the most recent figure on the annual global drowning toll at 372,000 people with more than 90% of these drowning deaths occurring in low- and middle-income countries. The WHO report also places drowning in the top “10 leading causes of death amongst children and young people in every region of the world, with children aged under 5 years disproportionately at risk”.^x

THE COST OF DROWNING

Unintentional death by drowning and non-fatal drowning incidents place a burden on society, both in human terms (loss of life, loss of quality of life, pain and suffering) and also direct costs to society (treatment and ongoing care along with lost productivity due to death or incapacity).

“In America, the National Safety Council (1997) sets the economic cost of an accidental death at \$US0.8 million. Included in the components of the economic loss are wage and productivity losses, medical expenses, administrative expense, legal fees and insurance, and employer costs.”^{xi}

“Australian studies examining the cost of unintentional drowning deaths estimate an average cost between \$A0.6 and \$A1.6 million per person.”^{xii}

A further study by The Allen Consulting Group in Australia, Valuing an Australian Icon – The Economic and Social Contribution of Surf Lifesaving in Australia (2005), noted that the Australian Institute of Criminology (in 2004 terms), valued a life at \$A1.7 million.^{xiii}

A study by PricewaterhouseCoopers in New Zealand, “Valuing the Benefits of Lifeguarding” (2003), noted that the value attributed to a statistical life is \$NZ2.6 million.^{xiv}

A study by Mintel Group in the UK, The Economic Value of Lifeguarding, A research study exploring the value of providing lifeguarding services in the UK (2007), determined that the economic cost of death by drowning as GBPE£2,109,486 and the comprehensive cost GBPE£3,085,850.^{xv}

While the estimates vary according to the underlying assumptions, it is clear that the burden placed on society in developed nations/regions is large. The methodology adopted is largely based on productive capacity and taxation. It is not so clear what the methodology within the developing nations/regions would show, or indeed whether the methodology is relevant. When a child dies by drowning there is a significant social and economic impact to a family and a community. When an adult dies by drowning this may result in orphan children and reduced capacity to support the remaining family. These costs are unquantifiable.

THE COST OF PREVENTION

The costs of different styles of prevention program is varied. More research is needed to truly understand the costs of prevention, as well as the costs of injury and mortality. The UNICEF report on Child Mortality and Injury in Asia^{xvi}, has explored the cost of injury mortality and the association with poverty. Through conducting a household survey, collecting important information on household injury and mortality, across a large population and utilising local resources the authors found that this data could be collected at significantly lower costs, approximately \$2 per household, than other Demographic and Health Surveys. This is less than the cost of accepted immunization programmes.

More research is needed to accurately gauge the costs of prevention, by building on the platform of the methodologies published by UNICEF this could be completed in a cost effective manner.

CONTRIBUTING FACTORS

Contributing factors include age, gender, supervision, ethnicity, and medical conditions.

Many studies show that males are more likely to drown than females due to risk taking behaviour, and under estimation of the hazard. The WHO (2014) estimate that “males twice as likely to drown as females”.^{xvii}

In developed nations/regions, alcohol is often associated with drowning deaths and increases the likelihood of immersion resulting in drowning when recreating around water. Not wearing a personal floatation device or lifejacket when required to do so (such as boating, rock fishing etc) has also been cited as a contributing factor to unintentional death by drowning.

In developing nations/regions, drowning deaths can result from the effects of illiteracy and of overcrowding on poorly equipped water craft. The combination of risk-awareness education and water craft regulations may help to significantly reduce the number of such drowning deaths. Awareness education and water craft regulations may be a powerful influence to reduce drowning deaths.

Alcohol has also been identified as an important risk factor when used on or around water and has been shown to be a contributing factor in many drownings involving adolescents and adults in many countries.^{xviii, xix}

DROWNING DEATHS ACROSS THE VARIOUS LIFE STAGES

Different physical capabilities, interests, influences and maturity bring different challenges and risks associated with drowning. In order to prevent death by drowning, and water related injuries, we need to target people at each stage of life in different ways. This means that different intervention strategies may be needed for people of different ages. For example, Life Saving Victoria^{xx} has the following prevention programmes available for people of different ages.

Table 1: A life stages approach to drowning prevention.

Age	Prevention Strategy
Infants and Toddlers (Age 0-4)	<ul style="list-style-type: none"> ✓ Keep Watch – remain within arms distance ✓ Provision of barriers ✓ Familiarise your child with the water ✓ Learn Resuscitation
Children and Young adolescents (Age 5-14)	<ul style="list-style-type: none"> ✓ Learn Resuscitation (“Resuscitate a mate”) ✓ Learn to swim (“Swim and Survive”) ✓ Awareness programmes (“Beach to Bush”) ✓ Junior Lifeguard clubs
Young Adults (Age 15-24)	<ul style="list-style-type: none"> ✓ Learn Resuscitation ✓ Learn to swim (“Bronze Rescue”) ✓ Awareness programmes (“Swim Safe Roos”)
Adults (Age 25-34)	<ul style="list-style-type: none"> ✓ Boating safety ✓ Lifejacket Regulations
Adults (Age 35-59)	<ul style="list-style-type: none"> ✓ Rock Fishing Safety programme ✓ Boating Safety and Education
Older Adults (Age 60 plus)	<ul style="list-style-type: none"> ✓ A combination of all of the above programmes

In Germany, the DLRG has a detailed programme of preventive strategies across all age groups which can be accessed by their website.^{xxi}

PARTNERING WITH OTHER ORGANISATIONS

An effective way to ensure that the drowning prevention message is widely distributed is through partnering. An example of this is the United States Lifesaving Association partnering with NOAA National Weather Service and national Sea Grant Programme which raises awareness of rip currents. Research is also being conducted in order to develop and improve the ability to predict the occurrence and strength of rip currents. The goal of the awareness campaign and research is to reduce the number of rip current related fatalities.

In Brazil the ILS member federation affiliated with ILS, coinciding with increased local capacity to save lives. In South East Asia, the Centre of Injury Prevention and Research, Bangladesh (CIPRB) have effectively partnered with The Alliance for Safe Children (TASC) and UNIFEF with assistance from RLSSA to undertake drowning reduction strategies with evidence that their programme is preventing drowning death.

In Australia, the Federal Government has set up the Australian Water Safety Council consisting of the major water safety organisations within Australia to leverage ideas and programmes of work.

Various Government agencies (Health, Sport, and Recreation) and companies (Insurance) have a stake in the reduction of death and injury through drowning and should be engaged as partners.

EVIDENCE BASED PRINCIPLES

ILS is committed to using evidence based practices within its policies and statements. This means using best available research evidence to guide our services, and using this information in combination with the preferences of clients, and the judgment and experience of professionals.

ILS strongly recommends that the strategies adopted by member federations, and as outlined within this document, be the subject of continuous assessment and that monitoring, documenting and reporting of the effectiveness or otherwise of such control measures/intervention strategies be conducted to add weight and prioritization to the control measures/intervention strategies mentioned within.

This document refers to drowning data throughout to help identify and understand the issues to develop a prevention plan. As is noted in the definition of drowning, this data refers to both fatal and non-fatal incident data. It is important that both fatal and non-fatal incidents are recorded and analysed to help focus attention and identify trends. Reducing accidents will in turn reduce death by drowning.

Recommendation 23.7 in the book *Drowning* (Bierens, 2014) states:

“enlarging the body of evidence on drowning prevention is urgently needed”^{xxii}

There is a need for water safety organisations around the world to better understand and evaluate the effectiveness of the drowning prevention strategies being implemented. This recommendation is also supported by the WHO (2014) which also states “data are also needed to monitor and evaluate how well strategies perform.”^{xxiii}

PREVENTATIVE MEASURES

Drowning is a major public health issue and taking a public health response to prevention is an imperative.

Traditionally there are four key steps in designing a public health response to any threat to wellbeing.

These are:

1. defining and monitoring the extent of the problem;
2. identifying the causes of a problem;
3. formulating and testing ways of dealing with the problem; and,
4. applying widely the measures that are found to work.

Public health interventions are traditionally described in three levels of prevention; primary, secondary and tertiary. When applied to water safety these levels of interventions can take the form of:

1. **Universal interventions** - approaches aimed at large groups or the general population without regard to individual risk;
2. **Selected interventions** - approaches aimed at those considered to be a heightened risk; and,
3. **Individual interventions** - approaches aimed at those known to be of a heightened risk or at locations of known high risk.

In August 2005, the New Zealand Accident Compensation Corporation published the “*Drowning Prevention Strategy – Towards a Water Safe New Zealand 2005 – 2015*”. This document noted the stages in preventing drowning and water related injury and noted that there are also a number of stages where we can intervene to prevent a person drowning or being injured in, on, under and around water.^{xxiv}

“Providing people with the skills and knowledge to be able to manage risk and prevent them being in risky situations in the first place lies at the heart of preventing people drowning or being injured. However, if things do go wrong there is also a need to have people and organisations that can help people in trouble”^{xxv}

William Haddon Jr developed the conceptual model, The Haddon Matrix, over 40 years ago applying basic principles of public health to the problem of traffic safety^{xxvi}. The framework can be applied to any source of injury, and the table below provides an overview of countermeasures for drowning prevention, as applied to Haddon’s Matrix.

Table 2: The Haddon Matrix applied to drowning prevention strategies (adapted from Bierens, 2014)^{xxvii}.

<p>Primary: Pre-event (before someone enters/falls into the water)</p>	<p>Prevent the agent for existing. Examples are removing unused water sources such as old wells or animal troughs. Reducing the amount of energy marshalled. Examples are building weirs or levies to slow the flow of water. Preventing the release of the agent. Examples are dams to stop flood water. Separating the host from the agent. Examples are designated swimming areas free of boats. Modifying the rate of spatial distribution of release of the agent from its source. Examples are changing the angle or slope of a water slide. Separating the agent from the host. Examples are pool fencing.</p>
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<p>Secondary: Event</p> <p>(once someone has entered/fallen into the water)</p>	<p>Minimising the amount of agent present. Examples are providing shallow pools or wet areas for young children.</p> <p>Controlling the pattern of release of the agent to minimise the damage. Examples are the release of small amount of water from a dam over a long time rather than in one go.</p> <p>Providing the host with protection. Examples are lifejackets.</p> <p>Controlling the interaction between the agent and the host to minimise damage. Examples are life-savers.</p> <p>Increasing the resilience of the host. Examples are swimming skills, fitness and water safety knowledge.</p>
<p>Tertiary: Post-Event</p> <p>(once someone has begun to drown)</p>	<p>The rapid treatment for the host. Examples are cardiopulmonary resuscitation (CPR).</p> <p>Providing appropriate treatment and rehabilitation to ensure the full or partial recovery of the host.</p>

PRIMARY MEASURES

Primary prevention avoids the development of a disease. Most population-based health promotion activities are primary preventive measures.^{xxviii}

“Primary prevention refers to activities designed to prevent drowning or minimise the risk of dangerous events happening.”^{xxix}

Primary Drowning Prevention measures include:

- Remove the Hazard
 - drain unnecessary accumulations of water (baths, ponds, bucket etc)
- Create Barriers
 - Build flood control embankments in flood-prone areas
 - Implement and enforce mandatory isolation fencing for pools, ponds, ditches, etc.
 - Encourage fencing around rural homes/schools in proximity to water
 - Encourage the use of grills over water wells
- Protect those at risk
 - Promote survival swimming for primary school children
 - Increase access to learn to swim programmes
 - Increase access to training in water safety skills
 - Increase awareness of need to supervise children
 - Instruct children to avoid entering fast flowing streams and not to swim alone
 - Train lifeguards for deployment in supervised swimming locations
 - Standardise internationally the flags and symbols used for beach safety
 - Educate and legislate against consumption of alcohol while boating or around water.
 - Increase education in boat safety regulations and Personal Floatation Device (PFD) use
 - All boats and larger vessels should be safety inspected regularly including load limit controls.

“Rescue agencies often refer to these activities as ‘indirect interventions’.”^{xxx}

SECONDARY MEASURES

Secondary prevention activities are aimed at increasing opportunities for interventions to prevent progression of the public health issue and emergence of symptoms.^{xxxi}

“Secondary prevention focuses on preventing injuries and deaths happening once a person is in a dangerous situation. Rescue services are examples of secondary prevention activities (the agencies refer to them as ‘direct interventions’)”.^{xxxii}

Secondary prevention includes having onboard communication equipment to call or signal for help, provision of rescue equipment or swimming with others who can alert rescue services if a person gets caught in a rip.

Other secondary drowning prevention measures include:

- Swimming and lifesaving education
- Train the general community in resuscitation
- Transferring drowning victims with ICU needs to tertiary facilities.

TERTIARY MEASURES

Tertiary prevention reduces the negative impact of an already established public health issue through proactive intervention and reducing risk of death and injury.

Tertiary prevention focuses on the level of aftercare once a rescue or direct intervention has been applied (e.g. First aid, referral to paramedic, general practitioner or hospital). Depending on one’s interpretation, the teaching of swimming, water safety, and lifesaving may also be considered a tertiary prevention.^{xxxiii}

Prevention programmes should take into consideration:

- risk taking behaviours,
- levels of activity,
- degree of access,
- legislation,
- standardization,
- enforcement of regulations,
- skill development,
- education,
- environmental modification (barriers etc),
- product modification,
- promotion of safety devices,
- availability of rescue services,
- Socio-economic status.

DEATH BY DROWNING CAN BE REDUCED

Death by drowning can be reduced through an appropriate combination of intervention strategies. A goal of some lifesaving organisations is “Zero Preventable Drowning”, in other words, the introduction of appropriate control measures that lead to no unintentional or accidental drowning.

The above objective is aspirational. Nations/regions should aim to reduce death by drowning through the implementation of appropriate strategies. Any strategy to reduce death by drowning should be encouraged. Many countries measure success through linking the percentage of death by drowning to the

population to see if their prevention strategies are effective. Other measurements include measuring changes in behaviour and/or awareness of the high risk groups/factors.

The lowest known drowning mortality rate is in the Netherlands at 0.3/100,000. The highest drowning rates are in the South East Asian region with total population rates above 10/100,000 and rates for children 0-17 years in excess of 39/100,000 in some regions. The magnitude and density of drowning in some parts of the world is such that small advances in evidence based interventions could save 100,000's of lives per year.

THE DROWNING PREVENTION CHAIN

The ILS Rescue and Education Committees have identified 4 factors that lead to a drowning.

These are:

1. Lack of knowledge, disregard or misjudgement of the hazard;
2. Uninformed, unprotected or unrestricted access to the hazard;
3. Lack of supervision or surveillance; and,
4. An inability to cope once in difficulty.

Any of the above by themselves or a combination of the factors, could lead to a death by drowning.

To reduce drowning an understanding of which factors at the prime contributors is very helpful to focus prevention strategies. In some nations/regions, a multiple factor approach would be needed. In other nations/regions a focus on one factor may be the best use of available resources. In each case endpoint outcome research is very valuable to determine the programmes value.

ILS has addressed these issues by developing *Drowning Prevention Strategies, A framework to reduce drowning deaths in the aquatic environment for nations/regions engaged in lifesaving.*

This helps us identify the gaps, and also enables priorities to be set. It is important to remember that not all strategies will be appropriate in all locations. This report sets out a range of initiatives that have been successful throughout the world in various member organisations and are included in the form of a “shopping list” to enable the reader to select the most appropriate initiatives for their location.

The strategies that have been identified to address each of the 4 aspects of the drowning prevention chain are:

- (1) Education and information;
- (2) Denial of access, improvement of infrastructure and/or provision of warnings;
- (3) Provision of supervision; and,
- (4) Acquisition of survival skills.

THE ROLE OF RISK ASSESSMENTS

A risk assessment (refer page90) should be conducted to analyse the impact of each alternative and a cost benefit analysis completed to ensure that the most effective strategies are introduced.

In its Guidelines for safe recreational water environments, the World Health Organisation states:

“Assessment of hazard and risk inform the development of policies for controlling and managing risks to health and well-being in water recreation The assessment of a beach or water should take into account several key considerations including:

- *The presence and nature of natural or artificial hazards*
- *The severity of the hazard as related to health outcomes*
- *The availability and applicability of remedial actions*
- *The frequency and density of use*
- *The level of development”*

“CHAIN”

Please note that ILS has used the word ‘chain’ in this document. This does not imply that the relationship between the 4 factors is linear. Each factor separately contributes to death by drowning and to drowning prevention. Use of the word ‘chain’ simply serves to identify 4 interconnected control measures (intervention strategies) that ILS thinks will lead to a reduction in drowning deaths. The word “cycle” is sometimes used in lieu of the word “chain”.

PICTORIAL REPRESENTATION OF THE DROWNING PREVENTION CHAIN

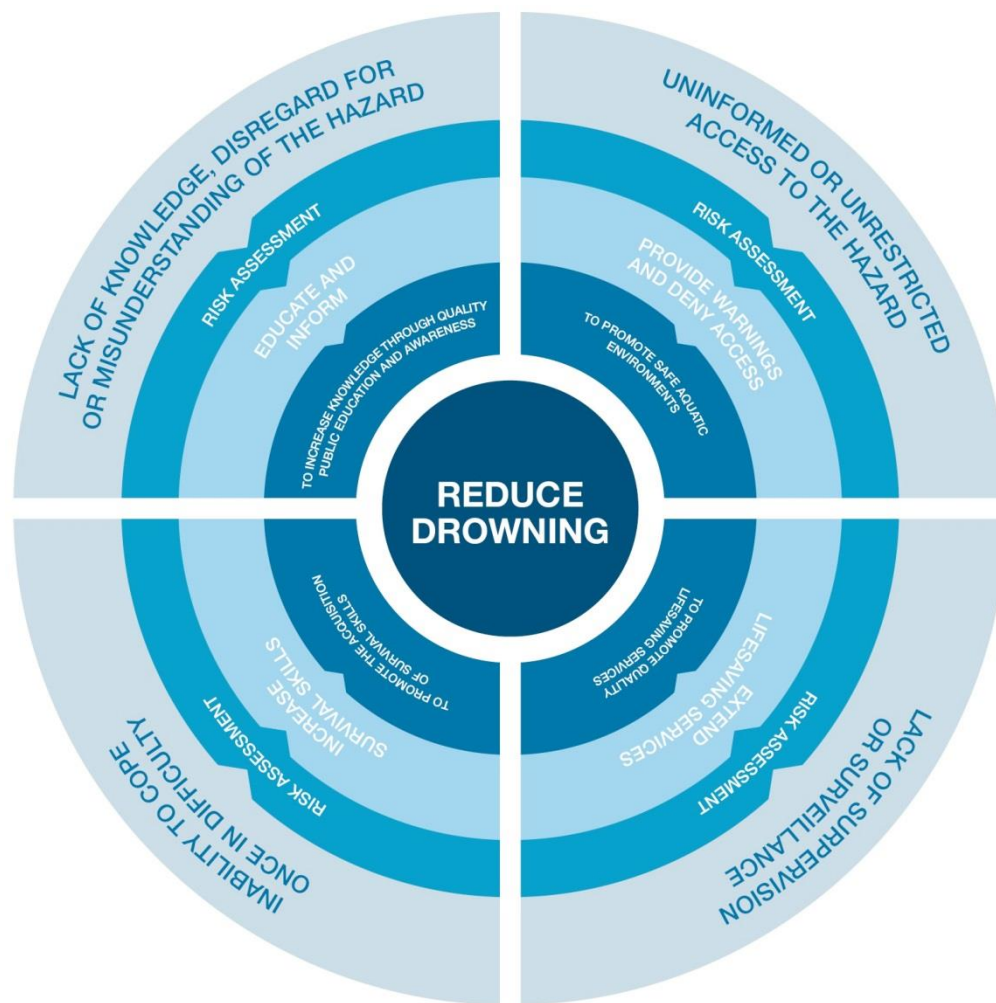


Figure 1: The Drowning Prevention Chain and strategies to reduce drowning.

ALIGNING THE DROWNING PREVENTION CHAIN WITH THE WHO GLOBAL REPORT ON DROWNING

The International Life Saving Federation (ILS) regularly reviews global drowning prevention strategies being implemented around the world. This third edition of *Drowning Prevention Strategies, A framework to reduce drowning deaths in the aquatic environment for nations/regions engaged in lifesaving*, reviews strategies that have been introduced within member federations. The first edition was published on 10th July 2008 with the second and third editions adding and updating additional strategies following a review by ILS member organisations.

The framework has been developed from the perspective of developed nations/regions with well-developed lifesaving practices. In providing a snapshot of key drowning prevention strategies from around the world this knowledge can be shared between nations and programs developed in one country can save lives in another.

In 2014, the WHO released the landmark *Global Report on Drowning* raising much needed awareness of the global scale of the drowning issue, especially in low- and middle-income nations. This report is a key document for governments and policy makers around the world and helps to shine a light on the plight of drowning victims particularly in countries without well-developed lifesaving organisations.

Drowning Prevention Strategies, A framework to reduce drowning deaths in the aquatic environment for nations/regions engaged in lifesaving (ILS, 2015) and the *Global Report on Drowning* (WHO, 2014) are complimentary reports, both of which seek to reduce the global drowning burden.

Table 3: Factors from the ILS Drowning Prevention chained aligned to risk factors identified by the WHO Global Report on Drowning.

ILS Drowning Prevention Chain Risk Factors	WHO Drowning Risk Factors ^{xxxiv}
Uninformed or unrestricted access to the hazard	Lack of physical barriers between people and water, particularly close to home
Uninformed or unrestricted access to the hazard	Uncovered or unprotected water supplies and lack of safe water crossings
Lack of supervision or surveillance	Lack of (or inadequate) supervision of young children
Lack of knowledge, disregard for or misunderstanding of the hazard	Lack of water safety awareness and risky behaviour around water, such as swimming alone
Inability to cope once in difficulty	
Multi factor alignment	Travelling on water, especially on overcrowded or poorly maintained vessels
	Flood disasters, whether from extreme rainfall, storm surges, tsunamis or cyclones

The WHO report also recommends that the best way to reduce drowning is through the following:

- Reduced exposure to water hazards through strategic use of barriers
- Close and capable adult supervision for young children
- Improved swimming and water safety skills
- Requirements for use of personal flotation devices
- Comprehensive boating regulations and enforcement
- Signage and designation of hazardous water bodies
- Timely rescue and resuscitation by a trained bystander or lifesaver through mouth-to-mouth resuscitation and chest compression when needed
- Supervision of recreational swimming areas.

Each of these strategies is quite easily mapped to the ILS Drowning Prevention Chain and there are many examples of these types of programs in this report. Organisations looking for real-world examples of these initiatives in practice are able to use this report to identify those countries and organisations with knowledge and experience that can be shared for the benefit of drowning prevention in low- and middle-income countries.

THE DROWNING PREVENTION CHAIN – SUMMARY OF CONTROL MEASURES

The Sequence	Counter Measure	Risk Assessment	Control Measures	Applications
Factor One Lack of knowledge, disregard for or misunderstanding of the hazard	Educate and inform	Note: <i>In order to make a decision in relation to the most appropriate control measure, a formal risk assessment should be conducted</i>	Community Education	<ul style="list-style-type: none"> ▪ School Education ▪ Electronic & Digital Media ▪ Leaflets / Brochures ▪ Awareness Programmes
			Arrival information	<ul style="list-style-type: none"> ▪ Information Signage
			On-site Education	<ul style="list-style-type: none"> ▪ Public Address Systems ▪ Face-to-face
Factor Two Uniformed or unrestricted access to the hazard	Provide warnings and deny access	Note: <i>In order to make a decision in relation to the most appropriate control measure, a formal risk assessment should be conducted</i>	Barriers	<ul style="list-style-type: none"> ▪ Access barriers ▪ Booms ▪ Buoy lines
			Signage	<ul style="list-style-type: none"> ▪ Information Signage ▪ Warning Signage ▪ Prohibition Signage ▪ Flags
			Regulations	<ul style="list-style-type: none"> ▪ Formal Regulatory Arrangements ▪ Improvement of Infrastructure ▪ Recognition of Life Saving Services
			Activity Management	<ul style="list-style-type: none"> ▪ Club / Group Registration ▪ Self-Regulation Programmes ▪ Permit Systems
Factor Three Lack of supervision or surveillance	Extend lifesaving services	Note: <i>In order to make a decision in relation to the most appropriate control measure, a formal risk assessment should be conducted</i>	Trained Observers	<ul style="list-style-type: none"> ▪ Trained Activity Supervisors ▪ Coaches & Instructors
			Parental/Carer Supervision	<ul style="list-style-type: none"> ▪ Promotion of importance of parental/carers supervision of children in all aquatic environments
			First Aid Facilities	<ul style="list-style-type: none"> ▪ Portable First Aid Kits ▪ Permanent / Fixed Facilities
			Lifeguard Services	<ul style="list-style-type: none"> ▪ International Assistance Initiatives ▪ Paid Lifeguards ▪ Volunteer Systems ▪ Intermittent (Roving) ▪ Surveillance ▪ Full Service (Between the Flags or Open Beach) ▪ After Hours Call-out ▪ Operational Support
			Activity Restrictions	<ul style="list-style-type: none"> ▪ Zoning ▪ Beach / Water Closure
Factor Four Inability to cope once in difficulty	Increase survival skills	Note: <i>In order to make a decision in relation to the most appropriate control measure, a formal risk assessment should be conducted</i>	Community Education	<ul style="list-style-type: none"> ▪ Survival Skills ▪ Self-Rescue Skills ▪ Rescue Skills
			Emergency Communications	<ul style="list-style-type: none"> ▪ Public Telephone ▪ Outpost Alarms ▪ Dedicated Emergency Telephone ▪ Radio
			Public Rescue Equipment	<ul style="list-style-type: none"> ▪ Lifebuoys ▪ Throw Lines ▪ Other extraction equipment and fixtures
			Floatation Devices	<ul style="list-style-type: none"> ▪ Personal Floatation Devices

FACTOR ONE – LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	ARRIVAL INFORMATION	Information Signage	Surf Condition Warnings	Dangerous surf warnings have been expanded to specify activities such as swimming, surfing and rockfishing	AUSTRALIA	SLSA	www.slsa.asn.au
			Standard Aquatic Signage	As per ISO standards	AUSTRALIA	SLSA	www.slsa.com.au
			Provision of Beach Entrance Signage	The Society offers a range of signage products conforming to international standards	UK	RLSS UK	www.rlss.org.uk
			Public Safety Message Signage	Range of public safety message signage at beaches	GERMANY	DLRG	www.dlrg.de
			Sign on Beaches/Bathing areas, Flag System	Unified, systematic signs on access areas to beaches (and inland water areas), harmonized system of flags, signs etc. in Germany	GERMANY	DLRG	www.dlrg.de
			Sea Condition Warnings	Dangerous surf warnings have been expanded to specify activities such as swimming, surfing and rockfishing	Pakistan	Pakistan Life Saving Foundation (PALS Rescue)	www.pals.pk

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	ARRIVAL INFORMATION	Information Signage	Information signage:	Information boards in the public beaches near the entrance	FINLAND	The Finnish Association for Swimming Instruction and Life Saving (FSL)	www.suh.fi/in_english/
			Public water Safety Message Signs	Information on beach conditions including tips on how to be safe at the beach and how to preserve it for others. Usually at lifeguard towers.	BRAZIL	SOBRASA	www.sobrasa.org
			Sandwich Board System	A sandwich board placed at the beach access point highlighting key information to public such as water temperature, tidal detail, hazard ID, lifeguard service times etc.	NZ	SLSNZ	www.surflifesaving.org.nz
			Standard Aquatic Signage	ISO TC 145/SC 3 ISO 20712-1: Water safety signs and beach safety flags – Part 1: specifications for water safety signs used in workplaces and public areas ISO 20712-2 Water safety signs and beach safety flags – Part 2: Specifications for beach safety flags - colour, shape, meaning and performance, ISO 20712-3, Water safety signs and beach safety flags – Part 3: guidance for use	ISO	International Organisation for Standardisation	www.iso.org/iso/home.htm
	COMMUNITY EDUCATION	Awareness Programmes	Community CPR Initiative	Community based, CPR only, no first aid, minimal charge to user to cover costs. Very well received by the community.	ARGENTINA	Argentina	www.epsa.org.ar

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	Awareness Programmes	Take Care Campaign	TV / Brochures – marketing campaign aimed at parents to ensure appropriate supervision of children at the beach and in the water.	ARGENTINA	Argentina	www.epsa.org.ar
			Cartoon video	In collaborate with SOBRASA -Brazil - Translation of 3 drowning prevention cartoon videos	ARGENTINA	EPSA	www.epsa.org.ar
			Junior Lifesaver Program	Following the ILS guidelines conducting a Junior Lifesaver Program in the summer season	ARGENTINA	EPSA	www.epsa.org.ar
			Always swim between the red and yellow flags	Sponsor and stakeholder engagement to promote the number one surf safety message, always swim between the red and yellow flags. Regularly appears in media and advertising campaigns.	AUSTRALIA	SLSA	www.slsa.asn.au
			Rip Current Campaign	Multi streamed campaign designed to educate about rip currents, identification and survival techniques	AUSTRALIA	SLSA	www.slsa.asn.au
			Rock Fishing Campaign	Multilingual campaign aimed at developing safe rockfishing practices including workshops, lifejacket giveaways, collateral, PR and media, and ethnic community partnership	AUSTRALIA	SLSA/LSV/SLSNSW	www.slsa.asn.au
			Kids Alive – Do the 5	Laurie Lawrence, ex swim coach, web site for kids	AUSTRALIA	Lawrie Lawrence swim school	www.kidsalive.com.au/

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	Awareness Programmes	Paddle Sports Safety Course	Free, online paddle safety course.	AUSTRALIA	Roads and Maritime NSW	www.boaterexam.com/paddling/au-nz
			Skippers Education Workshops	Boating safety education workshops for boat operators.	AUSTRALIA	SLSNT	
			Multicultural Projects	Life Saving Victoria's Multicultural Department's continued commitment to projects plays a needy and vital role in improving opportunities for all Victorians to receive fundamental water safety messages and education.	AUSTRALIA	LSV	www.lifesavingvictoria.com.au
			Coastal Accommodation Safety Network	Coastal accommodation providers are supplied with surf safety information for their visitors. Resources are supplied at no cost to coastal accommodation providers in NSW, including caravan and camping parks, hostels, backpackers, hotels, holiday units and single dwellings.	AUSTRALIA	SLSNSW	www.surflifesaving.com.au
			Beach Safety for Visitors to Australian Beaches	Multi-lingual resources promoting beach safety.	AUSTRALIA	SLSA	www.slsa.asn.au
			Multicultural Programs	Theory and practical surf safety for multicultural groups	AUSTRALIA	SLSNSW	www.surflifesaving.com.au

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LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	Awareness Programmes	Blackspot Surf Education Project	The program targets Black Spot populations and geographical areas considered 'high risk' for drowning in NSW, and specifically targets two high risk populations – Western Sydney residents and youth.	AUSTRALIA	SLSNSW	www.surflifesaving.com.au
			On the Same Wave	The program engages with Queenslanders from CALD backgrounds and provide them with potentially lifesaving surf safety education in their primary language.	AUSTRALIA	SLSQ	www.http://lifesaving.com.au
			Airport Greeting Service	This program includes a welcoming service at the Gold Coast Airport to educate domestic and international tourists, as well as a range of Surf Fun Clinics and other activities along the busy Gold Coast beaches.	AUSTRALIA	SLSQ	www.http://lifesaving.com.au
			Little Lifesavers	Children participate in a wide range of games, sports, and educational activities to teach them how to stay safe at the beach.	AUSTRALIA	SLSQ	www.http://lifesaving.com.au
			On The Same Wave	Surf safety days that educate young people who are new to Australia about the possible risks on the beach and in the sea.	AUSTRALIA	SLSSA	www.surflifesavingsa.com.au
			CALD BeachSAFE Program	The program explores all aspects of the beach including wave types, rip currents, sea creatures and lifesavers; the interactive introduction presentation will prepare people of all backgrounds for Australia's dynamic coastline.	AUSTRALIA	SLSWA	www.surflifesavingwa.com.au

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	Awareness Programmes	SurfKids	Open water familiarisation course for young children from 5-7 years and their parents.	AUSTRALIA	SLSWA	www.surflifesavingwa.com.au
			Surf's Up Holiday Program	Participants learn about and enjoy the beach environment with fun games on the beach and in the water, under the supervision of fully qualified surf lifesavers.	AUSTRALIA	SLSWA	www.surflifesavingwa.com.au
			Introduction to BeachSAFE	Exploring all aspects of the beach including wave types, rip currents, sea creatures and lifesavers; the interactive Introduction to BeachSAFE session will prepare people of all backgrounds and ages for Australia's dynamic coastline.	AUSTRALIA	SLSWA	www.surflifesavingwa.com.au
			Get Safe For Summer	Educational activity day targeting primary school children before the school summer holidays	UK	RLSS UK & ASA	www.getsafe4summer.org/
			Beachwise	Aimed to encourage families to visit Lifeguard patrolled beaches if swimming.	UK	RNLI	www.rnli.org.uk
			Lifeskills	Lifeguards working with other agencies to promote water safety to 8-12yr olds.	UK	RNLI	www.rnli.org.uk

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	Awareness Programmes	Inland Water Safety Awareness	Aimed at school teachers, park wardens, clubs county councils and those affected by flood water in the community. It gives hazard perception, survival skills, rescue techniques, how to be safe, risk assessment, flood hazards and medical information	UK	RNLI	www.rnli.org.uk
			Beachwise	Aimed to encourage families to visit Lifeguard patrolled beaches if swimming.	UK	RNLI	www.rnli.org.uk
			Lifeskills	Lifeguards working with other agencies to promote water safety to 8-12yr olds.	UK	RNLI	www.rnli.org.uk
			Meet the lifeguard	Aimed at school aged children. Children encouraged to visit lifeguards and become familiar with lifeguard services/areas protected by lifeguards in their community.	UK	RNLI	www.rnli.org.uk
			Beach Party	Leisure time programme with water safety information and kids' awareness program during holiday period at the beaches in Germany	GERMANY	DLRG	www.dlrg.de
			Always swim between the red and yellow flags	Sponsor and stakeholder engagement to promote the number one surf safety message, always swim between the red and yellow flags.	Pakistan	Pakistan Life Saving Foundation (PALS Rescue)	www.pals.pk

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	Awareness Programmes	Swim and Survive	Survival swimming and water safety education for children aged 4-15 years. 600,000 participants so far. Delivered in schools and in pools.	Pakistan	Pakistan Life Saving Foundation (PALS Rescue)	www.pals.pk
			Media	Swimming safety messages regularly displayed in media, newspapers, etc to increase public awareness of water safety principles	THE NETHERLANDS	KNBRD	www.reddingsbrigade.nl
			Nationwide discussion	Started a nationwide discussion about the quality reduction of the children's swimming education at school, and promote the use and importance of the national swim ABC education-program	THE NETHERLANDS	KNBRD	www.reddingsbrigade.nl
			Information campaign	Information campaign of missing children cases at the beach, with free donation of 'mobile number holding whristbands'	THE NETHERLANDS	KNBRD	www.reddingsbrigade.nl
			Information campaign	Information campaign on the dangers of the sea in Polish (special for the Polish workers in the Netherlands)	THE NETHERLANDS	KNBRD	www.reddingsbrigade.nl
			Keep Watch Public Education Campaign	A programme aimed at targeting parents / supervisors of 0-5yr old children about the importance of effective supervision.	AUSTRALIA	RLSS Australia	www.royallifesaving.com.au
			Elderly Person Anti Drowning Campaign	A media / brochure / press campaign aimed at education older people 55 years or older about being water safe. Activity and survival techniques delivered as part of programme.	AUSTRALIA	RLSS Australia	www.royallifesaving.com.au

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	Awareness Programmes	Community development	A programme aimed at indigenous and culturally linguistically diverse communities to improve participation training and development of water safety and lifesaving skills.	AUSTRALIA	RLSS Australia	www.royallifesaving.com.au
			SPORT DAY ON STREET	Approach day to lifesaving and drowning prevention advises	SPAIN	RFESS/FECLESS	www.rfess.es
			EUROPEAN DAY OF CARDIAC ARREST	CPR workshop in the European day of Cardiac Arrest	SPAIN	RFESS/FECLESS	www.rfess.es
			Making Aquatics a Terrific Experience (MATE)	An innovative and interactive programme aimed at optimising health and wellness opportunities for people with disability.	AUSTRALIA	RLSS Australia	www.royallifesaving.com.au
			FIRST AID IN SCHOOL	Teach children first aid during class on school	SPAIN	RFESS/CISNES SOS	www.rfess.es
			LIFESAVING OPEN DAY	Lifesaving approach to population through open days on sport clubs	SPAIN	RFESS/CISNES SOS	www.rfess.es
			INTRODUCTION TO RESCUE	Workshops for beginners and basic rescue techniques in children of primary school	SPAIN	RFESS/CISNES SOS	www.rfess.es

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	Awareness Programmes	PREVENTION WEEK	Week in which various activities aimed at drowning prevention are made	SPAIN	RFESS/CISNES SOS	www.rfess.es
			National Drowning Prevention Campaign	<p>It promotes prevention and water safety advice for open waters.</p> <p>It involves public active participation through sharing it in social networks.</p> <p>It is supported by the National Broadcasting SODRE, through spots transmitted in its radios all across the country during summer high season.</p>	ARGENTINA	ANGU	www.ang.uruguay.org
			Continuous promotion of aquatic prevention in real time	It is developed through Tweeter, Facebook and participation in medias interviews about dairy issues such as weather and sea conditions, drowning risks or events.	ARGENTINA	ANGU	www.ang.uruguay.org
			Lifesaving Week	Full week of intensified public education, highly promoted, held at Easter each year.	TRINIDAD & TOBAGO	Trinidad & Tobago LSS	

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	Awareness Programmes	Swimming skills – week	<p>Public swimming pools arrange a full week of different kind of events (lifesaving, swimming test etc.)</p> <p>Wisely in and out of water -tour; in summer time practical safety advice for those who are in the water, who swim or go boating in lakes/sea. Reminds people that most risky situations and the danger of drowning can very easily be prevented. At the moment the slogan of the campaign is "Do not leave your brain behind". The campaign reminds people of three main themes:</p> <p>Swimming ability saves your life, Always wear a life jacket when you are in water, Do not consume alcohol when you are in water.</p>	FINLAND	The Finnish Association for Swimming Instruction and Life Saving (FSL)	www.suh.fi/in_english/
			Lifesaving and prevention messages Demonstration at water leisure and sports	Drowning prevention and self-rescue demonstration at water sport practising and competition	BRAZIL	SOBRASA	www.sobrasa.org
			Elderly drowning prevention activity – Save-Masters	A 3 hours class for people older than 60 years about different action to prevent drowning at the beach. They collaborate, on a daily basis with lifeguards using 3 cards (green, yellow and red) similar on what is used at a soccer game by the judge, guiding people on better behaviour.	BRAZIL	SOBRASA	www.sobrasa.org
			Within Arm’s Reach	Posters, brochures and DVD promoting the importance of parental supervision of children around water.	CANADA	RLSS Canada	www.lifesaving.ca

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	Awareness Programmes	Choose It, Use It	Posters and print resources promoting recreational boat users to choose a lifejacket they like and to wear it 100% of the time.	CANADA	RLSS Canada	www.lifesaving.ca
			Don't Drink and Drive...your boat	Radio, Posters and Print resources promoting responsible use of recreational boats.	CANADA	RLSS Canada	www.lifesaving.ca
			Check the Ice!	Ice Card Thickness Resource plus print resources promoting safety on ice aquatic environments.	CANADA	RLSS Canada	www.lifesaving.ca
			Boat Show Campaigns	LSS Malaysia set up awareness exhibits at major boat shows and informs participants about water safety and lifesaving (includes recruitment).	MALAYSIA	Malaysia	Zaidchelva03@yahoo.com
			Crèche Programme	Children exposed to water safety awareness and skills through local community crèches. Includes flipcharts, books, story writing etc.	BANGLADESH	Bangladesh	www.ciprb.org
			Courtyard Meetings	Meetings held by CIDPB with members of local community where concerns and information shared about the dangers of aquatic environments.	BANGLADESH	Bangladesh	www.ciprb.org
			Annual Swim Competitions	Fun competitions provided for local community to show off swimming skills. Encourages the importance of knowing how to swim.	BANGLADESH	Bangladesh	www.ciprb.org

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LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	Awareness Programmes	Riversafe	Awareness campaign targeting people who swim in Rivers in New Zealand.	NZ	Water Safety NZ	www.watersafety.org.nz
			Boatsafe	Awareness campaign targeting people who recreate on boats in New Zealand.	NZ	Water Safety NZ	www.watersafety.org.nz
			Poolsafe	Awareness campaign targeting people who swim in Pools in New Zealand.	NZ	Water Safety NZ	www.watersafety.org.nz
			Kia Maanu, Kia Ora / Stay Afloat, Stay Alive	Awareness campaign targeting Maori (indigenous people of New Zealand).	NZ	Water Safety NZ	www.watersafety.org.nz
			“Under five waterwise”	Awareness campaign targeting early childhood age group (0-5yrs).	NZ	Water Safety NZ	www.watersafety.org.nz
			Water safety in the home	Guidelines for safe practices around water in the home (buckets, baths etc).	NZ	Water Safety NZ	www.watersafety.org.nz
			Pool Safety	Information on pool safety	USA	US Consumer Product Safety Commission	www.cpsc.gov/cpscpub/pubs/chdown.html

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	Education	Safe Swimming	Training courses for children 5-11	THE NETHERLANDS	KNBRD	www.reddingsbrigade.nl
			Life Saver education	Training courses for children 12-14	THE NETHERLANDS	KNBRD	www.reddingsbrigade.nl
			Lifeguard education	Training courses for children and adults from the age of 14	THE NETHERLANDS	KNBRD	www.reddingsbrigade.nl
			Lifeguard education specials 'driver' and 'skipper'	Training courses for adults from the age of 18	THE NETHERLANDS	KNBRD	www.reddingsbrigade.nl
		Electronic & Digital Media	Beachsafe	Website and mobile phone app that has direct access to the ABSAMP database of Australian beaches, safety information, information about patrolled locations and times, images, real-time updates of weather, swell and surf conditions, UV conditions, and forecasts.	AUSTRALIA	SLSA	www.beachsafe.org.au
			"Surf Patrol"	Real life TV showing surf lifesavers performing rescues and giving safety tips	AUSTRALIA	SLSA	www.slsa.com.au

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	Electronic & Digital Media	Boatwise app	Boatwise provides users with comprehensive coverage of marine and weather information for NSW and Tasmanian waterways.	AUSTRALIA	SLST/MAST/Roads and Maritime NSW	www.slst.asn.au
			Boating Safety Course	Boating safety education programs for school children.	AUSTRALIA	SLSNT	
			Letters to Newspapers	SLSS send letters to newspapers highlighting need for water safety awareness and training and conduct public water safety talks	SINGAPORE	Singapore LSS	www.slss.org.sg
			RLSS UK and Rookie Lifeguard website	The websites provide general water safety information and learning based games	UK	RLSS UK	www.lifesavers.org.uk
			RLSS UK and Rookie Lifeguard website	The websites provide general water safety information and learning based games	UK	RLSS UK	www.rlss.org.uk
			Public Education and Awareness Strategy	Swimming safety messages regularly displayed on TV, radio, movie theatres, etc to increase public awareness of water safety principles. Media campaigns in newspaper and web.	GERMANY	DLRG	www.dlrg.de
			“Swim between the flags” Campaign	Public Education programme communicating to the community that if lifeguards can’t see you, they can’t save you. By swimming between the flags, swimmers are always in sight of surf lifeguards.	Pakistan	Pakistan Life Saving Foundation (PALS Rescue)	www.pals.pk

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	Electronic & Digital Media	Kids Zone	The 'kid zone' area of the RLSSA website provides useful educational resources and games aimed at school aged children.	AUSTRALIA	RLSS Australia	www.royallifesaving.com.au
			Bronze e-Lifesaving	Interactive learning program to support the new Australian Curriculum. Students learn survival skills, rescue techniques, basic resuscitation and first aid care.	AUSTRALIA	RLSS Australia	www.royallifesaving.com.au
			Target group specific information	Target groups are: Children, parents, teachers, educational staff, surfer, kite surfers, all other kind of water sport tourists	GERMANY	DLRG	www.dlrg.de
			Press releases	They take events related to aquatic and drowning prevention or lack of them, as an opportunity to promote information, advice and take position as a reference organization.	ARGENTINA	ANGU	www.ang.uruguay.org
			Public Education and Awareness Strategy	Beach Safety messages regularly displayed on Bus Backs, Newspaper, Radio, TV commercials, Piha Rescue TV Series. Outcome to increase public awareness of surf safety principles.	NZ	SLSNZ	www.surflifesaving.org.nz
			Web Based School Teacher Resource	Suggested lesson plans linking surf safety into the various school curricula. Resources available for teaching students aged 5-12.	NZ	SLSNZ	www.surflifesaving.org.nz

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	Electronic & Digital Media	Piha Rescue TV Series	A film crew follows lifeguards at New Zealand's busiest surf beach, Piha. A summer of patrolling is edited into 13 x 30 min episodes per season and aired on prime time, free to air TV. Key messages also built in to programme and advertisements.	NZ	SLSNZ	www.surflifesaving.org.nz
			Surf Club 174	A programme of events and activities aimed at promoting water safety and survival skills. Includes education trailers, a children's TV show, city nippers and more.	NZ	SLSNZ	www.surflifesaving.org.nz
			Drowning beach prevention Cartoon	A DVD distributed at schools and also available at web site to free download	BRAZIL	SOBRASA	www.youtube.com/watch?v=RIHEIjQIlq0
			Public Safety Messages	Various TV and Radio public safety messages. Water safety web pages	FINLAND	The Finnish Association for Swimming Instruction and Life Saving (FSL)	www.viisaastivesilla.fi
			Public Safety Messages	Various TV and Radio public safety messages targeting a range of groups / general public.	IRE	Irish Water Safety	www.iws.ie
			TVC Campaign	Sponsorship from Sky TV (Ireland) for public safety TV commercials for 4 months of the year during off season.	IRE	Irish Water Safety	www.iws.ie

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LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	Electronic & Digital Media	Letters to Newspapers	SLSS send letters to newspapers highlighting need for water safety awareness and training.	SINGAPORE	Singapore LSS	www.slss.org.sg
		Kindergarten	Public Education and Awareness Strategy	Kindergarten-Project: Information for Parents and children (basic Water Safety and awareness)	GERMANY	DLRG	www.dlrg.de
		Leaflets / Brochure	Marine Stinger Awareness	Surf Lifesaving Queensland prepares information brochures on marine stingers, what to look for, where to swim, and treatment.	AUSTRALIA	SLSQ	www.marinestingers.com.au/
		Leaflets / Brochure	Public Brochures	Provision of life saving leaflets providing advice on being water safe	UK	RLSS UK	www.lifesavers.org.uk
		Leaflets / Brochure	Public Brochures	Community workshops delivering CPR training (Save a Baby's Life & Community Life Support)	UK	RLSS UK	www.rlss.org.uk
		Leaflets / Brochure	Life saving brochures on water activities	Free information resources available from stands in malls and other public areas. Also offered at regional fairs and local information activities. Wide selection of different (national) brochures available through local clubs.	GERMANY	DLRG	www.dlrg.de

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	Leaflets / Brochure	Pool Safety	Information on pool safety	THE NETHERLANDS	KNBRD	www.reddingsbrigade.nl
			Public Brochures	Free information resources available from stands in malls and other public areas.	TRINIDAD & TOBAGO	Trinidad & Tobago LSS	
			Surf Lifesaving Brochure Suite	A range of brochures distributed through regional offices to members and public about SLS and Surf Safety (approx. 7 brochures in the suite).	NZ	SLSNZ	www.surflifesaving.org.nz
			Prevention, rescue and treatment brochure	Distribute along events such as lectures at schools, hospitals, clubs, public areas, etc	BRAZIL	SOBRASA	www.sobrasa.org/news/Folder_08/folder_BLS_frente_2008%20copy.jpg www.sobrasa.org/news/Folder_08/folder_BLS_verso_algoritmo%20copy.jpg
			Leaflets water safety messages	Distribute along events such as lectures at schools, hospitals, clubs, public areas, etc	BRAZIL	Fire Department Brasilia – Brazil	www.sobrasa.org/news/brasilia/DSC01548%20copy.jpg
			Leaflets water safety messages	Distribute along events such as lectures at schools, hospitals, clubs, public areas, etc	BRAZIL	Fire Department Parana – Brazil	www.sobrasa.org/news/parana/folder_preven%C3%A7%C3%A3o_08/FOLDER%202009%20Frente%20copy.jpg

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	Leaflets / Brochure	Comic brochure on lifesaving	Distribute along events such as lectures at schools, hospitals, clubs, public areas, etc	BRAZIL	Fire Department Brasilia – Brazil	www.sobrasa.org/news/brasilia/gibi/gibi.htm
			Water safety- leaflets	Water safety- leaflets (on the water and beside the water), wisely on ice– and learn to swim -leaflets. These information leaflets are available for the public on tours and you can order them in web site too.	FINLAND	The Finnish Association for Swimming Instruction and Life Saving (FSL)	www.suh.fi/in_english/
			Beach Safety	Information brochure to prepare yourself on dangerous situations at the beach	THE NETHERLANDS	KNBRD	www.reddingsbrigade.nl
			DROWNING PREVENTION CAMPAIGN	Disclosure of advices to avoid accidents in the aquatic environment through brochures	SPAIN	RFESS	www.rfess.es
		National / International Conferences	Symposiums	DLRG arranges on a regular base (Trans-)national symposiums on selected topics of water safety, education and rescue service to exchange with experts from universities, authorities and public	GERMANY	DLRG	www.dlrg.de
			International Conference on Aquatic Prevention and Lifesaving “PYSA”	Biannual event which gathers national and international experts to update and discuss knowledge and experiences from different areas of expertise (medical, research, education, rescue).	ARGENTINA	ANGU	www.ang.uruguay.org

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LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	National / International Conferences	Presentations in Conferences	Presentation in these events of topics related to drowning prevention in Uruguay to raise the issue in the political agenda and to show possible strategies.	ARGENTINA	ANGU	www.ang.uruguay.org
		National Education	Bildungswerk (DLRG academy)	DLRG headquarter executes more than 150 additional courses per year on high-level education	GERMANY	DLRG	www.dlrg.de
		Research Programmes	Research details on drowning throughout the nation	A media / brochure / press campaign aimed at the government, industry and stakeholders on the drowning statistics.	AUSTRALIA	RLSS Australia	www.royallifesaving.com.au
		Risk Assessments in Education/ Rescue Service	Internal Risk Assessments	International Evaluation of water-based activities to minimize/eliminate risks	GERMANY	DLRG	www.dlrg.de
		School Education	Beach to Bush	Programme targeted at reaching children in rural areas. Delivery of basic surf safety / beach safety information / education.	AUSTRALIA	SLSA	www.slsa.com.au
			Surf Survival	Education programme targeted at teenage and school groups. Prerequisite for surfing as a sport.	AUSTRALIA	SLSA/SLSNSW	www.slsa.com.au www.surflifesaving.com.au
			SurfBabies	Open water familiarisation course for young children from 2-4 years and their parents.	AUSTRALIA	SLSWA	surflifesavingwa.com.au

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LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	School Education	Lil Lifesavers	Junior aquatic activities over a short course at still and open water locations, participants are in small groups of their peers.	AUSTRALIA	SLSA	www.slsa.com.au
			Nippers	Member based junior activities and competition on a seasonal basis aged 5-14	AUSTRALIA	SLSA	www.slsa.com.au
			Meet a Lifesaver	Classroom based education sessions, multiple programs and content for different age groups	AUSTRALIA	SLSA	www.slsa.com.au
			Surf Ed: Surf Fun	Basic Theory and Practical education at the beach, Short course in surf safety and open water aquatic skill introduction	AUSTRALIA	SLSA	www.slsa.com.au
			Surf Ed: Surf Awareness	Intermediate Theory and Practical education at the beach. Short course develops surf safety principles and develops open water aquatic skills	AUSTRALIA	SLSA	www.slsa.com.au
			Surf Ed: Surf Safe	Advancing theory and practical education at the beach. Short course discusses water safety principles and coastal science, as well as developing open water aquatic skills and basic rescue techniques	AUSTRALIA	SLSA	www.slsa.com.au
			On The Same Wave	Multicultural surf safety program aimed to introduce participants to the surf, discuss surf safety and develop basic skills.	AUSTRALIA	SLSA	www.slsa.com.au

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LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	School Education	Beach to Bush	Classroom surf safety education for students in regional, remote and very remote communities which have been overrepresented in drowning statistics.	AUSTRALIA	SLSA	www.slsa.com.au
			Rock Fishing Workshops	Targeted program aimed at ethnic rockfishing populations which feature heavily in drowning statistics. Using ESL teachers, discussed safe rockfishing practice, surf and weather forecasting and reading, and develops basic rescue techniques (throw rescues)	AUSTRALIA	SLSA	www.slsa.com.au
			Beach Safe Schools program	Beach Safe program delivers vital surf safety messages to primary school children via classroom surf education sessions from volunteer surf lifesavers.	AUSTRALIA	SLSQ	www.lifesaving.com.au
			VACSWIM	Vacation swimming lessons in controlled environments located at school pools, public and private pools, beaches and lakes throughout South Australia.	AUSTRALIA	SLSSA	www.surflifesavingsa.com.au
			School Beach Activities	Beach Activities are a fun and interactive way to educate students on the important aspects of sun and beach safety, whilst increasing their skills and fitness in the water and on the beach.	AUSTRALIA	SLSWA	www.surflifesavingwa.com.au
			Life Skills for Life	Life Skills for Life is an interactive First Aid and Resuscitation workshop equipping year 6 and 7 students with the knowledge, skills and confidence to effectively respond in a First Aid or emergency situation.	AUSTRALIA	SLSWA	www.surflifesavingwa.com.au

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LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	School Education	Surf Cadets	High school students learn to become a surf lifesaver and develop skills in first aid, communications, surf awareness, surf skills, resuscitation and leadership development, all within an enjoyable environment.	AUSTRALIA	SLSWA	www.surflifesavingwa.com.au
			Beach to City		UK	RNLI	www.rnli.org.uk
			Get Safe For Summer	Educational campaign targeting primary school children before the school summer holidays	UK	RLSS UK & ASA	www.getsafe4summer.org/
			Rookie Lifeguard (dry awards)	The dry awards of the Rookie Lifeguard programme are designed to be compatible with classroom learning	UK	RLSS UK	www.rlss.org.uk
			Beach to City	Aimed at high risk child groups. Lifeguards visit schools normally at inner city locations and provide surf safety information to students.	UK	RNLI	www.rnli.org.uk
			Safe Swimming	Training courses for all children 5-11, harmonized examination rules with the other organizations and national school system	GERMANY	DLRG	www.dlrg.de
			Life Saver education	Training courses for all young adults 12-17, harmonized examination rules with the other organizations	GERMANY	DLRG	www.dlrg.de

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LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	School Education	First Aid Education	Training courses for young adults 14-17, harmonized examinations rules with the other organizations	GERMANY	DLRG	www.dlrg.de
			Projects in Schools	Many schools offer project weeks before summer vacation. Local clubs organize special lifesaving courses (full day) during these weeks. Some projects include lifeguard practice at beaches	GERMANY	DLRG	www.dlrg.de
			SeaWorld	Open water familiarisation course for young children from 6 years and their parents.	Pakistan	Pakistan Life Saving Foundation (PALS Rescue)	www.pals.pk
			CPR 4 Kids	Basic CPR and First Aid short course for school children	Pakistan	Pakistan Life Saving Foundation (PALS Rescue)	www.pals.pk
			Become a Lifesaver L1	Classroom based education sessions, multiple programs and content for different age groups	Pakistan	Pakistan Life Saving Foundation (PALS Rescue)	www.pals.pk
			Become a Lifesaver L2	Basic Theory and Practical education at the beach, Short course in surf safety and open water aquatic skill introduction	Pakistan	Pakistan Life Saving Foundation (PALS Rescue)	www.pals.pk
			Become a Lifesaver L3	Intermediate Theory and Practical education at the beach. Short course develops surf safety principles and develops open water aquatic skills	Pakistan	Pakistan Life Saving Foundation (PALS Rescue)	www.pals.pk

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LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	School Education	Water Smart	Water safety education for children undertaking the junior and middle years of schooling (aged 4-12 years). In excess of 1500 schools registered. Delivered in schools.	AUSTRALIA	RLSS Australia	www.royallifesaving.com.au
			Swim and Survive	Survival swimming and water safety education for children undertaking the junior and middle years of schooling (aged 4-12 years). In excess of 500,000 participants. Delivered in schools and in community pools.	AUSTRALIA	RLSS Australia	www.royallifesaving.com.au
			LIFESAVING PROMOTION AND DROWNING PREVENTION IN PRIMARY SCHOOL	Workshop about accident prevention in aquatic environment and lifesaving promotion among primary school children's	SPAIN	RFESS/FECLESS	www.rfess.es
			DROWNING PREVENTION CAMPAIGN FOR CHILDREN AND MOTHERS	Accident prevention in pool campaign aimed at mothers of primary school children.	SPAIN	RFESS	www.rfess.es
			SCHOOL LIFESAVING	Teach CPR and rescue techniques in primary school	SPAIN	RFESS/FMSS	www.rfess.es
			Prevention promoters	Course based on First aids and CPR, Coastal dynamics and Aquatic prevention workshops. It targets adolescents.	ARGENTINA	ANGU	www.ang.uruguay.org
			Continuous education courses and talks	Educational activities related to Prevention targeting school teachers, PE teachers, Instructors, Recreators, Lifeguards.	ARGENTINA	ANGU	www.ang.uruguay.org

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LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	School Education	Get Safe For Summer	Educational activity day targeting primary school children before the school summer holidays	UK	RLSS UK & ASA	www.getsafe4summer.org/
			Rookie Lifeguard (dry awards)	The dry awards of the Rookie Lifeguard programme are designed to be compatible with classroom learning	UK	RLSS UK	www.lifesavers.org.uk
			Beach to City	Aimed at high risk child groups. Lifeguards visit schools normally at inner city locations and provide surf safety information to students.	UK	RNLI	www.rnli.org.uk
			Primary School Teachers (PAWS and JAWS)	Training for primary school teachers which include a water safety module. In addition each school is provided with a water safety DVD.	IRE	Irish Water Safety	www.iws.ie
			lifesaving children Vacation time (Colonia de Férias)	Water and Lifesaving activities for a weekend during summer time, from 5 to 15 years-old. 1 week long, 3 hours a day.	BRAZIL	SOBRASA	www.sobrasa.org
			Lifesaving School	Lifesaving and water sports activities every weekend day in the morning at the beach for above 5 years-old	BRAZIL	SOBRASA	www.sobrasa.org
			Lifesaving workshops at the pool	Lifesaving with prevention tips and lifeguard rescues demonstration as a show at public pools and water leisure	BRAZIL	SOBRASA	www.sobrasa.org

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LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	School Education	First Aid Training in Schools, clubs and malls	Formal first aid, 4 hours training for students in schools	BRAZIL	SOBRASA	www.sobrasa.org
			“Projeto Botinho” (Dolphin Project)	During 22 days, at summer, 9-12AM, teach swimming, prevention and lifesaving to children 7-18 years old(in 3 categories) at 14 different beaches. Each year 18.000 participants including parent activities. Since 1963.	BRAZIL	CBMERJ – Rio de Janeiro - Brazil - Rio Fire Department	http://www.projetobotinho.com.br/
			Children lifesaving competition among schools	A lifesaving day competition at the pool among students, age 7 to 18 years-old	BRAZIL	SOBRASA	www.sobrasa.org
			Lifesaving School visits	Staff visit schools and provide water safety information including a cartoon video with prevention and a demo by lifeguards on different duties at the beach (primary and secondary school students).	BRAZIL	SOBRASA	www.sobrasa.org
			Supporting ISR activities Dr Harvey Barnett,	Teach children 1-5 years old how to float. Project started in 2010	BRAZIL	Infant Swimming Resource – Curitiba - Brazil	http://www.rpctv.com.br/revista-rpc-tv/2010/11/sobrevivencia-na-agua/
			Lifesaving lecture	During 1 hour, an interactive session with all people interesting in drowning prevention and water safety, using a video, power point presentation, and brochure, ending with a question and answer session.	BRAZIL	SOBRASA	www.sobrasa.org

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	School Education	Aquatic emergency course	Lifesaving course for the lay public without no pre-requisite with the attention at drowning prevention messages – 5h	BRAZIL	SOBRASA	www.sobrasa.org
			Aquatic emergency course for health professionals	Lifesaving course for the health professionals with the attention at drowning prevention messages and approach to first aid at the pre and hospitals care – 13 h	BRAZIL	SOBRASA	www.sobrasa.org
			Aquatic emergency course for professionals physical teachers	Lifesaving course for the physical teachers with the attention at drowning prevention messages – 10h	BRAZIL	SOBRASA	www.sobrasa.org
			Surf-Save	Lifesaving course for surfers, on to help without becoming a second victim, with the attention at drowning prevention messages – 5 h long. Classes at the beach using mannequins, surfboards and brochures.	BRAZIL	SOBRASA	http://www.szpilman.com/imagens/biblioteca/projetos/2_interno.jpg http://www.szpilman.com/imagens/biblioteca/projetos/1_externo.jpg
			Junior and voluntaries lifeguard	Lifesaving course for children age 15-18 and adults including all rescue and treatment but with the attention at drowning prevention messages – 80 h	BRAZIL	SOBRASA	www.sobrasa.org

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	School Education	Kids Fireman Project (Bombeiro mirim)	Training for kids in fireman prevention and first aid	BRAZIL	Fire department of San Pablo and Pernambuco – Brazil	http://www.sobrasa.org/cursos/SP/Jundiai/bombeiros_mirim_jundiai_julho_09.htm http://www.sobrasa.org/news/pernambuco/gv_mirim_PE_2007/gv_mirim.htm
			School Education	In and out of water -tour at winter time (on ice -tour). In the tour the school kids and other spectators are told about the dangers of the ice, about how to get up from the ice hole and what equipment you need when you go on the ice. This tour takes place usually in March in several places (beach, harbor etc.) in Finland.	FINLAND	The Finnish Association for Swimming Instruction and Life Saving (FSL)	http://www.suh.fi/in_english/
	LIFEGUARD TRAINING	Supervision, surveillance, and rescue techniques	LIFEGUARD Course	New lifeguards training in CPR , first aid and rescue techniques	ARGENTINA	EPSA	www.epsa.org.ar
			Lifeguard Instructor Course	Update and recycle techniques and give the tools to teach other Lifeguards	ARGENTINA	EPSA	www.epsa.org.ar
			Research	ANGU develops researches related to Education based on water competencies, Epidemiology of drowning in Uruguay and School surveys about children skills and parents surveillance.	ARGENTINA	ANGU	www.angu.uruguay.org

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	LIFEGUARD TRAINING	Supervision, surveillance, and rescue techniques	RESCUE DRILL AND SERC COMPETITION	Teach how to act in aquatics emergency situations on high school. After several days student goes to a SERC championship	SPAIN	RFESS/FMSS	www.rfess.es
	COMMUNITY EDUCATION	Face to Face	Surf Safety and Rip Current Education	Lifesavers use flip charts to provide either individual or group surf safety and rip current education sessions to the general public on the beach.	AUSTRALIA	SLSA	www.slsa.asn.au
			Operation Communicate	Professional Lifeguard Services operate an explicit campaign to increase the surf safety advice interactions as part of their normal role on the beach.	Pakistan	Pakistan Life Saving Foundation (PALS Rescue)	www.pals.pk
		Public Address Systems	Fixed	Lifeguard towers in many countries have a public address system that enables safety messages and warnings to be delivered to the public using a beach or pool	VARIOUS	Various	
			Portable	Portable systems can be set up to deliver safety messages and warnings	VARIOUS	Various	
			Fixed	Tips to join and be safe in water at lifeguard towers	BRAZIL	CBMERJ - Brazil	http://www.defesacivil.rj.gov.br/
		Face to Face	Loud Hailer	Many lifeguard services use a Loud hailer to convey messages of safety and to warn the public of potential hazardous conditions	VARIOUS	Various	

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LACK OF KNOWLEDGE, DISREGARD OR MISUNDERSTANDING OF THE HAZARD	COMMUNITY EDUCATION	Face to Face	Safety Lectures at the pool and on the beach	Lifeguards arrange for set public information sessions delivered 'face to face' at the pool or on the beach	VARIOUS	Various	
			Safety Lectures at the pool and on the beach	Volunteer Lifesaving Instructors deliver week long lectures and lessons on basic lifesaving during the summer months	IRE	Irish Water Safety	www.iws.ie
	PRE HOSPITAL LIFE SUPPORT FOR HEALTH PROVIDERS	Awareness Programmes	Congress participation	Participation in main Emergency medical Congresses giving lectures to teach the correct treatment for drowning patients	ARGENTINA	EPSA	www.epsa.org.ar

FACTOR TWO – UNINFORMED, UNPROTECTED OR UNRESTRICTED ACCESS TO THE HAZARD

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
UNINFORMED, UNPROTECTED OR UNRESTRICTED ACCESS TO THE HAZARD	ACTIVITY MANAGEMENT	Club/Group registration	Local/regional system	National wide organisation with more than 2000 local clubs, regional and sub-national organisation structure based on voluntary work	GERMANY	DLRG	www.dlrg.de
			Club/Group Registration	Clubs and/or groups regulate activity	AUSTRALIA	SLSA	www.slsa.com.au
			Club/Group Registration	Clubs and/or groups regulate activity	UK	RLSS UK	www.rlss.org.uk
		Permit Systems	Permit Systems	Permit systems restrict access to certain areas deemed hazardous to certain types of activity through the issue of appropriate permits.	VARIOUS	Various	
			Qualification program for prevention and lifeguarding public water scenarios	A guide protocol for every lifeguarding agency on how to be more preventive and effective.	BRAZIL	SOBRASA	Beaches - http://www.sobrasa.org/PQSS/controlegualidadepraias.htm Pools - http://www.sobrasa.org/PQSS/controlegualidade piscinas.htm Clubs - http://www.sobrasa.org/PQSS/PQSS_academias.htm
		Self-regulation programmes	Self-regulation programmes	Swimming instructions for the participants of summer camps etc.	FINLAND	The Finnish Association for Swimming Instruction and Life Saving (FSL)	www.suh.fi/in_english/

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
UNINFORMED, UNPROTECTED OR UNRESTRICTED ACCESS TO THE HAZARD	BARRIERS	Access Barriers	Pool Fencing	Guidelines for Safe Pool Operation	AUSTRALIA	RLSSA	www.poolsafety.royallifesaving.com.au
			Pool Fencing	Fact Sheet – Fencing	AUSTRALIA	RLSSA	www.royallifesaving.com.au
			Pool Fencing, barrier or cover	By law, is an obligation to every public pool to have a barrier that enable to isolate the pool from entrance.	BRAZIL	SOBRASA	www.sobrasa.org
			Zebra stripe	A stripe yellow/black colour are used to indicate, isolate and highlight the attention of the public to hazards at the beach	BRAZIL	SOBRASA	www.sobrasa.org
			Booms	Used to divide a swimming pool or waterway into various areas for different swimming ability or to prevent access to certain areas of water	VARIOUS	Various	
			Barriers	Based on the risk assessment done by the beach / pool administrator preventing from falling into deep water or going to forbidden areas, marking of the swimming area by buoy lines	FINLAND	The Finnish Association for Swimming Instruction and Life Saving (FSL)	www.suh.fi/in_english/
	Buoy Lines	Buoy Lines	Used as a marker within a pool or other aquatic area including a beach to indicate the area in which the public should swim	UK	RNLI	www.rnli.org.uk/eachlifeguards	
	FLOOD RESCUE PROGRAM	flood Rescue Teams	SLSGB flood training in line with ER services	delivers a "rescue technician" program to clubs and communities in line with govt standards to work on flood prone areas. Fully audited to the highest level of competency, delivers risk management, rescue techniques, low level rope work, medical, flood risks, command & control	UK	RNLI	www.rnli.org.uk/eachlifeguards

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
UNINFORMED, UNPROTECTED OR UNRESTRICTED ACCESS TO THE HAZARD	FLOOD RESCUE PROGRAM	Flood Rescue Teams	SLSGB flood Training in line with emergency services	delivers "rescue boat operator" level to club or community teams that have completed both level 2 and 3 awards. Paddling, powered operations and understanding boat operations in flood water	UK	RNLI best practice guide	www.rnli.org.uk/eachlifeguards
		Flood Rescue Teams	SLSGB flood Training in line with emergency services	delivers a "water incident management" level in line with gov't standards that are required by flood teams to be managers equal and part of the emergency services	UK	RLSS UK	www.lifesavers.org.uk
	REGULATIONS	Formal Regulatory Arrangements	Home Swimming Pool Legislation	Various Governments around the world have legislated to make pool fencing mandatory. An example of the history and legislation can be found in the Queensland Government website.	AUSTRALIA	Australia – Queensland Government	www.poolfencing.qld.gov.au/?id=19
			Public Swimming Pool Legislation	Various Governments around the world have adopted legislation and/or by laws in relation to public swimming pools. An example of the legislation can be found in the NSW Government website.	AUSTRALIA	Australia – NSW Government	www.health.nsw.gov.au/public-health/ehb/general/pools/swimmingregapr07.ppt#258
			Swimming Pool Regulation	Swimming pool safety regulation is driven by the Health and Safety Executive Guidance HSG 179 "Managing Health and Safety in Swimming Pools"	UK	RLSS UK	www.rlss.org.uk
			Vessel safety	Specifications designed to ensure craft is seaworthy as well as limiting the number of passengers that can safely be transported. Advice on safety equipment.	GERMANY	Germany/Australia/USA plus many other country legislative requirements	www.dlrg.de

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
UNINFORMED, UNPROTECTED OR UNRESTRICTED ACCESS TO THE HAZARD	REGULATIONS	Formal Regulatory Arrangements	Formal regulatory Arrangements:	The Finnish Consumer Agency has published its safety guidelines for swimming pools and spas and a beach safety -check list for the consumer safety authorities. (The highest consumer safety authority is nowadays The Finnish safety and chemical agency	FINLAND		www.tukes.fi/en/)
			School Swimming Pools	Various Governments around the world have initiated guidelines for school swimming pools. An example of these guidelines can be found in the New Zealand government website	NZ	New Zealand Government	www.poolsafe.org.nz/school/
			Lifeguarding is an attribution by federal law of the State Fire Departments (public institution)	This attribution can delegate to counties some of their lifeguarding responsibility, but still own it.	BRAZIL	SOBRASA	www.sobrasa.org
			Pool lifeguards recognition	Pool lifeguard are paid civilian trained by the fire department lifeguard instructor.	BRAZIL	SOBRASA	www.sobrasa.org
			Blue Flag	Working with Blue Flag program, lifesaving safety qualifying and certifying some Brazilian beaches.	BRAZIL	Blue Flag - Sobrasa	http://www.sobrasa.org/news/bandeira_azul/projetos_ambientais_bandeira_azul_07.htm
			ISO (ABNT)	Working with ABNT, which implement ISO in Brazil, doing the review of water safety at Brazilian beaches	BRAZIL	ABNT-ISO-Sobrasa	www.sobrasa.org
			Safe places during flood/tsunami	Signage to direct public to high ground as well as areas designed during periods of flooding and tsunami	ISO	Various	www.iso.org/iso/home.htm

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
UNINFORMED, UNPROTECTED OR UNRESTRICTED ACCESS TO THE HAZARD	REGULATIONS	Recognition of Lifesaving Services	Protection of Volunteers	In Australia, State Acts generally protect volunteers from incurring any personal civil liability in relation to an act or omission in good faith while doing community work organised by a community organisation	AUSTRALIA	SLSA – Australian Coastal Public Safety Guidelines 1st Edition	www.slsa.com.au
			SLS Lifeguard Service	SLSA provides a paid lifeguard service to various Councils. This site from Queensland gives information on these types of services.	AUSTRALIA	SLSA Queensland	www.lifeguards.com.au
			Gold Coast Lifeguard Service	A representative Council run lifeguard service which is fully integrated with the volunteer system in Australia is on the Gold Coast in Queensland, Australia	AUSTRALIA	Gold Coast Lifeguard Service	www.goldcoast.qld.gov.au/t_standard2.aspx?pid=50
			Hawaiian Lifeguard Association	The Hawaiian Lifeguard Association is a professional association incorporated in the State of Hawaii that has United States Internal Revenue Service 501© (3) tax exempt status.	USA	Hawaii	www.aloha.com/~lifeguards/hla.html
	SIGNAGE	Risk assessment	Dangerous swimming conditions	The Netherlands is running a risk assesment development programme to assist the holder of a swim location by running a ILSE certified risk assessment with independent risk assessors	THE NETHERLANDS	KNBRD	www.reddingsbrigade.nl
		Signage	Standard Aquatic Signage	National Aquatic and Recreational Signage Style Guide	AUSTRALIA	SLSA best practice guide	www.lifesavingvictoria.com.au
			Standard Aquatic Signage	A Guide to beach safety signs, flags and symbols	UK	RNLI best practice guide	www.rnli.org.uk/foreachlifeguards
			Standard Aquatic Signage	National Aquatic and Recreational Signage Style Guide	Pakistan	Pakistan Life Saving Foundation (PALS Rescue)	www.pals.pk

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
UNINFORMED, UNPROTECTED OR UNRESTRICTED ACCESS TO THE HAZARD	SIGNAGE	Signage	National introduction of red/yellow-flags	Harmonized system of on duty/risk signage on open and inland water areas	GERMANY	DLRG	www.dlrg.de
			SAFETY SIGNAGE IN AQUATICS FACILITIES	Poster and information boards relating to water safety in swimming pool and other aquatics facilities	RFESS	www.rfess.es	
			SAFETY FLAG ON OPEN WATER	RFESS gives a signal indicating that the space has the necessary preventive measures to be considered safe.	RFESS	www.rfess.es	
			SAFETY FLAG ON AQUATIC FACILITIES	RFESS gives a signal indicating that the facility has the necessary preventive measures to be considered safe.	RFESS	www.rfess.es	
			International Standard	Draft standard being developed by the International Organisation for Standardisation (ISO TC 145/SC 3)	ISO	ISO (Draft)	Not yet available to the public
			Standard Aquatic Signage	A risk assessment process followed by a signage prescription to local territorial authorities.	NZ	SLSNZ	www.surflifesaving.org.nz
			Acrylic signage	Signage of hazards as: rip current, danger, marine animals, surf area, boat area, inappropriate for bathing.	BRAZIL	SOBRASA	www.sobrasa.org
			Signage	Hole in the ice (marked with rope), water depth-signs etc.	FINLAND	The Finnish Association for Swimming Instruction and Life Saving (FSL)	www.suh.fi/in_english/

FACTOR THREE – LACK OF SUPERVISION

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF SUPERVISION	ACTIVITY MANAGEMENT	Training	WORKSHOPS FOR LIFESAVING INSTRUCTOR	Workshop where lifesaving instructor learn and share new rescue techniques	RFESS	www.rfess.es	
			RLSS UK	A complete range of vocational supervisory qualifications are available for open water group management and lone working	UK	RLSS UK	www.rlss.org.uk
			SOS Salva surf	Workshop targeting surfers to provide them with basic assistance and rescue techniques for people at drowning risk. It also involves fist aids and CPR training. It is developed on the beach.	ANGU	www.ang.uruguay.org	
	FIRST AID FACILITIES	Permanent/ Fixed Facilities	Lifeguard Service	1000+ lifeguard stations within Germany have either a portable or fixed first aid room with portable equipment	GERMANY	DLRG	www.dlrg.de
			Drowning Resuscitation Centres (DRC)	These centres are pre-hospital emergency facilities at the beach, attended by a daily medical team, equipped as Emergency Department, specially developed in the 60's to deal with aquatic emergencies. In the last 40 years of its existence more than 10,000 needed medical attention at these facilities.	BRAZIL	GMar-CBMERJ Brazil	http://www.defesacivil.rj.gov.br/

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF SUPERVISION	ACTIVITY MANAGEMENT	Portable First Aid Kits	Portable	The Dutch lifeguards at the beach provide a mobile 4WD with first aid equipment and they drive at the beach and manned by qualified volunteers (these places are not accessible for ambulance)	THE NETHERLANDS	KNBRD	www.reddingsbrigade.nl
			AED for lifeguard towers	Lifeguard towers are equipped with AED along the Rio de Janeiro coast beaches, to provide prompt intervention to more than 1 million people on beaches area.	BRAZIL	GMar-CBMERJ Brazil	http://www.defesacivil.rj.gov.br/
			Portable first aid kits:	Portable first aid equipment	FINLAND	The Finnish Association for Swimming Instruction and Life Saving (FSL)	www.suh.fi/in_english/
	LIFEGUARD SERVICES	After Hours Call Out	24 hour Call Out	A pager system that enables lifeguards to activate appropriate rescue equipment/services 24 hours a day, 7 days a week. This relies on night search and rescue capability	THE NETHERLANDS	KNBRD	www.reddingsbrigade.nl
			Day Light Call Out	A pager system that enables lifeguards to activate appropriate rescue equipment/services during daylight hours, 7 days a week.	THE NETHERLANDS	KNBRD	www.reddingsbrigade.nl
			24 hour Call Out	Lifeguard HQ works at 24 hour call after day light, in a system integrated with ambulance service by a 193 telephone number.	BRAZIL	SOBRASA	www.sobrasa.org
LACK OF SUPERVISION	ACTIVITY MANAGEMENT	After Hours Call-out	National Water Rescue Service	DLRG provides support to Fire Brigades, Disaster prevention etc. with specialised Water Rescue Groups, being available upon request by the authorities all time	GERMANY	DLRG	www.dlrg.de

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
		Beach/Water Closure	Dangerous Surf Conditions	Guidelines to assist service providers in determining their options and acting upon their decisions in a safe and efficient manner in instances where extreme conditions on or at the beach could create serious injury and possibly death	THE NETHERLANDS	KNBRD	www.reddingsbrigade.nl
			Polluted Water	Various countries monitor water quality and will close access to water if the quality of the water does not match a set of standard guidelines.	VARIOUS	Various	
			Polluted Water	In addition, The Foundation for the Environmental Education (FEE) is an organisation that issues a Blue Flag to beaches and marinas that meet certain water quality standards	VARIOUS	The Foundation for the Environmental Education (FEE).	www.blueflag.org/
		Full Service	Beach	More than 80 lifeguard posts have either a portable or fixed first aid room with portable equipment and are located at set intervals so that an 'inter locking' surveillance pattern is established and a wide stretch of coast / beach water is covered	THE NETHERLANDS	KNBRD	www.reddingsbrigade.nl
			Open Water	More than 70 local lifeguard associations have either a portable or fixed first aid room with portable equipment	THE NETHERLANDS	KNBRD	www.reddingsbrigade.nl

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF SUPERVISION	ACTIVITY MANAGEMENT	Full Service (Between the Flags or Open Beach)	Between the Flags	The lifeguards will select the most appropriate area for the public to swim and erect Red and Yellow flags to designate this area. Surf craft will be prohibited from being in this area which will have constant supervision from lifeguards.	UK	RNLI	www.rnli.org.uk
			Between the Flags	The lifeguards will select the most appropriate area for the public to swim and erect Red and Yellow flags to designate this area. Surf craft will be prohibited from being in this area which will have constant supervision from lifeguards.	UK	RLSS UK	www.lifesavers.org.uk
			Between the Flags	The lifeguards will select the most appropriate area for the public to swim and erect Red and Yellow flags to designate this area. Surf craft will be prohibited from being in this area which will have constant supervision from lifeguards.	UK	RNLI	www.rnli.org.uk
			Between the Flags	The lifeguards will select the most appropriate area for the public to swim and erect Red and Yellow flags to designate this area. Surf craft will be prohibited from being in this area which will have constant supervision from lifeguards.	UK	RLSS UK	www.rlss.org.uk

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF SUPERVISION	ACTIVITY MANAGEMENT	Full Service (Between the Flags or Open Beach)	Between the Flags	The lifeguards will select the most appropriate area for the public to swim and erect Red and Yellow flags to designate this area. Surf craft will be prohibited from being in this area which will have constant supervision from lifeguards.	Pakistan	Pakistan Life Saving Foundation (PALS Rescue)	www.pals.pk
			Between the Flags	The lifeguards will select the most appropriate area for the public to swim and erect Red and Yellow flags to designate this area. Surf craft will be prohibited from being in this area which will have constant supervision from lifeguards.	AUSTRALIA	RLSS Australia	www.rlssq.com.au
			Open Beach	A series of patrol towers are located at set intervals so that an 'inter locking' surveillance pattern can be established with a wide stretch of water covered and each lifeguard in a position to cover and/or back up other lifeguards	USA	USLA	www.usla.org
			Between the Flags	The lifeguards will select the most appropriate area for the public to swim and erect Red and Yellow flags to designate this area. Surf craft will be prohibited from being in this area which will have constant supervision from lifeguards.	USA	USLA	www.usla.org

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF SUPERVISION	ACTIVITY MANAGEMENT	Full Service (Between the Flags or Open Beach)	Between the Flags	The lifeguards will select the most appropriate area for the public to swim and erect Red and Yellow flags to designate this area. Surf craft will be prohibited from being in this area which will have constant supervision from lifeguards.	NZ	SLNZ	www.surflifesaving.org.nz
			Open Beach	In an open system, using fixed towers with a different range of 500 to 1000 meters and mobile towers (tends/chairs) between those, depending on the daily crowd, at the beach.	BRAZIL	SOBRASA	www.sobrasa.org
		Intermittent (Roving)	Roving	Usually consisting of 2 lifeguards who move along a stretch of water in periodic intervals to extend the area of surveillance. One lifeguard will normally attend to a rescue while the other will provide communications and backup in need.	Pakistan	Pakistan Life Saving Foundation (PALS Rescue)	www.pals.pk
			Roving	Usually consisting of 2 lifeguards who move along a stretch of water in periodic intervals to extend the area of surveillance. One lifeguard will normally attend to a rescue while the other will provide communications and backup in need.	AUSTRALIA	RLSS Australia	www.rlssq.com.au
		International Assistance Initiatives	RLSS UK	RLSS UK and RLSS Commonwealth run various international programmes including support to Gambia and Ghana.	UK	RLSS UK	www.rlss.org.uk

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF SUPERVISION	ACTIVITY MANAGEMENT	International Assistance Initiatives	Germany – East Europe	Germany is running an ongoing water/surf rescue development aid programme to assist the life saving organisations in Croatia, Latvia, Lithuania, Ukraine, Romania and Russia.	GERMANY	DLRG	www.dlrg.de
			Multi-Language Bathing rules	Translations of basic water Safety rules into different languages, including travel advises and supervision	GERMANY	DLRG	www.dlrg.de
			Australia – Thailand	RLSSA have programmes in Thailand in partnership with the Alliance for Safe Children, assisting with learn to swim, CPR, instructor training and setting up an in country program	AUSTRALIA	RLSS Australia	www.royallifesaving.com.au
			Australia – Bangladesh	RLSSA have programmes in Bangladesh in partnership with the Alliance for Safe Children, assisting with learn to swim, CPR, instructor training and setting up an in country program	AUSTRALIA	RLSS Australia	www.royallifesaving.com.au
			Australia – Vietnam	RLSSA have programmes in Vietnam in partnership with the Alliance for Safe Children, assisting with learn to swim, CPR, instructor training and setting up an in country program	AUSTRALIA	RLSS Australia	www.royallifesaving.com.au
			Germany – Israel	Germany is now working with Israel to assist with the development of public education initiatives to increase water safety awareness in Israel.	ISRAEL	Israel	Contact DLRG or email Israel on ilseisrael@gmail.com
			Brasil-Venezuela	IRB lifeguard rescue course	BRAZIL	SOBRASA	www.sobrasa.org
			Brasil-Chile	IRB lifeguard rescue course	BRAZIL	SOBRASA	www.sobrasa.org
			Brasil-Uruguai	IRB lifeguard rescue course	BRAZIL	SOBRASA	www.sobrasa.org

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF SUPERVISION	ACTIVITY MANAGEMENT	International Assistance Initiatives	Brasil-Portugal	Jet Ski Lifeguard rescue course	BRAZIL	SOBRASA	www.sobrasa.org
			United States Lifesaving Association	America's non-profit, professional association of beach lifeguards and open water rescuers.	USA	USLA	www.usla.org
		Operational Support	SLSGB Rescue Board Qualification	Advanced skills in paddle board operations to support an extreme conditions	UK	RLSS UK	www.lifesavers.org.uk
			SLSGB RWC Qualification		UK	RLSS UK	www.lifesavers.org.uk
			SLSGB Inland Flood Rescue Teams	Inland Rescue Boats up to 6M used to extend lifesaving services over a wide area. Not used for surf rescues but ideal for providing a platform from which lifesavers can perform a rescue or assist another boat in distress.	UK	RNLI	www.rnli.org.uk
			SLSGB Search & Rescue	Training lifeguard team to support SAR protocols in coastal, inland water to support local emergency services - includes missing person operations, UAV's both aerial and underwater			
			SLSGB First Responder	Training lifeguards and flood rescue teams in additional module training for airway management, spinal , casualty evacuation, oxygen, AED as part of a full team			
			SLSGB Inflatable Rescue Craft	An inflatable rescue craft 3.8M and larger used for inshore rescues. Ideal for rescues within the surf zone	UK	RNLI	www.rnli.org.uk

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF SUPERVISION	ACTIVITY MANAGEMENT	Operational Support	Offshore Rescue Boats	Large Rescue Boats up to 10M used to extend lifesaving services over a wide area. Not used for surf rescues but ideal for providing a platform from which lifesavers can perform a rescue or assist another boat in distress.	UK	RNLI	www.rnli.org.uk
			Inflatable Rescue Craft	An inflatable rescue craft 3.8M and larger used for inshore rescues. Ideal for rescues within the surf zone	UK	RNLI	www.rnli.org.uk
			Risk Assessment	Europe-wide harmonized system to evaluate beaches and defines sufficient level of guidance to beach owners/public safety responsibility	GERMANY	DLRG	www.dlrg.de
			Offshore Rescue Boats	Large Rescue Boats up to about 10M used to extend lifesaving services over a wide area. Not used for surf rescues but ideal for providing a platform from which lifesavers can perform a rescue or assist another boat in distress and supervise water sport competitions	GERMANY	DLRG	www.dlrg.de
			Inflatable Rescue Craft	An inflatable rescue craft 3.5M and larger used for inshore rescues. Ideal for rescues within the surf zone	GERMANY	DLRG	www.dlrg.de
			Radio Communication	Guidelines on the use of two way radio communications for lifesaving and lifeguarding service provision.	GERMANY	DLRG	www.dlrg.de
			General Communication Equipment	Guidance on the selection and use of electronic communications equipment to aid lifesaving and lifeguarding operations and in emergency situations.	GERMANY	DLRG	www.dlrg.de

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF SUPERVISION	ACTIVITY MANAGEMENT	Operational Support	Scuba Diving Equipment	Available within 2000+ life saving clubs in Germany	GERMANY	DLRG	www.dlrg.de
			Inflatable Rescue Craft	An inflatable rescue craft 3.8M and larger used for inshore rescues. Ideal for rescues within the surf zone	Pakistan	Pakistan Life Saving Foundation (PALS Rescue)	www.pals.pk
			Radio Communication	Guidelines on the use of two way radio communications for lifesaving and lifeguarding service provision.	Pakistan	Pakistan Life Saving Foundation (PALS Rescue)	www.pals.pk
			General Communication Equipment	Guidance on the selection and use of electronic communications equipment to aid lifesaving and lifeguarding operations and in emergency situations.	Pakistan	Pakistan Life Saving Foundation (PALS Rescue)	www.pals.pk
			Volunteers	Under support of a central professional organisation 160 lifesaving clubs with in excess of 5000 members volunteer to patrol beaches and open water locations at weekends and public holidays. Research and Development of new equipment	THE NETHERLANDS	KNBRD	www.reddingsbrigade.nl
			Lifeguard Training Resources	Published several lifeguard – water safety books for lifeguards, instructors, general public.	THE NETHERLANDS	KNBRD	www.reddingsbrigade.nl
			Inflatable Rescue Craft	A large number (ca. 150) of inflatable rescue craft 4.8M and larger used for offshore rescues at sea within the surf zone as well as in the bathing zone	THE NETHERLANDS	KNBRD	www.reddingsbrigade.nl
			Inflatable Rescue Craft	A large number (ca. 50) of inflatable rescue craft 4.8M and larger used for inshore rescues within the surf zone as well as in the bathing zone	THE NETHERLANDS	KNBRD	www.reddingsbrigade.nl

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF SUPERVISION	ACTIVITY MANAGEMENT	Operational Support	Aluminium Rescue Craft	A fleet of 30 aluminium rescue craft 5.5 M used for inshore rescues and evacuation by a flood disaster	THE NETHERLANDS	KNBRD	www.reddingsbrigade.nl
			Polyester Rescue Craft	A fleet of 50 polyester rescue craft 4.4 M used for inshore rescues and evacuation by a flood disaster	THE NETHERLANDS	KNBRD	www.reddingsbrigade.nl
			Rescue Water Craft (Jet Skis)	The Dutch lifeguards have well established Rescue Water Craft capability with training manuals and guidelines for use. Ideal for rescues in large surf where their power and manoeuvrability are invaluable.	THE NETHERLANDS	KNBRD	www.reddingsbrigade.nl
			Radio Communication	Guidelines on the use of two way radio communications for lifesaving and lifeguarding service provision.	THE NETHERLANDS	KNBRD	www.reddingsbrigade.nl
			General Communication Equipment	Guidance on the selection and use of electronic communications equipment to aid lifesaving and lifeguarding operations and in emergency situations.	THE NETHERLANDS	KNBRD	www.reddingsbrigade.nl
			Lifesaving Sport	It enhances solidarity, collaboration and gender inclusion through promoting its practice and Competitions. It targets adolescents from public and private schools.	ANGU	www.ang.uruguay.org	
			Husake Rescue Ski	A traditional form of rescue equipment, this 3m long, 1m wide fibreglass ski (paddled by a lifeguard standing up) is big enough to carry 2 rescuers and is the most widely used rescue asset in Israel.	ISRAEL	Israel	ilseisrael@gmail.com

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF SUPERVISION	ACTIVITY MANAGEMENT	Operational Support	Buoyancy Rain Gear for Fisherman	Rain Gear for fisherman has been developed with buoyancy built into the pants that keep the fisherman upright should an unexpected immersion event occur.	NORWAY	Red Cross Norway	www.redcross.no
			Rescue Water Craft (Jet Skis)	Both Australia and Hawaii have well established Rescue Water Craft capability with training manuals and guidelines for use. Ideal for rescues in large surf where their power and manoeuvrability are invaluable.	USA	USLA – Hawaii	www.aloha.com/~lifeguards/hla.html
			Rescue Water Craft (Jet Skis)	USLA PWC Standards	USA	USLA	www.usla.org/PublicInfo/library/PersonalWatercraftTrainingGuidelinesUSLA27JAN05.pdf
			Helicopter	Rescues and medical helicopters used for surveillance, rescue and medical attendance, especially in areas with difficult access and at busy days.	BRAZIL	SOBRASA	www.sobrasa.org
			Adapted Surfboards for rescues	Long surfboards, up to 10 feet, adapted with straps are used all over the country as an important rescue tool.	BRAZIL	SOBRASA	www.sobrasa.org
		Paid Lifeguards	Full service on Germany Coasts	Centralized Rescue Service on German beaches during summer operations. Majority of Lifeguards (99%) is voluntary.	GERMANY	DLRG	www.dlrg.de
		Surveillance	Surveillance	Surveillance from a vantage point including cliff tops, towers etc as well as through the use of cameras with the operator being able to monitor several locations (beaches) or angles (pools)	AUSTRALIA	RLSS Australia	www.rlssq.com.au

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF SUPERVISION	ACTIVITY MANAGEMENT	Volunteer	Volunteer @ PALS	A volunteer program to help assist in all aspects of lifesaving, from lifeguarding to fundraising.	Pakistan	Pakistan Life Saving Foundation (PALS Rescue)	www.pals.pk
			Volunteer	A volunteer system comprising of royal life saving clubs to patrol beaches at weekends and public holidays in Queensland.	AUSTRALIA	RLSS Australia	www.rlssq.com.au
		Volunteer system	Nationwide Water rescue service	nationwide water rescue service on beaches, open water and inland water - ranging from lifesavers to rescue boats (typically from May to October)	GERMANY	DLRG	www.dlrg.de
			Ice Rescue	Training course, public information and rescue services (where appropriate and required)	GERMANY	DLRG	www.dlrg.de
		Zoning	Zoning	Zoning: Water access is zoned according to the activity so that there is less likelihood of accidental injury or death by drowning.	FINLAND	The Finnish Association for Swimming Instruction and Life Saving (FSL)	www.suh.fi/in_english/
			Activity restrictions	Beach/water closure: Polluted water. In Finland health inspectors monitor water quality and will close access to water if the quality of the water does not match a set of standard guidelines.	FINLAND	The Finnish Association for Swimming Instruction and Life Saving (FSL)	www.suh.fi/in_english/

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF SUPERVISION	ACTIVITY MANAGEMENT	Trained Activity Supervisors for events	SLSGB Supervisory Qualifications	Qualified Managers to operate aquatic event safety. Covers legal obligation, risk management, safeguarding, surveillance, understanding drowning, emergency procedures, search methodology and hydrology. The emergency service and associated relevant volunteer agencies	UK	RLSS UK	www.lifesavers.org.uk
	TRAINED OBSERVERS	Parental /carer supervision	Parental /carer supervision	Promotion: the minimum age and swimming ability for a child to come to swimming pool alone Reminding of the fact that lifeguard is not a babysitter	FINLAND	The Finnish Association for Swimming Instruction and Life Saving (FSL)	www.suh.fi/in_english/
		Promotion	Promotion	Promotion of importance of parental/carers supervision of children in an aquatic environment	AUSTRALIA	RLSS Australia	www.royallifesaving.com.au
		Trained Activity Supervisors	SLSGB Qualifications Framework	A full framework of qualifications, pathways and training for lifeguards in UK. Incorporates training manuals and resources as part of training programmes within the framework. External organisations accredited to deliver training on behalf of SLSGB.	UK	SLSGB	www.surflifesaving.org.uk
			Supervisory Qualifications	A complete range of supervisory qualifications are available including, National Pool Lifeguard, National Beach Lifeguard, National Rescue Award for Swimming Teachers and Coaches, Aquatic Therapy Shallow Pool Rescue Award, and Emergency - Response Activity Supervisor	UK	RLSS UK	www.rlss.org.uk

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF SUPERVISION	ACTIVITY MANAGEMENT	Trained Activity Supervisors	SLSGB Qualifications Framework	A full framework of qualifications, pathways and training for lifeguards in UK. Incorporates training manuals and resources as part of training programmes within the framework. External organisations accredited to deliver training on behalf of SLSGB.	UK	SLSGB	www.surflifesaving.org.uk
			DLRG Qualifications Framework	A full framework of qualifications, pathways and training for lifeguards in Germany. Incorporates training manuals and resources as part of training programmes within the framework.	GERMANY	DLRG	www.dlrg.de
			Employees in Kindergartens	Special training for employees in Kindergartens to supervise any activity in or close to water and to support children's first step to become water smart	GERMANY	DLRG	www.dlrg.de
			Teachers	Special training for (school) teachers to supervise and perform water based activities during school activities	GERMANY	DLRG	www.dlrg.de
			Pool Lifeguard Programme	Vocational training programme aimed at lifeguards in an aquatic centre environment	Pakistan	Pakistan Life Saving Foundation (PALS Rescue)	www.pals.pk
			SLSA Qualifications Framework	A full framework of qualifications, pathways and training for lifeguards in Pakistan. Incorporates training manuals and resources as part of training programmes within the framework.	Pakistan	Pakistan Life Saving Foundation (PALS Rescue)	www.pals.pk

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF SUPERVISION	ACTIVITY MANAGEMENT	Trained Activity Supervisors	Pool Lifeguard Programme	Vocational training programme aimed at lifeguards in an aquatic centre environment	AUSTRALIA	RLSS Australia	www.royallifesaving.com.au
			RLSSA Qualifications Framework	A full framework of qualifications, pathways and training for pool lifeguards in Australia. Incorporates training manuals and resources as part of training programmes within the framework.	AUSTRALIA	RLSS Australia	www.royallifesaving.com.au
			SLSNZ Qualifications Framework	A full framework of qualifications, pathways and training for lifeguards in New Zealand. Incorporates training manuals and resources as part of training programmes within the framework.	NZ	SLSNZ	www.surflifesaving.org.nz SLSNZ Lifeguard Manual SLSNZ Instructor Manual SLSNZ IRB Manual
			Trained observers	Trained activity supervisors: qualifications framework of the Finnish association for Swimming Instruction and Life Saving; A full framework of qualifications, pathways and training for lifeguards in Finland. Incorporates training manuals and resources as part of training programs within the framework.	FINLAND	The Finnish Association for Swimming Instruction and Life Saving (FSL)	www.suh.fi/in_english/
			Irish Water Safety Qualifications Framework	A full framework of qualifications, pathways and training for lifeguards in Ireland. Incorporates training manuals and resources as part of training programmes within the framework.	IRE	Irish Water Safety	www.iws.ie DVD – use of spinal stretchers Lifeguard Manual

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
LACK OF SUPERVISION	ACTIVITY MANAGEMENT	Trained Activity Supervisors	Lifeguard Training Programme	Lifeguards trained for 80 hours. Includes physical testing, rescue training. In progress of making DVD to assist with training,	SOUTH KOREA	South Korea LSS	Lifeguard Manual LG Training DVD – In Production
			USLA Standards	A full framework of qualifications, pathways and training for lifeguards in USA	USA	USLA	www.usla.org/Train%2B Cert/
			Aqua naught / Elementary / Bronze Medallion Framework	A pathway for the development of lifesaving skills for members to develop lifesaving skills.	MALAYSIA	LSS Malaysia	Zaidchelva03@yahoo.com
			Lifeguard Training Resources	Published several lifeguard – water safety books for lifeguards, instructors, general public. Also produced 2 DVD resources.	GREECE	ELA Greece	Under construction
			Surf Lifeguard Training Programme	Lifeguards full trained for 110 hours.	BRAZIL	Sobrasa	http://www.sobrasa.org/cursos/cursos.htm
			Poll Lifeguard Training Programme	Lifeguards full trained for 55 hours.	BRAZIL	Sobrasa	http://www.sobrasa.org/cursos/cursos.htm
			River Lifeguard Training Programme	Lifeguards full trained for 80 hours	BRAZIL	Sobrasa	http://www.sobrasa.org/cursos/cursos.htm
			Jet Ski Lifeguard rescue course	32 hours (also international trained in Portugal to ISN)	BRAZIL	Sobrasa	http://www.sobrasa.org/cursos/cursos.htm
			IRB lifeguard rescue course	32 hours (also international trained to Venezuela(YMCA) and Chile)	BRAZIL	Sobrasa	http://www.sobrasa.org/cursos/cursos.htm
			Lifeguard National Force	Fireman and policeman receive a Lifeguard fully trained for 200 hours, including all aspects of beaches, rivers, flooding, to attend a water disaster anywhere within the country.	BRAZIL	SOBRASA	www.sobrasa.org

FACTOR FOUR – INABILITY TO COPE ONCE IN DIFFICULTY

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
INABILITY TO COPE ONCE IN DIFFICULTY	COMMUNITY EDUCATION	Public Rescue Skills	Bronze e-Lifesaving	Bronze e-Lifesaving is an interactive e-learning program that challenges and engages youth on issues such as risk-taking behaviour, peer influences and alcohol consumption when recreating in and around water. It invites learners to engage with learning content that will equip them to be safer around water.	AUSTRALIA	LSV	www.lifesavingvictoria.com.au
			City Nippers	Programme open to public for children to attend surf survival training sessions / safe use of beaches and aquatic environments.	NZ	SLSNZ	www.surflifesaving.org.nz
			City Nippers	Programme open to public for children to attend surf survival training sessions / safe use of beaches and aquatic environments.	NZ	SLSNZ	www.surflifesaving.org.nz
			Junior (Nipper) Programme	46,000 children from the age of 5 to 14 are trained every week during summer on Australian beaches as part of a voluntary service to the public with the aim that many will obtain their bronze medallions and become part of the volunteer lifesaving service	AUSTRALIA	SLSA	www.slsa.com.au
			Junior Lifeguard Programme	The Hawaiian Lifeguard Association has established a Junior Lifeguard programme “To increase the self-confidence, physical conditioning, and ocean awareness of programme participants through their introduction to ocean and beach safety, first aid, and surf rescue techniques.”	USA	Ocean Safety and Lifeguard Services of Hawaii	www.aloha.com/~lifeguards/jrguards.html

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
INABILITY TO COPE ONCE IN DIFFICULTY	COMMUNITY EDUCATION	Public Rescue Skills	Junior Lifeguard Programme	The Hawaiian Lifeguard Association has established a Junior Lifeguard programme "To increase the self-confidence, physical conditioning, and ocean awareness of programme participants through their introduction to ocean and beach safety, first aid, and surf rescue techniques."	USA	Ocean Safety and Lifeguard Services of Hawaii	www.aloha.com/~lifeguards/jrguards.html
			Lifesaving Clinics – Public	Clinics delivered to members of the public on last Saturday each month. Includes information on public rescue techniques, dry lifesaving classes. Provide lifesaving training courses to the public.	SINGAPORE	Singapore LSS	www.slss.org.sg
			Lifesaving Clinics – Public	Clinics delivered to members of the public on last Saturday each month. Includes information on public rescue techniques, dry lifesaving classes.	SINGAPORE	Singapore LSS	www.slss.org.sg
			Lifesaving Clinics – Public	Clinics delivered to members of the public on last Saturday each month. Includes information on public rescue techniques, dry lifesaving classes.	SINGAPORE	Singapore LSS	www.slss.org.sg
			Range of Lifesaving awards for the public	A range of Lifesaving awards covering water safety, personal survival, self-rescue, public rescue, and Lifesaving sport.	UK	RLSS UK	www.lifesavers.org.uk
			Range of Lifesaving awards for the public	A range of Lifesaving awards covering water safety, personal survival, self-rescue, public rescue, and Lifesaving sport.	UK	RLSS UK	www.rlss.org.uk

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
INABILITY TO COPE ONCE IN DIFFICULTY	COMMUNITY EDUCATION	Public Rescue Skills	RLSSA Bronze Medallion	A community lifesaving programme aimed at developing rescue, survival and lifesaving skills.	AUSTRALIA	RLSS Australia	www.royallifesaving.com.au
			RLSSA Grey Medallion	A community lifesaving programme aimed at developing rescue, survival and lifesaving skills for seniors (Over 60 yrs).	AUSTRALIA	RLSS Australia	www.royallifesaving.com.au
		Self-Rescue Skills	Lifeguard Technician Course	A complete water safety package including skills in diving, swimming, life guarding.	PORTUGAL	Portugal	
			Lifeguard Technician Course	A complete water safety package including skills in diving, swimming, life guarding.	PORTUGAL	Portugal	
			Public rescue skills	<p>Junior Lifesaver clubs, which are for children/young people between the ages of 8 to 15. Club members will learn the water safety and anticipation of situations and to respect the water element.</p> <p>The Finnish Association for Swimming Instruction and Life Saving (FSL) educate instructors.</p>	FINLAND	The Finnish Association for Swimming Instruction and Life Saving (FSL)	www.suh.fi/in_english/
		Public rescue skills	<p>Junior Lifesaver clubs, which are for children/young people between the ages of 8 to 15. Club members will learn the water safety and anticipation of situations and to respect the water element.</p> <p>The Finnish Association for Swimming Instruction and Life Saving (FSL) educate instructors.</p>	FINLAND	The Finnish Association for Swimming Instruction and Life Saving (FSL)	www.suh.fi/in_english/	

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
INABILITY TO COPE ONCE IN DIFFICULTY	COMMUNITY EDUCATION	Self-Rescue Skills	Range of Lifesaving awards for the public	A range of Lifesaving awards covering water safety, personal survival, self-rescue, public rescue, and Lifesaving sport.	UK	RLSS UK	www.lifesavers.org.uk
			Range of Lifesaving awards for the public	A range of Lifesaving awards covering water safety, personal survival, self-rescue, public rescue, and Lifesaving sport.	UK	RLSS UK	www.rlss.org.uk
			Swim for Life Programme	Community based programme teach children basic swimming and survival skills. Completed in local rivers, lakes or other aquatic environments where people swim. A unique bamboo cage provides a man-made fence within the environment to ensure safety of participants. Completed on a 1 instructor to 4 children ratio.	BANGLADESH	CIPR Bangladesh	www.ciprb.org
			Swim for Life Programme	Community based programme teach children basic swimming and survival skills. Completed in local rivers, lakes or other aquatic environments where people swim. A unique bamboo cage provides a man-made fence within the environment to ensure safety of participants. Completed on a 1 instructor to 4 children ratio.	BANGLADESH	CIPR Bangladesh	www.ciprb.org

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
INABILITY TO COPE ONCE IN DIFFICULTY	COMMUNITY EDUCATION	Self-Rescue Skills	Swim to Survive	Programme consists of 3 skills over 3 1 hour sessions delivered to Grade 3 students (8 yrs). Participants are trained to swim 50m, tread water for 1 minute and also get training through unexpected immersion simulations (i.e. falling off a boat). Delivered to 45,000 children in year 1.	CANADA	RLSS Canada	www.lifesaving.ca
			Swim to Survive	Programme consists of 3 skills over 3 1 hour sessions delivered to Grade 3 students (8 yrs). Participants are trained to swim 50m, tread water for 1 minute and also get training through unexpected immersion simulations (i.e. falling off a boat). Delivered to 45,000 children in year 1.	CANADA	RLSS Canada	www.lifesaving.ca
		Survival Skills Education for Public	“Stay on surface”	Survival skills education for public: “Stay on surface” –course for adults. Water safety -and survival skills with good swimming skills are good civic skills, which everyone must know.	FINLAND	The Finnish Association for Swimming Instruction and Life Saving (FSL)	www.suh.fi/in_english/
			“Stay on surface”	Survival skills education for public: “Stay on surface” –course for adults. Water safety -and survival skills with good swimming skills are good civic skills, which everyone must know.	FINLAND	The Finnish Association for Swimming Instruction and Life Saving (FSL)	www.suh.fi/in_english/
			Hit the Surf Programme	1 day water based surf education scheme aimed at 8-12 year olds.	UK	RNLI	www.rnli.org.uk

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
INABILITY TO COPE ONCE IN DIFFICULTY	COMMUNITY EDUCATION	Survival Skills Education for Public	Open Water Learning Experience	The program comprises fun and educational activities that provide students with a practical approach to familiarising themselves with their local open water environments. With a major emphasis on water safety, the program teaches and empowers students to use lifesaving skills. The program is conducted in a range of aquatic environments including rivers, lakes, dams, beaches and pools.	AUSTRALIA	LSV	www.lifesavingvictoria.com.au
			Paddle Safe	Paddle Safe is a state-wide education and skills program developed by MAST and Surf Life Saving Tasmania and supported by the Tasmanian Water Safety Council (TWSC) who has consistently identified lightweight paddle craft as a high risk recreation. This practical program aims to educate recreational paddlers about safety and paddle skill development.	AUSTRALIA	SLST	www.slst.asn.au
			Public Lifesaving Education	Lifesaving training/education classes provided for members of the public by Irish Water Safety volunteers. System of various swimming awards and lifesaving awards in place. Available on IWS website.	IRE	Irish Water Safety	www.iws.ie

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
INABILITY TO COPE ONCE IN DIFFICULTY	COMMUNITY EDUCATION	Survival Skills Education for Public	Public Lifesaving Education	Lifesaving training/education classes provided for members of the public by Irish Water Safety volunteers. System of various swimming awards and lifesaving awards in place. Available on IWS website.	IRE	Irish Water Safety	www.iws.ie
			Range of community education programs	A full range of life stage specific programs and targeted at risk population programs to educate on surf safety principles and develop aquatic skills.	AUSTRALIA	SLSA	www.slsa.asn.au
			Range of Lifesaving awards for the public	A range of Lifesaving awards covering water safety, personal survival, self-rescue, public rescue, and Lifesaving sport.	UK	RLSS UK	www.rlss.org.uk
			Sea Survival	Under Development	UK	RNLI	www.rnli.org.uk
			Sink or Swim	The program aims to enhance the student's knowledge and understanding of a range of aquatic environments but in particular; beachers, rivers, lakes, dams and creeks. SINK OR SWIM focuses on the student's relationship with water, while enhancing their capacity to make safer choices in aquatic environments, thereby preventing dangerous situations, accidents and drowning.	AUSTRALIA	LSV	www.lifesavingvictoria.com.au
			SLSGB Junior Lifeguard Program	2 day water based surf education scheme aimed at 8-12 year olds.	UK	RNLI	www.rnli.org.uk
			SLSGB schools program in Devon	1 day water based surf n safety education	UK	RNLI	www.rnli.org.uk

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
INABILITY TO COPE ONCE IN DIFFICULTY	COMMUNITY EDUCATION	Survival Skills Education for Public	SLSGB Women in Waves	A range of Lifesaving awards covering water safety, personal survival, self-rescue, public rescue, and Lifesaving sport.	UK	RLSS UK	www.lifesavers.org.uk
			Swim for Life	A programmed aimed at teaching children in New Zealand to swim 200m	NZ	Water Safety NZ	www.watersafety.org.nz
			Swim for Life	A programmed aimed at teaching children in New Zealand to swim 200m	NZ	Water Safety NZ	www.watersafety.org.nz
			Swimming / Lifesaving Training Programmes	Delivered to adults in cities mainly close to swimming pools. Basic swimming and water survival skills.	TRINIDAD & TOBAGO	Trinidad and Tobago LSS	
			Swimming / Lifesaving Training Programmes	Delivered to adults in cities mainly close to swimming pools. Basic swimming and water survival skills.	TRINIDAD & TOBAGO	Trinidad and Tobago LSS	
			Swimming and Lifesaving Skills	Available to all members of the community/all ages	GERMANY	DLRG	www.dlrg.de
			Water Smart Award	The Water Smart Award is an educational program to teach vital safety information in order for children to be aware of dangers in a range of aquatic environments, promote safe behaviour and have the ability to deal with a basic emergency situation.	AUSTRALIA	LSV	www.lifesavingvictoria.com.au
	EMERGENCY COMMUNICATIONS	Dedicated Emergency Telephone	Dedicated Emergency Telephone	Guidance on the selection and use of electronic communications equipment to aid lifesaving and lifeguarding operations and in emergency situations.	AUSTRALIA	SLSA	www.slsa.com.au Australian Coastal Public Safety Guidelines LE1531
		Outpost Alarms	Outpost Alarm System	Vandal proof, hands free operation, with no moving parts containing dedicated telephone call point and usually containing a GPS system for quick reference	AUSTRALIA	SLSA	www.slsa.com.au

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
INABILITY TO COPE ONCE IN DIFFICULTY	EMERGENCY COMMUNICATIONS	Outpost Alarms	Outpost Alarm System	Vandal proof, hands free operation, with no moving parts containing dedicated telephone call point and usually containing a GPS system for quick reference	UK	RNLI	www.rnli.org.uk
		Public Telephone	Public Telephone	Different countries have an Emergency Communication number – Australia 000, US 911. Mobile phones in Australia use 211	VARIOUS	Various as per local requirements	
			Public Telephone	Different countries have an Emergency Communication number – Australia 000, US 911. Mobile phones in Australia use 211	VARIOUS	Various as per local requirements	
		Radio Communications	Emergency communications	Emergency communications Public telephone: Europe and in Finland Emergency number is 112 Outpost alarms: Dedicate emergency telephone: Radio communications:	FINLAND	The Finnish Association for Swimming Instruction and Life Saving (FSL)	www.suh.fi/in_english/
			Emergency communications	Emergency communications Public telephone: Europe and in Finland Emergency number is 112 Outpost alarms: Dedicate emergency telephone: Radio communications:	FINLAND	The Finnish Association for Swimming Instruction and Life Saving (FSL)	www.suh.fi/in_english/
			Radio Communication	Guidelines on the use of two way radio communications for lifesaving and lifeguarding service provision.	AUSTRALIA	SLSA	www.slsa.com.au Australian Coastal Public Safety Guidelines LE1530

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
INABILITY TO COPE ONCE IN DIFFICULTY	FLOATION DEVICES	Personal Floatation Devices	Buoyancy Vests	Various products are available	VARIOUS	Various	
			Buoyancy Vests	Various products are available	VARIOUS	Various	
			Life Jackets	Many countries specify that personal floatation devices (PFD's) must be worn when boating	UK	Refer to Personal Floatation Device Manufacturers Association	www.pfdma.org/
			Personal floating devices	Life jackets, In Finland life jackets are compulsory in the boat. Wearing the life jacket is (unfortunately) still voluntary.	FINLAND	The Finnish Association for Swimming Instruction and Life Saving (FSL)	www.suh.fi/in_english/
			Personal floating devices	Life jackets, In Finland life jackets are compulsory in the boat. Wearing the life jacket is (unfortunately) still voluntary.	FINLAND	The Finnish Association for Swimming Instruction and Life Saving (FSL)	www.suh.fi/in_english/
			SLSGB Life Jackets	SLSGB gives advice on the correct fitting of PFD's, Lifejackets and the appropriate PPE for in water operations	UK	Refer to Personal Floatation Device Manufacturers Association	www.pfdma.org/
	PUBLIC RESCUE EQUIPMENT	Lifebuoys	Lifebuoys	A positive floatation/buoyancy of at least 50N to help support the casualty in the water.	UK	Refer to RNLI "A guide to Coastal Public Rescue Equipment	www.rnli.org.uk.lifeguards
			Public rescue equipment	Lifebuoys: Ring buoys Throw lines: Throw bags Equipment and fixtures: Ladders in harbors	FINLAND	The Finnish Association for Swimming Instruction and Life Saving (FSL)	www.suh.fi/in_english/

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
INABILITY TO COPE ONCE IN DIFFICULTY	PUBLIC RESCUE EQUIPMENT	Lifebuoys	Public rescue equipment	Lifebuoys: Ring buoys Throw lines: Throw bags Equipment and fixtures: Ladders in harbors	FINLAND	The Finnish Association for Swimming Instruction and Life Saving (FSL)	www.suh.fi/in_english/
			Ring Buoys	A positive floatation device to help support a casualty in the water.	USA	Refer US Coast Guard specifications	www.recreonics.com/ring_buoys.htm
			Ring Buoys	Ring buoys are extensively used in Ireland. On every beach there is a ring buoy placed on a protective box every 100metres	IRE	Irish Water Safety	www.iws.ie
			Ring Buoys	A positive floatation device to help support a casualty in the water.	USA	Refer US Coast Guard specifications	www.recreonics.com/ring_buoys.htm
			Ring Buoys	Ring buoys are extensively used in Ireland. On every beach there is a ring buoy placed on a protective box every 100metres	IRE	Irish Water Safety	www.iws.ie
		Other Extraction Equipment and Fixtures	Various	Refer to testing results RNLI Guide to Coastal Public Rescue Equipment	UK	Refer to RNLI "A guide to Coastal Public Rescue Equipment"	www.rnli.org.uk.lifeguards
		Throw Lines	Junior Lifeguard Programme	Prevention education based on water competencies developed in pools. It includes three workshops: Coastal dynamics, Health promotion and First aids. It targets 11 and 12 years old school students.	ARGENTINA	ANGU	www.ang.uruguay.org
			LIFESAVING CAMPS	Rescue and first aid specializing camps for school children	SPAIN	RFESS	www.rfess.es

FACTOR	CATEGORY	SUB-CATEGORY	INITIATIVE	DESCRIPTION	COUNTRY	ORGANISATION	Resource/Website link
INABILITY TO COPE ONCE IN DIFFICULTY	PUBLIC RESCUE EQUIPMENT	Throw Lines	LIFESAVING COURSE	Training courses in lifesaving skills aimed at preventing drowning for children	SPAIN	RFESS	www.rfess.es
			Sea school	Education on prevention on beaches, through sports and games adapted to the natural environment (surf, kayak). It targets from 8 years old children to adults with no age limit. It is an inclusive activity for people with intellectual, visual and physical disabilities.	ARGENTINA	ANGU	www.ang.uruguay.org
			SELF-RESCUE BABY	Learning program where baby learn the skills to self-rescue	SPAIN	RFESS/FECLESS	www.rfess.es
			Throw Lines	Throw bags/lines are recommended for coastal locations, tidal inlets and estuaries. However, throw bags should have at least 40N of positive buoyancy at the end of the line to assist the casualty. Most suitable for swift water locations.	UK	Refer to RNLI "A guide to Coastal Public Rescue Equipment"	www.rnli.org.uk.lifeguards

APPENDIX - RISK ASSESSMENT

PRINCIPLES

ILS sees the implementation of risk assessments for all aquatic locations as a key element of the strategies to reduce injury and loss of life or other adverse impact in the aquatic environment.

A generic framework^{xxxv} and the main elements of the risk management process identified are:

- Communication and consultation
- Establish the context
- Risk identification
- Risk analysis
- Risk evaluation
- Development of a risk mitigation plan
- Monitor and review

The risk assessment should ideally:

- Provide a systematic framework for the evaluation of hazards and risk
- Comply with relevant legal and regulatory requirements and international norms
- Be proactive rather than reactive
- Meet the needs of lifesaving services in the submitting nation
- Be based on the best available information
- Be based on best practice and where possible make use of sound science

FRAMEWORK FOR THE ENDORSEMENT OF RISK ASSESSMENT

The model should address the following:

1. Communication and consultation

Key stakeholders both internal and external are identified and engaged

A responsible person or persons are identified

The option of establishing a working group considered

2. Establish the context

Identify any historical data and statistics

Determine the legislative framework

Determine if there are any other advisory standards or guidelines

Determine if there are any other criteria to be achieved

Determine technical expertise required

Identify benchmarks

Identify the need for external advice / consultancy

3. Conduct the risk assessment

3a. Risk identification

Establish the operational environment
Establish a systematic framework for identifying hazards

3b. Risk analysis

Determine what can happen
Determine who might be harmed and how
Identify other potential negative impacts
Determine likelihood and consequences

3c. Risk evaluation

Establish a 'risk score'
Set risk priorities

4. Development of a risk mitigation plan

Identify existing control measures (if any)
Evaluate existing control measures
Identify other treatment options
Evaluate treatment options

5. Monitor and review

Establish review date(s)
Establish criteria for an immediate re-evaluation

CONCLUSIONS

1. Drowning is a leading cause of injury mortality in many parts of the world. ^{(1), (2), (3)}
2. This document has been developed from the perspective of developed countries with a well-established lifeguard framework. Additional research is needed to better understand the appropriate framework for developing nations/regions. This is currently being scoped by the ILS Drowning Prevention Commission.
3. ILS has determined that people drown within developed nations/regions due to one or a combination of preventable factors described in this document as the Drowning Prevention Chain.
4. Death by drowning can be reduced through a combination of appropriate control measures. For example, the Centres for Disease Control and Prevention report “Lifeguard Effectiveness: A Report of the Working Group” states that “Most drownings are preventable through such means as restricting swimming areas, posting warning signs, and fencing perimeters of pools and waterways. Two important preventive strategies are providing lifeguards in public areas where swimmers frequent, and encouraging use of such protected areas.” ⁽²⁰⁾
5. There is evidence to support some drowning prevention measures. These measures, where applicable, may form the core activities of drowning prevention.
6. It is important to review an intervention strategy in relation to its cost effectiveness in relation to the particular circumstance of that nation/region.
7. It is important that a risk assessment is carried out in relation to each intervention strategy before it is introduced.
8. It is important that outcome research is carried out to determine and document the effectiveness of drowning prevention measures in your nation/region.
9. Not all control measures contained within this document will necessarily work in each nation/region, or indeed within different areas of the same nation/region. The effectiveness of the introduction of an intervention strategy should be monitored over time and modified as appropriate.
10. Drowning reduction/prevention is a cost effective strategy, comparable with traditional infectious disease public health initiatives. ⁽¹⁹⁾

RECOMMENDATIONS

1. Drowning prevention strategies should be introduced into societies' educational, social, vocational and recreational systems including school curricula.
2. Research on the effectiveness (or otherwise) of strategies to prevent drowning should be undertaken.
3. That the *Drowning Prevention Strategies, A framework to reduce drowning deaths in the aquatic environment for nations/regions engaged in lifesaving*, be the subject of continuous improvement with member federations advising the ILS Rescue Committee of initiatives so that those initiatives can be added to the document in a co-ordinated and on a regular basis.
4. That the *Drowning Prevention Strategies, A framework to reduce drowning deaths in the aquatic environment for nations/regions engaged in lifesaving*, be reviewed in its entirety by the ILS Drowning Prevention Commission to further enhance the effectiveness/relevance of the framework from a developing nation/region perspective.
5. That the *Drowning Prevention Strategies, A framework to reduce drowning deaths in the aquatic environment for nations/regions engaged in lifesaving*, be reviewed at least every 4 years by the Rescue Committee. It is anticipated that this review would be conducted in conjunction with the World Water Safety Conference.
6. That when an intervention strategy is introduced, a review of the effectiveness over time be conducted so that additional evidence as to the effectiveness of that intervention strategy can be determined and added to the data available in the fight against death by drowning.
7. That Member Federations review their drowning reduction/prevention strategies, monitor the effectiveness or otherwise of those strategies, and report their findings to the ILS Rescue Committee. This report can be enhanced and updated with initiatives prioritised according to the effectiveness of those initiatives. It is recognised that each country/region is different and what works in one area will not necessarily work in another e.g. the volunteer lifesaver system in Australia will not necessarily work in other countries with different cultures. Additional scientific study will enhance the effectiveness of this framework.
8. Bilateral knowledge transfer is encouraged. Nations and regions with well-established drowning prevention strategies should facilitate others to research and create effective drowning prevention strategies.
9. Data should be widely shared. International conferences such as the World Water Safety Conference conducted by the ILS, is one way to encourage the sharing of knowledge. The establishment of both formal and informal networks as well as partnerships can strengthen individual capacity.

ORGANISATIONS INTERVIEWED

Name	Role	Organisation	Country	Email Address	Website Address
Steve Willis	Paid Employee	RNLI	United Kingdom	swills@rnli.org.uk	www.rnli.org.uk
Anthony Stroude	General Secretary	Trinidad & Tobago Lifesaving Society	Trinidad & Tobago	tandtlls@gmail.com	-
Dougal Holmes	Paid Employee	Surf Life Saving New Zealand	New Zealand	brett.sullivan@slnz.org.nz	www.surflifesaving.org.nz
Ralph Goto	Paid Employee	United States Lifesaving Association	USA	rgoto@something.gov	www.asla.org
Martin O'Sullivan	Governance Role	Irish Water Safety	Ireland	martinosullivan@esatclear.ie	www.iws.ie
Ludger Schulte					
Huelsmann	Paid Employee	Germany - DLRG	Germany	info@dlrg.de	www.dlrg.de
Nam Kung Kwan	Secretary General	South Korea LSS	South Korea	nkkwan@hanmail.net	
Danny Bryant	Paid Employee	Surf Life Saving Great Britain	United Kingdom	dbryant@slsgb.org.uk	www.surflifesaving.org.uk
Nuno Pinto	Governance Role	ASNASA	Portugal	asnasa@netcabo.pt	
Barbara Byers	Paid Employee	Royal Lifesaving Society Canada	Canada	barbarab@lifeguarding.com	www.lifesaving.ca
Jelle Meintsma	Governance Role	Lifesaving South Africa	South Africa	meintsme@iafrica.com	
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