



CANADIAN DROWNING PREVENTION PLAN

8th Edition

Drowning Prevention
Research Centre 



ACKNOWLEDGING THE LAND

The Drowning Prevention Research Centre Canada (DPRC) and the Canadian Drowning Prevention Coalition (Coalition) acknowledge that the land on which its office is located is the traditional land of the Huron-Wendat, the Seneca, Haudenosaunee and Mississaugas of the Credit River. We also acknowledge that Toronto is covered by Treaty 13, the subject of the *Dish With One Spoon Wampum Belt Covenant*, a treaty between the Anishinaabe, Mississaugas, and Haudenosaunee that bound them to share the territory and protect the land.¹ Other Indigenous Nations and people, newcomers, and settlers have been invited into this Treaty in the spirit of peace, friendship and respect.¹ The DPRC and Coalition recognize the Truth and Reconciliation process and continue to listen, learn, and apply learnings to our values, work, and relationships with Indigenous peoples, communities, and the land. The DPRC and Coalition are committed to guiding principles which focus on the importance of being culturally respectful in approaches and interventions, reducing inequities, and learning from all communities.

FOREWORD

Preliminary data from the past year indicates that there were more fatal drownings in Canada. Many of the drowning prevention interventions were paused or reduced during the Covid-19 pandemic. This may increase the drowning burden for the years ahead. Increasing the drowning prevention focus and interventions are needed to reduce Canada's drowning burden. Further research is needed to learn more about demographics, location and risk activities that have increased drowning burden compared to other years and other countries.

The Coalition changed its governance at the end of 2020. This was done to improve the sustainability and impact of its work. The model of shared leadership will continue. The Coalition's Steering Committee will continue to guide activities that will focus on drowning burden reduction. The Coalition is now part of the DPRC (see page 6). This is a change in Governance that allows the good work of the Coalition to continue with a reliable resourcing support system. The DPRC has a Board of Directors that reports to Lifesaving Society Canada – Ontario Branch.

Canada will move forward with new learning and action to better understand non-fatal drowning events. The new non-fatal drowning clarification and classification framework will be implemented in select project communities to allow quantitative and qualitative data collection. This will be added to our knowledge of fatal drowning to inform interventions.

We are learning more about the social determinants of drowning. We know that education, housing, socio-economic factors, and health play a role in the communities of increased drowning burden. Reducing inequity by focusing on social improvement for all Canadians will reduce drowning and injury burden. We support government and civil society efforts to reduce inequity. We need to increase collaborations to improve Canadians' health and happiness in their interactions with water.

The Coalition continues to focus on eight (8) key focus targets – children 1 to 4 years; Indigenous peoples – First Nations, Inuit and Métis; new Canadians; northern Canada, rural areas and cold water; supervised settings; unintentional water entries; water transport-related drownings; and, young adult males. Each of these key focus targets will be setting targets for drowning mortality reduction in measurable demographics, locations or risk activities. We are learning that applying resources to carefully focused targets is an effective accelerator of drowning reduction.

There are key policy and legislation opportunities for drowning prevention intervention. We need improved lifejacket wearing, with a strong focus on wear-for-all. We need more Canadians trained in CPR. One way to achieve this would be to align CPR training as a pre-requisite for driving vehicles. All Canadians need basic swimming skills. This needs to be part of our public health system with no barriers and universal access.

The UN Resolution on Drowning Prevention² became a reality on April 28, 2021 (see pages 7-8, 46-49). The UN Resolution was supported by Canada and most of the 194 UN countries and territories. This resolution will assist Government engagement for drowning prevention. This is another sentinel event in the journey for drowning prevention and will bring more safety, health and wellness for all of humanity in, on and around water.

The Coalition thanks the Government of Canada, NGO's, academics, industry, civil society, and media participants in this effort to stop drowning. We are very fortunate to have Lisa Hanson Ouellette as our Project Manager. We thank the DPRC for providing new stability and sustainability to our work.

Stephen B. Beerman, MD

Chair, Canadian Drowning Prevention Coalition

EXECUTIVE SUMMARY

The Coalition’s mandate is to create recommendations for high impact actions for drowning reduction in eight (8) key focus target groups: children 1 to 4 years old; drownings in supervised settings; Indigenous peoples – First Nations, Inuit, and Métis; new Canadians; northern Canada, rural areas, and cold water; water transport-related drownings; unintentional water entries; and, young adult males. These actions should be achievable, focused on impact, and measurable. Recommendations for this 8th edition of the Canadian Drowning Prevention Plan include:

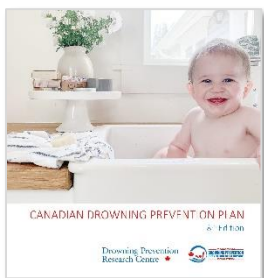
Encouraging increased multi-sectoral collaboration in all areas of drowning prevention - supporting the creation/expansion of community-based coalitions and projects focused on reducing drownings; the use of toolboxes; the establishment of protocols for drowning prevention and post-drowning incidents - *and increasing the use of a multi-layered drowning prevention strategy.*

Ensuring that data guides interventional efforts - expanding data collection/research to include socioeconomic risk factors, non-fatal, and intentional drowning; encouraging research by First Nations, Inuit and Métis people to determine the extent to which current programs could be adapted prior to delivery within First Nations, Inuit and Métis communities to ensure cultural relevance; researching bystander/rescuer drowning in Canada; researching intentional drowning (i.e., homicides and suicides); undertaking retrospective and prospective studies on drowning among those living with neurodevelopmental disorders and medical conditions; and, conducting research on the effectiveness of in- and out-of-water technologies designed for drowning prevention.

Securing federal funding for - research on non-fatal drowning; the design/delivery of an interactive, online map to identify high-risk drowning areas to inform the public, policy and decision-makers; to increase the effectiveness of post-drowning initiatives linked to specific behaviors relevant to a location; and, to implement a framework for survival swimming programs for all new Canadians.

Advocating for facilitation, implementation, and support of - amendments to Small Vessels Regulations³ (SOR/2010/91 – 204(a)/310(1)(a)(i)/302 for small vessels to require that a Transport Canada approved personal floatation device or lifejacket must be worn by each person on board; an implementation framework for mandatory cardiopulmonary resuscitation (CPR) training with driver’s license (new/renewal); a Drowning Review Board to review drowning incidents and make recommendations for intervention; an implementation framework for consistent pool fencing legislation across Canada; and, strategies and messaging to ensure supervised settings is a national priority and the first target to reach zero mortality.

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COALITION STAKEHOLDERS



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ACKNOWLEDGEMENTS

Coalition Steering Committee

The Coalition would like to thank its steering committee for providing content and expert feedback: Dr. Stephen B. Beerman, University of British Columbia; Liane Boisvert, Children's Hospital of Eastern Ontario; Markus Brunner, Pool and Hot Tub Council of Canada; Barbara Byers, Drowning Prevention Research Centre Canada; Dr. Tessa Clemens, Drowning Prevention Research Centre Canada; Adrian Cossu, City of Mississauga; Dr. Audrey Giles, University of Ottawa; Michelle Hebein, Canadian Red Cross; Patricia Kitchen, Lifesaving Society Canada; Sasha Maleki; Cara McNulty, Life Jackets for Life; John Morrison, F/P/T Sport Physical Activity and Recreation Committee; Kevin Paes, Canadian Red Cross; Dr. Ian Pike, BC Injury Research and Prevention Unit; Wendy Schultenkamper, Lifesaving Society Canada; Michael Shane, Lifesaving Society Ontario; Marykate Townsend, Pacific Marine Underwriting Managers Ltd.; Chris Wagg, Ottawa Drowning Prevention Coalition; and, Jim Wielgosz, National Marine Manufacturers Association.

Technical Working Groups

The Coalition would like to thank its technical working group participants for undertaking this important work: Dr. Louis Francescutti, School of Public Health, University of Alberta; Emily Francis, Royal Roads University; Dr. Gordon Giesbrecht, Laboratory for Exercise and Environmental Medicine; Shawn Goldmintz, WaterBabies; Dr. Susan Glover Takahashi, PostMD Education, Faculty of Medicine, University of Toronto; Vienna Lam, Simon Fraser University; Rachel Lamont, Parachute Canada; Jay Lim, 25:8 Architecture + Urban Design; Craig Lingard, Kativik Regional Government, Québec; Jamesie Mearns, Emergency Management, Nunavut; Michelle Kassis, PostMD Education, Faculty of Medicine, University of Toronto; Paige Lacroix, AquaTalk; Bryan Melnyk, British Columbia Ministry of Health; Anne Morgan, Recreation and Parks Association of the Yukon; Dr. John Oliffe, University of British Columbia; Dr. Michael Patterson, Department of Health, Nunavut; Ted Rankine, PlaySafe Productions; Kia Rassekh, Investment Funds Council of Quebec; Joey Rusnak, Lifeguard Authority; Karen Sampson, Entraîneure en plein air et piscine; Mike Scott, Emergency Services, Northwest Territories; Eric Shendelman, Canadian Camping Association; Dr. Roger Skinner, Office of the Chief Coroner for Ontario; Lisa St-Amant, PostMD Education, Faculty of Medicine, University of Toronto; Sandra Tirone, Mother of Raphaël; and, Kelli Toth, Independent Water Safety Advocate.

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Lisa Hanson Ouellette

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Barbara Byers, Dr. Tessa Clemens, Patricia Kitchen, Cara McNulty, and Chris Wagg

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Funding and Support

As of January 2021, the Coalition amalgamated its operations with the DPRC. Please see March 02, 2021 announcement on page 6.

Funding and support for the Coalition's website is provided by *Shendy's Swim School* and *BHWorkz*.

Photos and infographic for this 8th edition were provided by: Jenny Booker; Community Against Preventable Injuries; Dr. Gordon Giesbrecht; Lifesaving Society BC/YK; Lifesaving Society Ontario; Darlene Hanson; Lisa Hanson Ouellette; Tanya Ames; and, the University of New Brunswick International Swim Program.

ANNOUNCEMENTS

The Drowning Prevention Research Centre Canada and Canadian Drowning Prevention Coalition join forces

March 02, 2021 – The Drowning Prevention Research Centre Canada (DPRC) is pleased to announce that the Canadian Drowning Prevention Coalition has amalgamated its operations with the DPRC as of January 2021.

The coalition's mandate to recommend high-impact solutions to reduce drowning aligns seamlessly with the DPRC's role of providing the facts – the who, what, where, when and why of water-related incidents and injuries. As a coalition stakeholder and partner, the DPRC understands and recognizes the coalition's contributions to evidence-based, water-rescue advocacy and drowning prevention strategy development.

“This collaboration will further increase our ability to deliver timely, evidence-based data as we build Canada's water-incident database on fatal and non-fatal drownings, and significant water-related injuries,” says DPRC Senior Research Officer Barbara Byers.

This consolidation of resources bolsters the research capacity of the DPRC with the addition of the coalition's multi-sectoral experts, collaborators and partners across Canada. The work of the coalition's steering committee and the activities of its technical working groups and shared leadership model will continue: as a unified entity, this work will be amplified by the DPRC in Canada and internationally.

Stephen B. Beerman, MD will continue to lead and chair the coalition and Lisa Hanson Ouellette will continue to provide support in her role as project manager.

About the Drowning Prevention Research Centre Canada

The Drowning Prevention Research Centre – an independent, registered charity – is the lead agency for drowning and water-incident research in Canada. The Centre conducts research into fatal and non-fatal drowning, significant aquatic injury and rescue interventions. Ongoing research and analysis supports evidence-based water-rescue training and drowning prevention education.

About the Canadian Drowning Prevention Coalition

The Canadian Drowning Prevention Coalition was formed in response to a call to action from the World Health Organization. The purpose of the coalition is to establish and implement a long-term, multi-sectoral plan to reduce drowning in Canada.

For more information, contact DPRC Senior Research Officer Barbara Byers – barbarab@lifeguarding.com.

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United Nations Adopts Resolution on Drowning Prevention

OTTAWA, April 29, 2021 – We are thrilled to advise that the UN Resolution on Drowning Prevention (A/75/L.76) was approved by the United Nations General Assembly on Wednesday, April 28, 2021. You can access the Resolution at:

Eng. – <https://www.undocs.org/en/A/75/L.76>

Fr. – <https://www.undocs.org/fr/A/75/L.76>

This UN resolution is a sentinel step that will focus attention and action on this highly preventable public health challenge. The resolution will increase UN agency awareness and actions to reduce drowning. The resolution will encourage the engagement of national governments to reduce the burden of drowning through effective policies and legislation, research, and support for community-based drowning prevention action.

This first UN Resolution on Drowning Prevention was proposed by Bangladesh and Ireland. More than 50 nations, including Canada's UN Mission staff, participated in text editing this document. It is a significant milestone in a long journey in which Canada has played a key role.

The Resolution:

- is in response to deep concern that drowning has been the cause of over 2.5 million preventable deaths in the past decade but has been largely unrecognised relative to its impact.
- notes that more than 90 per cent of deaths occur in low- and middle-income countries, with Asia carrying the highest burden of drowning deaths by number.
- notes that drowning disproportionately affects children and adolescents in rural areas, with many countries reporting drowning as the leading cause of childhood mortality.
- clarifies that the official global estimate of 235,000 deaths per annum excludes drownings attributable to flood-related climatic events and water transport incidents, resulting in the underrepresentation of drowning deaths by up to 50 per cent in some countries.
- identifies July 25th as World Drowning Prevention Day starting in 2021.

.... / continued

Canada was a co-sponsor of the UN Resolution. Canada's support for the Resolution aligns with global and domestic priorities for safe activities and improved health for all.

Canada is well placed to achieve all (and more) of the voluntary actions that the Resolution encourages Members States to adopt. All the key World Health Organization recommended interventions are addressed across Canada.

The Lifesaving Society Canada is a well-developed national lead agency for lifesaving and drowning prevention that works in close collaboration with the Drowning Prevention Research Centre Canada and its Canadian Drowning Prevention Coalition.

Additionally, Canada is positioned to support international cooperation by sharing lessons learned and best practices. In fact, our leadership has already contributed to this milestone through collaboration with the World Health Organization, International Life Saving Federation, the Commonwealth Royal Life Saving Society and with drowning prevention intervention projects in Bangladesh and the Caribbean.

The resolution is the result of years of work by many people and organizations in the global drowning prevention community. We thank them for their leadership on this important issue. Particular thanks is owed to the Royal National Lifeboat Institute (RNLI) who resourced this international effort with highly skilled personnel and financial support.



Martin Forcier
President
Lifesaving Society Canada



Dr. Stephen Beerman
Chair
Canadian Drowning Prevention Coalition

The Canadian Drowning Prevention Coalition is a committee of the Drowning Prevention Research Centre – the lead agency for drowning research in Canada and partner of the Lifesaving Society.

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INTRODUCTION

D *A coalition* An “alliance of distinct parties, persons, or states for joint action.”⁴



The World Health Organization’s Global report on drowning: preventing a leading killer; and, Preventing drowning: an implementation guide

In 2014, the World Health Organization (WHO) released the *Global report on drowning: preventing a leading killer*.⁵ The goal of that report was to galvanize attention for the drowning issue by highlighting how preventable drowning is, and how collaboration across sectors can save lives.⁵ In 2017, the WHO released its second report on drowning, *Preventing drowning: an implementation guide*, to provide practical guidance for implementing 10 drowning prevention strategies outlined within its pages.⁶

The Coalition was formed in response to the call to action from the WHO’s 2014 report. Drowning is a multi-sectoral issue that requires partnership among all stakeholders. Drowning threatens all populations, but the risks parallel many social determinants of health, disproportionately affecting Indigenous peoples – First Nations, Inuit and Métis, new immigrants, the elderly, and rural populations. Fatal and non-fatal drowning incidents impact not only the individual, but families and entire communities.

The Coalition produces the Canadian Drowning Prevention Plan and is also part of the global effort to reduce drownings. A Global Drowning Prevention Partnership is forthcoming and includes many nations undertaking drowning prevention activities. Canada serves the global effort by sharing quality data, leadership, and communication.

This 8th edition of the *Canadian Drowning Prevention Plan* contains:

 Coalition Information	 Research & Legislation Gaps	 Community Actions	 Drowning Prevention Awards	
 Leadership	 Target Groups	 Recommendations	 References	 Appendices

Symbols and graphics make identifying definitions and other key pieces of information easier. Look for these symbols:

Definition	Important Safety Tip	National Engagement Required	Click to Open	Target statement
				

Canadians are part of this global team

The Canadian Drowning Prevention Coalition is **part of a global effort** to reduce the burden of drowning. The World Health Organization (WHO) Global Report on Drowning – Preventing a leading killer (2014) stated that drowning was a serious and neglected public health threat. The report called on all nations to improve their community-based action, effective policy/legislation and further research. The Canadian Drowning Prevention Coalition was formed to respond to this call for action.

There will soon be a Global Drowning Prevention Partnership to serve as a policy and implementation leadership community for drowning prevention. The WHO Global Report on drowning has been a successful catalyst for a significant maturation of the global drowning prevention efforts.

There are many nations with drowning prevention activities. Non-governmental organizations, government agencies, industry partners and research institutes are engaged. International societies and federations such as the *Royal Life Saving Society*, *International Life Saving*, *Safekids* and the *Red Cross/Red Crescent* are participating in the global drowning prevention effort.

There is a unified vision to reduce the burden of drowning in all nations. There is awareness that the drowning burden is disproportionately high for low and middle income countries and with children. We work collaboratively to increase understanding through well designed research while targeting resources for interventions to high burden countries and communities. Investing public health foundations, governments, industry, non-governmental institutes, and private donors continue to expand their contributions.

A public health approach is the framework leading this journey. We will continue the work to reduce fatal and non-fatal drowning events and to reduce inequality in the burden of drowning. We will continue to seek an appropriate share of public health resources for the drowning prevention.

The Canadian Drowning Prevention Coalition and the participating academics, non-governmental organizations, industry, civil society partners and government agencies are working as part of this global effort. We contribute to the academic foundation that informs action. We model shared leadership and inclusion to have impact. We build mutual respect through collaboration and collective understanding.

Canadians serve the global effort through quality data collection, management and communication. Canadians implement evidence informed interventions and study the impacts. Canadians encourage and facilitate policy and legislation to save and improve lives. Canadians share pride for the steady reduction of drowning burden in Canada and for their contribution to the global drowning prevention effort.

We have much more work to do. Canada, like all nations has high drowning burden communities. This includes places and people with high drowning risks. We need to continue learning about best practices to reduce drowning. We will continue to share that learning with drowning prevention colleagues around the world.

SECTION 1

THE CANADIAN DROWNING PREVENTION COALITION



Purpose To protect and maintain public health by conducting research into causes and possible solutions relating to the increase of fatal and non-fatal drowning, as well as collecting, organizing, delivering and disseminating the evidence-based resources to the general public; educating through the promotion of exchange of knowledge and information related to drowning prevention; and, contributing along with other stakeholder groups to government policies in matters of drowning prevention through advocacy, community engagement and awareness activities.



Steering Committee, Canadian Drowning Prevention Coalition (January 2021)

A public health approach to drowning requires an understanding of the burden, an understanding of the inequality of the burden, key focus targeting of interventions, and impact measurement. Designing interventions that engage the populations at-risk and have positive impact is essential. This approach requires careful planning based on existing evidence. Education, social innovations, persistence, resourcing, and effective implementation play key roles in successful drowning mortality and morbidity reduction.

- ▶ The Coalition was formed in 2016. It provides shared national leadership, coordination, and action planning to reduce drowning in Canada. It operates under the auspices of the DPRC (2021).
- ▶ It brings together many multi-sectoral stakeholders in the Canadian drowning prevention effort - government agencies, non-governmental organizations (NGOs), academics, industry, citizen groups and media to provide broad multi-sectoral input and leadership to drowning prevention in Canada.
- ▶ The Coalition's leadership, technical exchange, research interpretation, and prevention strategic planning ensures that the progress made to reduce drowning is evidence-based, effective and sustainable.
- ▶ Its work/information/Plan supports academic discussions around drowning prevention and offers infrastructure for academic research.
- ▶ The Coalition is led by a steering committee that appoints technical working group leaders for each key focus area for drowning prevention in Canada.
- ▶ The technical working group leaders form multi-sectoral working groups to create recommendations for high impact actions to reduce drowning.

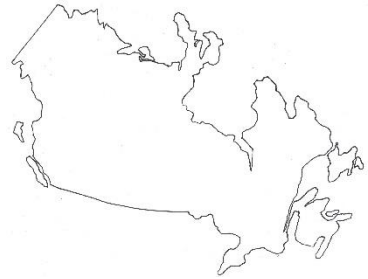
Goals and scope

- ▶ Long-term vision is zero mortality and morbidity from drowning.
- ▶ Policy and legislation are impactful drowning risk reduction interventions. Canadian legislation and enforcement exist for marine shipping, water transport, infrastructure, and others. Amendments to existing legislation are required. New legislation is needed in some areas.
- ▶ Government engagement in the drowning reduction effort has been helpful and impactful. These partnerships have been driven by civic engagement and NGO leadership. These efforts should be encouraged and continued. Government of Canada department and agencies' increased participation in the Coalition has been and will continue to be welcomed.
- ▶ NGO leadership has been helpful in elevating the priority of the drowning burden to Canadians and to the Government of Canada. The Coalition facilitates collaboration and brings a public health approach to this multi-sectoral challenge.

SECTION 2

GAPS IN CANADIAN RESEARCH, REGULATIONS & LEGISLATION

Gaps in drowning research



If you are in a **sinking car get out immediately!**

Remember **S W O C**
SEATBELTS off
WINDOWS open
OUT now
CHILDREN first

Special thanks to thermophysiolgist, Dr. Gordon Giesbrecht, Laboratory for Exercise and Environmental Medicine for researching and developing a system of escape for individuals trapped inside sinking vehicles.

Gaps

- ▶ Identify approaches for increasing use of a multilayered strategy (see page 11)
- ▶ Non-fatal drowning data collection
- ▶ Research on the validity of “swim tests” used to determine if individuals can swim
- ▶ Research by Indigenous peoples about First Nations, Inuit, and Métis drowning incidents (fatal and non-fatal)
- ▶ New Canadians’ fatal and nonfatal drowning data – include years since immigration
- ▶ Intentional drownings – homicides and suicides
- ▶ Impact of climate change on drowning
- ▶ Transportation-related fatal and nonfatal drowning events
- ▶ Canadian lifejacket/PFD wear-rate – willingness to wear a lifejacket with legislation and impacts of legislation change
- ▶ Rural and northern drowning prevention interventions – feasibility and scale-up
- ▶ Impact of Coroners’ recommendations implemented to reduce drowning incidents
- ▶ Effective communication – infographics, signage, messaging, warning, risk reduction
- ▶ Bystander CPR skills/training in drowning
- ▶ Cost-effectiveness of interventions
- ▶ Alcohol-related drownings – need for cultural change
- ▶ Drownings of individuals with neurodevelopmental disorders & medical conditions
- ▶ Rescuer drownings – how to educate the public
- ▶ Comparative research on fatal drownings and road traffic fatalities
- ▶ Research on drowning prevention technologies

Research – Action – Highlights

- ▶ A Letter of Interest was submitted to the Public Health Agency of Canada in April 2021 outlining a national project focusing on supporting new Canadians’ healthier lifestyles through swimming.
- ▶ A grant application to Transport Canada’s Boating Safety Contribution Program (recreational boating) was submitted in October 2019. It focuses on an interactive, online map identifying high risk geographic areas where drownings have occurred during recreational boating activities. This map will later be expanded to include fatal and non-fatal drownings and identify high risk areas in need of prevention initiatives.
- ▶ Swim tests are used as a risk-management tool but currently there is a lack of research to support their success in reducing drownings. Evidence collection and analysis are encouraged.
- ▶ Research is needed on the benefits of requiring all individuals, regardless of age/swimming ability, to wear lifejackets/PFDs during group activities in supervised settings.

Framework for a multi-layered strategy

Personal action + Community action + Research + Government policy & legislation
= an effective, multi-layered, drowning prevention strategy for Canada

What YOU can do

- Learn survival swimming skills
- Wear a properly fitting lifejacket
- Learn CPR
- Learn basic self-rescue water rescue skills from a certified provider/facility
- Consistently supervise children around water (no phone, book, food, television, etc.) AND Stay within arms reach of children under 5 years of age
- Lock all access points to pools AND Limit access points to open water
- Check the weather forecast before boating, follow all boating regulations, wear your lifejacket, and know your skill level for the conditions



What COMMUNITIES can do

- Establish a community-based drowning prevention coalition, develop an emergency plan, and implement short/long-term goals
- Offer survival swimming skills to new Canadians and non-swimming Canadians
- Set up lifejacket loaner stations with instructions on how to choose the right size and fit
- Run CPR training clinics
- Offer training to all adults in community and encourage wearing of identification card to ensure consistent supervision of children around water
- Lock all pool access AND Limit access to open water
- Conduct a drowning risk assessment - emergency vehicle access, signage, emergency phone instruction & connection, barriers, lifesaving rescue equipment provision, safety inspections, and enforcement
- Set up lifesaving stations, where lifeguard teams are unavailable, on unsupervised waterways and beaches - include equipment, plan, infographic instructions, EMS #'s and address, first aid kit, etc.

What RESEARCH can do

- Produce evidence-based research and data to guide efforts
- Utilize learning from road traffic fatality reduction
- Collaborate with technology industry
- Research by and for Indigenous people to decrease the number of drownings among Indigenous people
- Research benefits of survival swimming skills training
- Expand data collection to include socioeconomic risk factors
- Focus on drowning incidents (including fatal and non-fatal)
- Research bystander-rescuer drownings



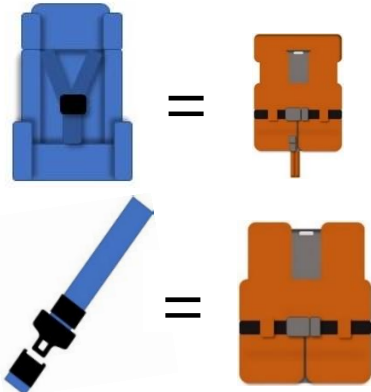
What GOVERNMENT can do

- Fund research on non-fatal drowning
- Facilitate survival swimming skills training for new Canadians
- Fund an online map identifying where drowning incidents have occurred
- Facilitate and support implementation of consistent pool fencing legislation across Canada
- Amend small vessel regulations to require lifejackets be worn by each person on board
- Facilitate and support implementation of mandatory CPR training with driver's license
- Implement a drowning review board

Research comparing drowning fatalities to road traffic fatalities

D *Road traffic fatalities* include all those who died as a result of a reported traffic collision within 30 days of its occurrence, with the exception of Quebec (before 2007) whereby it occurs within eight days. Similarly, "fatal collisions" include all reported motor vehicle crashes that resulted in at least one death, where death occurred within 30 days of the collision, with the exception of Quebec (before 2007) whereby it occurs within eight days. Rankings in Canada – road traffic fatalities vs drowning fatalities.⁷

D *Fatal drowning* "The process of experiencing respiratory impairment from submersion / immersion in liquid; outcomes are classified as death, morbidity and no morbidity."⁸



Gaps

Significant research and multi-sectoral focus and investments over the past three decades has resulted in a significant decline in road traffic fatalities. A similar approach may be appropriate to decrease the number of fatal drownings in Canada.

- ▶ A study comparing the number of fatal drownings to road traffic fatalities in Canada by Province/Territory/Region is needed.
- ▶ An examination of global rankings – road traffic fatalities vs drowning fatalities – is needed.

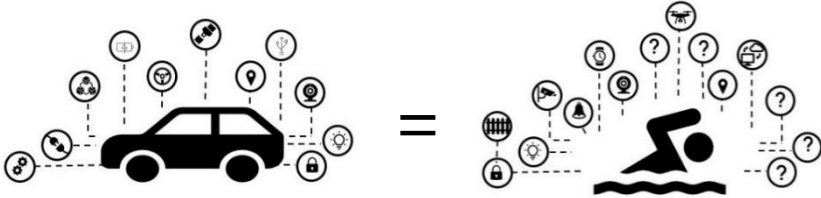
Background

In the early 1990s, multiple sectors shifted their focus on the common goal of reducing road traffic collisions. Working in collaboration, their joint actions resulted in a decrease of road traffic fatalities in the first decade (1992-2002) and a further decrease in 2003-2013 proving that government engagement and partnership with industry, non-governmental organizations, civic foundations, academics, and media/communications can successfully conduct research to support legislative change and public education to shift cultural perceptions and behaviors associated with road traffic.

Research – Action – Highlights

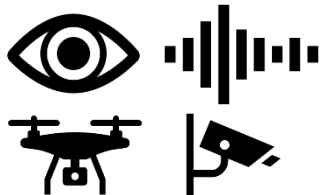
- ▶ Much can be learned from the multi-sectoral approach taken to achieve the positive outcomes we see today on the road. Applying a similar approach might reduce fatal and non-fatal drownings in Canada. A study comparing the number of fatal drownings to road traffic fatalities in Canada by Province/Territory/Region, 1992 to 2016 is underway. The study will include an examination of the public education, collaborative efforts, legislative and regulatory changes, as well as technological advancements that took place to improve road safety and reduce collisions and road traffic fatalities. How does road traffic technology compare to drowning prevention technology?

Infographic depicting a sample of road traffic safety technology to drowning prevention technology



Research on drowning prevention technologies

D *Drowning prevention technologies* A spectrum of drowning prevention systems and devices for recreational and/or commercial use ranging from devices to enhance human supervision to products incorporating artificial intelligence that are created for in-water and out-of-water application used on their own or as part of a multi-layered system to support rescue.



Gaps

- ▶ Little to no evidence is available on the effectiveness of technology in preventing fatal drownings and non-fatal drownings. The following table lists a variety of technologies and the effectiveness of each based on available information. Additional research is needed.

Evidence on the effectiveness of drowning prevention technologies

Technology ⁹	Most evidence available	Promising	Insufficient evidence	Ineffective	Potentially harmful
In-water					
Artificial intelligence (cameras to computer recognition software)					
Motion sensor – sound or lights only					
Positioning technology					
Sonar scanner					
Ultrasound – sound or lights only					
Video camera to live feed (lifeguards watching)					
On-person/wearable					
Approved Lifejacket/Personal floatation device					
On-site swimming tests/wearable color bands (colors represent swim skill level)					
Wearable electronic bands (Bluetooth) – alert sent to facility sensors					
Wearable electronic bands (Bluetooth) – alert sent to parent cell phone/band/tablet					
Wearable bands that self-inflate					
Wearable wrist band that inflates at a designated depth					
Out-of-water					
Alarm – sound or lights only					
Alarm – security alert system to lifeguards					
Alarm – security alert system to security guards/staff (not water-rescue certified)					
Cameras – recording only					
Cameras – live feed to lifeguards					
Cameras – live feed to security guards/staff (not water-rescue certified)					
Certified lifeguards					
Direct/vigilant/consistent/uninterrupted parental supervision					
Drones					
Facility audits					
Four-sided fencing with locked gates					
Public education / Public service announcements					
Rope/chain to enclose area					
Sensors with location activated voice/message system					
Signage					
Television monitor with poster/words safety rules					
Television monitor with video safety rules					
Layers of protection					
Multilayers of protection – signage/infographics, locked-four-sided fencing/doors, vigilant parent/guardian supervision, certified lifeguard, in- and out-of-water cameras/motion sensors.					

- D** *In-water and wearable on-person technology* tracks the movements and/or depth of in-water participants using recognition software and sounds an alarm in the event of a drowning incident. The purpose of the sound and/or strobe light alarm is to hasten and improve the rescue and reaction-time of lifeguards on duty and/or parent/guardian/supervisors.
- D** *Out-of-water technology* relays a message, alarm or image to a central location in an effort to impair and/or track movement and/or locate an individual(s) to prevent water entry and/or improve the rescue and reaction-time of rescuers during a water-related incident.
- D** *Combined in-water and out-of-water technology* sends images to recognition software which differentiate between normal and abnormal water movement and sounds an alarm to a lifeguard team/aquatic staff/supervisor/parent/guardian. The purpose of the combined system is to identify someone in distress that on duty lifeguards/staff/supervisor/parent/guardian have missed.
- D** *Layers of protection* usage of in-water and out-of-water technology combined with in-person supervision (e.g., vigilant parents/guardians and a lifeguard team).

Research – Action – Highlights

- ▶ New drowning prevention technologies are being created with more on the horizon. Evidence-based research on the effectiveness of these systems and devices is needed.
- ▶ Collaboration with drowning prevention technology companies is being sought.
- ▶ A partnership between the Coalition, industry (e.g., Bell/Rogers) and a university for annual research scholarship for drowning prevention technology is desirable.

Infographic depicting a sample of drowning prevention technology



Gaps in Canadian regulations & legislation



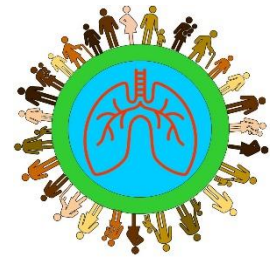
Gaps

- ▶ Small vessel regulations need to be amended to require that all passengers of all ages wear a properly fitting, approved, personal floatation device or lifejacket while on or in a boat of any size for any purpose.
- ▶ Vessel regulations need to be amended to require crew members working on a deck of any commercial fishing vessel be required to wear a properly fitted, personal floatation device or lifejacket.
- ▶ Consistent federal legislation and regulations for public pools and public waterfronts are needed across Canada.
- ▶ Consistent pool fencing legislation is needed across Canada.

Research – Action – Highlights

- ▶ The Coalition continues to meet virtually with representatives from Transport Canada (TC) and the Transportation Safety Board (TSB) of Canada. A connection with the DPRC regarding the sharing of data to TC and the TSB for ongoing projects focusing on lifejackets and drowning prevention was made in June 2020. Dialogue is ongoing. The Coalition will continue to connect with TC and the Canadian Safe Boating Council regarding their 2021 and 2022 wear rate research studies.
- ▶ Research on a classification system outlining for whom, when, and under what circumstances adults should be required to wear a properly fitting, approved, floatation device or lifejacket during recreational boating activities is underway. A working group including experts focusing on this task will be created and will make recommendations on outcomes.
- ▶ Experts will make recommendations and outcome statements regarding public and residential pool and waterfront legislation following a consultation process.
- ▶ The Coalition is seeking funding to collate fatality data for use in the design and creation of an online map made available to the public. The identification of high-risk areas will enable local communities and governments to take positive action to prevent further drownings. Positive action may include a focus on drowning prevention awareness initiatives and activities specific to a geographical area and/or a focus on enforcement (e.g., recreational boating activities).

SECTION 3 COMMUNITY AWARENESS, TOOLS & ACTIVITIES, AND COALITIONS



National community drowning prevention coalition committee

Goal To support the development of community drowning prevention coalitions across Canada by providing technical advice and knowledge exchange with communities while representing the Canadian Drowning Prevention Coalition.

Mandate

- ▶ Strengthen and promote community drowning prevention coalition development and partnerships in drowning prevention and water-related injury.
- ▶ Guide and support the implementation of community drowning prevention coalition development.
- ▶ Provide support and advice to community drowning prevention coalitions.
- ▶ Provide an opportunity for community drowning prevention coalition participants to collaborate and problem-solve on issues related to drowning prevention in their respective communities.
- ▶ Share evidence-based resources.
- ▶ Facilitate capacity building.

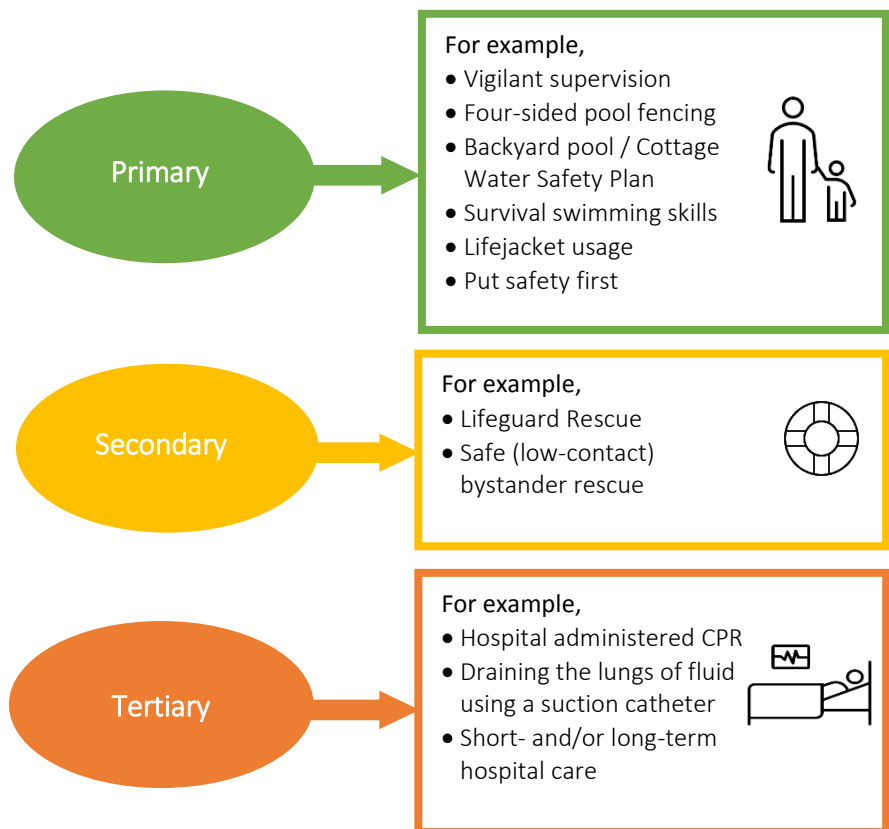
To receive more information about how to create a community drowning prevention coalition in your community OR to share your community drowning prevention coalition's knowledge and understandings with the National community drowning prevention coalition committee, email drowningprevention@lifeguarding.com using the subject heading *Community Coalition*.

Drowning prevention awareness – We all have a role to play

Goal To provide drowning prevention tools to support community-based drowning prevention activities.

The classic approach to injury prevention is a multilayered approach and starts with measures to prevent the injury event before it occurs. Research has shown that the primary stage is the most effective of the three responses in preventing drowning.

The Canadian Drowning Prevention Coalition recommends consistent, uninterrupted supervision of children by a designated, responsible adult, parent, guardian, or supervisor to prevent drowning.



Community drowning prevention tools and activities

Goal To provide post-drowning tools to support community-based drowning prevention activities.

Communities use a variety of methods (e.g., storytelling, memorial stones/plaques, etc.) to retain information about drowning incidents and the bodies of water in which they occurred. These methods serve to educate community members and visitors/tourists on where it is safe to swim and where it is unsafe.

Mapping is a method used by nations around the world to identify areas at high-risk for drowning, in addition to highlighting key points linked to other public health issues (e.g., Covid-19). Communities across Canada are encouraged to identify key areas in which fatal drownings have occurred in their community and mark these high-risk areas on a map made available to community members and visitors.



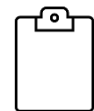
Community town hall meeting or “social or community autopsy”⁶ after a drowning occurs offers an opportunity for details of the drowning incident to be shared, for support to be offered to friends and family of the victim, and for all community members to have a voice in sharing how they believe a future drowning incident can be avoided.



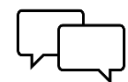
A community examination involves a complete review of the event – e.g., behavior, environmental conditions, health, and social issues, as well as “any drowning prevention procedures followed, the type and timing of the intervention, and any barriers encountered during the intervention”⁵ which can be used by community leaders and government representatives to create and implement policies and legislation related to drowning prevention.⁶



Household survey method⁶ is a low to medium-cost method of identifying the ages and genders of individual household members who are presumed drowned following an event (e.g., flooding). For example, a mother may be asked how many children she had prior to the event. It involves data collectors who visit all households in given communities to collect the details need to assess the impact of the event.



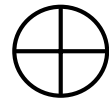
Community knowledge approach¹⁰ is a low-cost option using a combination of collected stories, data, learning outcomes, themes and action recommendations and can be community, regional or national in focus to build knowledge and inform action. This approach can work with fatal and non-fatal drowning as community members know about these events. It is a slightly more efficient and focused method of social autopsy than the household survey method.



“Change in the world begins with change in your neighborhood. And change in your neighborhood begins with change in you...”
– Abhijit Naskar

To share details about your community's drowning prevention initiatives with the Coalition email LisaO@lifeguarding.com using the subject heading: *Community Drowning Prevention Action*.

Provincial coalitions focus on providing leadership and coordination of water safety and drowning prevention initiatives based on evidence-based data specific to their province/jurisdiction. For example, the [Manitoba Coalition for Safer Waters](#)¹¹ (MCSW) provides drowning prevention leadership on behalf of the provincial injury prevention strategy which funds the coalition's activities.



Community memorial projects focus on preventing future drownings from occurring in a similar manner or in the same location (e.g., infographic signage). Some projects, like the [Public Access Lifering](#)¹² (PAL) project that originated for a specific waterway in British Columbia, are now being implemented along waterways in other provinces.



Online networks / communities focus on information sharing – training tips, knowledge acquisition, etc. For example, [Lifeguard Authority](#)¹³, is an international online community that was started in Mississauga, Ontario. It gathers and shares information within an interactive group of followers. As of October 2020, 3,000+ followers were engaged in dialogue about aquatic-related issues, including drowning prevention.



Community foundations focus on social improvement. Some foundations focus on public education and communication, while others may include lobbying activities such as letter writing, the creation of petitions, and meetings with government representatives to encourage legislative change. An example of a drowning prevention focused initiative is, [Life Jackets for Life](#)¹⁴ which focuses on mandatory lifejacket wear by children in watercraft. Visit the Coalition's website www.cdpcalition.ca for free materials focusing on drowning prevention.



Community prevention projects identify potential high-risk groups and/or behaviors/activities within the community and design and/or implement a project to negate these risks. For example, the [University of New Brunswick International Swim Program \(UNBISP\)](#)¹⁵ identified international students as a group at high risk of drowning and formed a voluntary group of certified swimming instructors to deliver an existing survival swim training program (i.e., Lifesaving Society Canada's, [Swim to Survive](#)¹⁶ program).



Authoring articles, Op-ed pieces, books, etc. is another method of sharing evidence-based information and educating your community and the larger public about drowning prevention. Examples include: an Op-Ed piece written by Dr. Kevin Patterson and Dr. Stephen B. Beerman in the *Globe and Mail* (3 June 2018), titled "[The danger of water is another hurdle for the poor to overcome](#)"¹⁷; and Olympic Gold Medalist, Sylvie Bernier's book, *Jour où je n'ai pas pu plonger* (Avril 2019) / *The Day I Couldn't Dive* (date unknown) in which she reflects on the importance of learning survival swim skills following the drowning of her nephew.

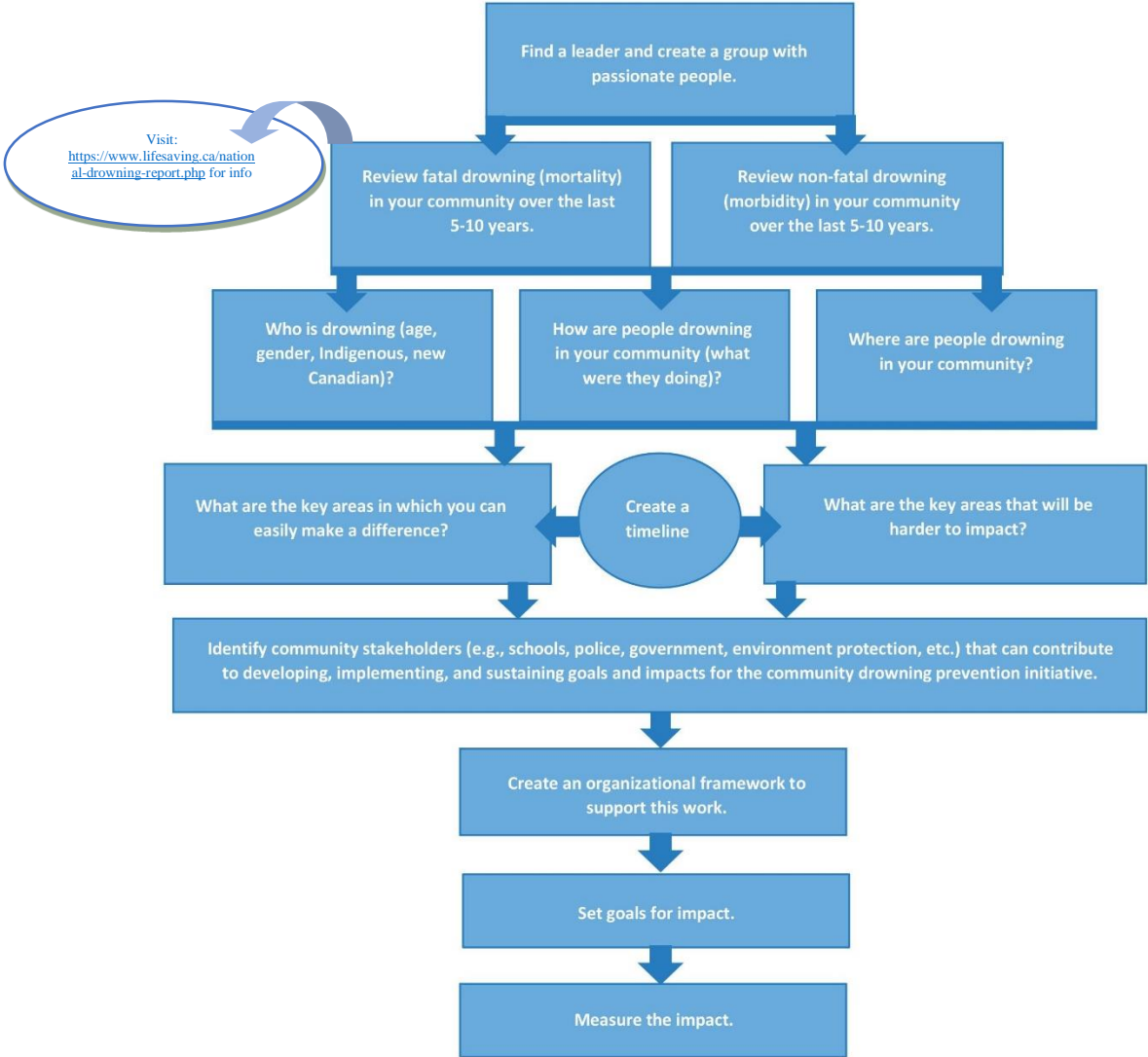


Community-based drowning prevention coalitions

Goal Zero drowning deaths in Canada in 50 years (2066) through community-based drowning prevention interventions.

- ▶ Action and impact are best achieved by individuals in their own communities.
- ▶ Each community has unique key focus targets for drowning prevention.
- ▶ Stakeholder engagement needed for each community-based drowning prevention issue.
- ▶ Differences and biases need to be reduced, culture needs to be respected, and a commitment to learn from marginalized communities is crucial.

How to create a community coalition (see brochure page 23):



How to create your drowning prevention community coalition

1 Are you passionate about drowning prevention? Look for others who share your passion and form a group called a coalition.

Choose a leader.



2 Try to include at least one person from each of six (6) sectors:

- 1) universities/colleges/researchers
- 2) government – e.g., council, municipal, provincial, federal
- 3) media/communications - e.g., tv, radio, blogging, newspaper
- 4) non-governmental organizations e.g., Red Cross, Lifesaving Society, Autism awareness
- 5) industry - e.g., fishing, insurance, boating
- 6) community foundations



3 Create a *Terms of Reference* for your next Community Coalition using the template (<https://cdpcoalition.ca/publications/>)



4 Identify all drowning incidents – fatal and non-fatal – that have happened in your community over the last 10 years.

Where? When (year, season, time of day, etc.)? Gender and age of individual(s). What and how it happened? Detail the circumstances – alone, current, drop off, alcohol, lifejacket, etc.



5 List things the community coalition can do to prevent these types of drownings from happening again.

Divide this list into things that can be done soon and things that need more time. Note which things will be easy to do and which things will be harder to do.



6 Identify people and groups in your community who can help with these projects or offer funding – e.g., business owners, schools, doctors, nurses, search and rescue, insurance agents, government, parks, police, etc.



7 Make a calendar. Include all of the projects. If you need money to do some of these projects, make a note on your calendar and start looking for ways to fund each. Some projects may not need funding. Other projects may need a lot of funding.



8 Develop a framework.

Outline your structure, make a list of your goals, and how you will meet these goals (E.g., See the Ottawa Drowning Prevention Coalition's Governance Structure under cdpcoalition.ca/publications/).



9 Measure impact. For each project, identify how you will determine if the project is successful. Make a list of markers to guide you as you watch the project unfold and implemented in your community.



Drowning prevention awards



Goal To illuminate key drowning prevention initiatives taking place across Canada in the areas of community action plans, effective policies & legislation, and research



2020 Recipient – Community Action, University of New Brunswick International Swim Program for its targeted, innovative and impactful program focused on teaching survival swimming skills to new Canadians – adults and children¹⁵



2020 Recipient – Research, The Community Against Preventable Injuries for its project to develop, deliver, and evaluate a social media campaign for recreational boaters to raise awareness, transform attitudes, with a goal of changing behavior and reducing boating injuries in BC.¹⁸

Drowning prevention awards

Community action plan awards recognize:

- ▶ Community-based activities that are targeted, innovative and have evidence of impact.
- ▶ Displays or created best-practices
- ▶ Example to be shared and educationally exchanged
- ▶ Educational value in other settings
- ▶ Impact for Canadians

Effective policies and legislation awards recognize:

- ▶ Municipal, City, Regional, Provincial or National Policies and/or Legislation that will have a positive impact
- ▶ Sectoral (aquatic, transport, employment, business, social, sport, etc.) Policies and/or legislation that will have a positive impact
- ▶ Example of Best Practices
- ▶ Educational value in other settings
- ▶ Impact for Canadians

Research awards recognize:

- ▶ Addressing priority research questions with well-designed studies
 - Improving drowning data
 - Improving understanding of swim skills training as public health approach
 - Improving understanding of the contextual features that impact drowning program effectiveness
 - Improving understanding of effectiveness of several potential interventions
 - Demonstrate scalability and sustainability for effective drowning prevention measure
- ▶ Examples of best practices
- ▶ Educational value in other settings
- ▶ Impact for Canadians

To nominate an individual, group, organization, or department; or, to apply for the Coalition’s *Drowning Prevention Awards* please complete the following application: <https://cdpcoalition.ca/awards/>

Email applications to drowningprevention@lifeguarding.com using the subject heading *Drowning Prevention Awards*. Submissions for the Canadian Drowning Prevention Awards are due September 1st of each year.

Recipients will be announced at the Coalition’s Annual Virtual Update in October.

The Barb McLintock Memorial communication award

Goal To encourage the design of clear and effective messages using posters, artwork, signs or other communication tools to enhance the safety of the public swimming/bathing in supervised settings.



**Barb McLintock
1950-2018**

Photo credit:
Dan Denton, Black Press

In recognition of her role as co-leader of the technical working group focused on drownings in supervised settings, her passion for drowning prevention, and her strong and steadfast desire to inform the public about important issues the Coalition is pleased to present the Barb McLintock Memorial Communication Award.

Criteria

- ▶ Messages are communicated clearly and effectively;
- ▶ Messages are designed to enhance the safety of bathers and the public in supervised swimming settings; and,
- ▶ Messages are communicated using posters, artwork, signs or other communication vehicles.

If your drowning prevention activity matches the criteria of this Award, complete an application form and include high resolution photo and/or link to any media coverage. Applications received by the deadline will be reviewed by a sub-committee of the Canadian Drowning Prevention Coalition steering committee. Recipients will be announced during the Coalition's Annual Meeting via webinar in October with awards given to recipients in their own communities later. One champion may be named. A feature on their activity will be included in the Coalition's Annual Report.



2020 Recipient – Lifesaving Society Canada
for the Canadian Drowning Report infographics and ongoing dedication to improving the means by which drowning data is shared with the public, academics, policy-makers, and others around the globe.¹⁹

To nominate an individual, group, organization, or department; or, to apply for the *Barb McLintock Memorial communication award* please complete the following application: <https://cdpcoalition.ca/awards/>

Email applications/nominations to drowningprevention@lifeguarding.com using the subject heading: *Barb McLintock Memorial communication award*. Submissions for the Canadian Drowning Prevention Awards are due September 1st of each year.

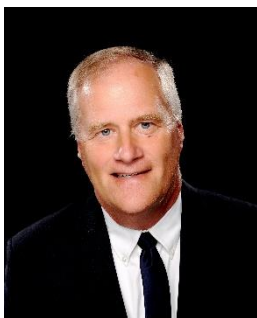
Recipients will be announced at the Coalition's Annual Virtual Update in October.

SECTION 4

MULTI-SECTORAL PARTICIPATION & METHODOLOGY



Mandate Multisectoral alignment on recommendations for high impact actions for drowning reduction that are achievable, focused, and measurable.



Stephen B. Beerman, MD
Co-Chair,
Canadian Drowning Prevention
Coalition

Coalition Steering Committee
Multi-sectoral Leadership



- ▶ **Multi-sectoral input and shared leadership is an essential component of the public health approach in the search for successful actions, impacts, and outcomes.**
- ▶ The eight key focus targets are found on page 27.
- ▶ Coalition participants, steering committee and technical working group leadership, participants, agencies, and organizations are varied and diverse in mandates, missions, and goals; represent many geographic areas, populations, and service providers; and, bring varying perspectives and experiences.
- ▶ The participation of at least one participant from each area – government, non-governmental organizations, academics, industry, citizen engagement groups, and media brings a wealth of knowledge about the issue of drowning in Canada.

Methodology and process

- ▶ Work within a **public health framework** - address disparities in health among different racial, ethnic and socioeconomic groups – i.e., reducing inequities when it comes to drowning morbidity and mortality, being culturally respectful in approaches and interventions, and making a commitment to learning from marginalized populations as opposed to prescribing solutions.
- ▶ Complete a **situational assessment**
 - ▶ Gather, analyze, synthesize, communicate and discuss data for the purpose of informing planning decisions.
 - ▶ Summarize all relevant data related to the key focus target to assist in formulating the goals and action steps. This situation assessment includes:
 - A summary of the existing evidence
 - The identification of key informants
 - A summary of the current work and references in Canada
 - The identification of best practice examples and or normative/expert standard guidelines for this issue from other nations or from other injury related issues, where and if they exist.
- ▶ Include **short-term and long-term goals** related to the key focus target.
- ▶ Identify **concrete and comprehensive action steps** linked to the specific efforts that are made to reach the ultimate and intermediary outcome goals related to the key focus target. These will include immediate actions, long-term actions, as well as the anticipated impact of these actions.

SECTION 5

KEY FOCUS TARGETS



D *Key focus targets* **High risk age groups, marginalized populations that are disproportionately affected by drowning, and high-risk sectors or activities.**

- ▶ To achieve the overall vision of zero drowning deaths in Canada, the Coalition identified key focus targets for drowning reduction. Key focus targets refer to areas for action and impact that have been identified by the steering committee, the Coalition, and Canadians.
- ▶ Multi-sectoral technical working groups are formed around each of the key focus targets and provide recommended actions for drowning reduction.

The Coalition is committed to its guiding principles which focus on the importance of being culturally respectful in approaches and interventions, reducing inequities, and learning from all communities.



Canada's Key Focus Targets

Children 1 to 4 years of age

Drowning in supervised settings

Indigenous peoples: First Nations, Inuit, and Métis

New Canadians

Northern Canada, rural areas & cold-water immersion



Unintentional water entry

Water transport related drowning

Young adult males



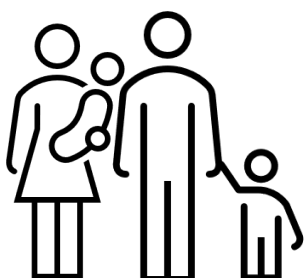
Children 1 to 4 years of age



Zero drownings of children 1 to 4 year of age associated with bathtubs (includes distracted parenting; and, homicides).

Zero drownings of children 1 to 4 year of age associated with backyard/residential pools by 2030.

Zero drownings among children under 1 year of age.



Key Messages

- ▶ Drowning prevention in children 1 to 4 years of age is the responsibility of parents/guardians/caregivers in all settings.
- ▶ A focus on undistracted supervision is paramount to eliminate drownings among children 1 to 4 years of age in all settings.
- ▶ Legislation/regulations/standards/by-laws are needed at the federal, provincial/territorial, municipal levels to enforce a layered approach to prevent Children 1 to 4 years of age from accessing pools, lakes, ponds, and rivers.
- ▶ Lifejackets for individuals under 20lbs/9kg need to be approved by Transport Canada.

Background

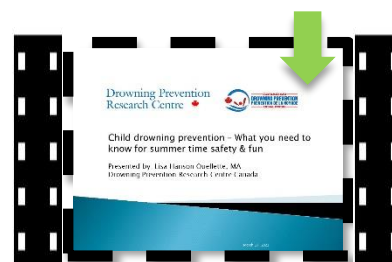
In Canada, drowning is a leading cause of unintentional injury death among children 1 to 4 years of age.²⁰

The burden of non-fatal drowning is among the highest in this age group; children under five are more likely to suffer a non-fatal drowning requiring an emergency department visit and/or hospitalization than a fatal drowning.²¹

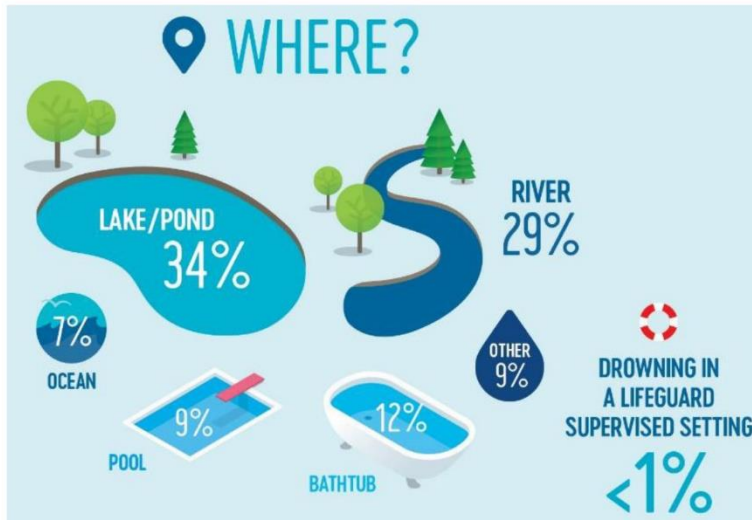
Private backyard pools are the most common setting where children 1 to 4 years of age fatally drown in Canada.²²

Research – Action – Highlights

- ▶ Exploring and collecting existing resources that educate parents on creating a layered approach for access to bodies of water (physical barriers, warnings, safety equipment, signage, and caregiver education).
 - ▶ Participation in an online presentation focusing on “Child drowning prevention – What you need to know for summer time safety and fun,”²³ with *Beyond the Bump Education* in April 2021. This presentation was one method of outreach used to share information on drowning prevention with parents.
- ▶ Developing a collaborative strategy to work with stakeholders in a social media educational campaign geared towards parent education on drowning prevention in residential backyard pools and bathtubs/bathrooms (prenatal, postnatal and early childhood).
- ▶ Development of Seasonal Social Media Education Campaign Calendar to promote consistency in drowning prevention messaging being shared by likeminded stakeholders.
- ▶ Collaborating with the Unintentional Water Entry technical working groups on the formulation of recommendations pertaining to Legislation/regulation/standards/by-laws to enforce a layered approach to prevent Children 1-4 years of age from accessing pools, hot tubs, lakes, ponds and rivers.



Bathroom Drowning Prevention



Source: National Drowning Report, 2020 Edition, Lifesaving Society Canada

In Canada, drowning is a leading cause of unintentional injury and death among children 1 to 4-years of age*.

Young children have a higher incidence of drowning in artificial bodies of water, such as bathtubs and toilets, due to their lack of balance and coordination which increases their risk of falling into water.

Drownings can occur within seconds, without a sound, and in only a few centimeters of water.

*Yancher, NL, Warda, LJ, Fuselli, P. Child and youth injury prevention. A public health approach. Paediatrics & child health. 2012 Nov 1; 17(9):511.

Bathtub Safety Tips

- **Adult supervision is essential.** Children should be supervised by an undistracted, uninterrupted adult (no phone, no book, no conversations, etc.) when children are in or around the bathtub. Do not leave young children supervised by older siblings while in or around water. Remove child(ren) from the bathtub and take him/her/them with you if you must leave the room. No exceptions!
- **Keep child within arms reach.** In the event of a slip or fall, this will permit an adult to retrieve a child quickly and avoid submersion/having their mouth and nose slide under the water.
- **Keep water level low** Fill the bathtub with the only amount of water needed to bath the infant/toddler. **Lower water to lower risk.**
- **Avoid the use of bathrings and bathseats.** These products are not safe and create a false sense of security. To ensure safety, support babies in water yourself. Toddlers require hands-on vigilance.
- **Empty the bathtub / drain water and put toys away when not in use.** This will eliminate the risk of children being attracted to the water by the toys.
- **Teach your child(ren)** to find an adult and ask permission before taking a bath or running the water.



Toilet Safety Tips



- **Keep Bathroom doors closed at all times.** Prevent / limit access to the toilet.
- **Install toilet lid locking devices or door knob covers to bathroom doors** to prevent children from accessing the toilet water.

Drownings in supervised settings



National engagement on this issue is needed.



LIFESAVING SOCIETY®
SOCIÉTÉ DE SAUVETAGE

*The Lifeguarding Experts
Les experts en surveillance aquatique*



To identify actions that will result in a significant reduction of drownings to zero within supervised settings by 2025.

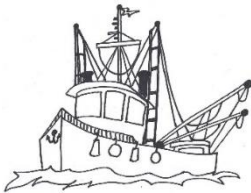


Supervised setting

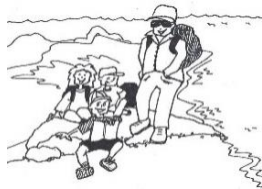
A designated area at, on or near the water where a supervised activity takes place. A safety plan is in place that directs the supervision of participants by trained personnel.

Background

Approximately **4%** of all unintentional water-related fatalities in Canada occur during occupational activities.²²



Approximately **3%** of all drownings occurs during group (i.e., school, daycare, camp group) outings.²⁴



Approximately **1%** occur under lifeguard or instructor supervision.²²



Key Messages

- ▶ A safety plan: shall set out the safety protocols for the facility or activity including applicable procedures and instructions on how to properly document health and safety incidents that occur. Its contents should include:
 - ▶ an identification of hazards;
 - ▶ location of rescue equipment (e.g. PFDs, reaching pole, first aid kit, AED);
 - ▶ how to contact assistance (e.g., EMS);
 - ▶ a list of all staff members who have First Aid training and/or appropriate certification(s) for the activity; and,
 - ▶ the minimum ratio or ratios of staff members to participants.
- ▶ Where a supervised activity is taking place, various forms of technology may be used to aid in safety supervision (e.g., underwater detection system, cameras and/or monitors). These technologies **DO NOT** replace the trained individual(s) responsible for supervision.
- ▶ Both occupational and lifeguard/instructor supervised settings represent seemingly safe environments where the number of drowning deaths should be zero. Protocols for critical incident debriefing and review to create recommendations for future prevention exist in some provinces but not all.

Research – Action – Highlights

- ▶ Definition criteria were expanded to help the TWG seek out DPRC statistics on numbers drowning in these settings. DPRC provided data search of stats of fatal drownings - 4582 drownings in Canada from 2008-2017. Data interpretation needed to include our expanded definition. TWG will continue to work with DPRC to clarify the numbers.
 - ▶ 30 fatal drownings occurred in supervised settings (an average of 3 per year).
 - ▶ 73% were in settings with lifeguards.
- ▶ Public Education PSA continues to evolve. Looking at targeted videos to deliver specific safety messages to high risk groups
- ▶ Infographic work continues with a final product expected in April 2021 to be shared in 9th edition of the Plan.
- ▶ Lessons Learned: 7th edition TWG reviewed Neave Inquest drowning at a public pool and produced recommendations.²⁵ Currently working on another case: Jérémie Audette (2 years of age) in backyard pool with daycare providers.²⁶ Recommendations included.

Jérémie Audette's Story

Jérémie Audette was two years old when he was brought by his private home day care provider to a group outing at another home daycare providers back yard. The gated fenced backyard contained a locked above ground pool and kiddy wading pool, as well as many toys and outdoor games. Thirty children and four to five adults were onsite at this get together; 20 of the children were estimated to be those in unlicensed home day care and 10 were children of the adults present.

The older children were given permission to swim and the separate gate leading to the above ground pool was unlocked. No adult was specifically assigned to supervise the pool / remain on the pool deck. Sometime after arrival, Jérémie was discovered by two of the children. He was unresponsive, facing down in the above ground pool. Despite immediate resuscitation attempts he was pronounced dead at the hospital in Ottawa, Ontario.

Jérémie's Parents' Message

Jérémie's father, Alain Audette, received a panicked phone call from his son's daycare provider following the incident. He reports that his son's childcare provider had not told him that she would be taking his son and the other daycare children to another home for a play date. Since that day, the Audettes maintain that pools don't belong at daycares. They relied on family, friends and their community to get through the difficult inquest and ensure that Jérémie's voice was heard. Jérémie's death had a profound impact on them all. The media coverage of his drowning increased public awareness about children's safety near, in or on water.



Jérémie's Story

Drowning Prevention Strategies

Establish consistent residential backyard pool enclosure bylaws in all municipalities across Canada.

Establish/Amend provincial Nursery Acts to include drowning prevention standards.

Establish daycare drowning prevention guidelines

Develop and launch a national public education campaign.

Provide checklists/resources to backyard residential pool owners/operators after completion of annual safety inspection.

Provide all residential, backyard pool owners with Lifesaving Society's Backyard Pool Safety Guidelines

Post-drowning Recommendations

Amend Day Nurseries Acts across Canada (e.g., R.R.O. 1990, REGULATION 262 in Ontario)

Ministries of Education should enlist the assistance of organizations such as the Lifesaving Society to assist in the creation of drowning prevention standards. Regulations should then be amended to include these standards so that all licensed daycare facilities across Canada meet these minimum standards when participating in any activities in, on or around the water.

Publish Daycare Drowning Prevention Guidelines

The Lifesaving Society should create/publish evidence-based guidelines that outline safe operating practices for daycare providers when activities are planned near, on or around water, including:

- ensure safety supervision: parents/caregivers are responsible for uninterrupted direct supervision of those in their care. They must remain within arms' reach of children at all times. A maximum ratio of 1:1 should be used for children under five years of age, where no lifeguard supervision is provided. Where lifeguard supervision is provided, caregivers must meet pool operator admission guidelines.
- promote the use of lifejackets or PFD's
- install equipment (reaching poles, first aid kit, telephone)
- provide daycare provider training (e.g., CPR-C, First Aid, Basic Water Rescue)

Once published, guidelines should be promoted as the minimum standard for all daycare operators. Partners (e.g., Child Care Providers Resource Network) should be enlisted in the delivery of this information.

Drowning prevention NGOs/agencies should collaborate to develop and launch a public education drowning prevention campaign

Lifesaving Society Canada, Canadian Red Cross, Safe Communities Canada, Safe Kids Canada, SMART RISK Canada, and Thinkfirst Canada should collaboratively create/fund a public education campaign to target all daycare providers to establish safe practices as defined in the Lifesaving Society Daycare Water Safety Guidelines and Lifesaving Society Backyard Pool Safety Guidelines. Partners in the delivery of this campaign should be identified and enlisted to ensure the delivery of this information across Canada.

Provide checklists/resources to assist backyard pool operators when completing a safety inspection of their backyard swimming pools

The Lifesaving Society has created a web resource designed to assist Backyard Pool Owners with pool safety. This resource should be promoted and used by all backyard pool owners to regularly inspect their pools.

Provide backyard pool owners with Lifesaving Society Backyard Pool Safety Guidelines and the *Within Arm's Reach* DVD

The Lifesaving Society's *Backyard Pool Safety Guidelines* identify actions pool owners should take to prevent dangerous/risky situations based on common scenarios. Guidelines are intended to assist backyard pool owners to analyze their pool/facility and build "layers of protection" to protect family and friends. *Within Arm's Reach* is an 11-minute video for backyard pool owners. It features former World's Pairs Champion figure skater, and drowning prevention Ambassador, Barbara Underhill who's 8-month-old daughter, Stephanie, drowned in a backyard pool. She shares her insights with backyard pool owners with young children (their own/guests). The video highlights how quickly/silently drownings occur, and steps owners can take to prevent tragedies. Messages/resources should be delivered through a campaign and/or the municipal building permit process whereby a brochure and video are handed to every pool permit recipient.

All municipalities and rural commissions across Canada should pass pool enclosure municipal bylaws that mandate barrier safety requirements for new pools including in-ground, above-ground, portable, inflatable and decorative ponds.

Every owner and operator must evaluate the backyard pool to determine if access to the pool is limited and that safeguards are in place. This is an important step in drowning prevention.

Ottawa
Ottawa child's drowning death illustrates the risks of unregulated child care
Globe and Mail - October 28, 2013

Ottawa
31 children at home of 2010 drowning, inquest told
Drowned toddler's mother visited son's former
daycare operator on Christmas Eve 2010
CBC News - November 28, 2012 2:05 PM ET | Updated: November 29, 2012

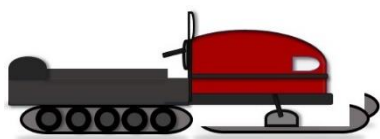
Ottawa
Caregiver fined in toddler's drowning
CBC News - Published Wednesday, September 7, 2011 4:57PM EDT



Indigenous peoples – First Nations, Inuit, and Métis



To support the creation of three technical working groups – First Nations, Inuit and Métis peoples – by 2022.



Background

Drowning in the Indigenous population has been reported to be 6 times higher than the Canadian average, and as much as **15 times higher** in children.^{27,28,29}

Indigenous peoples comprise about 4.9%³⁰ of the population in Canada, but account for approximately

26% of drowning cases that involve a snowmobile,

16% of drowning cases after a fall into water,

10% of recreational drowning fatalities, and

9% of boating related drowning deaths.²⁸

Increased risk of drowning in Indigenous populations has been linked to proximity to open water, low use of personal flotation devices, and alcohol use.²⁸

Key Messages

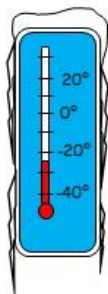
- ▶ Indigenous peoples have a preventable drowning rate that is substantially higher than that of non-Indigenous Canadians.
- ▶ First Nations, Inuit, and Métis leadership must be the leaders of, and be involved in, the collection, analysis, and dissemination of data by and for their peoples.
- ▶ Genuine and respectful relationships with Indigenous leaders, elders, and community members must continue to develop and strengthen.
- ▶ There is much to learn from First Nations, Inuit, and Métis peoples on the drowning burden amongst each of these distinct groups.
- ▶ Funding support for research on drowning amongst First Nations, Inuit, and Métis is needed.

Research – Action – Highlights

- ▶ The Coalition listens to learn about and seeks to comprehend understandings of drowning (e.g., boating, ice, swimming, etc.) from Indigenous leaders, elders, and community members to support and improve health outcomes for Indigenous people through a reduction in drowning.
 - ▶ The Coalition and the Assembly of First Nations (AFN) continue to communicate, strengthen its relationship, and collaborate. The Coalition is grateful for these opportunities to share understanding and looks forward to the possibility of supporting a technical working group focusing on First Nations Peoples.
 - ▶ The Coalition is grateful for the occasions to dialogue with the Métis National Council (MNC) during the Coalition's annual drowning prevention updates with Indigenous representative organizations and Government of Canada departments and agencies in June 2019, May 2020 and May 2021. It looks forward to future interchanges and the possibility of supporting a technical working group focusing on Métis people.
 - ▶ The Coalition looks forward to connecting with the Inuit Tapiriit Kanatami (ITK).
- ▶ To start a broader conversation, and begin to address and eliminate this drowning disparity, the Coalition presented a virtual workshop at the Indigenous Health Conference 2020 (IHC2020). It focused on providing space in which presenters shared their concepts, and requested feedback, on the benefits of learning from drowning-related stories, methods, strategies, and interventions undertaken by First Nations, Inuit and Métis communities and individuals. In exchange for sharing guidance and wisdom at the IHC2020, participants were given a brochure which featured suggestions on how communities may set up their own community drowning prevention coalitions. Participants were also offered a copy of a document outlining the governance structure of the Ottawa Drowning Prevention Coalition as a sample.
- ▶ The Coalition is learning from First Nations and Métis knowledge. It is following a process learned from a First Nations' steering committee stakeholder, a First Nations volunteer stakeholder, and an ally whose research focuses on drownings among First Nations people to support this research. Resources to support the hiring of an Indigenous researcher specializing in this area will be sought to further the progress of this work.



To respect and learn from northern Indigenous and rural practices and ensure that recommended drowning prevention strategies are appropriate to ensure a reduction in drownings in northern Canada and rural areas.



Background

Canada has an abundance of natural bodies of water, many of which sustain very cold temperatures year-round. Immersion death in cold water is frequent in northern countries such as Canada.³¹ On average,

150

people die as a result of cold-water immersion each year.²²

Drowning rates are highest in the Yukon, Northwest Territories, and Nunavut.²² Drowning risk in Northern Canada is increased by proximity to water and lower water temperatures.²⁹

Key Messages

- ▶ Rural residence has been associated with higher risk of drowning.²⁷
- ▶ More drowning fatalities have been occurring in rural areas in recent years than in the past.²⁸
- ▶ Climate change (e.g., thinning ice) in the North increases risk (e.g., snowmobile usage in unpredictable ice conditions).³²
- ▶ Teaching methods or information that may have originated from the South may be inappropriate for the North.
- ▶ Accessibility to affordable lifejackets and other safety equipment can be limited or unavailable in some communities.

Research – Action – Highlights

- ▶ Summarize initiatives already in place and compare these projects to determine gaps (e.g., determine if there are any data gaps within the National Drowning Report tied to Northern Canada, rural areas and cold water).
- ▶ Identify and describe disparities that exist (e.g., lack of access to ‘learn to swim’ programs).
- ▶ Create and compile videos and other resources that reflect northerners’ lives and experiences.



To encourage the implementation of survival swimming skills training to all new Canadians within the first three years of their arrival to Canada.



Background

A study that examined the association between duration of residence in Canada and risk of unintentional injury among children and youth found that risk of drowning was highest in recent immigrants who had lived in Canada for fewer than five years.³³

People who are new to Canada are four times more likely to be unable to swim than those who were born in Canada.³⁴

5x

Youth aged 11 to 14 who were new to Canada were five times more likely to be unable to swim than their Canadian-born classmates. 93% of new Canadians of this age indicated that they participate in activities in, on, or around water.³⁵

Key Messages

- ▶ Newcomers to Canada have different knowledge and/or experiences around issues of water safety/drowning prevention. New Canadians tend to be more afraid of water than those born in Canada making them more vulnerable to drowning.
- ▶ Most new Canadians have had a lack of or limited exposure to water for recreation. For many, learning to swim and water safety is not part of their experience in their home country.
- ▶ It is important to reach new Canadians with water safety/drowning prevention information and provide opportunities for them to learn survival swimming skills.
- ▶ Findings from a pilot study (Thornccliffe, Ontario) support the scaling up and expansion of the project to reach new Canadian communities across Canada.
- ▶ Boating and swimming are two important areas where new Canadians need more information and education to reduce their risk of drowning when it comes to being in, on or around water.

Research – Action – Highlights

- ▶ A pilot program was introduced in the Thornccliffe, Ontario community area (Toronto) during Summer 2019. It is a community with a high number of new Canadians. The program included research evaluation components with the New Canadians after water safety presentations, survival swimming skills instruction for the children, and *Family Swim to Survive* lessons. Research findings were consistent with the large national quantitative studies conducted by the Lifesaving Society in 2010 and 2016. Results point to a need for water safety education targeted to new Canadians, especially those who have been living in Canada for less than 5 years. The overwhelming majority of the children who took the *Swim to Survive* lessons agreed that the program was fun, that they learned new skills, that learning to swim is important, and they would like to take more lessons. The majority of those surveyed agree that swimming is a life skill and that all should learn to swim in Canada. Overwhelming agreement that the presentation was extremely useful and informative especially to their demographic.
- ▶ The extensive research learning from the Thornccliffe pilot program supports the benefits of scaling up of the program province-wide. Resources have been secured and allocated, however Covid19 has resulted in the program being paused. The new timing for the expansion of the program is Spring 2022. The program will be further scaled up across the country when resources to do so are secured.
- ▶ A working group is looking into the most effective strategies to reach international students in post-secondary programs in Canada. Specifically messaging, strategies for engagement and programming are being reviewed.
- ▶ A Geospatial analysis of Canadian Drowning Locations was conducted by Vienna C. Lam, Barbara Byers, J. Bryan Kinney, and Gail S. Anderson and presented at the 72nd American Academy of Forensic Sciences (February 2020) Annual Meeting in Anaheim, California, United States.

DROWNING



is one of the leading causes of death for children in every region of the world

The World Health Organization released its first ever report dedicated exclusively to drowning: *Global report on drowning: preventing a leading killer.*

Around the world, every hour, every day more than **40** people lose their lives to drowning.



IN CANADA

450

Canadians drown annually



2nd

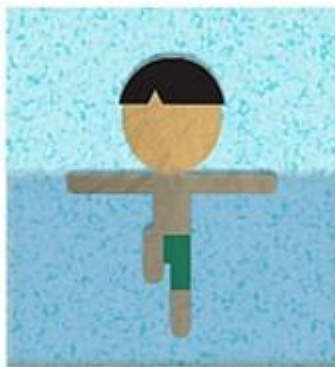
Drowning is the second leading cause of preventable death for children under 10

SURVIVAL SWIMMING SKILLS CAN HAVE A LIFELONG IMMUNIZATION EFFECT AGAINST DROWNING

Lifesaving Society's **Swim to Survive** program teaches children how to survive an unexpected fall into deep water using 3 basic skills



ROLL



TREAD



SWIM


97% of Canadians agree that swimming is a life skill that every child should learn*

88% agree that all children should receive swimming instruction as part of a school safety program*

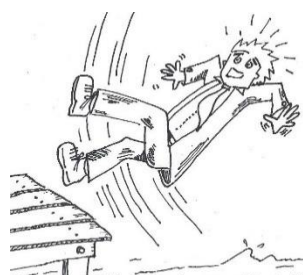
*Angus Reid Forum. Online Survey. April 22- May 6, 2015

Unintentional water entry



 To identify and encourage the implementation of actions that will result in a significant reduction of drownings due to unintentional water entries by 50% in ten years (2030).

D **Unintentional water entry** The person/people never intended to be in the water. There was no on or off-road motor vehicle, snowmobile, or aircraft involved, and the drowning was not boating-related.



Background

Those at risk of fatal drowning from unintentional water entry are clothed, lack the skills to get out safely, and are most likely to be falling into moving water or dockside/poolside areas.³⁶

From 2008-2017 (10-years) in Canada,

906

people drowned due to an unexpected fall into water²²

The largest frequency of death in Canada for non-aquatic activities occurred among children 1 to 4 years of age accounting for approximately 15% of fatalities related to unexpected falls into water.²²

Key Messages

- ▶ Drowning prevention in children is the responsibility of parents, guardians, and caregivers in all settings.
- ▶ The education of individuals on the safe rescue of others is becoming increasingly important.
- ▶ Further research is needed on incidents that are fatal or non-fatal involving persons with neurodevelopmental disabilities and/or medical conditions.
- ▶ Unintentional water entry includes those who are unexpectedly pushed into water (i.e., the timing and/or method of entry is not planned when pushed, resulting in injury and possible fatality).
- ▶ Research is needed on drownings resulting from climate-related emergencies (e.g., flooding).

Research – Action – Highlights


- ▶ Engagement of multi-sectoral experts on the topics of backyard pool legislation, safe rescue of others and the layered approach to water safety took place at the International Red Cross' *Survival2020* conference (virtual) in October 2020. Feedback will form part of the recommendations made by the technical working group on these topics. It is hoped that the recommendations will guide decision and policy-makers at the federal, provincial/territorial, and municipal levels to the layered approach to backyard pool safety and support rescuer safety in scenarios involving unintentional water entry.
- ▶ The technical working group will be recommending further research into fatal and non-fatal incidents involving persons with neuro-developmental disorders and/or medical conditions, including national and global situational assessment and data collection (where available). Next steps include the creation of potential initiatives focused on engaging the public to develop interventions focused on reducing drownings from unintentional water entries, and the creation of a pre- and post-measurement community awareness tool to evaluate the effectiveness of these interventions.
- ▶ Data on non-fatal drowning incidents caused by a push into water will be gathered and examined. Initial communications have begun with the Canadian Camping Association membership. The *No Push Movement*³⁷, developed by Eric Shendelman, will be further developed and made available to the public sector through symposium presentations, social media, and through a website. Pledge packages are designed to engage Canadians in pledging to not push anyone into the water and to stop pushing when they see it.

A drowning prevention TOOL for YOU Parents, Caregivers, Guardians, Families



Watch video: <https://www.youtube.com/watch?v=7imZtZlpmNE>
Contact your provincial/territorial branch of the Lifesaving Society for more information
or visit www.lifeguarddepot.com to order your On Guard card kit.

Water transport-related drowning

 **To identify and encourage the implementation of high impact strategies, as well as recommendations previously made by Coroners, Medical Examiners and the Transportation Safety Board that will result in a significant reduction of water transport-related drownings by 75% in ten years (2030).**



Key Messages

- ▶ Wear a properly fitting lifejacket or personal floatation device (PFD)³⁹
- ▶ Boat sober
- ▶ Take a boating course
- ▶ Prepare your vessel
- ▶ Be cold water safe

Background

Water-related deaths in Canada are more frequently associated with boating than any other activity.³⁸

The most common factor associated with boating deaths in the last two decades has been the non-wearing of personal flotation devices.^{22,39}



Between 2008-2017, the vast majority of boating related drowning deaths occur among males between 15-74 years of age, whereby 15-34 year olds represented 32% and 35-74 year olds represented 50% of boating related fatalities.³⁸

Research – Action – Highlights

- ▶ The technical working group for Water transport-related drowning is performing a scoping review to identify key issues, trends, and gaps.
 - ▶ The technical working group completed an identification stage using database searches using a set of keywords related to Water-transport related drowning to identify references
 - ▶ Following, the team completed a preliminary screening stage where references were excluded in an abstract and title review
 - ▶ The team then performed a review of the full-text for each of the articles that was eligible. The full text review concluded on March 31, 2021.
 - ▶ Coding of the results began on April 1, 2021.
- ▶ Following the scoping review, this group will make recommendations on priority high impact implementation strategies.

Young adult males



To encourage Canadian males to put safety for the benefit of others and all first while in, on and around water.



Background

In Canada, young adults 20 to 34 years of age consistently have high unintentional water-related fatality rates relative to other age groups.²² Within this age group 20-24-year-olds have the highest death rate (1.6 per 100,000).²²

82%

are male²²

Males 35-65 years have the highest number of unintentional falls into water representing 39% and 20-34 year olds account for 17% of unintentional falls into water.²²

Approximately 1 of every 2 young adults who fatally drowned had consumed alcohol.^{22,40}

Indigenous males are over represented in this group.⁴¹

Key Messages

- ▶ 79% of all drownings deaths in Canada occur among males. Elevated male drowning rates are not unique to Canada.
- ▶ Indigenous men are over-represented in this group.
- ▶ More initiatives focused on reducing drowning rates among males are needed.
- ▶ Prevention initiatives targeting behavior changes are necessary as they relate to prevention, knowledge, and intention.
- ▶ Gender-specific efforts in a variety of venues and using multiple channels is needed to reduce the high-risk behaviors of males.
- ▶ Reinforced long-term messaging is recommended due to the complex nature of changing behaviors and attitudes.
- ▶ Modification of existing programs to accommodate diversity across young men are needed to transform societal norms about gender-relations.
- ▶ More research on male behavior in, on or near water is needed, including: alcohol use (activity, time of day, # participants, location, etc.), lifejacket wear, swimming and boating alone, ice fishing, etc.).

Research – Action – Highlights

- ▶ Making one's own safety for the benefit of others and all while in, on, and around water is a long-term goal. It will be supported by consistent evidence-based messaging, delivered in a variety of ways, which appeals to diverse males' values and needs that reinforce safe behavior in, on, and around water while transforming social norms about water safety practices.
- ▶ New technical working group leadership was ratified in July 2020.
- ▶ Seeking stakeholder participation from industry, government, non-governmental organization, media, and civic foundation.

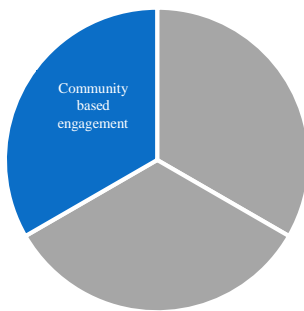
SECTION 6

RECOMMENDATIONS & NEXT STEPS

Community-based engagement



Goal To encourage Canadians to seek, identify, and share drowning prevention initiatives which focus on best practices and impacts.



Recommendations – Call to action

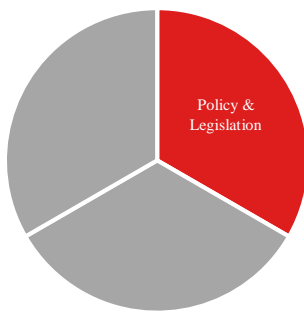
- ▶ Encourage understanding that “drowning” includes both fatal and non-fatal cases.
- ▶ Data should guide interventional efforts.
- ▶ Uninterrupted, consistent, responsible adult supervision of children is needed.
- ▶ A focus on multilayered approaches to drowning prevention should be encouraged.
- ▶ Action and culture change to reduce drowning in supervised and unsupervised settings, including lifesaving information, equipment, and plans/protocols could be made available to users on site to decrease fatal drownings should a situation arise.
- ▶ Encourage the increase of multi-sectoral collaboration in all areas of drowning prevention.
- ▶ The most vulnerable Canadians need to be engaged in solution finding and leadership to find interventional strategies for drowning risk reduced.
- ▶ Continue to build relationships with stakeholders within the Government of Canada ministries, departments and agencies; the Assembly of First Nations, Inuit Tapiriit Kanatami, and the Métis National Council; as well as multicultural associations, and communities across Canada.
- ▶ Encourage and support the creation and expansion of community-based coalitions and drowning reduction projects to increase community-based actions and to include both fatal and non-fatal drowning.
- ▶ Encourage Canadians and community groups to utilize toolboxes provided and establishing a list of protocols to be followed for drowning prevention and post-drowning incidents activities/initiatives.

Next steps

- ▶ Include unintentional and intentional drownings in the scope of community-based research, activities, strategies, etc.
- ▶ Engage the most vulnerable Canadians in solution finding and leadership to find interventional strategies for drowning risk reduction.
- ▶ Create additional tools to support communities in mapping high-risk areas.
- ▶ Create work with multi-sectoral stakeholders to develop a list of protocols to be followed for drowning prevention and post-drowning incidents.

Policy and legislation

Goal To ensure evidence-based data guides interventional drowning prevention-related policy and legislation.



Recommendations – Call to action

- ▶ The Government of Canada can assist drowning prevention efforts by:
 - ▶ Funding research on non-fatal drowning.
 - ▶ Facilitating and supporting an implementation framework for survival swimming programs for all new Canadians within three (3) years of their arrival in Canada.
 - ▶ Funding for the design and creation of an online map to identify 1) areas in which drownings incidents/events (fatal and non-fatal) have occurred, where more than one drowning has occurred in a single sight or where multiple drownings have occurred during a single situation; and, 2) high-risk areas where local communities and governments can take positive action to prevent further drownings.
 - ▶ Facilitating and supporting an implementation framework for consistent pool fencing legislation across Canada.
 - ▶ Amending Small Vessels Regulations¹⁵³ (SOR/2010/91 – 204(a)/310(1)(a)(i)/302 for small vessels to require that a Transport Canada approved personal floatation device or lifejacket must be worn by each person on board.
 - ▶ Facilitating and supporting an implementation framework for mandatory cardiopulmonary resuscitation (CPR) training with driver’s license (new or renewal).
 - ▶ Implementing a Drowning Review Board to review drowning incidents and make recommendations for implementation.

Next steps

- ▶ Engage the Government of Canada, provincial/territorial governments and local governments across Canada in the drowning prevention effort.
- ▶ Review evidence to more clearly identify the length and/or type of “small vessels” that must have statutory requirements for wearing a personal floatation device or lifejacket.

Research and Development

Goal To ensure evidence-based data is available to guide interventional drowning prevention efforts.



Recommendations – Call to action

- ▶ The design/delivery of an interactive online map identifying all drowning locations across Canada.
- ▶ Utilize learning from road traffic fatality reduction in Canada.
- ▶ Collaborate with drowning prevention technology industry to determine the effectiveness of technology in preventing drowning incidents.
- ▶ Seek a partnership with technology and academic sectors to create a scholarship for drowning prevention technology development.
- ▶ Research by and for Indigenous people – First Nations, Inuit, and Métis.
- ▶ Research on and benefits of survival swimming programs for new Canadians.
- ▶ Create and evaluate programs that teach basic drowning recognition and rescue skills to the public with specific focus given to groups at highest risk.
- ▶ Expand Canadian drowning data collection and research to include a more in-depth understanding of socioeconomic risk factors and should progress to the inclusion of non-fatal and intentional drowning. Normative/expert guidance on an unintentional water entry definition and classification system would be helpful.
- ▶ Make drownings in supervised settings a national priority and the first target to reach zero mortality.
- ▶ Conduct retrospective and prospective studies on drownings amongst children and adults living with neurodevelopmental disorders and medical conditions.
- ▶ Research bystander/rescuer drownings in Canada to learn the circumstances under which each such drowning occurred to better understand how these drownings may be prevented in the future.

Next steps

- ▶ Research on and benefits of survival swimming programs for new Canadians.
- ▶ A study on drowning among children and adults living with neurodevelopmental disorders is being undertaken by the technical working group focusing on unintentional water entries.
- ▶ Seek funding for the design/delivery of an interactive online map highlighting fatal and non-fatal drowning locations across Canada to be made available to Canadians/public to increase awareness of the danger of high-risk areas among the public, as well as policy and decision-makers.
- ▶ Seek a partnership with technology and academic sectors to create a scholarship for drowning prevention technology development.

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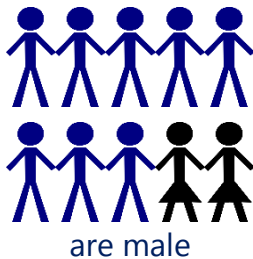
APPENDICES

THE DROWNING ISSUE IN CANADA

Fatal drowning



D *Fatal drowning* “The process of experiencing respiratory impairment from submersion / immersion in liquid; outcomes are classified as death, morbidity and no morbidity.”⁵



- ▶ The number of drowning deaths reported over 25 years has declined, yet hundreds of fatal drowning incidents still occur in Canada each year.
- ▶ During 2013-2017 (most current five-year period), approximately 438 people fatally drowned each year in Canada which corresponds to 1.2 deaths per 100,000 people each year.²²
- ▶ More than 30 years of national research and reports are available through Lifesaving Society Canada. A 2-page at-a-glance version with infographics is published annually complementing a full [National drowning report](#).⁴²

At-A-Glance²²

The long-term progress that has been made in reducing death by drowning in Canada is encouraging, but on average there are still approximately 450 preventable, unintentional water-related fatalities occurring each year. This reinforces the need for continued drowning prevention efforts.

Analysis of the most recent available water-related fatality data reveals the current profile of drowning mortality in Canada:

- ▶ The highest water-related fatality rates (2013-2017) are found in adults 50+ and young adults 20 to 34 years of age.
- ▶ Most victims are male (79%).
- ▶ The largest number of drownings (66%) occur in summer - May through September.
- ▶ The majority of water-related fatalities in Canada occur in natural bodies of water (70%) like lakes, ponds, rivers, and oceans. Water-related fatalities in man-made settings were less common than in natural bodies of water in 2013-2017. Bathtubs (9%) were the most common man-made setting where drowning deaths occurred.
- ▶ Almost two-thirds of all fatal unintentional drowning occurs during a recreational activity. Another quarter occur during daily living activities.
- ▶ Boating and aquatic activities such as swimming and wading are the most common.
- ▶ **See 2020 National Drowning Report on pages 50 and 51.**

THE DROWNING ISSUE IN CANADA

Non-fatal drowning

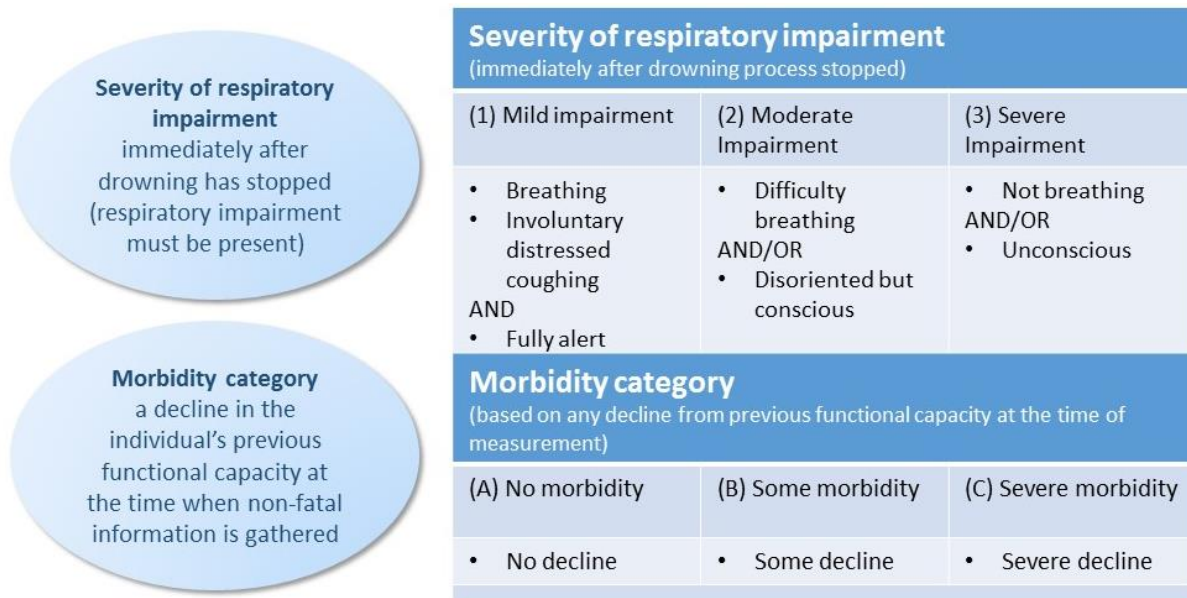
- D** *Non-fatal drowning* “Outcomes are fatal or non-fatal. In non-fatal drowning, the process of respiratory impairment is stopped before death.”⁸
- D** *Involuntary distressed coughing* The coughing up of liquid, moving liquid out of the airway, and/or sustained coughing. This offers all observers a reliable and suitable means of establishing that the process of drowning had begun.⁸
- D** *Previous functional capacity* The individual’s cognitive, motor, and psychological capacity before the drowning incident. It is used to measure the degree of morbidity which occurred as a result of drowning.⁸

Canada’s non-fatal drowning database

The development of Canada’s non-fatal drowning database is underway. Much remains to be done, including the choosing of the best methodologies to use in data collection. It will apply the W.H.O.’s non-fatal drowning categorization framework (NDCF).

The NDCF offers clarity of understanding, consistency and reliability for assessment, evaluation, conversation and debate. It also serves as a means for dialogue and communication about non-fatal drownings in all settings, including the media and community surveys.⁸

The NDCF could impact the quality of pre-hospital or in-facility care and treatment, thus, resulting in a decline in the number of individuals living with severe morbidity/injury (meaning that there may be an increase in number of individuals living with some or no morbidity/injury) from a drowning event.⁸



Limitations

1. The reporting of a description of respiratory impairment immediately following the drowning incident can be ambiguous.⁸ 2. The cross-sectional measurement of an individual’s capacity is done at the time the information is gathered. As time progresses so too may the symptoms and may, therefore, change.⁸

It should be noted that where more detailed clinical data is available, the NDCF may be used alongside other scoring systems to provide additional detail.⁸

UNITED NATIONS RESOLUTION ON DROWNING PREVENTION²

United Nations

A/75/L.76



General Assembly

Distr.: Limited
14 April 2021

Original: English

Seventy-fifth session

Agenda item 24

Eradication of poverty and other development issues

Bangladesh and Ireland: draft resolution*

Global drowning prevention

The General Assembly,

Reaffirming its resolution [70/1](#) of 25 September 2015, entitled “Transforming our world: the 2030 Agenda for Sustainable Development”, in which it adopted a comprehensive, far-reaching and people-centred set of universal and transformative Sustainable Development Goals and targets, its commitment to working tirelessly for the full implementation of the Agenda by 2030, its recognition that eradicating poverty in all its forms and dimensions, including extreme poverty, is the greatest global challenge and an indispensable requirement for sustainable development, and its commitment to achieving sustainable development in its three dimensions – economic, social and environmental – in a balanced and integrated manner, to building upon the achievements of the Millennium Development Goals and seeking to address their unfinished business, and to leaving no one behind,

Reaffirming also its resolution [69/313](#) of 27 July 2015 on the Addis Ababa Action Agenda of the Third International Conference on Financing for Development, which is an integral part of the 2030 Agenda for Sustainable Development, supports and complements it, helps to contextualize its means of implementation targets with concrete policies and actions and reaffirms the strong political commitment to address the challenge of financing and creating an enabling environment at all levels for sustainable development in the spirit of global partnership and solidarity,

Recalling its resolution [71/222](#) of 21 December 2016, entitled “International Decade for Action, ‘Water for Sustainable Development’, 2018–2028”, and its resolution [73/226](#) of 20 December 2018, entitled “Midterm comprehensive review of the implementation of the International Decade for Action, ‘Water for Sustainable Development’, 2018–2028”,

Reaffirming its resolutions [53/199](#) of 15 December 1998 and [61/185](#) of 20 December 2006 on the proclamation of international years, and Economic and Social Council resolution [1980/67](#) of 25 July 1980 on international years and anniversaries,

* In order for the General Assembly to take action on the present proposal, it will be necessary to reopen consideration of agenda item 24 and to consider it directly in plenary meeting.



Recalling its resolution 74/2 of 10 October 2019, by which it adopted the political declaration of the high-level meeting on universal health coverage, entitled “Universal health coverage: moving together to build a healthier world”, in which it recognized the need to scale up efforts to address the growing burden of injuries and deaths, including those related to drowning, through preventive measures as well as emergency response as part of integrated health-care delivery,

Recalling also World Health Assembly resolution 64.27 of 24 May 2011, entitled “Child injury prevention”,¹ and recognizing that drowning is a leading global cause of injury-related child deaths that requires preventive measures, including awareness-raising,

Deeply concerned that drowning has been the cause of over 2.5 million preventable deaths in the past decade, but has been largely unrecognized relative to its impact,

Recognizing the association between drowning and development, and noting that over 90 per cent of deaths occur in low- and middle-income countries, with Africa recording the world’s highest drowning rates and Asia carrying the highest burden of drowning deaths by number,

Noting that drowning is a social equity issue that disproportionately affects children and adolescents in rural areas, with many countries reporting drowning as the leading cause of childhood mortality and drowning being among the 10 leading causes of death globally for 5- to 14-year-olds,

Noting with concern that the official global estimate of 235,000 deaths per annum excludes drownings attributable to flood-related climatic events and water transport incidents, resulting in the underrepresentation of drowning deaths by up to 50 per cent in some countries,

Recognizing that drowning prevention can increase societal resilience, and noting that drownings affect not only littoral nations but frequently occur in rivers, lakes, domestic water storage and swimming pools in many other countries,

Underlining the relevance of major global frameworks, including the Paris Agreement,² the New Urban Agenda³ and the Sendai Framework for Disaster Risk Reduction 2015–2030,⁴ for addressing climate change and reducing disaster risk, noting that water-related disasters increasingly affect millions of people globally owing in part to the escalating adverse impacts of climate change and that flooding affects more people than any other natural hazard, with drowning being the main cause of death during floods, and noting also the importance of national adaptation planning to address these risks,

Observing that drowning prevention would contribute to the delivery of the 2030 Agenda, most notably that drowning prevention represents an effective measure contributing to the prevention of child deaths and can protect investment in child development,

Noting the significant progress made by some Member States with regard to policy and programming interventions to prevent or reduce the incidence of drowning as a cause of death,

¹ See World Health Organization, document WHA64/2011/REC/1.

² See FCCC/CP/2015/10/Add.1, decision 1/CP.21, annex.

³ Resolution 71/256, annex.

⁴ Resolution 69/283, annex II.

Affirming that drowning is preventable and that scalable, low-cost interventions exist, and emphasizing the urgency of developing an effective and coordinated response among relevant stakeholders in this regard,

1. *Encourages* all Member States, on a voluntary basis, to consider taking the following actions, in accordance with national circumstances:

- (a) Appoint a national focal point for drowning prevention;
- (b) Develop a national drowning prevention plan, containing a set of measurable targets according to their needs and priorities, including as part of wider national health plans, policies and programmes;
- (c) Develop drowning prevention programming in line with World Health Organization recommended interventions, namely, barriers, supervision, swim skills, rescue and resuscitation training, boating regulation and managing flood risk and resilience;
- (d) Ensure enactment and effective enforcement of water safety laws, across all relevant sectors, in particular in the areas of health, education, transportation and disaster risk reduction, where appropriate, and consider establishing appropriate and proportionate regulations where they do not yet exist;
- (e) Include drowning within civil registration and vital statistics registers and aggregate all drowning mortality data into national estimates;
- (f) Promote drowning prevention public awareness and behaviour-change campaigns;
- (g) Encourage integration of drowning prevention within existing disaster risk reduction programmes, especially in communities at risk of flooding and coastal inundation, including through international, regional and bilateral cooperation;
- (h) Support international cooperation by sharing lessons learned, experiences and best practices, within and among regions;
- (i) Promote research and development of innovative drowning prevention tools and technology, and to promote capacity-building through international cooperation, in particular for developing countries;
- (j) Consider the introduction of water safety, swimming and first aid lessons as part of school curricula, consistent with the Member State's governance framework for education;

2. *Invites* the World Health Organization to assist Member States, upon their request, in their drowning prevention efforts and to coordinate actions within the United Nations system among relevant United Nations entities, including the United Nations Children's Fund, the Office for the Coordination of Humanitarian Affairs of the Secretariat, the United Nations Office for Disaster Risk Reduction and the United Nations Development Programme;

3. *Decides* to proclaim 25 July as World Drowning Prevention Day;

4. *Invites* all Member States, relevant organizations of the United Nations system and other global, regional and subregional organizations, as well as other relevant stakeholders, including civil society, the private sector, academia and individuals, to observe World Drowning Prevention Day annually in an appropriate manner and in accordance with national priorities, through education, knowledge-sharing and other activities, in order to raise awareness of the importance of drowning prevention and the need for urgent coordinated multisectoral action to improve water safety, with the aim of reducing preventable deaths;

5. *Stresses* that the cost of all activities that may arise from the observance of World Drowning Prevention Day should be met from voluntary contributions, in accordance with national capacity;

6. *Invites* the World Health Organization to facilitate the observance of World Drowning Prevention Day, in collaboration with other relevant organizations, mindful of the provisions contained in the annex to Economic and Social Council resolution [1980/67](#);

7. *Requests* the Secretary-General to bring the present resolution to the attention of all Member States, the organizations of the United Nations system and civil society organizations for appropriate observance.

DROWNING Report

Prepared for the Lifesaving Society by the Drowning Prevention Research Centre Canada

This infographic summarizes the most recent data on water-related fatalities available from the Offices of the Chief Coroners and Medical Examiners of Canada. With the exception of the first chart, all data refers to the most current five-year period, 2013-2017. The 2016 and 2017 totals are based on partial data. Complete information for British Columbia was not available at the time of data collection*.

CANADIAN WATER-RELATED FATALITIES AND DEATH RATES, 2008-2017

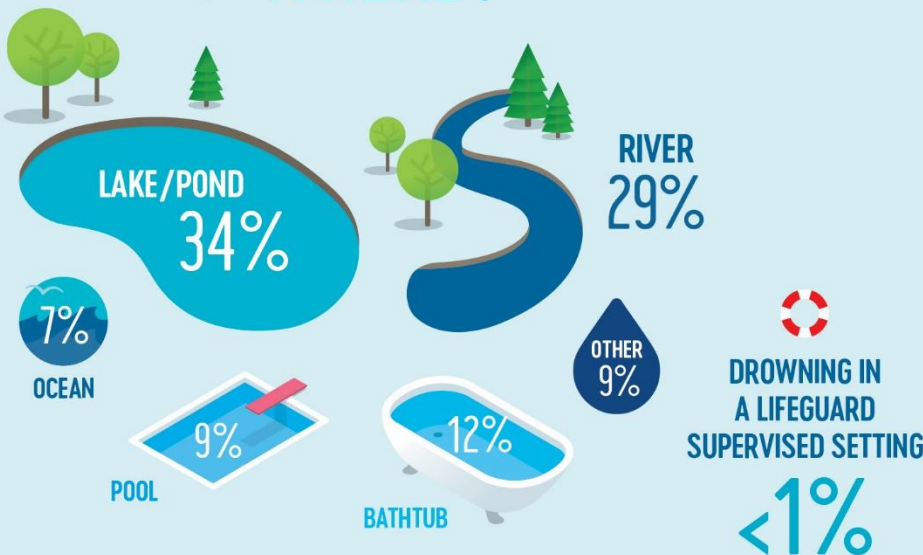


WHO IS DROWNING?

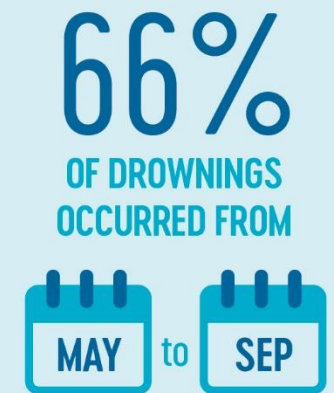


* Death Rate per 100,000 / Year

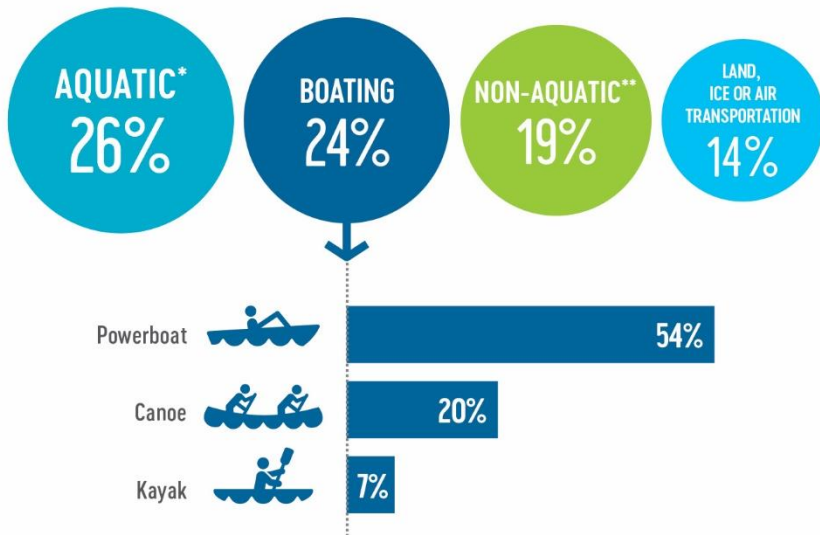
WHERE?



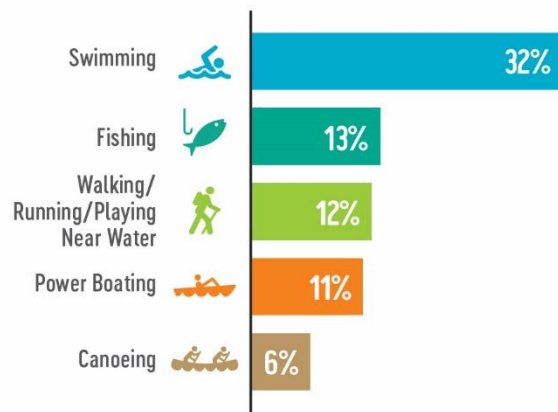
WHEN?



? WHAT WERE THEY DOING?



WATER-RELATED FATALITIES BY MOST COMMON RECREATIONAL ACTIVITY



*The person intended to be in the water (e.g. swimming/wading)

**Unintentional fall into water (e.g. walking/biking/working near water and fell in)

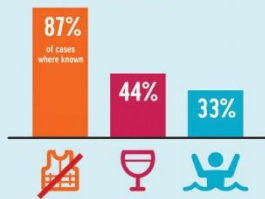
! WHY? RISK FACTORS

CHILDREN <5 YEARS



92%
Supervision Absent
or Distracted

YOUNG ADULTS 15-34 YEARS



MIDDLE-AGED ADULTS 35-64 YEARS



OLDER ADULTS 65+ YEARS



Not Wearing a PFD



Alcohol Consumption



Alone



Weak or Non-Swimmer

BOATING



SWIMMING



METHODS:

Water-related death data is extracted from the office of the Chief Coroner or Medical Examiner for each province and territory. Data is collected for all deaths resulting from incidents "in, on or near" water. "Near water" incidents were included if the intent was closely related to water-based recreational, vocational or daily living activity. The data includes only unintentional deaths, not deaths due to natural causes, suicide, or homicide.

ACKNOWLEDGEMENTS:

We gratefully acknowledge the support, co-operation and efforts of:

- The Chief Coroner's and Medical Examiner's Offices in each province/territory, who permitted and facilitated confidential access to coroner's reports on unintentional water-related deaths.
- The volunteers who contributed their time and energy to extract data from the files.

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Drowning Prevention Research Centre Canada
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Canadian Drowning Prevention Plan, 8th edition (May 2021)

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