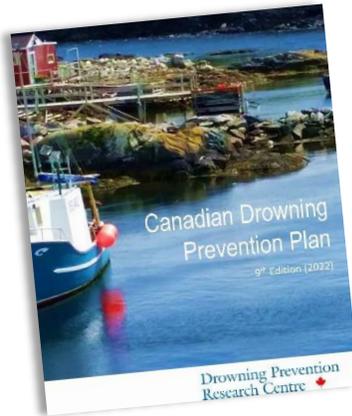




Canadian Drowning Prevention Plan (2022)
Resource Guide

Drowning Prevention
Research Centre 

CANADIAN DROWNING PREVENTION PLAN, 9TH EDITION



Drowning is a preventable public health issue. It is the third leading cause of unintentional injury death worldwide, and a substantial cause of morbidity and mortality in Canada. Approximately 460 people fatally drown in Canada each year, and more suffer non-fatal drowning incidents and injuries often resulting in long-term consequences.

The Canadian Drowning Prevention Plan is a priority setting document for drowning prevention including research, analysis and action in Canada. It is developed by a multisectoral steering committee, including technical working group leaders who review data and evidence, identify priorities and offer recommendations.

In 2022, the Canadian Drowning Prevention Coalition steering committee ratified seven (7) key target areas for the next five years (2022-2026). These include an ongoing focus on age (children 1 to 4 years old); people (First Nations, Inuit, and Métis; and, new Canadians); and locations (northern Canada, rural areas, and cold water; and, supervised settings). New key targets focus on activity (recreational boating) and behaviours (PFD wear; and, alcohol & substance use).

This Canadian Drowning Prevention Plan Resource Guide is a complementary source for those seeking information, tools, and templates.

ACKNOWLEDGEMENTS

The Canadian Drowning Prevention Coalition acknowledges that the land on which we live and work is the traditional land of First Nations, Inuit and Métis People. Newcomers and settlers have been invited onto this land in the spirit of peace, friendship and respect. The CDPC recognizes 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. We 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.

The CDPC would like to thank its steering committee for providing content and expert feedback on this first edition of the Canadian Drowning Prevention Resource Guide. The steering committee would like to thank its multi-sectoral technical working groups and its sub-committee participants for their ongoing dedication to drowning prevention in Canada and for their significant contributions to the Canadian drowning prevention strategies, materials, and information included in this Resource Guide.

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EXECUTIVE SUMMARY

This is the first edition of Canadian Drowning Prevention Plan Resource Guide. It serves as a complementary source of information to the 9th edition of the Canadian Drowning Prevention Plan (May 2022). Whereas the Plan identifies key focus areas for Canada and sets priorities to achieve targets, this Resource Guide offers information about:

- the background and history of the Canadian Drowning Prevention Coalition (CDPC);
- drowning prevention strategies and approaches; and,
- instructions on how to build a drowning prevention coalition in your community.

Also contained in this Resource Guide is

- an overview of the Canadian Drowning Prevention Awards and a list of recipients from 2018 to 2021; and,
- a summary of advocacy efforts undertaken by a steering committee sub-committee focused on community coalition development.

Additional references and tools can be found in the Appendices. These include:

- the United Nations Resolution on Drowning Prevention (2021);
- Canada's National Drowning Report 2020 Edition;
- the World Health Organization's (WHO) Non-fatal drowning categorization framework (2019); and,
- several post-drowning case studies from supervised settings.

BACKGROUND AND HISTORY

The global drowning issue

In 2014, the World Health Organization (WHO) released the *Global report on drowning: preventing a leading killer* (WHO, 2014). 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. 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 (WHO, 2017). In 2019, the WHO released a Non-fatal drowning categorization framework (see Appendix A). In 2021, the UN Resolution on Drowning Prevention² was supported by Canada and most of the 194 UN countries and territories becoming a reality (see Appendix B).

The Canadian Drowning Prevention Coalition (CDPC) was formed in 2016. It 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.

The formation of a Global Drowning Prevention Partnership to serve as a policy and implementation leadership community for drowning prevention is on the horizon. 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 tragic for low- and middle-income countries and with children. Canada, in partnership

with other nations, works collaboratively to increase understanding through well designed research. As global partners we target 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. The focus continues on the work to reduce fatal and non-fatal drowning events and to reduce inequality in the burden of drowning. Appropriate shared public health resources for drowning prevention continue to be secured.

Canadians serve the global effort through quality data collection, management, and communication. We implement evidence informed interventions and study the impacts. We 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 our contribution to the global drowning prevention effort. We understand that 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. 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. 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.

The Canadian Drowning Prevention Coalition

The CDPC 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 CDPC facilitates collaboration and brings a public health approach to this multi-sectoral challenge. The CDPC applies a public health approach to drowning (rather than recreation-based perspective) that requires an understanding of the drowning burden, an understanding of the inequality of this burden, key focus targeting of interventions, and impact measurement. Designing interventions that 1) engage populations at-risk and 2) 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 purpose of the CDPC is to protect and maintain public health. It does this 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. It does this by educating through the promotion of exchange of knowledge and information related to drowning prevention. It does this by contributing, with other stakeholder groups, to government policies in matters of drowning prevention through advocacy, community engagement and awareness activities.

The CDPC provides shared national leadership, coordination, and action planning to reduce drowning in Canada. It is a subsidiary entity within the Drowning Prevention Research Centre – Canada (DPRC). 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.

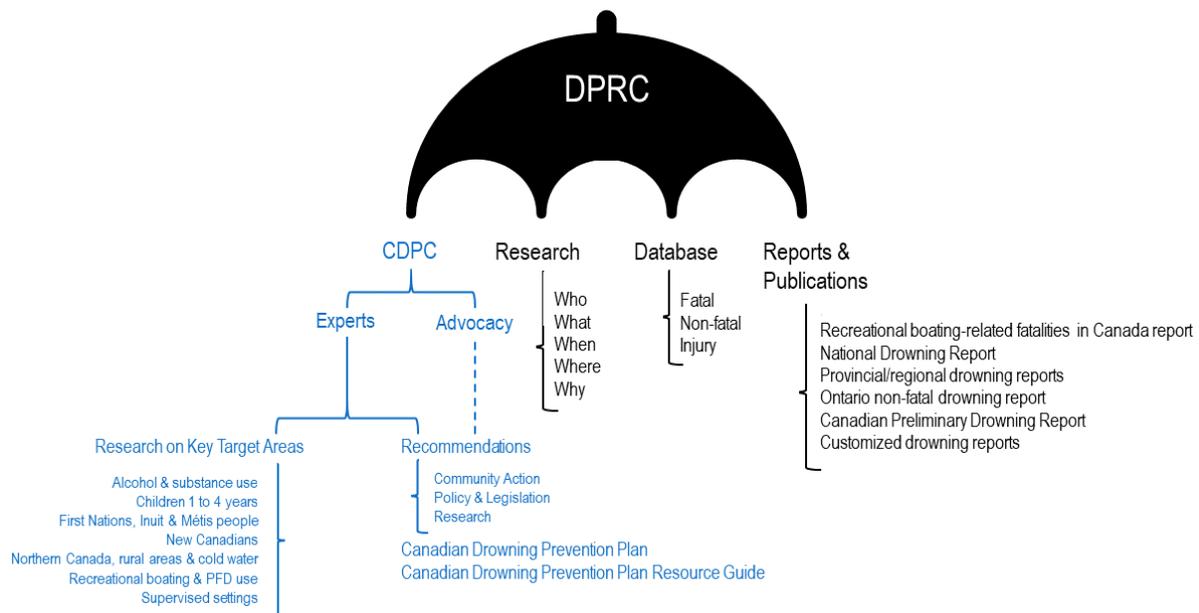
The CDPC's leadership, technical exchange, research interpretation, and prevention strategic planning ensures that the progress made to reduce drowning is evidence-based, effective and sustainable. Its work/information/Plan

supports academic discussions around drowning prevention and offers infrastructure for academic research. The CDPC 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.

The 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 CDPC 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 CDPC amalgamated with the DPRC in 2021. The consolidation of resources with the DPRC has bolstered the research capacity of the DPRC with the addition of the CDPC's multi-sectoral experts, collaborators and partners across Canada. The DPRC is the lead agency for drowning and water-incident research in Canada. The DPRC conducts research into fatal and non-fatal drowning, significant aquatic injury, and rescue interventions. Its ongoing research and analysis support evidence-based water-rescue training and drowning prevention education. The DPRC delivers timely, evidence-based data as it continues to build Canada's water-incident database.

Figure 1: CDPC Role within the DPRC



The DPRC has been researching and reporting on drowning and preventable water-related deaths on behalf of The Royal Life Saving Society Canada – Ontario Branch since 1989 and for each of the Society's provincial/territorial Branches since 1990 allowing the DRPC to produce the first national report on drowning for The Royal Life Saving Society Canada in the same year. This research provides a comprehensive fact base on the drowning problem to guide the Lifesaving Society and others in developing drowning prevention initiatives and activities.

Canada has had high quality drowning mortality data since the 1990s. This data was and continues to be possible thanks to the cooperation of Coroners and Medical Examiners offices across Canada, Statistics Canada, Transport Canada, and the hard work of NGOs, like the DRPC and CRC, that are stakeholders in the drowning issue. Regular reporting to Canadians, stakeholders, and policy makers has been occurring for more than 30 years. The most recent National Drowning Report was issued in 2020 (see Appendix C) and includes drowning data analysis for 2013-2017. While three provincial/regional reports were completed for 2014-2018 (Manitoba, Maritimes, and Newfoundland) the national report on drowning was not possible due to data collection challenges created by the pandemic. Preliminary data has a significant role to play in offering an initial snapshot of the drowning issue in Canada as water-related activities continue the pandemic.

The DPRC has played an active role on the CDPC steering committee since 2016. It has provided leadership to one of the technical working groups. It has provided data for the Canadian Drowning Prevention Plan. Its contributions continue to add value with data serving as a key piece of the Plan, priority setting and recommendations.

The Plan

The CDPC produces the Canadian Drowning Prevention Plan to support national drowning prevention efforts and to also be 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.

Between 2017-2021, eight iterations of the Canadian Drowning Prevention Plan (Plan) were produced by the CDPC. Following its amalgamation within the DPRC, and the distribution of the 8th edition of the Plan in May 2021, the DPRC and the CDPC agreed that the Plan would be produced once per year in May to coincide with the beginning of the drowning season in Canada (May-September). In fall 2021, it was recommended that the Plan be divided into two separate documents – the Plan and a complementary Resource Guide – beginning with this 9th edition. Whereas the Plan focuses on the key focus targets, timelines, and priorities, as well as the CDPC's recommendations, this Canadian Drowning Prevention Plan Resource Guide houses the history, materials and resources supporting the creation of, advocacy efforts for, and research about drowning prevention initiatives.

Illustration 1: Canadian Drowning Prevention Plans, Editions 1 to 8 (2017-2021)

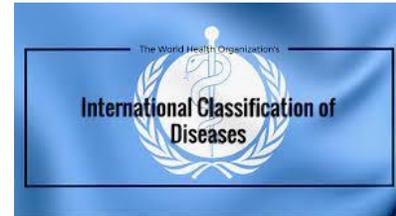


Data collection considerations

Types of drowning data collected

Differences in the types of drownings included in data collection and reporting exist. Identifying and understanding these differences is necessary when conducting research. This is particularly relevant to researchers and drowning prevention advocates.

- Statistics Canada defines drownings by ICD-10 Code Classifications W65-70, as well as W73 and W74 (Government of Canada, 2021).
- Parachute Canada defines drownings by ICD-10 Code Classifications W65-74 as well as V90 and V92 include drownings related to water transport. Drowning due to cataclysm and self-harm are excluded.
- The Drowning Prevention Research Centre Canada and Lifesaving Society Canada (LSC) define drownings by ICD-10 Code Classifications W65-74, V90 and V92 in addition to V94 and Y21. V94 includes accidents to nonoccupant of watercraft hit by a boat while water-skiing. Y21 includes drowning and submersion, undetermined intent.¹



Timeframes for data collection

Differences also exist in organizations' analysis of drowning data as it pertains to the timeframe in which data is collected – i.e., fiscal or calendar year. This too is relevant to researchers and drowning prevention advocates, particularly those analysing data from multiple sources.

- Statistics Canada uses a fiscal year (i.e., April 1st to March 31st).
- Parachute Canada uses a calendar year (i.e., January 1st to December 31st)
- DPRC and LSC use a calendar year (i.e., January 1st to December 31st).

DROWNING PREVENTION STRATEGIES

Multi-sectoral collaboration

Work within a public health framework addresses disparity in health outcomes 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. Multi-sectoral input and shared leadership is an essential component of the public health approach in the search for successful actions, impacts, and outcomes. 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.

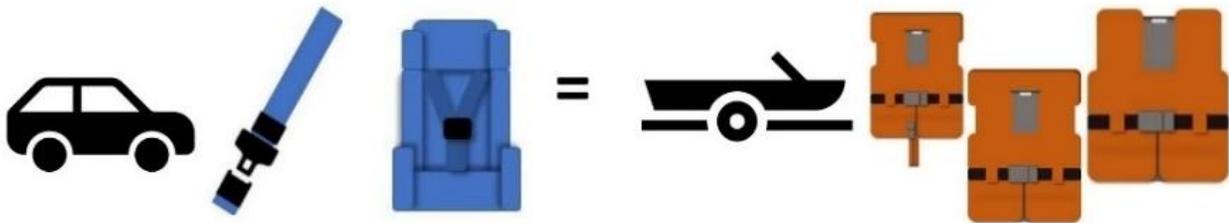
¹ Differences in the types of drowning included in data collection result in different estimated numbers of drownings as well as differences in annual costs of drowning. For example, considering DPRC's preliminary data, and a cost of \$623,226 per fatal drowning death, DPRC estimates that fatal drownings cost Canadians \$182.6 million in 2018.¹ This figure is higher than the \$174.5 million estimated by Parachute Canada due to the types of drowning deaths included by each organization.

Each technical working group begins with a complete situational assessment. This includes gathering, analyzing, synthesizing, communicating, and discussing data for the purpose of informing planning decisions. This also includes summarizing 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 existing evidence; the identification of key informants; a summary of current work and references in Canada; and, the identification of best practices and/or expert guidelines from other nations or from other injury related issues, where and if they exist. Each technical working group then creates short-term and long-term goals; and, identifies concrete and comprehensive action steps linked to the specific efforts that are to be made to reach the 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.

Similar approaches have been taken in other industries. For example, much can be learned from the multi-sectoral approach taken to achieve the positive outcomes we see today on the road. 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 behaviours associated with road traffic.

Applying a similar evidence-based approach to drowning, combined with advocacy for legislative and regulatory amendments, as well as public education might also be successful in reducing fatal and non-fatal drowning incidents in Canada. How does road traffic technology compare to drowning prevention technology? Lifejackets are often equated to seatbelts and car seats used on the road. Data and evidence tell us that seatbelts save lives. Data and evidence also tell us that lifejackets and PFDs save lives. The purpose of a seatbelt is twofold: 1) to prevent ejection from the vehicle during which serious injury or death can occur; and, 2) to minimize the wearer's movement during collision in an effort to minimize and prevent injury. The purpose of a lifejacket is threefold: 1) to keep the wearer's airway above the surface of the water; 2) to maintain body heat in cold water affording rescuers time to locate the wearer; and 3) to serve as a brightly colored marker (i.e., red, orange, yellow, etc.) to guide rescuers to the wearer's location.

Figure 2: Sample road traffic safety technology and drowning prevention technology

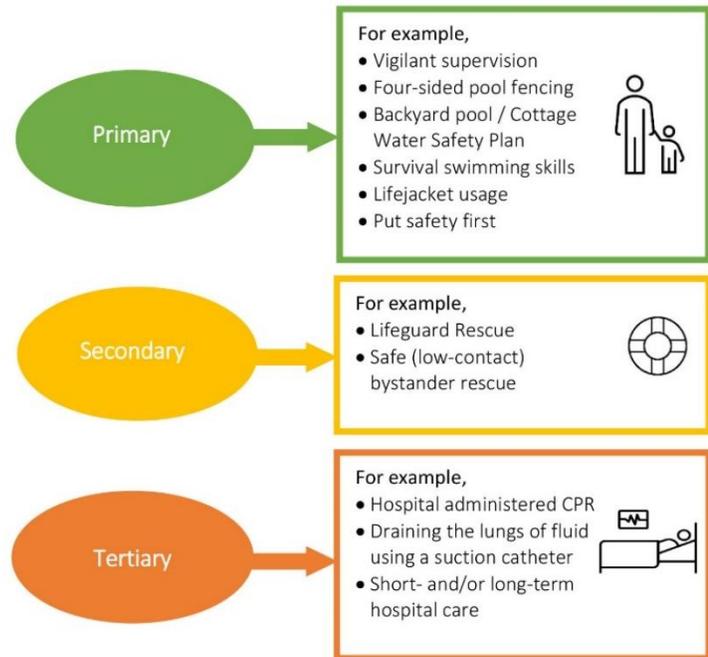


Approaches to injury prevention

The classic approach to injury prevention is a three-layered approach (primary, secondary, tertiary) that begins 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. But this classic approach is used by public health in a variety of situations.

For example, the public came to know this classic approach well throughout the Covid-19 Pandemic with emphasis placed on the primary stage of prevention linked with hand-washing, physical distancing, and masking in an effort to “prevent the spread” of the virus. The secondary phase involved isolation. The third stage involved short- to long-term hospital stays, ventilation and resuscitation.

In the case of drowning, the primary stage is tied to vigilant and consistent parental supervision, pool fences, survival swimming skills training, lifejacket/PFD wear, and a focus on safety first as a few examples. The second stage involves lifeguard/lifesaver and low-contact bystander rescues. The third stage includes hospital administered CPR, lung drainage, and short- to long-term hospital stays.



The multi-layered approach to injury prevention considers the roles of individual/personal action + community action + research + government policy & legislation as pieces working together to form an effective, multi-layered, drowning prevention strategy. The Canadian Drowning Prevention Plan is one tool intended for use alongside other multiple layers of protection. Tied to the key focus areas of interest outlined by the WHO, the CDPC has created the following infographic to outline what each layer of protection can do to prevent drownings.

Figure 3: Multi-layered Drowning Prevention Strategy

Table 1: Multi-layered Strategy Checklist

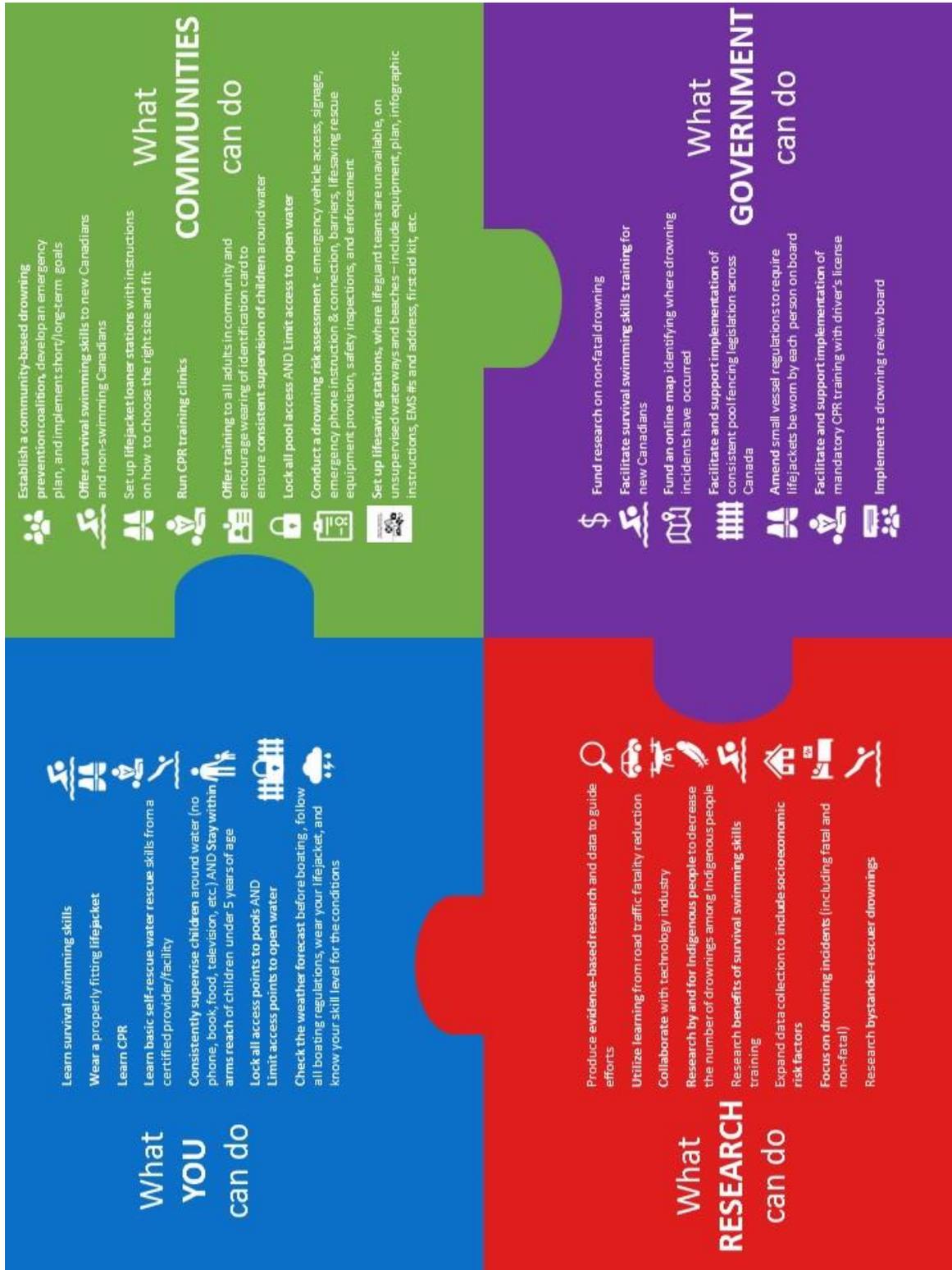
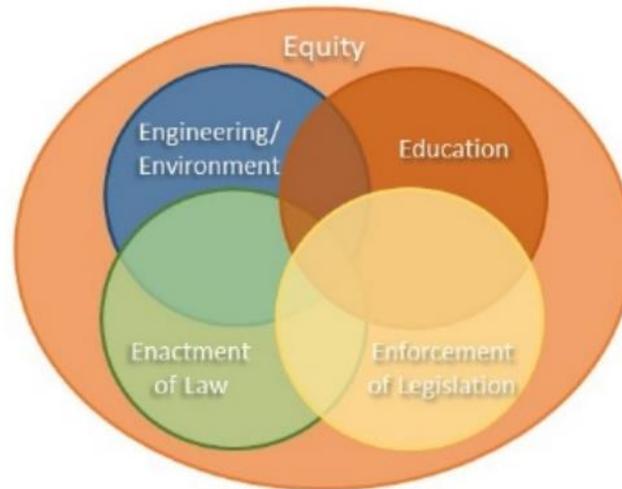


Table 1: Multi-layered strategy checklist

LAYER OF PROTECTION	✓	WHAT	WHY
Individual Personal action		Learn survival swimming skills	To swim to safety
		Wear a properly fitted PFD/Lifejacket	Keep your airway above water and stay warm in cold water
		Learn CPR	To offer a quick response time – fast response time increases survival
		Learn basic self-rescue and water rescue skills from a certified provider	To save self and/or others in an emergency
		Consistently supervise children in, on and around water (including during their swimming lesson for extra protection)	To protect children of all ages
		Stay within arms-reach of children <5	To protect young children
		Lock all access points to pools and limit access points to open water	Locking/limiting access protects individuals/groups
		Check weather forecast before boating and know your skill level for boating conditions	Weather can change quickly – know your skill level for various conditions
		Follow all boating regulations	Boating regulations are in place for your safety and safety of others
		Wear your lifejacket while boating	PFDs/lifejackets keep your airway above the water and hold in heat
Communities		Establish a community-based coalition	To identify & address key target areas
		Develop an emergency plan	To prevent loss of life during flooding season
		Implement short- and long-term goals	To prevent loss of life
		Offer survival swimming skills to new Canadians and non-swimmers	To reduce the number of drownings in both high-risk groups by 90% by 2026
		Set up PFD/lifejacket loaner stations with instructions	To address inequity and prevent loss of life
		Run CPR training clinics	To shorten response time during an incident
		Offer On-Guard training to all adults	Create a vital layer of protection for children
		Lock pool access	To prevent access to unsupervised water
		Limit waterfront access	To limit access to unsupervised water
		Conduct a drowning risk assessment	To identify high risk locations, people, ages, etc.
		Set up lifesaving stations where lifeguards are unavailable	To shorten response time during an incident
Research		Produce evidence-based research and data	To guide policy, legislation & regulation
		Utilize learning from road traffic fatality reduction	To reduce drowning fatalities
		Collaborate with technology industry	To prevent loss of life (victims and rescuers) & shorten response time during incidents
		Research by and for Indigenous people to decrease # drownings	To ensure relevance and preserve life
		Research benefits of survival swimming skills training	To demonstrate its value for federal funding
		Expand data collection to include socioeconomic risk factors	To support public health approach to drowning
		Focus on drowning incidents – fatal, non-fatal, water-related injuries	To increase Canadian research & contributions
		Research bystander-rescuer drownings	To prevent loss of life among bystanders
Government		Facilitate survival swimming skills training for new Canadians	To prevent loss of life among new Canadians
		Fund research on non-fatal drowning	To understanding full implications of drowning
		Facilitate/support implementation of consistent pool fencing legislation across Canada	To prevent loss of life among children
		Amend small vessel regulations to require mandatory PFD / lifejacket wear	To prevent loss of life among boaters
		Implement a drowning review board	To create a formal investigative team

The 5 E's approach to injury prevention focuses on a framework that includes education, engineering/environment, enactment of law, enforcement of legislation, and equity. While a 3E's approach is traditional (environment; education; and enforcement & enactment), the separation of enforcement of legislation and enactment of law is justified in the case of drowning, as is the addition of equity which plays a role in the social determinants of health.

Figure 3: 5 E's Approach to Drowning Prevention



Higher rates of drowning correspond with the social determinants of health – access to education, healthcare, housing, work, social supports, food and water, and transportation. Drowning threatens all populations, but the risks disproportionately affect Indigenous peoples (First Nations, Inuit and Métis), new immigrants and rural populations.

According to the research gathered and analyzed by non-Indigenous researchers, Indigenous peoples have a drowning rate that is substantially higher than that of non-Indigenous Canadians² with rates reported to be 6 times higher than the Canadian average (Health Canada, 2001) (Red Cross, 2000) (Pike I, 2015). Drowning among Indigenous children is as much as 15 times higher than the Canadian average (Health Canada, 2001) (Red Cross, 2000) (Pike I, 2015) (2021). High risk of drowning in Indigenous populations is linked to proximity to open water (Red Cross, 2000). Indigenous peoples comprise about 4.9% (2021) of Canada's population, but account for approximately 26% of drowning cases that involve a snowmobile, 16% of drownings due to a fall into water, 10% of recreational drowning fatalities, and 9% of boating-related drowning deaths (Red Cross, 2000).

According to Health Canada, "The prevalence of diabetes among First Nations adults living off reserve and Métis adults is, respectively, 1.9 and 1.5 times that of non-Indigenous adults. This corresponds to 5.9 more cases of diabetes per 100 people among First Nations adults living off reserve and 3.1 more cases of diabetes per 100 people among Métis adults than among non-Indigenous adults" (Government of Canada, 2018).

People new to Canada are four times more likely to be unable to swim than those who were born in Canada (Lifesaving Society, 2016). Youth aged 11 to 14 new to Canada are five times more likely to be unable to swim than their Canadian-born classmates. 93% of new Canadians of this age indicate they participate in activities in, on, or around water (Lifesaving Society, 2011).

² The CDPC respectfully shares summary findings that were analyzed by non-Indigenous researchers.

Technology

Lifejackets and PFDs are examples of drowning prevention technology. Yet drowning prevention technologies include a spectrum of drowning prevention systems and devices for recreational and/or commercial use. They range 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. 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. Little to no research is currently available on the effectiveness of technology in preventing fatal drownings and non-fatal drownings.

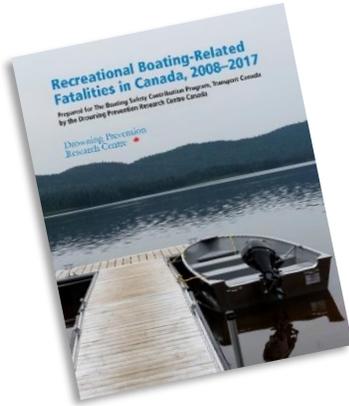


Table 2: A Variety of technologies created for in-water and out-of-water applications

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.

Geo-mapping

Geo-mapping has been around for years, but its status as a public-friendly awareness tool was elevated as a result of its use throughout the Covid-19 pandemic. Tracking the virus' movements as it correlated with the public's movements became necessary for public health assessments of the everchanging situation as well as a means for the public to learn about case counts in their province and health district. Geo-mapping became a tool of choice for the public health issue. So too can it be one tool used to track components of drowning to better understanding of the totality of the drowning burden in Canada, an understanding of the inequality of this burden, key focus targeting of interventions, and impact measurement.



Transport Canada is supporting, through the Boating Safety Contribution Program (BSCP), the development of an online mapping tool which illustrates recreational boating-related fatalities (i.e., drowning “hot spots”) across Canada for the purposes of focusing drowning prevention initiatives where the need is high. It is linked to a report, *Recreational Boating Related Fatalities in Canada, 2008-2017* prepared by the Drowning Prevention Research Centre of Canada and supported by Transport Canada's BSCP. It should be noted that aggregate data was used on the map and in the report in accordance with signed agreements held between the DPRC and Coroners and Medical Examiners across Canada. [The map can be accessed on DPRC's website.](#) The report can be accessed via DPRC, Lifesaving Society Canada, and Lifesaving Society Branches' websites.

Community Coalitions

Action and impact are best achieved by individuals in their own communities. Each community has unique key focus targets for drowning prevention. Stakeholder engagement is 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. For more information, read *How to Build a Community Coalition* (pages 15-18).

Awareness activities

The Drowning Prevention Awards and the Barb McLintock Memorial Communications Award (pages 19-20) were created to illuminate key drowning prevention initiatives taking place across Canada in the areas of community action plans, effective policies & legislation, research, and communication. Nominations and applications are accepted annually on February 1st. Applications can be found on the DPRC website.

Advocacy

To advocate for drowning prevention is to engage others through data and evidence to influence practice, policy and legislation/regulation. Advocating for drowning prevention as a public health issue is to stand up for equity and equality. Advocacy is the act of communicating with politicians and decision-makers and participating in activities (e.g., meetings, presentations, etc.) in an effort to make change (i.e., impact political processes, enact and/or amend legislation and regulation, etc.). For example, the CDPC meets annually with Government of Canada representatives, as well as representatives from non-governmental organizations, to share updates including the latest edition of the Canadian Drowning Prevention Plan, and to engage in dialogue to precipitate change.

HOW TO BUILD A COMMUNITY COALITION

The National Community Coalition Development Committee

The National Community Coalition Development Committee was created in 2021 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 and promoting the Canadian Drowning Prevention Plan and its community awareness tools & activities. Secretariat support is provided by the CDPC's steering committee.

It serves to strengthen and promote community drowning prevention coalition development and partnerships in drowning prevention and water-related injury. It does this by guiding and supporting the implementation of community drowning prevention coalition development. They encourage community drowning prevention coalition participants to collaborate and problem-solve on issues related to drowning prevention in their respective communities. They share evidence-based resources and facilitate capacity building.

Where possible, National Community Coalition Development Committee participants actively participate in sub-committee activities. They contribute to the development of community drowning prevention coalitions and knowledge exchange with communities.

Figure 4: Sample Logos of Community Drowning Prevention Coalitions



We'd like to hear from you!

Does your community have a group of people from different sectors working together on drowning prevention and water safety initiatives for your community?

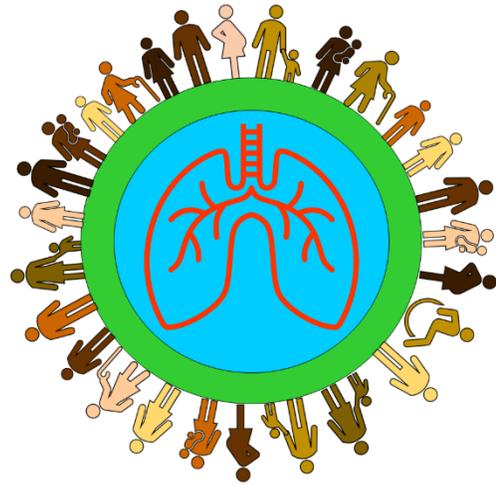
Are you interested in participating in a drowning prevention coalition in your community?

Email drowningprevention@lifeguarding.com to share details about what drowning prevention activities are happening in your community.

Building a community coalition

Build a community-based drowning prevention coalition following 10-steps:

1. Identify a leader
2. Find participants from multiple sectors
3. Create a Terms of Reference to guide the coalition's work
4. Gather information (data) about community drowning incidents
5. Create a list of initiatives and/or activities the community can do to prevent drownings
6. Create a list of people/organizations who can help implement these things
7. Make a calendar/schedule
8. Develop a framework
9. Set your goals and begin implementing your plan
10. Measure the impact of your activities/initiatives



Terms of reference

Terms of reference outline the following key pieces of information to guide progress:

1. **Background** (i.e., The community is...)
2. **Key terms and definitions** (e.g., Steering committee: refers to the smaller leadership group that guides the work of the coalition).
3. **Purpose/role of the group** (i.e., The coalition will...)
4. **Mandate/Functions** (e.g., To ensure... To develop... To report)
5. **Responsibilities** (e.g., ...actively participate in meetings; ...report to coalition; ...suggest when there is a need for a meeting; participate in the selection of...; is responsible for the leadership and guidance of...)
6. **Support** (i.e., identify who is supporting the coalition with human resources, funding, etc.)
7. **Governance** (e.g., The Chairperson will represent the coalition to the public, contribute to the development of agendas prior to coalition meetings, and review/revise the formal meeting minutes and/or reports prior to distribution).
8. **Composition** (e.g., The coalition will be as inclusive as possible and multi-sectoral with representatives from government, non-government, academics, industry, high-risk group representatives and other stakeholders).
9. **Timeline** (i.e., identify the length of term – e.g., 5-year term of engagement)
10. **Meeting Frequency** (e.g., meetings to occur every six to eight weeks and will be 1-2 hours in duration)
11. **Meeting format** (e.g., video-conference/in-person; chaired by one Chairperson or designate; agenda will be circulated one week prior; meeting minutes will be recorded and shared with participants).

Activities and Initiatives

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. Some examples of community activities and initiatives include:

Community examination involves a complete review of the event – e.g., behaviour, 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.

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](#) which focuses on mandatory lifejacket wear by children in watercraft.

Community knowledge approach 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.

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](#) (PAL) project that originated for a specific waterway in British Columbia, are now being implemented along waterways in other provinces.

Community prevention projects identify potential high-risk groups and/or behaviours/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)* 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](#)[®] program).

Community town hall meeting or “social or community autopsy” 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.

Household survey method 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.

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. For example, DPRC’s recreational boating-related injuries mapping project.

Online networks / communities focus on information sharing – training tips, knowledge acquisition, etc. For example, *Lifeguard Authority*, is an international online community (Facebook) that was started in Mississauga, Ontario. It gathers and shares information within an interactive group of followers.

Writing articles, Op-eds, books, etc. is a method of sharing evidence-based information and educating your community and the larger public about drowning prevention. Examples include: an Op-Ed 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](#)”; and Olympic Gold Medalist, Sylvie Bernier’s book, *Jour où je n’ai pas pu plonger* (Avril 2019) / *The Day I Couldn’t Dive* (March 2022) in which she reflects on the importance of learning survival swim skills following the drowning of her nephew.

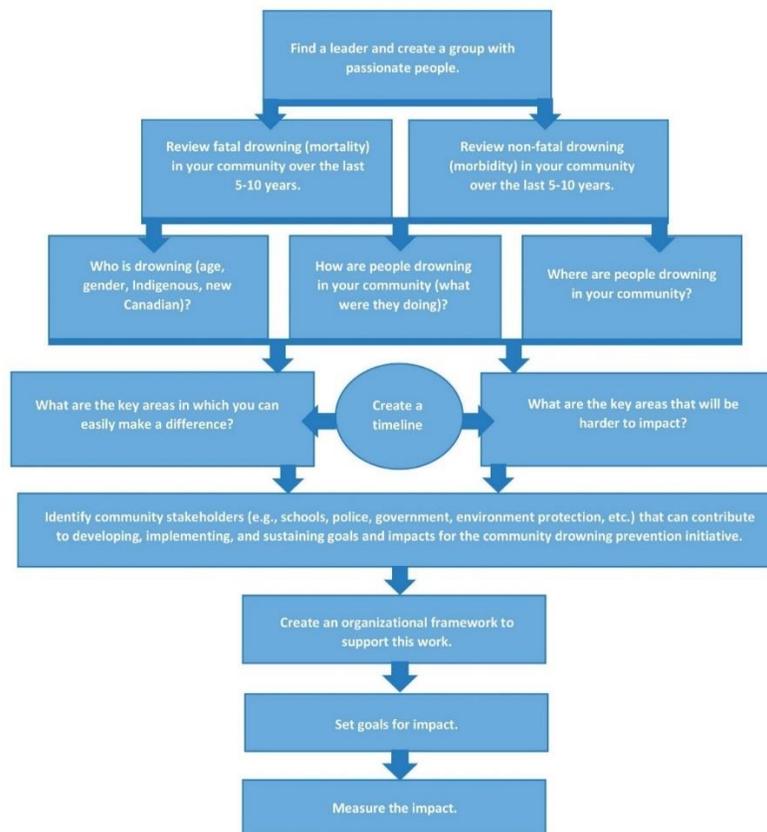
Provincial coalitions focus on providing leadership and coordination of water safety and drowning prevention initiatives based on evidence-based data specific to their province/jurisdiction. For example, the [Manitoba Coalition for Safer Waters](#) (MCSW) provides drowning prevention leadership on behalf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

Examining case studies offers insight into drowning events, allows for reflection of Coroner’s Inquest Recommendations, and encourages communities to update local by-laws (see Appendix D).

Framework

Action and impact are best achieved by individuals in their own communities. Each community has unique key focus targets for drowning prevention. Stakeholder engagement is 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.

Figure 5: Community Drowning Prevention Coalition Framework

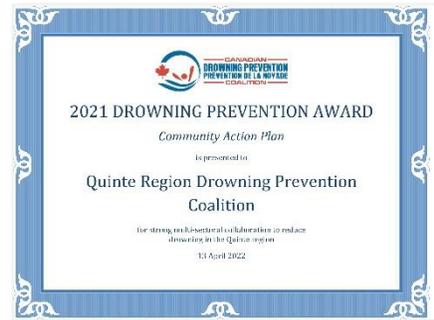


DROWNING PREVENTION AWARDS

The CDPC's annual Drowning Prevention Awards bring awareness to drowning prevention while recognizing excellence and innovation in best practices and impacts in one of four specific areas: 1) community action; 2) effective policies and legislation; 3) research; and, 4) communication. Submissions/nominations are reviewed by a sub-committee of the Canadian Drowning Prevention Coalition steering committee. 2018 was the first year in which drowning prevention awards were presented. 2020 was the first year in which the Barb McLintock Memorial Communications Award was presented. Award criteria include:

Community Action Award

- 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



Policy & Legislation Award

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

Research Award

- 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 a number of potential interventions
 - Demonstrating scalability and sustainability for effective drowning prevention measures
- Examples of Best Practices
- Educational value in other Settings
- Impact for Canadians

Barb McLintock Memorial Communication Award

This award was created in recognition of Barb McLintock's (1950 to 2018) role as co-leader of the technical working group focused on drownings in supervised settings, her passion for drowning prevention, and her intense desire to inform the public about important issues. This award recognizes an individual or organization that delivers superior communication messages in a supervised setting.

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

Drowning Prevention Award Recipients, 2018 to Present

Community Action Award

- 2018: *Ottawa Drowning Prevention Coalition (ODPC)*
In the prevention of fatal, non-fatal drownings and other water-related injuries in the National Capital Region.
- 2019: *Nuu-chah-nulth First Nations*
Sharing traditional wisdom with Master's candidate, Ms. Emily Francis, resulting in greater cultural awareness and understanding needed in the design and delivery of water safety programs.
- 2020: *University of New Brunswick International Swim Program (UNBISP)*
For its targeted, innovative and impactful program focused on teaching survival swimming skills to new Canadians – adults and children – in Fredericton, New Brunswick.
- **2021: Quinte Region Drowning Prevention Coalition**
For its efforts on positive messaging and strong communications with multiple sectors to reduce drownings.

Policy & Legislation Award

- 2018: No award was presented.
- 2019: *WorkSafeBC*
For a legislative amendment requiring British Columbia commercial fishermen to wear lifejackets.
- 2020: No applications were received.
- **2021: Government of Québec**
For the modification of decree 662-2021 of the Residential Swimming Pool Safety Act (Chapter S3.1.02).

Research Award

- 2018: *York University, Faculty of Health - School of Kinesiology & Health Science*
Facilitating a graduate student to pursue a PhD on drowning prevention and, by doing so, contributing to Canadian and global knowledge of the drowning burden.
- 2019: *Summer Locknick, University of Windsor*
Examining RIP currents for public safety in Prince Edward Island as the focus of her graduate research.
- 2020: *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 behaviour and reducing boating injuries in BC
- **2021: Dr. Audrey Giles, University of Ottawa**
For her research which is informed by Indigenous methodologies and community-based participation in Northwest Territories (NWT) and Nunavut, demonstrating the need for and benefits of working with Indigenous communities to co-create water and boating safety programs and resources reflective of community members' traditional knowledge, land and water-based practices, and geographic and cultural environments.

BMM Communication Award

- 2020: *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.
- **2021: No Push Movement, Eric Shendelman**
For its simple and clear message to inform the public about the dangers associated with pushing others into water; and for sharing this message in eight countries with more than 10,000 participants to date.

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APPENDICES

Appendix A: Non-fatal drowning categorization and classification

The World Health Organization’s (WHO) non-fatal drowning categorization framework (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 (S. Beerman, 2019)

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 (S. Beerman, 2019).

Severity of respiratory impairment
immediately after drowning has stopped (respiratory impairment must be present)

Morbidity category
a decline in the individual’s previous functional capacity at the time when non-fatal information is gathered

Severity of respiratory impairment (immediately after drowning process stopped)		
(1) Mild impairment	(2) Moderate Impairment	(3) Severe Impairment
<ul style="list-style-type: none"> • Breathing • Involuntary distressed coughing <p>AND</p> <ul style="list-style-type: none"> • Fully alert 	<ul style="list-style-type: none"> • Difficulty breathing <p>AND/OR</p> <ul style="list-style-type: none"> • Disoriented but conscious 	<ul style="list-style-type: none"> • Not breathing <p>AND/OR</p> <ul style="list-style-type: none"> • Unconscious
Morbidity category (based on any decline from previous functional capacity at the time of measurement)		
(A) No morbidity	(B) Some morbidity	(C) Severe morbidity
<ul style="list-style-type: none"> • No decline 	<ul style="list-style-type: none"> • Some decline 	<ul style="list-style-type: none"> • Severe decline

Limitations

1. The reporting of a description of respiratory impairment immediately following the drowning incident can be ambiguous.
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 (S. Beerman, 2019).

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 (S. Beerman, 2019).



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.

NATIONAL | 2020 EDITION



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

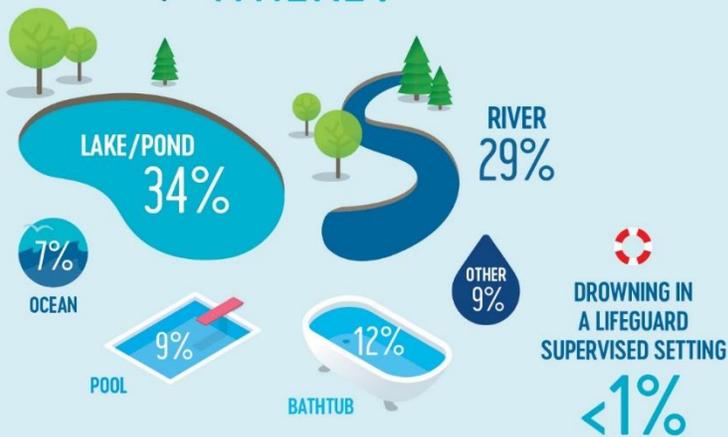


WHO IS DROWNING?



* Death Rate per 100,000 / Year

WHERE?

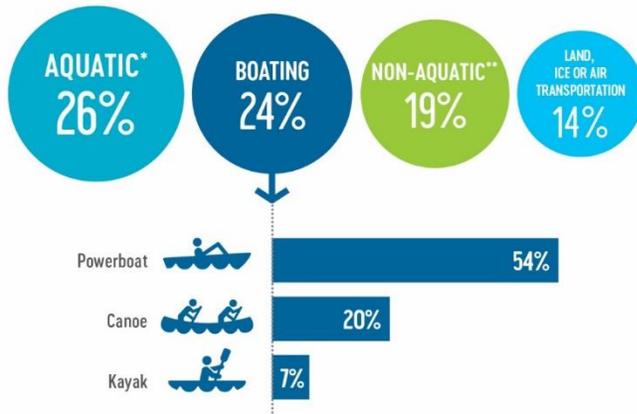


WHEN?

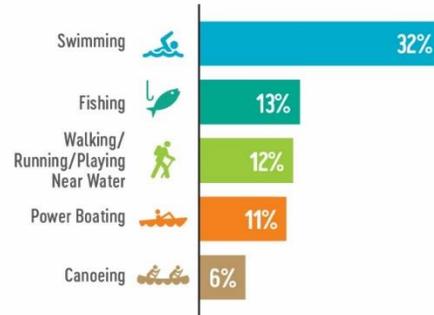
66%
OF DROWNINGS
OCCURRED FROM



? WHAT WERE THEY DOING?



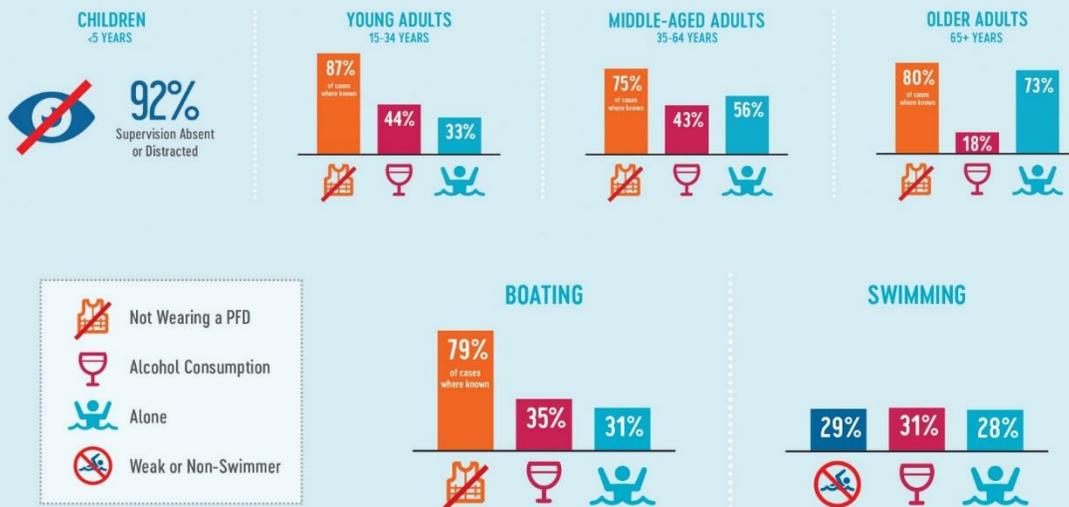
WATER-RELATED FATALITIES BY MOST COMMON RECREATIONAL ACTIVITY



*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



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.

CONTACT US:

The Drowning Prevention Research Centre is the lead agency for drowning and water-incident research in Canada.

Tel: 416-490-8844

Email: experts@drowningresearch.ca

Appendix D: Post Drowning Case Studies

Jordan Neave's Story

On May 20, 2006, eight-year-old Jordan Neave and his nine-year-old brother (both non-swimmers), accompanied by their Grandpa, attended the *Olds Aquatic Centre* (OAC) family swim. The boys had their own lifejackets to wear when swimming in the pool. Grandpa did not accompany the boys into the pool, due to a medical condition, but remained in the public viewing area. Both boys had their lifejackets on when they entered the water. They also had their "Boogie Boards", a small surfboard type flotation device. Jordan went to the waterslide, where bathers were required to remove their lifejackets before going down the slide. After taking off his lifejacket and using the slide, Jordan entered the deep end of the pool without his lifejacket. He was playing with another child, perhaps using his "Boogie Board" or a floating mat. Jordan's playmate notified an adult patron that Jordan was at the bottom of the deep end of the pool. The lifeguard was notified. She effected a rescue. CPR and emergency medical procedures were initiated. EMS and fire personnel attended. He could not be revived.

Jordan's Parents' Message

"We got the call on our cell phone while we were shopping. My father on the other end, all he could say was 'the little one, he isn't breathing' ...our lives forever changed...[W]e were unsure how to parent our remaining son... We had to learn so much... what behavior is normal, what is repressed from his trauma of witnessing his best friend and brother die in front of him. ...[F]riends and families unsolicited advice on what they think we should do. ...Mental pain, something you can not see like a broken leg ...but you can see...in peoples' eyes, in their face and their body language trying to hide everything inside. ...[It] doesn't stay hidden. Stress leads to health problems... We had a lot of stress and unanswered questions... questions that led to frustration and anger about how this could [have] happened... how a government facility could fail us. ...how the pool was run. ...[how] minimum standards had failed our son. We were devastated again... [W]e started to get signatures to send to the provincial government to demand they look into this safety problem. We collected over 4800 signatures over the course of a couple months, ...[and sent them] to the office of Parliament...They did look into it, but nothing happened ...even with the recommendations from the public inquiry, not much...seemed to change. I hope our story shows the gravity of the responsibility taken on by guarding someone's life, a simple lapse of attention, a fraction of a second can affect so much for the rest of many people lives.

Drowning Impacts Responders

Lifeguards/responders complete training to initiate and follow through on lifesaving measures. Not all situations have a positive outcome. The impact a fatality has on responders and facility staff varies due to a variety of factors—e.g., the level of training; number of years on the job; personality; emotional, psychological, physical support (i.e., access to psychologists, physicians, etc.); support from certifying organizations; employer support, the communities and location of residence in relation to the incident, etc.

Lifesaving Society's *National Lifeguard* training program provides candidates with information on critical incident stress, its causes, effects, post incident do's and don'ts, and how to seek help/support. Following an incident the Lifesaving Society offers lifeguards and operators online resources; participates as an expert witness in inquests; and, after analysing the incident, offers recommendations aimed at enhancing safety. "The lifeguard on deck at the time of [Jordan Neave's] drowning was given an impossible task." — Michael Shane, Safety Management Director, Lifesaving Society.

Calgary
Judge calls for pool safety review after boy's drowning
CBC News - May 08, 2009 9:29 AM MT | Last Updated: May 8, 2009



Red Deer Advocate
Judge calls for uniform pool standards
Advocate Staff - May 08, 2009 1:23 PM MT | NEWS



Jordan's Story

Post-drowning Summary

The pool had a written admission requirement— "children under nine years of age must be accompanied by a responsible person 13 years or older and always be within arms' reach. Children could wear their own lifejackets and bring toys." The boys were non-swimmers, needed lifejackets, could not be accompanied by a responsible person, and Jordan was under nine years of age - yet, the boys were given admission. There was no protocol or requirement, written or otherwise, used to screen bathers for swimming ability or communicate the same to lifeguard(s). On the day Jordan drowned there were two lifeguards and a receptionist working - one lifeguard on patrol; the other engaged in cleaning duties throughout the facility. The facility's operational procedures contained little or no attention to positioning of lifeguards or scanning zones [i.e., an area of the pool, both top and bottom, that can be viewed by a lifeguard from their position at a moment in time]. With the amenities that were operating (i.e., 25-metre pool with diving board, wading pool, whirl-pool and waterslide), one lifeguard could not scan all areas of use. The lifeguard on deck at the time of the drowning was given an impossible task. Estimates of the number of bathers during the relevant times ranged from 30 to 50 bathers. The bather load was one lifeguard to 50 bathers. There is no provincial standard in the province of Alberta and the ratios vary from facility to facility. A minimum standard may be misleading and, in this case, does not address the issue. Bather safety depends on lifeguards being able to see all areas of their scanning zone from their scanning position, taking into account the use of the pool (i.e. type of swim, lesson, activity, etc.), and amenities in use (i.e. whirlpool, wading pool, shallow and deep-end, diving board, etc.). Jordan was on the bottom at the deep end for 10 to 20 minutes before being removed.

Drowning Prevention Strategies

Establish a provincial admission standard and procedures.

To ensure the supervision of young children, public swimming pools should adopt an evidence-based provincial admission standard based on swimming ability and age. Signage indicating this admission standard should be posted in the pool reception area. All staff should be trained in the application of this standard. This standard should be communicated to the public through recreation brochures and public education information. An evidence-based testing standard and procedure should be created to ensure all aquatic facilities utilize the safest procedure and effective tracking system of their bathers. All tests should be conducted in shallow water to ensure all bathers are tested in a safe manner. An identification/tracking method should be used to identify a bather's swimming ability.

Ensure lifeguard positions, scanning zones, and rotation charts are posted

Supervisory staff should ensure that for each of the various aquatic activities (e.g., recreation swim periods), lifeguard placement and supervision zones are clearly defined. Lifeguards should be stationed to see all areas of the pool including the pool bottom from their station. Issues affecting the placement of lifeguarding personnel should be identified (e.g. surface water glare) and resolved. Lifeguard rotation schedules should then be created. All items need to be documented and incorporated into the staff handbook and operational procedures manual. Diagrams or charts illustrating these placements and procedures should be posted in the pool office.

Ensure Pool Supervisory staff receive training in aquatic safety management.

In many aquatic facilities there are management personnel responsible for the direction of aquatic staff. To ensure they are familiar with aquatic standards, all management personnel must receive training.

Jérémie's Story

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 kiddie 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.

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

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 (Last Updated: November 29, 2012)

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

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 Thinsfirst 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 Arms' 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.

Student's Story

"YF" was a student in university. He was attending the local city's only Aquatic Centre with several friends. He was taking part in a public swim at the time. The pool was being supervised by three lifeguards – one near the bulkhead, another on the deep end facing the water slide and another on the diving tower.

YF was not a strong swimmer. He swam in the shallow end of the pool and then he decided to go off the water slide in the deep end of the swimming pool. The water in the deep end was approximately 12 feet deep. After going off the waterslide he began to have trouble and quickly sank to the bottom. After some time he was noticed and removed to the deck by a lifeguard. EMS was activated and he was taken to the hospital where he died.

Source: <https://www.lifesavingsociety.com/safety-management/legal-precedents>



Drowning Impacts Responders

Lifeguards/responders complete training to initiate and follow through on lifesaving measures. Not all situations have a positive outcome.

The impact a fatality has on responders and facility staff varies due to a variety of factors e.g., the level of training; number of years on the job; personality; emotional, psychological, physical support; support from certifying organizations; employer support, the communities and location of residence in relation to the incident, etc.



Student's Story

Post-Drowning Recommendations

A Coroner's Inquest was called into this drowning.

Michael Shane, Safety Management Director attended the Inquest and presented his recommendations. All recommendations were accepted by the Jury and incorporated into their verdict.

To the facility:

1. Provide direct supervision of the Tarzan rope and waterslide.
2. Establish and post in the pool office lifeguard position, scanning zones, and rotation charts for all recreational swim periods.
3. Enhance lifeguard scanning training.
4. Create 911 call script checklist.
5. Establish a bystander intervention care policy.
6. Enhance waterslide signage.
7. Promote the completion of the Lifesaving Society Comprehensive Aquatic Safety Audit.
8. Certify management staff with the Lifesaving Society Aquatic Management Training certification.

To the Lifesaving Society:

1. Revise the Pool and Waterfront Guidelines for the province, September 2010.
2. Establish universal signage templates.

As Canada's lifeguarding experts, the Lifesaving Society establishes aquatic safety standards and consults on aquatic safety issues.

Source: <https://www.lifesavingsociety.com/safety-management/legal-precedents>

