



# Report of Water Safety in Vermont

2022



THE  
University of Vermont  
Children's Hospital



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Drowning is a silent tragedy. Prevention of drowning is possible, but it requires time, coordinated effort, money, and state-level leadership.

This project began as a way to build a collaborative partnership between State Child Fatality Review Boards and Safe Kids State Coordinators. It is supported by Safe Kids Worldwide and the National Child Fatality Review Board. For this partnership-building project, Sally and I chose to focus on water safety and unintentional drowning.

We saw the morbidity and mortality of children and young adults from drowning and water-recreational activities as a serious issue that needed to be addressed. Evidence-based interventions and best practices exist for protecting individuals from drowning and water-related injuries at pools or natural water. In Vermont however, preliminary research found there was limited state level legislation, and water safety guidance relied on local ordinances or personal choice.

It was clear we needed to do additional research was needed to better understand the state of water safety in Vermont before any interventions could be identified and adopted.

With the assistance of passionate partners, we formed the Water Safety Action Committee. They willingly took on the responsibility of investigating the current state of water safety and unintentional drowning prevention across the state of Vermont. Despite the barriers impeding their work, the committee members carried on and their efforts are visible in the *2022 Report of Water Safety in Vermont*.

This will not be the final product of the Water Safety Action committee. The Water Safety Action committee has the potential to be the coordinated effort and state-level leadership that is needed to have an impact on the rate of unintentional drowning deaths, hospitalizations, and emergency department visits in Vermont. There are still many hurdles to overcome, but they will strive to strategically address and support the needs of our communities.

I look forward to the future success we will achieve together. If this report inspires you, I hope you will join the Water Safety Action committee and help keep safe everyone who enjoys the waters of Vermont.

Sincerely,

Abby Beerman, MPH

Safe Kids Vermont Coordinator



## Contributors

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## Member Organizations

Safe Kids Vermont is a coalition of individuals and organizations across the state of Vermont dedicated to keeping children and teens healthy and safe by preventing injury.

Vermont Child Fatality Review Team conducts reviews of every child death ages birth through 17 from unnatural or unexpected circumstances. The purpose is to identify patterns and trends and develop and recommend changes to protect children and families.

Greater Burlington YMCA Aquatics program believes every person should be safe around water and their goal is to make sure our communities are free from accidental drownings.

Live Like Benjo Foundation was created after the tragic death by Shallow Water Blackout of Benjamin "Benjo" Haller. It raises awareness around water risks, such as shallow water blackout, while nurturing the opportunity for people to live life to the fullest.

University of Vermont Children's Hospital's mission is to improve the health of children throughout Vermont and northern New York. It extends beyond the hospital walls to the communities it serves to provide innovative services to the youngest and often most vulnerable patients.





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## Executive Summary

According to the CDC, the rate of drowning in Vermont is 1.36 per 100,000, which is higher than the surrounding states of New Hampshire, New York, and Massachusetts. The majority of unintentional drowning hospitalizations and emergency department visits are children under the age of 14.

There is limited state-level guidance on water safety in Vermont for professionals or community members. The Vermont Water Safety Action Committee conducted a survey of water-front operators in Vermont that highlighted a need for state-level support and action to protect youth and families in Vermont.

The survey collected 24 responses covering 64% of Vermont counties.

The low response rate was due to the difficulty in identifying and reaching aquatic professionals. This struggle highlighted the need for a centralized database to encourage better collaboration and communication. Based on the survey results, the Water Safety Action Committee recommends the following as next steps to address water safety and drowning prevention in Vermont:

- Develop a Water Safety Action Committee with state-wide representation to lead water safety action plan development
  - Encourage representation from high-risk populations, including BIPOC and New Americans
  - Align goals and standards of the committee with the in-development US National Water Safety Action plan
  - Develop clear, attainable calendar of goals related to safety for aquatic facilities
- Build a state-level network for water safety professionals
  - Reengage with individuals either through a survey or town hall, to gather more complete data on the status of water safety in Vermont
  - Create a contact list for communicating professional development and resources
- Promote availability of water safety education and resources for community members and professionals
  - Design a Vermont water safety website to be a central depository of resources, education, and outreach related to drowning, water safety, and aquatic best practices
  - Improve awareness and access to swim lessons and water safety curriculums for children and families



## Introduction

Drowning is the fifth leading cause of unintentional injury death in the United States. According to the CDC, drowning for children between the ages of 1 and 4 is the most common cause of death after birth defects. For every pediatric fatal drowning, another eight nonfatal drowning patients will receive emergency department care. Compared to other unintentional injuries, nonfatal drowning patients are five times more likely to require hospitalization or additional care.

Nationally, fatal drownings disproportionately impact Black, Indigenous, and People of Color with the disparities highest among youth.

In Vermont, there are an average of eight deaths annually for an approximate rate of 1.36 drownings per 100,000 residents. Additionally, unintentional drowning results in 27 hospitalizations and emergency department visits annually. The majority of the hospitalizations and emergency department visits are for children under the age of 14 .

While Vermont does not have the volume of backyard pools that other, warmer states do, pools exist as well as hundreds of lakes, ponds, rivers, and Lake Champlain. In fact, Vermont has 7,100 miles of rivers and streams, as well as 242,219 acres of lakes, reservoirs, ponds, and 300,000 acres of freshwater wetlands .



Drowning is the process of experiencing respiratory impairment from submersion/immersion in liquid. Drowning outcomes can be fatal or non-fatal.

Compared to surrounding states, Vermont is lacking in statewide water safety regulations and guidance. Most water laws in Vermont are related to boat safety, such as safety course requirements and personal floatation devices on board for each occupant. Only children under the age of 13 are required to wear a life jacket when boats are underway and there is no cold-water life-jacket laws. Laws and regulations around public use of natural water outside of boating is limited to the markings required for a designated swim area and that no vessels can be operated within the swim area except by a lifeguard on duty or other authorized personal. Pool safety regulations, both private and public, are designated only at the municipal level as long as the pool is not related to a lodging establishment. The only other guidance or regulations for waterfront or pool operators may be from their chosen insurance providers. Guidance and regulation from insurance

providers can differ between companies and is often limited in their requirements. The lack of regulation and guidance can lead to inconsistent adoption of best practices for aquatic safety in our community.

The Safe Kids Vermont and the Vermont Child Fatality Review Team's joint Water Safety Action Committee is working to mitigate the risks impacting Vermont youth and families by identifying and addressing gaps in resources, education, and opportunity.

## Vermont Water Safety Survey



The first project of the Water Safety Action Committee was to better understand the present state of water safety at public access sites in Vermont. A survey was designed that reviewed safety practices, water management, and barriers to water safety and drowning reduction. There was a total of 51 questions covering both natural water and pool management and water safety practices.

Unfortunately, there is no centralized listing of contact information for public access water managers. A list was curated by the committee that included municipalities, park and recreation departments, swim coaches, and fitness facilities that may manage a pool or body of water or be able to forward the survey to those who did.

The survey was distributed by e-mail in September of 2021. The results are compiled below.

### Survey Results

Twenty-four responses were collected from operators of pools and waterfronts in the state of Vermont. Responses were received from 9 counties, covering 64% of Vermont. Approximately half of responses were from operators in Chittenden County. Given 26% of the population of Vermont resides in Chittenden County, our committee had assumed a higher concentration of services in this area of the state.

Average time to complete the survey was 39 minutes, with the majority of respondents taking less than 15 minutes to complete the survey.

Our committee was interested in the needs of both pool operators as well as those managing natural waterfronts. Twenty respondents had one or more pools with an even distribution between indoor and outdoor pools. Six respondents had one or more natural waterfronts. The responses included lakes (3), rivers (2), ponds (3), beach accesses (2), and boat access (2).

### Maintenance and Use

Pool maintenance at 85% of pool sites was a confirmed CPO with the most common disinfectant being chlorine. There was no consistent practice across sites for maintenance at natural water sites, specifically water testing. Of the respondents, 33% tested weekly, 33% tested monthly, 16.5% tested biweekly, and 16.5% did not know when or if they tested.

For respondents who managed natural water, 83% had swimming areas marked by floating or in-water markers. Other water activities offered at natural water sites included non-motorized boating (100%), fishing (66%), motorized boating (16.5%), and diving or snorkeling (16.5%).

## Life Guards and Water Safety

Overall, of the 24 sites, 91% (22) responded yes to having lifeguards on staff. Of those, 9% (2) of sites only had lifeguards sometimes or for special events. The number of full-time lifeguards on staff ranged from 0 to 25 and part-time lifeguards ranged from 3 to 50.

Lifeguards were mostly stationed by standing (17), followed closely by walking and elevated chairs (16). However, 45% percent of lifeguarded sites identified ground level chairs as a way life guards were stationed.

## Perceived Factors impacting Water Safety

The next series of questions asked about the beliefs and perceptions of respondents.

For risk factors leading to pediatric submersion, most sites noted multiple risk factors. The most common risk factor identified was lack of parent or guardian supervision (18). A third of respondents (6) who stated lack of parent or guardian supervision added there was a need to educate parents and guardians on how to supervise or interact with children and water, recognize the signs of drowning, or understanding the risks of submersion in areas with and without lifeguards. The second most common risk factor related to pediatric swimmers was a lack of swimming lessons or swimming skills, due to a lack of access, lacking ability, overconfidence, or misunderstanding risks (12). While not among the most common, two respondents cited lack of school-based water education as a risk for pediatric submersion in our state.

There were a range of responses regarding what would assist in providing new or more extensive safety measures in Vermont. Comments included state-level collaboration, an increase in resources such as programming or funding, a need for affordable local training and certification for lifeguards, as well as funding. Some sites delineated a need for community education and awareness as well as education for life guards and other staff.

Barriers to improving water safety or implementing better practices at their sites included a lack of funding or grants, staffing issues, and a lack of buy-in at the state level. Sites identified cost to families as a barrier to getting their communities into swimming lessons. One respondent reported a need to increase BIPOC involvement in the water community to remove stigma.



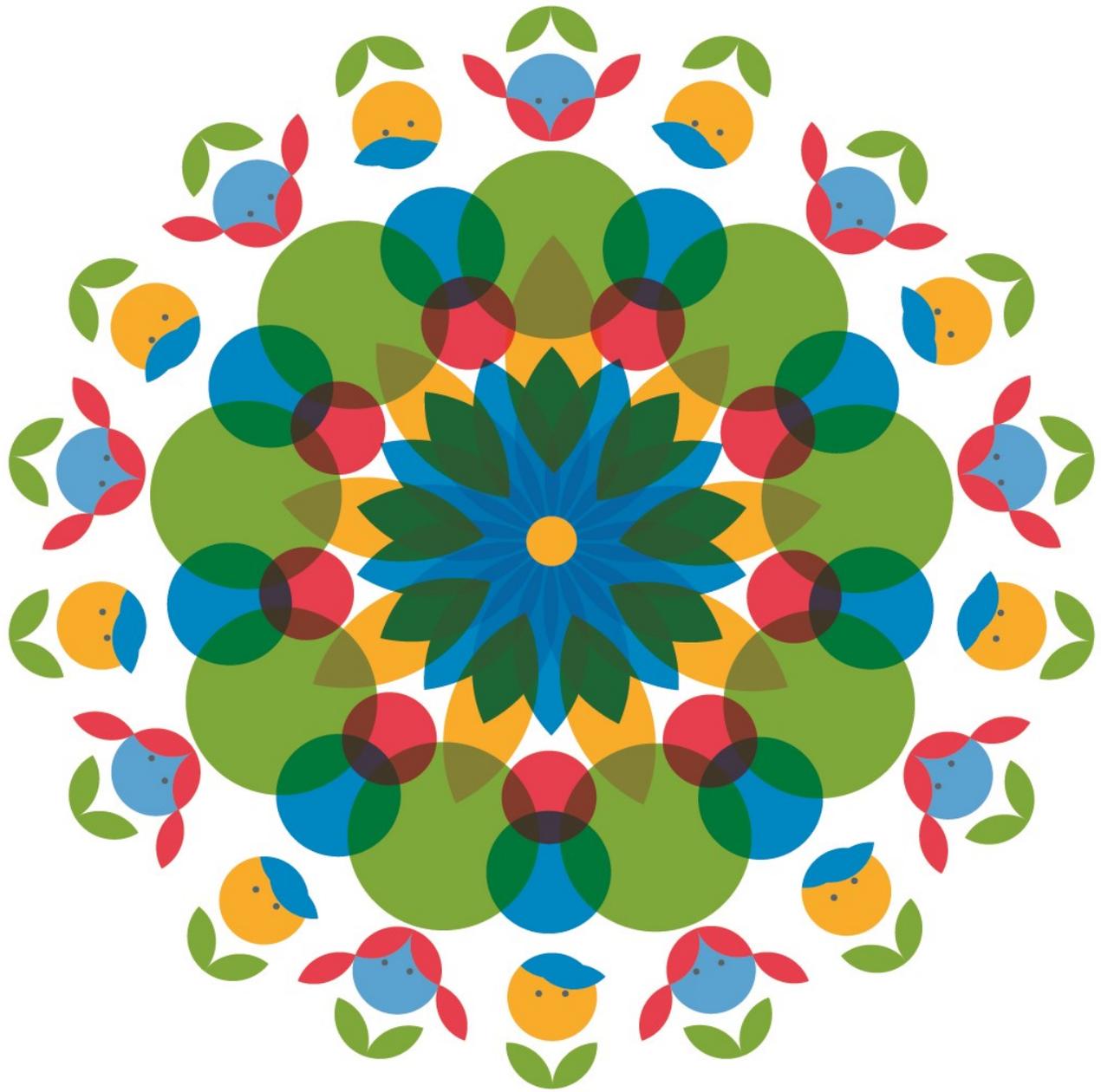
## Conclusion & Recommendations

Increasing water safety for the children of Vermont is a priority to prevent drowning and other water-related adverse events. This survey was intended as a starting point to collect baseline data for how areas of water around the state are currently managed. The low response rate of the water survey was related to the difficulty in identifying those who managed public-access water in the state of Vermont. Pools and natural waterways may be managed by municipalities, private businesses, or parks and recreation departments. The difficulty in identifying and reaching aquatic professionals highlights the need for a centralized database to encourage better collaboration and communication among water operators. This was also a commonly cited barrier by respondents. Our respondents were leaders of their water access point and provided valuable information about their perceived need for improvement in parental education around water safety, increasing access to swim lessons, and ensuring involvement of the BIPOC community.

Based on the survey results, the Water Safety Action Committee recommends the following as next steps to address water safety and drowning prevention in Vermont. These are focused on addressing water safety at a state-level and meeting the current needs of water operators and other professionals as effectively as possible with the limited resources of the committee.

- Develop a Water Safety Action Committee with state-wide representation to lead water safety action plan development
  - Encourage representation from high-risk populations, including BIPOC and New Americans
  - Align goals and standards of the committee with the in-development US National Water Safety Action plan
  - Develop clear, attainable calendar of goals related to safety for aquatic facilities
- Build a state-level network for water safety professionals
  - Reengage with individuals either through a survey or town hall, to gather more complete data on the status of water safety in Vermont
  - Create a contact list for communicating professional development and resources
- Promote availability of water safety education and resources for community members and professionals
  - Design a Vermont water safety website to be a central depository of resources, education, and outreach related to drowning, water safety, and aquatic best practices
  - Improve awareness and access to swim lessons and water safety curriculums for children and families





## Vermont Water Safety Action Committee

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