

Drowning Prevention: A Quick Guide for Health Departments and Pool Operators



What are the roles of pool operators and local health departments in reducing and preventing drowning incidents?



While aquatic facility operators are responsible for ensuring that pools are safe and properly equipped, local health departments (LHDs) can empower the public with information on how to reduce drowning events. NACCHO encourages LHDs to create and share educational materials outlining swimming do's and don'ts, signs someone is drowning, information about local swimming lessons, and Cardiopulmonary Resuscitation (CPR) certification.

See the *References* section in this guide for more information.

LHDs can champion these recommendations for pool operators in their communities. **Drowning is preventable, and LHDs and pool operators play an important role.** Understanding the causes of drowning, identifying people most at risk, and implementing and maintaining appropriate safety measures in aquatic venues can help reduce the risk of drowning.

Background

This quick guide can be used by local, state, tribal, and territorial health departments and aquatic venue operators as a tool for understanding important recommendations for identifying and preventing drowning in recreational water facilities based on key takeaways from CDC's 2024 Model Aquatic Health Code (MAHC) and other sources. See the *References* section for additional information.



**WORLD
DROWNING
PREVENTION DAY**

Drowning Statistics ^[1, 2, 3, 4]

In the U.S., drowning is a leading cause of death for children ages 1 to 4 and the second for ages 5 to 14. These deaths most often occur in swimming pools and in natural water, often due to a lapse in supervision.

Adults 65 years of age and older also have an expectedly high rate of drowning, due to issues such as reduced physical capacity, preexisting co-morbidities, use of multiple medications, and alcohol consumption.

Number of adults who do not know how to swim	Almost 40 million adults (15.4%)
% of adults who have never taken a swim lesson	Over half (54.7%)
Number of deaths per year due to drowning	Over 4,000

How can pool operators work with swimmers and pool patrons to reduce drowning risks in public pools?



- ✓ **Encourage Swim Lessons for Children and Adults:** Learning to swim is one of the most effective ways to prevent drowning. ^[5]



Find Swim Lessons in Your Jurisdiction!

- [Swimming | Swim Classes & Training | Red Cross](#)
- [Find Your Y | YMCA of the USA](#)
- [Home - United States Swim School Association](#)
- [USA Swimming | Learn to Swim](#)

- ✓ **Encourage Parents to Supervise Their Children:** Facilities should encourage parents and guardians to actively supervise children while swimming. Supervisors should avoid distractions (phones, reading, alcohol, and drugs) because drowning can occur quickly and quietly. ^[5]
- ✓ **Monitor for Potential Effects of Medications in Swimmers:** Some medications can cause cognitive or mobility impairment which can lead to impaired judgment, balance, and coordination. Aquatic venues should be trained to look out for the signs and intervene early when a swimmer appears unsteady, confused, or delayed in their actions.
- ✓ **Encourage Pool Patrons to Stay Hydrated:** Individuals should drink plenty of water, especially during hot weather, as dehydration can increase the risk of dizziness, cramping, fatigue, or loss of consciousness while swimming. ^[7,8] Aquatic venues can help reduce this risk by promoting hydration through clear signage, regular announcements, and easy access to drinking water.

What operations and staffing actions can operators take to reduce drowning risks?



- ✓ **Become a Certified Pool & Spa Operator (CPO):** CPO Certification will equip pool operators with essential procedures and safety skills necessary to maintain and operate aquatic facilities and provide them with valuable information about drowning prevention. CPO courses are offered nationwide and are tailored to cover local codes and information from the Pool & Spa Operator Handbook. ^[9]
- ✓ **Hire a Lifeguard Supervisor:** A lifeguard supervisor will help guarantee that lifeguards maintain up-to-date certifications and keep high standards. ^[6]
- ✓ **Recruit Qualified Lifeguards:** Having a qualified lifeguard working during pool operating hours serves as a primary line of defense in catching potential drowning instances by stopping any high-risk behavior and interfering when someone is drowning. A qualified lifeguard should always have:
 - **Training Certification That Is Recognized by the Authority Having Jurisdiction (AHJ):** This certification will make sure that the lifeguards working within the aquatic facilities are prepared to identify risks and prevent and address any emergencies during pool operating hours. ^[6]
 - **Resuscitation Skills:** Lifeguards should be proficient in conducting CPR and Automated External Defibrillation (AED) at the professional rescuer level. ^[6]
 - **Direct Surveillance:** There should be minimal distractions for lifeguards so they can surveil, assess, and act in a timely manner to prevent and address drowning events. Nothing should be allowed to interfere with lifeguard duties. This means that they should not be on their phones, cleaning, water testing, or holding unnecessary conversations with patrons. ^[6]
- ✓ **Ensure Trained Lifeguards are on Duty in Aquatic Venues That Allow Alcohol Use:** Alcohol consumption increases the risk of drowning by impairing judgment, balance, coordination, and supervision. Ensure trained lifeguards are on duty to monitor swimmers, enforce rules, and provide rescue when needed. ^[6]
- ✓ **Conduct Routine Inspections:** Facility staff should conduct routine inspections of safety equipment and pool maintenance supplies to mitigate the risk of equipment failure during an emergency and maintain a safe swimming environment. ^[6]

What maintenance and equipment strategies can operators take?



- ✓ **Maintain Barriers Around Outdoor Pools:** Install fences at least 4-4.5 feet high with self-closing, self-latching gates around outdoor pools to prevent unsupervised access by children. ^[6]
- ✓ **Install Handholds Along Pools:** This gives people support while entering and exiting a pool. ^[6]
- ✓ **Install and Secure Ladders:** Ladders should be made of slip-resistant materials and securely anchored to the pool wall or deck. When properly installed, ladders can reduce the risk of falls and help people when exiting a pool, especially when they are tired or panicked. ^[6]
- ✓ **Maintain Filtration Systems for Good Water Quality and Clarity:** This will help swimmers see the bottom of the pool and gauge the depth of the water. Poor filtration can make it hard for someone to see the surface and can hinder a lifeguard or bystander's ability to spot someone in need of rescue. ^[6]

- ✓ **Maintain Proper Lighting and Minimize Glare:** To reduce glare, maintain direct overhead lighting at a 60–90 degree angle from the line of sight. The more direct the lighting, the less glare will appear on the water. Maintaining a close balance between underwater and overhead lighting also helps reduce glare. ^[6]
- ✓ **Keep Water Temperature Below 104°F (40°C) in Hot Tubs:** Anything above 104°F (40°C) could cause drowsiness, which can lead to unconsciousness and, consequently, drowning. ^[6]
- ✓ **Have a Rescue Throwing Device Handy:** Consider providing a rescue throwing device, such as a throw bag, buoyant life ring, torpedo buoy, or other easily thrown buoyant device. A securely attached rope of about 50 feet (15.2 m) in length and at minimum ¼ inch (6.4 mm) thick is recommended.
- ✓ **Keep a Reaching Pole to Assist Drowning Individuals:** The pole should be 12-16 feet long to be able to reach at least the middle of the pool, and it should have a shepherd crook (life-hook) at the end.
- ✓ **Keep Floatation Devices and Life Jackets Well Maintained and Easily Accessible with Proper Signage:** Facilities should provide an adequate supply of a range of sizes to suit all patrons. ^[6]
- ✓ **Maintain Emergency Communication:** In public pools, the facility should provide emergency communication tools, such as a telephone, emergency band radio, or other effective means of communication. ^[6]

How can pool operators be prepared to address drowning emergencies?



Prepare a Targeted Emergency Action Plan (EAP) for Drowning Incidents: Maintaining an up-to-date EAP helps overall safety by establishing appropriate steps to take during an emergency. It also helps ensure facility staff and lifeguards are aware of the steps to take in case of a drowning event. ^[6]

- ✓ Make sure you have an EAP specific to your venue.
- ✓ Ensure there is a specific EAP written for drowning emergencies.
- ✓ Review and rehearse the EAP with all venue staff. Encourage staff to review the EAP before beginning work at a venue, so they are prepared to manage a drowning event.
- ✓ Provide all staff with a copy of the EAP and make it easily accessible or clearly on display for staff to refer to when needed.

What safety signage can pool operators use?



- **For individuals who are not strong swimmers, clear signage indicating pool depth can be lifesaving.** Some states require depth markings to be displayed in feet, inches, and meters. To ensure this information is accessible and easily understood, it may be beneficial to display both imperial and metric units. ^[6]
- **Displaying visible CPR posters for patrons to reference during a drowning emergency can greatly improve survival outcomes.** Initiating CPR immediately can reduce brain damage caused by oxygen deprivation. ^[6]
 - If your aquatic facility serves a region with multiple spoken languages, consider providing multilingual CPR posters to ensure broader access to information.

Drowning Statistics for Natural Bodies of Water in the U.S. ^[11]

For children aged 5-17, lakes, rivers, and ponds are the natural bodies of water with the highest rates of unintentional drowning.

% of drownings among children aged 5-14 in natural bodies of water	Over 40%
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% of drownings among children aged 14-17 in natural bodies of water	62%
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CDC Resources Highlight Public Actions to Reduce and Prevent Drowning Events in Pools and Natural Waters

[Drowning Prevention: Why It's Important | CDC](#)

[Drowning Prevention: Publications and Resources | CDC](#)

[Health Disparities in Drowning | Drowning Prevention | CDC](#)

[Preventing Drowning in Pools and Natural Waters: Resources for the Public | CDC](#)

Drowning Prevention Resources for LHDs to Share with the Public

[Drowning Prevention: Publications and Resources | CDC](#)

[Home Swimming Pool and Hot Tub Safety | American Red Cross](#)

Drowning Prevention Resources for Natural Water

[How to Safely Visit Oceans, Lakes, and Rivers | Healthy Swimming | CDC](#)

[Water Hazards - Health & Safety | U.S. National Park Service](#)

[Water Safety | U.S. Forest Service](#)

[Lake and River Swimming Safety | American Red Cross](#)

[Drowning Facts | National Drowning Prevention Alliance](#)

[Fast Facts Open Water Drowning by the Numbers](#)



[QUICK GUIDE]

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Have Questions?

Contact mahcnet@naccho.org.



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