

Barriers Action Recommendations

BEE Rec 1

Require primary and secondary pool barrier manufacturers to provide easily accessible written and digital installation instructions for their product to the consumer and in a national database.

BEE 1

Create a database of safety devices, updated annually, using a spreadsheet model which includes product type, description, manufacturer, suggested location and uses, applicable standards, building code/law applications, ease of consumer use/challenges, effectiveness studies (if any), time of expected usefulness, functional weaknesses, gaps in research and testing.

BEE Rec 2

Require door and window alarms from house to pool and, or spa area.

BEE Rec 2B

Require audible alarms be of sufficient decibel levels so as to warn homeowners or caregivers of possible unauthorized access to the pool or spa area.

BEE Rec 2C

Consider alternate types of alarms that have less of a chance of being disconnected.

BEE 2

Charge public policy makers (and advocates) to require the use of barriers around residential pools/spas as a critical layer of protection to prevent drownings. Barriers to include fencing, self-locking and closing gates and approved powered safety covers.

BEE 2B

Advocate for the requirement that barrier products be permanently marked or labeled to show manufacturer, model number, date of manufacturer, code or standard met, expected product life and other pertinent information depending on product use (drain covers; flow rate, pool covers: fabric thickness, tinsel strength, etc.) Additionally;

1. Require markings to be engraved, stamped, or otherwise attached in some way and in a specific location to last the expected life of the product. Information can be in the form of a text and line drawings, a bar code, or possible a QR code.

2. Require labels or markings to be easily accessible to any interested party who wants to confirm information about the product.

BEE Rec 3

Advocate adoption of legislation that encompasses the policies apply to suction entrapment included in the federal Virginia Graeme Baker Act (VGBA) to address existing and new residential pools at the state and local level.

BEE 3

Require a Certificate of Conformity by pool and spa barrier and safety device manufacturers that documents their product meets the applicable standard and requirements defined in a federal, state or local law, or code. This requirement should include 1) testing and certification by a third-party laboratory, 2) manufacturers to maintain a database of electronic certificates, post on their websites and offer to consumers on demand, and 3) periodic testing and certificate updates as recommended by engineers, researchers, and product developers and when relevant laws and codes are changed.

BEE 5A

Require ONE of the following secondary alarm system barriers for pools with an isolation fence with a gate:

A door alarm (UL2017 compliant) that chimes each time the door to the backyard opens; a pressure/sonar/laser-based (in-water) pool alarm that can detect entry into the water (ASTM F2208-08 compliant); a mounted alarm system (Passive infrared (PIR) sensor or a camera) that alerts with a loud beep each time there is entry in the pool edge or in the water (ASTM Computer Vision Based Drowning Detection Systems for Residential Pools).

BEE 5B

Require ALL of the following secondary alarm system barriers for pools with a perimeter fence or a safety cover:

A passive Infrared (PIR) sensor or a camera that alerts with a loud beep each time there is person entering in the pool edge or in the water AND a mounted ASTM (passes either of UL17 or existing ASTM F2208 or new ASTM F15.49 for pool safety) approved AI (camera) system that alarms with a loud continuous beep for 25 seconds each time there is a person drowning behavior detected as defined by ASTM Standards.

BEE Adv 1

Require four-sided isolation fencing or barriers around all residential pools and spas. Those fences and barriers should comport with the Consumer Product Safety Commission's Safety Guidelines for Residential Pools, ASTM F-2286-16. Require that owners of pools/spas install only powered safety pool covers that comply with the ASTM F1346-91 Performance and Labeling Standard for the safety device. This requirement (fencing and covers) should also apply to larger portable aftermarket (off the shelf) pools.

BEE Adv 4

Require a government implemented inspection to ensure that residential pools and spas meet all federal, state and local laws, regulations and standards upon change of ownership or when the pool or spa is extensively renovated, repaired or remodeled to ensure the aquatic venue is safe at transfer (i.e., non-compliance with barrier, entrapment and electric safety provisions).

BEE Adv 5

Charge public policy makers to require building code officials and home inspector professionals to have regular continuing education to properly enforce state and local requirements that are intended to prevent drowning, entrapment, and electrocutions.

BEE Adv 6A

Update the federal consumer protection regulatory process to ensure that pool and spa environments and product features are properly engineered so as to prevent drowning and entrapments. This includes requiring states and localities to adopt the PHTA 7 Entrapment and PHTA 16 Suction Fitting Standards. Encourage states and localities to address drowning and entrapment-related issues and to educate pool and spa users about associated risks.

BEE Adv 6B

Advocate for the CPSC to take a more active leadership role in drowning prevention, particularly as it relates to implementation of the VGB Act and related activities.

BEE Adv 7

Advocate for increased budget and dedicated staffing support for federal agencies charged with protecting children from drowning, entrapment, and other water safety-related risks.

BEE Adv 8

Advocate for the adoption of the most recent edition of the National Electric Code (NEC) for construction and maintenance of residential pools, spas, other home aquatic venues, marinas, boat docks and boat yards to prevent electrocution in or near all bodies of water.

BEE Adv 9

Require annual inspection of commercial aquatic venues (e.g., pools, spas, docks and marinas) that use electricity to ensure that the bonding system is in working order, that other electrocution prevention measures are working properly, and that general maintenance from ordinary “wear and tear” is addressed.

BEE Adv 10

Adopt the International Swimming Pool and Spa Code for new and substantially remodeled residential pools and spas in its entirety, including the PHTA-7 Standard for Suction Entrapment Avoidance.

BEE Adv 11

Create and disseminate model support materials to guide state and local advocacy efforts addressing best practice barrier recommendations, the prevention of entrapments in residential pools and spas, and the prevention of electrocution.

BEE Edu 1

Create and evaluate targeted education programs, materials, and tools on known best practices related to Barriers, Entrapment and Electrical Safety for each audience depending on the role they play, with the goals of increasing voluntary use of related safety devices and to increase support of pool safety legislation. Target audiences should include:

- #1 First responders and health professionals
- #2 Consumers/homeowners (including messaging for caregivers of toddler age (highest risk group))
- #3 Media/social media
- #4 Contractors (builders and service)
- #5 Real estate professionals
- #6 HOAs/Condo Associations
- #7 Home inspectors
- #8 Hotels and lodging
- #9 Mortgage & Insurance Companies

BEE Enf 1

Mandate initial and continuing education in drowning prevention specific to barriers, entrapment and electrical safety for licensed and/or certified professionals involved with pools or spas to support enforcement of existing laws or ordinances.

BEE Enf 2

Advocate for the adoption of state and local legislation that would require information be produced and disseminated to insurance and mortgage companies that would identify the existence or absence of required safety devices pursuant to code.

Barriers Gap Recommendations

BEE G1

Study the feasibility of creating a database of safety devices, how it would be used, and if it would be effective among consumers.

BEE Edu G1

Evaluate the effectiveness of existing drowning prevention educational modes of delivery across the different targeted audiences.

BEE Adv G1

Evaluate the effectiveness of barrier laws on drowning incident rates.

BEE Enf G2

Evaluate the feasibility and impact of a compliance reporting system focused on codes addressing safety requirements for pool barriers, suction entrapment, and electrical.

BEE G3

Determine which pool or spa safety devices already carry Certificates of Conformity through standards or legislation and evaluate which devices may benefit from new or more detailed standards and third-party testing, where applicable.

BEE G4

Evaluate the effectiveness of existing laws and regulations requiring home or building inspections upon change of ownership or substantial renovations, and their effect on drowning or injury rates.

BEE G5

Evaluate and compare new and existing barriers and warning systems types to assess their efficacy effectiveness in reducing drowning incidents.

BEE G6A

Conduct studies to determine if fencing and/or other barriers near certain open bodies of water can reduce drownings in high-risk areas (routes to schools, public walkways bridging water between buildings, and waterways near businesses serving alcohol).

BEE G6B

Conduct studies to determine if Individuals on the autism spectrum who tend to wander toward open bodies of water will benefit if barriers are in place.

CPR and Rescue Action Recommendations

Res CPR 1

Introduce CPR training in schools, which continues through K-12.

Res CPR 2

Emphasize the role of both compressions and ventilations for cardiac arrest due to drowning or other hypoxic etiologies in all CPR training beyond the level of compression-only CPR.

Res CPR 3

Develop a template for an evidence-based drowning treatment protocol for Emergency Medical Services (EMS) agencies at state and local levels. Develop these protocols specific to Basic Life Support (BLS), Advanced Life Support (ALS), and other credentialed certification levels within that jurisdiction (i.e. lifeguards, law enforcement, volunteer or paid fire or first responder, medical responder, emergency medical technician, paramedic).

Res CPR 4

Incorporate lifeguards into the current models of LEMSA agencies with a physician medical director as defined by NAEMSP. Lifeguards should seek to incorporate the medical direction of their LEMSA.

Res CPR 5

Improve public awareness on how to respond frequent but unconventional aquatic emergencies (i.e., flooded roads, ditches/drainpipes, fire hydrant clearing) utilizing evidence based, validated methods and actions.

Res CPR 6A

Create curriculums and programs focusing on survival, preventative strategies, and peer rescue skills (e.g., in water instruction for survival and swimming skills, dry land instruction for survival and swimming skills instruction, and basic rescue skills), and considering the local geography, various aquatic environments, and lifeguard education.

Res CPR 6B

Require schools to participate in aquatic survivability programs with standards at a pre-determined level of competence by a specific age/grade.

Res CPR 6C

Provide ongoing opportunities for enhanced aquatic rescue skills training throughout the school years for those interested in continued skill improvement.

Res CPR 7A

Develop policy, standards, and guidelines for all Public Safety Personnel who participate or may participate in any kind of water rescue.

Res CPR 7B

Require minimum training in water safety and rescue for all Public Safety Personnel who participate or may participate in any kind of water rescue that is specific to their hazards and rescue type (i.e. Swift water, ocean, ice).

Res CPR 7C

Require the use of specialized personnel to evaluate hazards and perform certain functions around water rescue.

Res CPR 8

Create or utilize a current National body that encompasses all water safety lifesaving demographics (similar to Peace Officer Standards and Training (P.O.S.T.) for police or National Fire Protection Association (NFPA) for fire departments) to house national policy, standards, and guidelines for surveillance and water rescue including consistent terminology, positions and requirements for professional responding to aquatics environments.

Res CPR 9

Teach public safety personnel the risks, benefits, and alternatives in performing safe in water rescues in varied conditions. Understanding that the safest option may be to not enter the water.

Res CPR 10

Require Lifeguards and Water Rescue EMS professionals have in-person training and certification and recertification by a nationally accredited body (or bodies) or an entity (or entities) that has been approved by a national body or government organization. Training should follow national standards, in addition to their local standards, and include: physical and medical fitness, practical, didactic skills, public education and outreach.

Res CPR 11

Improve public awareness of boating safety resources, such as databases, including environments, coastal topography, river conditions, and unique marine weather conditions.

Res CPR 12

Create or expand watercraft based emergency response training, including search and rescue, for lay people.

Res CPR 13

Develop policies within National Incidence Management System (NIMS) and local National Response Framework to pre-plan aquatic response integration with trained bystanders and professional aquatic rescuers. Include an aquatic subject matter expert as part of the emergency management team and culture during emergency management planning and response.

Res CPR A6B

Develop and evaluate training for specific communities and their needs and resources (i.e., different languages, bodies of water, economics).

Res CPR A4B

Develop and evaluate a decision-making tool for untrained bystanders regarding the selection and effective use of life-saving equipment.

CPR and Rescue Gap Recommendations

Res CPR G1

Perform a cost-benefit assessment for delivering CPR training through schools and develop a cost-effective model for delivering CPR training through schools.

Res CPR G2

Assess cognitive and technical skill retention when including both compressions and ventilations in CPR training, as compared to compression-only CPR training of the public.

Res CPR G3

Evaluate the impact of the Virginia Baker Graham Act at residential and non-residential facilities.

Res CPR G4

Evaluate the decision-making process by untrained bystanders regarding the selection and effective use of life-saving equipment.

Res CPR G5

Evaluate the effect of EMS drowning protocols on morbidity and mortality of drowning patients.

Res CPR G6

Evaluate barriers to intervention by bystander rescuers, regarding safety interventions and effective messaging for target audiences and sites.

Res CPR G7A

Identify and evaluate the effectiveness of self and other rescue techniques in different aquatic environments.

Res CPR G7B

Identify and evaluate best practices in teaching self and other rescue techniques in different aquatic environments.

Res CPR G8A

Identify and evaluate the effectiveness of aquatic survival skills.

Res CPR G8B

Identify age and developmentally appropriate progressions in teaching aquatic survival skills.

Res CPR G9

Study the types of water rescue training that are provided to public safety personnel and evaluate the effectiveness of these trainings.

Res CPR G10A

Study the effectiveness of commercial or improvised floatation devices used for the purpose of a water rescue.

Res CPR G10B

Collect and identify the factors (human, training, environmental) that influence an individual's use of a rescue device or decision to initiate a rescue.

Res CPR G11

Identify and evaluate standardized tactics, techniques, and procedures in the training of lifeguards and EMS water safety professionals. Share across various states, counties, and jurisdictions.

Res CPR G12A

Identify government and state sources of financial and other support for boat-based rescue operations and training.

Res CPR G12B

Identify specific legislative barriers (at local, state or federal levels) to members of the public becoming educated and trained in boat-based rescue techniques.

Res CPR G12C

Identify specific legislative barriers (at local, state or federal levels) to members of the public becoming educated and trained in boat-based rescue techniques.

Data and Surveillance Action Recommendations

DS 1A

Develop and implement a standardized instrument to be used in drowning investigations for use by coroners, law enforcement, hospitals, and similar type investigators.

DS 1A

Develop guidance for collecting necessary but sensitive data like alcohol/drug use in victims and supervisors.

DS 2A

Include questions on knowledge and behaviors in existing behavioral surveillance systems such as Youth Risk Behavior Surveillance System (YRBSS) and Behavioral Risk Factor Surveillance System (BRFSS), and in program evaluation efforts. These should include questions on attitudes, beliefs, perceptions, intentions and current behaviors of aquatic participants/caregivers or those providing supervision, those responsible for delivering information about water safety, and those having oversight of drowning prevention efforts (e.g., YRBSS, BRFSS).

DS 2B

Create validated bank of the questions on knowledge and behaviors for use in program evaluation efforts.

DS 3

Develop a panel of relevant stakeholders to link existing data systems across the drowning spectrum (e.g., lifeguarding, law enforcement emergency medical service, emergency department, hospitalization, and medical examiner data) to allow more complete analysis of risk and protective factors for drowning prevention.

DS 4

Develop a national platform and process to link relevant data systems (e.g., police reports with medical information regarding fatal drowning incidents like the National Violent Death Reporting System (NVDRS) and Child Death Review). Ideally the platform would allow public queries.

DS 5

Convene multidisciplinary partners to identify, review, and discuss deaths due to drowning among all ages with the aim of developing actionable evidence-based recommendations on data collection, analysis, prevention and evaluation.

DS 6

Support the use of syndromic surveillance to identify emerging trends in drowning (examples include but are not limited to geographic, setting, activity, climate or temporal surges).

DS 7

Develop and implement a partnership strategy to improve working relationships between those who respond to incidents (e.g. Lifeguards, EMS, ED and hospitals and coroners/medical examiners) and community organizations working to prevent drowning, or with high risk populations. Improve the collection and use of high quality drowning surveillance data at the state and local level within partnerships.

DS 8

Disseminate information about how drowning-related data can be shared while meeting legal requirements such as the Health Insurance Portability and Accountability Act of 1996 (HIPPA) Privacy Rule.

DS 9

Develop an industry collaboration to create a minimum standardized data set to monitor reach and effect of each swimming, water safety training, and certification program (e.g. providers of swim lessons, CPR certification, Lifeguarding certification, boating safety certification, etc).

DS 10

Develop a national model surveillance strategy addressing aquatic venues and services or open water settings and services, which would include a minimum standardized data set for on-scene

incident reporting that leads to evaluating incidents, and designing and implementing prevention efforts. Include recommended reporting structure and resources to ensure collation of information, analysis and dissemination across similar venues, settings or services.

DS 11

Improve the ability to monitor progress toward attainment of water competency by developing minimum standardized definitions and objective measurements for each of the 15 skills and behavioral components of water competencies.

Water Competency (Stallman et al., 2017)

1. Safe entry competence
2. Breath control competence
3. Stationary surface competence (float, tread)
4. Water orientation competence
5. Propulsion competence
6. Underwater competence
7. Safe exit competence
8. PFD competence
9. Clothed water competence
10. Open water competence
11. Local hazard competence
12. Coping with risk competence (environmental and personal like alcohol or drug use)
13. Assess personal competence
14. Rescue competence (recognize and assist)
15. Water safety competence (attitudes and values)

DS 12

Improve surveillance of life jacket attitudes, beliefs and use among boaters, swimmers and other water recreation to better understand effectiveness in different circumstances.

DS 13A

Develop best practices for the assessment and surveillance of alcohol and drug use (illicit, over-the-counter and prescription) as a factor in drowning incidents. Surveillance of alcohol and drug use (illicit, over-the-counter and prescription) should be assessed among drowning victims, those who were supervising the victim, and boat operators involved in incidents.

DS 13B

Develop best practices for the assessment and surveillance of alcohol and drug use (illicit, over-the-counter and prescription) as a factor in drowning incidents. Surveillance of alcohol and drug use (illicit, over-the-counter and prescription) should be assessed among drowning victims, those who were supervising the victim, and boat operators involved in incidents.

DS 14

Develop a tool to assist the media in reporting on fatal and nonfatal drowning. The tool will include prompts for media reports to identify known risk factors for drowning and evidence-based drowning prevention strategies such as isolation fencing, perceived swim ability, life jacket use, lifeguard presence, alcohol or drug use by the swimmer or supervisor, etc.

DS 15

Identify an entity (agency or organization) with responsibility for creating an annual fatal and nonfatal drowning report that includes information from all drowning incidents including boating to provide the "big picture" of what is happening in drowning in the U.S. (e.g. use WISQARS, WONDER, USCG Boating report, CPSC, TAP reports, etc.).

DS 16

Create a mechanism at the national level to monitor and display progress on water safety policies that were identified as priorities within the USNWSAP (e.g., NASBLA website displaying state boating safety laws and policies).

DS 17

Develop a mechanism to increase quality and quantity of information about programmatic efforts in water safety and to improve dissemination and sharing of information. Collection should include educational and programmatic efforts (e.g. engaging stakeholders, promoting behavior change, etc. [i.e., qualitative information]).

DS 18

Develop a mechanism to share stories of fatal and nonfatal drowning by those impacted by these incidents (e.g., survivors, families, friends, witnesses, lifeguards, first responders, health care providers, etc) to provide context for and build upon other surveillance data.

Data and Surveillance Gap Recommendations

DS G2A

Collect, develop, and validate questions on psychosocial determinants (including variables associated with behavior change models such as attitudes, beliefs, perceptions, knowledge, intentions, current behaviors, etc.) of aquatic participants/parents and those who provide supervision, those responsible for delivering information about water safety, and those having oversight of drowning prevention efforts.

DS G 2B

Develop a question bank of validated questions which can be integrated into behavioral surveillance systems and program evaluations to better monitor and tailor prevention interventions.

DS G 7

Conduct a formal Network Analysis in each of the 50 states to show the number and strength of partnerships in each state.

DS G 8

Identify the prevalence of and barriers to data sharing (related to drowning and its prevention) including misunderstandings of HIPPA regulations.

DS G 11A

Evaluate the individual skill components of water safety and water competency to get beyond just demographic characteristics of victims.

DS G 11B

Evaluate the effectiveness of current water safety education and technology.

DS G 11C

Evaluate knowledge, attitudes, beliefs, and behaviors around water safety and water competency.

DS 12A

Conduct research to understand the effectiveness and need for life jackets in different circumstances.

DS 12B

Conduct research to understand both the pros and potential cons of persistent life jacket use among young and non-swimmers regarding acquisition and maintenance of survival swim skills (e.g., floating and forward progress).

DS 13G

Research the effect of specific drugs on drowning risk among fatal and nonfatal drowning victims, those who were supervising the victim, and watercraft operators involved in incidents.

Life Jackets Action Recommendations

Acc A1

Increase access, remove barriers, and evaluate the impact of both child and adult life jackets through life jacket loaner program at all boat ramps, open water swimming venues and designated water access points.

LJ ACC A2

Increase year-round access to community-based life jackets and affordable retail life jackets.

LJ ACC Ag1

Increase access to and evaluate the impact of flotation, lifesaving equipment and education at life jacket loaner stations, water hazards and other public water access points for boating, swimming, and other types of water recreation.

LJ COMMS Ag1

Implement and evaluate communication campaigns (year-round or seasonal) addressing the importance of life jacket use among high-risk groups who are boating, paddling, and/or swimming.

LJ COMMS Ag2

Build consensus for consistent terminology for life jackets, personal flotation devices (PFDs), rescue and other flotation devices. While there are many terms for life jackets, personal flotation devices (PFDs), rescue and other flotation devices, there is a lack in common terminology for discussing, utilizing, and referencing these terms.

LJ COMMS Ag2b

Create consistent recommendations for use of life jackets, personal flotation devices (PFDs), rescue and other flotation devices while boating, swimming, or participating in other water-related activities.

LJ EDU A1

Develop, implement and/or evaluate an accredited national education standard for life jacket fit, style, when to wear and demonstration to include practice fitting and use for both boating and non-boating water recreation.

LJ EDU A2

Develop, implement, and evaluate a standard instructional curriculum for K-12 education that meets the national life jacket educational standard (based off the accredited national education standard in Life Jacket Education Action Recommendation #1).

LJ EDU A3

Develop, implement, and evaluate a standard instructional curriculum that meets the national lifejacket standard as part of learn-to-swim, both dry land and in water safety programs, and instructor or provider training for swim instructors, health care providers, boating instructors, teachers, and other instructors (such as childcare providers, camp staff, parks and recreation, boat clubs and rentals).

LJ EDU A4

Promote education about life jacket style, use, and fit as part of point of sale or rental of watercraft (such as recreational powerboats, kayaks, canoes, stand up paddleboards, rafts, etc.).

LJ EDU A5

Create a centralized resource about water safety and life jackets for people with special needs, physical disabilities, neurological conditions or developmental disabilities who need adaptive life jackets or who are at higher risk for drowning (i.e. ADHD, autism, epilepsy and heart arrhythmia).

LJ MAN A1

Remove the federal exemption from preemption on the current age for U.S. Coast Guard approved life jacket wear to require all states to adopt the minimum requirement based on U.S. Coast Guard requirements (currently 12 years of age and under on vessels under 26 ft. in length).

LJ MAN A2

Revise the Federal life jacket wear requirement of 12 and under to all boaters age 16 and under. Also, remove the state exemption from preemption for all states but allow states to adopt requirements for those greater than 16 years of age.

LJ MAN A3

Amend human-propelled vessel regulations at the Federal and State level to require that all passengers wear a properly fitted U.S. Coast Guard-approved life jacket while on or in any human-powered propelled vessel, regardless of length. Human-propelled vessels are powered only by its occupants (e.g. canoes, kayaks, rafts, stand-up paddle board (SUPs), dragon boats, etc.).

LJ MAN A4

Amend recreational small vessel regulations at the Federal and State level to require that all occupants in, on, or participating in a water sport behind any vessel less than 26 feet in length to wear a properly fitted, U.S. Coast Guard-approved life jacket when not below decks or in enclosed compartments.

LJ MAN Ag1

Recommend federal, state, county and local governments develop and implement a risk-situational assessment process to be used to identify where required life jacket wear and enforcement would have the greatest impact.

LJ Man Ag2

Develop and evaluate requirements at the federal, state, and local levels for life jacket use while participating in open water (such as lakes, rivers, and oceans) swimming, jumping, floating during non-boating related activities or while swimming off of boats.

LJ Tec A1

Develop and market new life jackets and flotation aids that meet safety standards and/or requirements and are more comfortable, affordable, and appealing in order to increase use among a wider audience.

LJ TEC A2

Minimize the types and rearming processes for carbon dioxide (CO₂) cartridges for inflatable flotation devices to reduce consumer confusion and reduce the chance for device failure.

LJ TEC A3

Identify an agency or organization to implement a testing and approval process for flotation devices used for nonboating water recreation (such as swimming) to ensure, if used properly, they are a lifesaving device. Revised Recommendation: Identify an organization or association to implement at minimum, a standard for development and testing of flotation devices used for nonboating water recreation (such as swimming) to ensure, if used properly, they reduce potential risk and are a lifesaving device.

LJ TEC Ag1

Identify and address barriers that are preventing manufacturers and entrepreneurs from the rapid development of new designs to bring new flotation devices to market.

Life Jackets Gap Recommendations

LJ ACC G1

Identify effective ways to increase access to life jackets among high risk, low resourced groups, specifically those that are currently or have been historically excluded.

LJ ACC aG1

Evaluate the impact of rescue devices (such as life rings, buoys, throw ropes, tubes etc.) available at public sites for boating, swimming, and other types of water recreation.

LJ COMMS aG1

Evaluate existing and new communication campaigns (year-round or seasonal) addressing the importance of life jacket use among high-risk groups who are boating, paddling, and/or swimming (including people who have voluntarily left a boat, swimmers from shore, teenage and adult males, young children, and racial and ethnic populations at increased risk of drowning).

LJ COMMS aG2

Evaluate what flotation devices are effective for drowning prevention for swimming activities in pools and open water such as lakes and rivers (within and outside of designated swim areas).

LJ COMMS G1

Evaluate what flotation devices are effective for drowning prevention for swimming activities in pools and open water such as lakes and rivers (within and outside of designated swim areas).

LJ MAN aG1

Determine the use, impact, and effectiveness of a risk-situational assessment to identify the need for required life jacket wear at federal, state, and local levels.

LJ MAN aG2

Evaluate the effectiveness of life jacket requirements for nonboating water-related activities.

LG TEC aG1

Identify and address barriers that are preventing manufacturers and entrepreneurs from the rapid development of new designs to bring new flotation devices to market.

LG TEC G1

Research optimal life jacket use and design for nonboating activities like swimming and wading, addressing the types of situations and people that are most likely to experience drowning while engaged in recreational water use.

LJ TEC G2

Investigate both intended and unintended consequences of young children's use of flotation devices in pools and open water (such as lakes, rivers, ponds, ocean, etc.).

LJ TEC G2b

Determine whether flotation devices used by young children decrease or increase risk of drowning in pools and open water.

Lifeguards and Supervision Action Recommendations

SL LG 1

Extend the lifeguard and safety provisions in the Model Aquatics Health Code (MAHC) to natural bodies of water. Encourage adoption of the MAHC by all States.

SL LG 2

Require swimming facilities with lifeguards to administer swim tests, as determined by the facility, before allowing patrons to enter water over their heads unless they are wearing properly fitted, approved Life Jackets.

SL LG 9

Identify the most effective strategies to overcome lifeguards' internal noise and inattentional blindness that could become standards for lifeguards.

SL LG 10

Require lifeguard training organizations to teach multiple scanning strategies, as defined by agencies and supplemented by evolving research, to lifeguards to meet the needs at their local facility and to help combat internal noise and inattentive blindness. Agencies should outline their scanning strategies in their training documents.

SL LG 11

Teach the dangers of internal noise inattentive blindness and strategies in lifeguard management training programs curriculum.

SL LG 12

Include effective scanning strategies of different situations lifeguards may find themselves in (e.g. facility features, zone size and shape, chair vs roving, swimmer load, time of day, position of lifeguard station, etc.) into lifeguard management training programs. Emphasize to participants their responsibility to ensure the lifeguards they supervise understand and know how to utilize multiple scanning strategies.

SL LG 13

Provide consistent, standardized content for pre-service and in-service preventative lifeguard training in lifeguard management training courses, including: scanning strategies, internal noise and inattentive blindness, hazard recognition, professionalism, patron expectation of lifeguards.

SL LG 14

Promote in-depth mid-season training to reinforce the prevention elements which contribute to professionalism in lifeguarding and increase effectiveness throughout the season, including scanning strategies, internal noise and inattentive blindness, hazard recognition and patron expectation of lifeguard.

SL Sup 2

Develop a swim test for each member of a group using an aquatic venue that can be easily and effectively completed by a lay group supervisor.

SL Sup 4A

Develop consistent messaging for supervision.

Lifeguards and Supervision Gap Recommendations

SL Sup 4B

Evaluate the relevance and validity of water watcher programs.

SL LG 2G

Evaluate the effectiveness of swim tests in minimizing rescue situations in guarded pools or designated swim areas with maximal depths of 4 to 5 feet, or limited access to water 4 to 5 feet deep, to determine if swim tests are needed in those settings.

SL LG 3G

Conduct additional research to define “hazard” or “hazardous behavior” in an aquatic setting or facility, within the context of lifeguarding.

SL LG 4G

Identify and analyze the range of visible behaviors of people actively drowning from actual video footage in order to include evidence-based ways of identifying drowning victims in lifeguard training courses.

SL LG 5G

Conduct research to determine if the experience level of lifeguards improves scanning and detection of drowning and/or distressed swimmers.

SL LG 7G

Conduct research on the relative efficacy of lifeguards using an elevated chair or moving on deck, including when and why each might be appropriate.

SL LG 8G

Evaluate lifeguard scanning techniques and processes to identify the best practices for victim recognition in various local situations. Research should include: head movement as related to eye movement in scanning; time goals; the impact of user density; zone size; patron distribution throughout the facility; time on task; and the impact of lifeguard supervision.

SL LG 9G

Research effective solutions to lifeguard inattention and internal noise to create strategies for lifeguards which improve patron surveillance.

SL Sup 3A

Evaluate and determine the effectiveness of a peer supervisor program.

SL Sup 3B

Determine the efficacy of the “buddy system” or any similar system.

SL Sup 5

Evaluate effective communication tools to change behaviors, attitudes, and values in reference to supervision of children and non-swimmers in, on, and near the water.

SL Sup 6

Evaluate public awareness of the need for constant, active, and vigilant supervision in commercial, private, and residential pools.

SL Sup 7

Evaluate and determine risky behaviors that lead to aquatic injury or death at the community, state, and national level. Risk Behaviors include: activities and or conditions that can cause aquatic injury.

SL LG 10G

Conduct research to determine the effectiveness (including the cost effectiveness) of lifeguards in:

1. Preventing injuries
2. Educating the public
3. Conducting rescues
4. Conducting resuscitations

Water Safety, Water Competency, and Swimming Action Recommendations

WS DEI 1A

Hire and train diverse aquatic staff.

WS DEI 1B

Promote diversity in imagery in all of its forms such as film, print, television, social media, and including advertisement and promotions of any and all swimming and aquatic activities, sports, apparel and industries.

WS DEI 1C

Include diverse Black, Indigenous, and People of Color (BIPOC) populations shown as competent in all aquatic activities including:

1. Athletes
2. Teams
3. Families

4. Organizations

5. Communities

WS DEI 2A

Identify best practices and develop national water safety programs that are culturally competent, trauma informed, anxiety sensitive, and historically and socially relevant to various communities.

WS DEI 2B

Adapt and implement local water safety programs so they are delivered in a culturally competent, trauma informed, anxiety sensitive, and historically and socially relevant manner to the communities they serve.

WS DEI 4

Promote involvement of aquatics, education, and health and safety organizations, and specifically aquatic sport governing bodies, to invest in, and collaborate with, Historically Black Colleges and Universities (HBCUs), Hispanic Serving Institutions (HSIs) and Tribal Colleges and Universities (TCUs) to advance water safety, develop aquatic leaders, expand community education, and conduct in-water and dry-land training within the college and university system and the surrounding communities.

WS DEI 6

Build and create pools and expanded aquatic facilities, and provide affordable programming, which meet the needs of diverse communities with at-risk populations. At-risk communities can include, and are not limited to: rural, urban, lower income, and culturally and racially diverse populations.

WS DEI 7A

Implement diversity, inclusion, racial equity, and cultural training for all aquatic, water safety, and marine safety organizations, beginning with leadership and expanding to all employees and volunteers.

WS DEI 7B

Embed diversity, inclusion, racial equity, and cultural training in instructor training courses delivered by all aquatic, water safety, and marine safety organizations.

WS WC 1

Create national standards, benchmarks, and evaluation criteria for evidence-based water safety education curriculums, whether land-based or water-based, for all targeted groups (e.g. youth of all ages, adults, public health providers, schools, child care centers, camps, homes, and community groups). Programs should include, but not be limited to, the following topics:

1. Water safety policies
2. Rescue of self and others
3. Lifejackets (knowledge, proper fit and usage)
4. Supervision Boating
5. Indoor and outdoor water safety
6. Home - toilet, bathtub, buckets, pools, spas
7. Private and public facilities or areas - pool, ocean, open water
8. Natural disasters and hazards

WS WC 2

Create a comprehensive national water safety awareness campaign.

WS WC 3

Make water safety information and resources easily available to people of all ages through a wide variety of access points and sources. Water safety information and resources should:

1. Be culturally relevant and available in the languages present in the targeted communities
2. Be easily accessible, in multiple online and physical formats
3. Have options that are low cost, free, or available through scholarships, where appropriate

WS WC 4

Adopt and promote this consistent operational definition of water competence/y:

1. Safe entry competence a. Entry into water b. Surface and level off
2. Breath control competence; integrated and effective breathing
3. Stationary surface competence a. Buoyancy control: floating b. Treading water
4. Water orientation competence a. Roll from front to back, back to front b. Turn, L & R, on front & back
5. Propulsion competence a. Swim on front b. Swim on back and/or side
6. Underwater competence a. Surface dive b. Underwater swimming
7. Safe exit competence
8. Personal flotation device (PFD/lifejacket) competence
9. Clothed water competence
10. Open water competence
11. Knowledge of local hazards competence
12. Coping with risk competence - awareness, assessment, avoidance
13. Assess personal competence
14. Rescue competence a. Recognize a drowning person b. Assist a drowning person safely
15. Water safety competence a. Attitudes b. Values

WS WC 7

Create a centralized location for water safety, drowning prevention, and learn-to-swim information and curriculums that is easily accessible, while being culturally and linguistically diverse, thus making it inclusive of all communities. Address the historical, social, and fiscal constraints of various communities.

Water Safety, Water Competency, and Swimming Gap Recommendations

WS DEI 3

Conduct research on the effect of drowning experiences on survivors, families, and communities to identify generational trauma and Post Traumatic Stress Disorder and ways of healing.

WS DEI 5

Examine the efficacy of existing learn to swim programs.

WS Inc G1A

Identify best practices and develop teaching guidelines for learn-to-swim programs to be inclusive of persons with disabilities.

WS Inc G1B

Create Adapted Aquatics learn-to-swim teaching certification and/or addendum to aquatic instructor training. Cover a large variety of disability needs, safety recommendations, and best practices to bridge the aquatic learning opportunity access gap of persons with disabilities.

WS Inc G2

Expand the collection of surveillance data and research beyond epilepsy and autism to assess the drowning risk of all persons with disabilities.

WS Inc G3

Conduct research on aquatic instructor training regarding the delivery of aquatic instruction to persons with disabilities.

WS Inc G7

Enforce adherence to Americans with Disabilities Act (ADA) guidelines for all aquatic facilities by public health departments. Specifically prioritize equipment and facility design which provides access to water, such as aquatic lifts, to ensure equipment is not only accessible, but also functional and desirable.

