Today’s Presenters

Tessa Clemens, PhD
Health Scientist, Division of Injury Prevention
Centers for Disease Control and Prevention

Ashley Armour
Senior Health Educator
Florida Department of Health in Broward County
Webinar Agenda

Drowning Prevention: Statistics, Disparities, & CDC’s Efforts

Florida Department of Health in Broward County
Drowning Prevention Program

Questions & Answers
Drowning Prevention

Tessa Clemens, PhD
Division of Injury Prevention, CDC
MAHC Webinar, 2021
Agenda

Key facts and statistics
Racial and ethnic disparities in drowning death rates
CDC’s role in drowning prevention
Key facts and statistics
Drowning is a leading cause of death for children

All ages: 3,960 fatal drownings, 8,080 non-fatal drownings every year

Non-fatal drowning can result in long-term health problems
Drowning death rates by state, 2015–2019

- Overall, 1.23 drowning deaths per 100,000 population

- States with highest rates: AK, HI, LA, FL, MS

Drowning locations vary by age group

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infants &lt;1 year</td>
<td>bathtubs</td>
</tr>
<tr>
<td>Children 1-4</td>
<td>home swimming pools</td>
</tr>
<tr>
<td>People 15 and older</td>
<td>natural waters</td>
</tr>
</tbody>
</table>
Some people are at higher risk

- Children
- Males
- Some racial and ethnic groups
- People with certain medical conditions
Certain factors increase risk

- Not being able to swim
- Missing fences
- Lack of supervision
- Not wearing life jackets
- Drinking alcohol
Drowning can be prevented

- Learn swimming and water safety
- Build proper fences
- Supervise closely
- Wear a lifejacket
- Avoid alcohol
Don’t hyperventilate
Take precautions for medical conditions
Use the buddy system
Know the risks of natural water
Learn CPR

Drowning can be prevented
Racial and ethnic disparities in drowning death rates

During 1999–2019, a total of 81,947 unintentional drowning deaths occurred in the United States (1). Drowning is one of the three leading causes of unintentional injury death among persons aged <29 years and results in more deaths among children aged 1–4 years than any other cause except birth defects (2). Drowning death rates have decreased since 1990 (decreasing by 57% worldwide and by 32% in the United States) (3). However, because of racial/ethnic disparities in drowning risk, rates remain high among certain racial/ethnic groups, particularly American Indian or Alaska Native (AI/AN) persons and Black or African-American (Black) persons (4). To assess whether decreasing drowning death rates have been accompanied by reductions in racial/ethnic disparities, and to further describe these disparities by age group and setting, CDC analyzed U.S. mortality data during 1999–2019. The drowning death rate among persons aged <29 years was 1.3 per 100,000 population. The rate per 100,000 among AI/AN persons (2.5) and Black persons (1.8) was higher than among all other racial/ethnic groups and was 2.0 and 1.3 times higher than among White persons (1.2). Racial/ethnic disparities in drowning death rates did not significantly decline for most groups, and the disparity in rates among Black persons compared with White persons increased significantly from 2007–2013. Drowning death rates are associated with persistent and concerning racial/ethnic disparities. A better understanding of the factors that contribute to drowning disparities is needed. Implementing and evaluating community-based interventions, including those promoting basic swimming and water safety skills, among disproportionately affected racial/ethnic groups could help reduce drowning disparities.

National Vital Statistics System death certificate data from 1999–2019 were used to calculate unintentional drowning death rates and disparity rate ratios (RRRs) for persons aged <29 years. Crude death rates (per 100,000 population) were calculated using 1999–2019 U.S. Census bridge-race population estimates. Disparity RRs and their corresponding 95% confidence intervals (CIs) were calculated using White persons as the reference population (chosen because they represented the largest racial/ethnic group during the study period). RRs >1.0 indicate a higher drowning death rate in the specified group compared with White persons. Because of high interannual variability in drowning death rates, 5-year moving averages in rates and RRs were calculated to visualize temporal trends.

Unintentional drowning deaths were identified using the International Classification of Diseases, Tenth Revision underlying cause of death codes W65–W74, V90, and V92. Death rates and RRs were examined by setting (residences, swimming pool, etc.).
Drowning death rates globally

↓ 57% Worldwide

↓ 47% All high-income countries

↓ 32% United States

Racial and ethnic disparities in drowning rates

+ Previous MMWR (2014)* identified racial and ethnic disparities

+ 1999-2010: AI/AN persons’ rates 2x higher, Black persons’ rates 1.4x higher (vs. White persons)

+ Disparities greatest in swimming pools
  - Black children 5-19 years rates 5.5x higher (vs. White persons)

Methods

- Death certificate data 1999-2019
- Calculated death rates and disparity rate ratios (RRs)
- Joinpoint regression to describe trends
1999-2019: 34,315 drowning deaths among persons ≤29 years of age

Racial and ethnic disparities persisted
Drowning death rates, persons ≤29 years, US, 1999-2019

Drowning rates decreased overall

There was no significant decrease in AI/AN or Hispanic rates

The highest drowning rates were among AI/AN and Black persons
No change in AI/AN:White rate ratio

Black:White rate ratio increased from 2005 to 2019
Drowning death rates and RRss varied by age group

+ Disparities in AI/AN rates (vs. Whites) were present across all age groups
  - Highest among 25-29 years, followed by <1 year

+ Disparities in Black rates (vs. Whites) were present across all age groups except 1-4 years
  - Highest among 10-14 years, followed by 5-9 years
Disparities were present in all settings

+ The highest RRs occurred among black youth in swimming pools

+ Disparities in swimming pool deaths were also present in most age groups for Asian and Hispanic persons

+ Fatal drowning rates in natural water were highest among AI/AN persons
Racial/ethnic disparities persist

Limited research available on determinants of disparities

Having basic swimming and water safety skills can be beneficial in all settings
Conclusion

+ Drowning is preventable

+ Identification of factors contributing to disparities is necessary to inform interventions

+ Community-based interventions among disproportionately affected groups could help reduce disparities
CDC’s role in drowning prevention
What we do

+ Use data to describe impact
+ Identify and characterize risks
+ Inform prevention strategies
+ Provide technical assistance to states and other partners
+ Create and maintain partnerships to maximize impact
Improve and promote quality of drowning data and surveillance

+ Drowning syndromic surveillance definition

+ Partnering to improve data collection on the circumstances of child drowning deaths
Pilot and evaluate drowning prevention strategies

+ Partnering to understand barriers to participation in basic swimming and water safety skills training
  - Identify barriers to participation in communities at increased risk of drowning

+ Partnering to evaluate swim skills training programs
  - Understand how to most effectively teach young children water competency skills
  - Pilot swim skills training programs in communities with populations at increased risk of drowning
Drowning is preventable, yet it is a leading cause of injury-related death for children and young people.

There are racial and ethnic disparities in drowning death rates.

CDC is working to understand the problem and find solutions.
Thank you!

More info: www.cdc.gov/drowning tclemens@cdc.gov

The findings and conclusions in this presentation are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.
Florida Department of Health in Broward County
Drowning Prevention Program

Ashley Armour
Florida Department of Health in Broward County
Drowning Prevention Senior Health Educator
Drowning is the third leading cause of unintentional injury death worldwide, accounting for 7% of all injury-related deaths. ~World Health Organization

Research shows that the risk of drowning can be reduced by 88% if children participate in formal swim lessons.

A survey conducted by the American Red Cross in 2014 found that more than half of Americans either cannot swim or do not have all of the basic swimming skills.

Drowning is the number one cause of death among children aged 1 to 4 and the second-leading cause of death among teens. ~American Academy of Pediatrics
Drowning Prevention Program

Mission:
To protect children from drowning, aquatic related fatalities, and injuries by promoting safer water practices and strategic community-wide education to residents of Broward County

Vision:
To achieve and sustain zero drowning fatalities in Broward County
Drowning Prevention Program Goals

Goals:

#1 – Increase public awareness of risk factors that contribute to fatal and nonfatal drowning among children ages 1-4

#2 – Analyze available local drowning data to improve intervention programs

#3 – Integrate drowning prevention education into community-based organizations to reach and influence vulnerable populations

#4 – Create partnerships and provide training within the Broward County business community, encouraging them to educate and provide educational materials/resources to their customers
Meeting goals:

#1 – Increase public awareness of risk factors that contribute to fatal and nonfatal drowning among children ages 1-4

Educational presentations provided to PreK and childcare centers
Educating on the utilization of Broward County Resources
Parent and Caregiver trainings on common and unusual hazards, and preventative measures
Meeting goals:

#2 – Analyze available local drowning data to improve intervention programs

Collecting and analyzing data sources (via web, community meetings and connections)
Evaluate and disseminate data with our partners during DOH hosted Broward County Drowning Prevention Task Force meetings
Meeting goals:

#3 – Integrate drowning prevention education into community-based organizations to reach and influence vulnerable populations

Utilizing the Train the Trainer module to integrate prevention education to professionals in positions to influence target audiences

Example: Standing relationship with DCF’s ChildNet where we provide training to their staff in order to better educate and door alarms as a layer of water safety for their clients.
Drowning Prevention Program

Meeting goals:

#4 - Create partnerships and provide training within the Broward County business community, encouraging them to educate and provide educational materials/resources to their customers

Monthly Broward County Drowning Prevention Task Force meetings with community water safety leaders such as:

Water Smart Broward, public pool industry, parks and rec, first responders, YMCAs, Chambers, HOAs, Early Learning Coalition, etc.

Information is shared, task force members provide updates, and new ways to educate the community are discussed.
S.P.U.D.
Students Preventing Unintentional Drowning

NACCHO Promising Practice
Vision
To introduce water safety education to middle and high school students while enhancing the leadership advancement and character development of club members.

Mission
To promote the subject of water safety and drowning prevention by influencing classmates and the community throughout Broward County in hopes to improve the drowning issue.

Description
Students Preventing Unintentional Drowning (S.P.U.D.) is a teen Water Smart Ambassador club devoted to advocating on water safety. This club is designed to help address the awareness needs throughout Broward County and to allow for professional and leadership development among club members.
Steps:
• Schedule a meeting with school administrator
• Present SPUD folder with:
  • SPUD Recruitment letter
  • SPUD Work Plan with Sponsors
  • Agenda/Curriculum Break Down
• Confirm Sponsor for SPUD Club
• Confirm meeting place and dates
• Confirm Opportunities to recruit
SPUD Evolution

2017 / 2018 School Year:
• 8 Clubs Total
• 100+ club members

With:
• 15 meetings total for each club

2021/2022 School Year:
• Currently 15 SPUD Clubs
• 400+ club members

With:
• 15 meetings for each club
• Added “mental health check in day,” mid and end of year parties with certificates, recognition and cords for seniors
Highlights…Icebreaker Games
Highlight: Outreach
Highlight: Field Trip to Head Start Schools
Highlight: CPR and Career Day
• The goal for the SPUD program is to implement a club into each middle and high school in Broward County and one day maybe even make it a statewide program
• The SPUD program is something the drowning prevention team is very proud of
• Thank you for the NACCHO Model Practice recognition. It is truly an honor to be recognized at this level
Ashley Armour  
Florida Department of Health in Broward County  
Drowning Prevention Senior Health Educator  
[mailto:ashley.armour@flhealth.gov](mailto:ashley.armour@flhealth.gov)  
Water Smart Broward
Thank you for attending today’s webinar!
You will receive a follow-up email with the webinar recording and slides.