

Implementation of a Drowning Surveillance System for Ohio Public Pools

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The State of Drowning



In the U.S., 10 people die from unintentional drowning every day

In Ohio, drowning is a leading cause of unintentional injury deaths for children under age 15

In 2010, Ohio saw 93 drowning deaths, 36 hospitalizations, and 189 drowning-related emergency department visits

However, these statistics do not fully reflect the burden of drowning

Underreporting of drowning morbidity/mortality due to:

Variations in drowning-related terminology

Lack of reporting requirements and infrastructure

Inconsistent use of ICD-10 codes for drowning injuries



Gaps in the Data

ICD-10 codes W65-W74 identify the mechanism of drowning, but...

Drownings are often multifaceted

Where?

- About 17% of drowning deaths occur in pools
- Still, 27% of locations are “unspecified”

Why?

- Adults and children lack swimming ability
- Yet, even experienced swimmers are at risk


How?

- Physical measures are in place for prevention
- But, circumstances leading to a drowning are relatively unknown

Pilot Project

What did ODH do to address the problem?

- Initiated surveillance pilot project to better understand injuries and drowning incidents at public pools
- Developed Public Pool and Spa Injury Incident Report Form
- Piloted form with 23 Local Health Districts (LHDs) during 2015 outdoor swim season



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PUBLIC POOL AND SPA INJURY INCIDENT REPORT FORM

Please use one form for each injured person. **DO NOT include their personal information (e.g., name, address, phone number, etc.).** Should a reportable incident occur, complete the form, attach all required documentation, and submit to the local health district as stipulated.

- Within 24 hours of an injury, drowning, near drowning, or suction entrapment occurring at a pool or spa that results in death or requires resuscitation transfer/admission to a hospital;
- Within 72 hours of the owner's/operator's knowledge of the incident; and
- Every 3 months during operation or at the facility's season closure, a water rescue by aquatic safety personnel.

ATTN: Local Health Districts: Submit reports via mail, fax, or email to the address, fax number, or email indicated at the top of this form. Please direct questions to (614) 644-7438.

LHD Name: _____

FACILITY INFORMATION

Facility Name: _____ Facility Address: _____

City: _____ State: _____ ZIP: _____ Facility Phone: _____

Facility Type: Govt/City Pool Apartment/Condo Hotel/Motel Manufactured/Mobile Home Park School Camp Other: _____

DESCRIPTION OF INJURED PERSON

Age (years): _____ Sex: M F Resident County: _____

Race (check all that apply): White/Caucasian American Indian/Alaska Native Asian Hispanic/Latino Black/African American Native Hawaiian/Pacific Islander Other: _____

Ethnicity: Hispanic/Latino Non-Hispanic/Latino Other: _____

Was injured party: Employee Patron Other: _____

DESCRIPTION OF INCIDENT

Incident Date (mm/dd/yy): _____ Time of day: _____ Day of week incident occurred: _____

What happened? (attach additional sheets, if needed): _____

Location of Incident (check all that apply): Outdoor Facility Indoor Facility Main Pool Wading Pool Zero Entry Pool Therapy Pool Spa/Hot Tub Diving Board Slide Spray Ground/Splash Pad Other Water Feature: _____

Was the pool/spa open at time of the incident? Yes No Were lifeguards present? Yes No N/A Water depth of incident: _____ Number of swimmers/witnesses present during the incident: _____

Was the enclosure secured? Yes No # Lifeguards present: _____ (ft.) (in.)

Result of Incident:

Was there a water rescue? Yes No Was EMS called? Yes No

Was rescue breathing/resuscitation required? Yes No Did staff provide care or first-aid? Yes No

Was the Heimlich Maneuver required? Yes No Did injured person refuse care or first-aid? Yes No

Was the person immobilized? Yes No Did injured person return to water activity? Yes No

Was an AED Device used? Yes No Was injured person transported to a medical facility? Yes No

Was oxygen supplied? Yes No N/A

RESCUE EQUIPMENT USED:

Rescue Can Rescue Tube Ring Buoy Life Hook/Shepherd's Crook Other: _____ N/A

DESCRIPTION OF INJURY

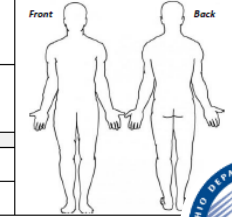
Type of Injury: Burn Bump/BruiSe Cut Puncture Scrape Dislocation Sprain Fracture Spinal Near Drowning Suffocation/Drowning Other: _____


Area Injured: Head/Neck Arm/Shoulder Leg/Hip/Knee Trunk/Torso Face/Eyes Hand/Wrist Foot/Ankle Back Other: _____

FORM COMPLETED BY

Name (print): _____ Contact Phone: _____

Position (e.g. pool operator, lifeguard, etc.): _____ Date: _____





Case Definitions

Drowning	Pool-Related Injury
Fatal Drowning	Mild Injury
Non-Fatal Drowning	Severe Injury

Survival of a drowning incident due to water rescue, resuscitation, and/or medical treatment by a trained medical professional

**Refers to incidents occurring while recreating or working at a pool or spa within a project-participating LHD jurisdiction*



Project Results: *Non-Fatal Drownings*

ODH received 85 reports of pool-related incidents from 9 of 23 pilot-participating LHDs, representing 18 licensed public swimming pools out of a possible 2,758

47 of 85 incident reports met the case definition for Non-Fatal Drowning

Who?

- Most victims were:
 - ✓ White (70%)
 - ✓ Male (77%)
 - ✓ 5-9 years of age (68%)

What?

- All incidents included water rescue (100%):
 - ✓ w/ Resuscitation (2%)
 - ✓ w/ Medical Tx (15%)

When?

- Incidents occurred:
 - ✓ June (40%) / July (49%)
 - ✓ Afternoon / evening hours of pool operation (94%)



Project Results: *Non-Fatal Drownings*

Did the project findings address the previously-defined gaps in the data?

Where?

- Most incidents occurred in outdoor pools (81%):
 - ✓ Main Pool (23%)
 - ✓ Diving Board (30%)
 - ✓ Slide Feature (17%)

Why?

- Water rescues indicated for:
 - ✓ Swimmers in distress (61%)
 - ✓ Patrons lacking swimming ability (28%)

How?

- Most reports (52%) missing information about enclosure
- Enclosure not secure at time of incident (2%)

Project Results: *Evaluation*

A survey was distributed to all pilot-participating LHDs for project feedback

Response Rate = 78%

- ✓ ***Simplicity*** → Almost all (90%) survey-responding LHDs indicated simple flow of the report form and relative ease of submission
- ✓ ***Usefulness*** → Most indicated that report forms were somewhat / very useful (52.6%)
- ✓ ***Acceptability*** → Most indicated interest in continued surveillance activities (88.9%)



Project Challenges

What were the most significant project barriers?

Liability Concerns

Completion Time



Lack of Authority

Unguarded Pools

Project Implications

Where do we go from here?

- Surveillance of public swimming pool-related incidents proved feasible and useful
- Data will help determine prevention strategies and necessary policy changes
- Surveillance efforts will be continued during summer 2016 and beyond

Update / Revise
Project Components

Explore Additional Data
Sources & Partnership
Opportunities

Recruit & Train Local
Health Districts for
Project Continuation

Implement Wave 2
Pilot for 2016 Outdoor
Swim Season



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Questions?

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