



Healthy and Safe Swimming Week *MMWR*:

Pool Chemical Injuries in Public and Residential Settings United States, 2008–2017

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WASH Webinar

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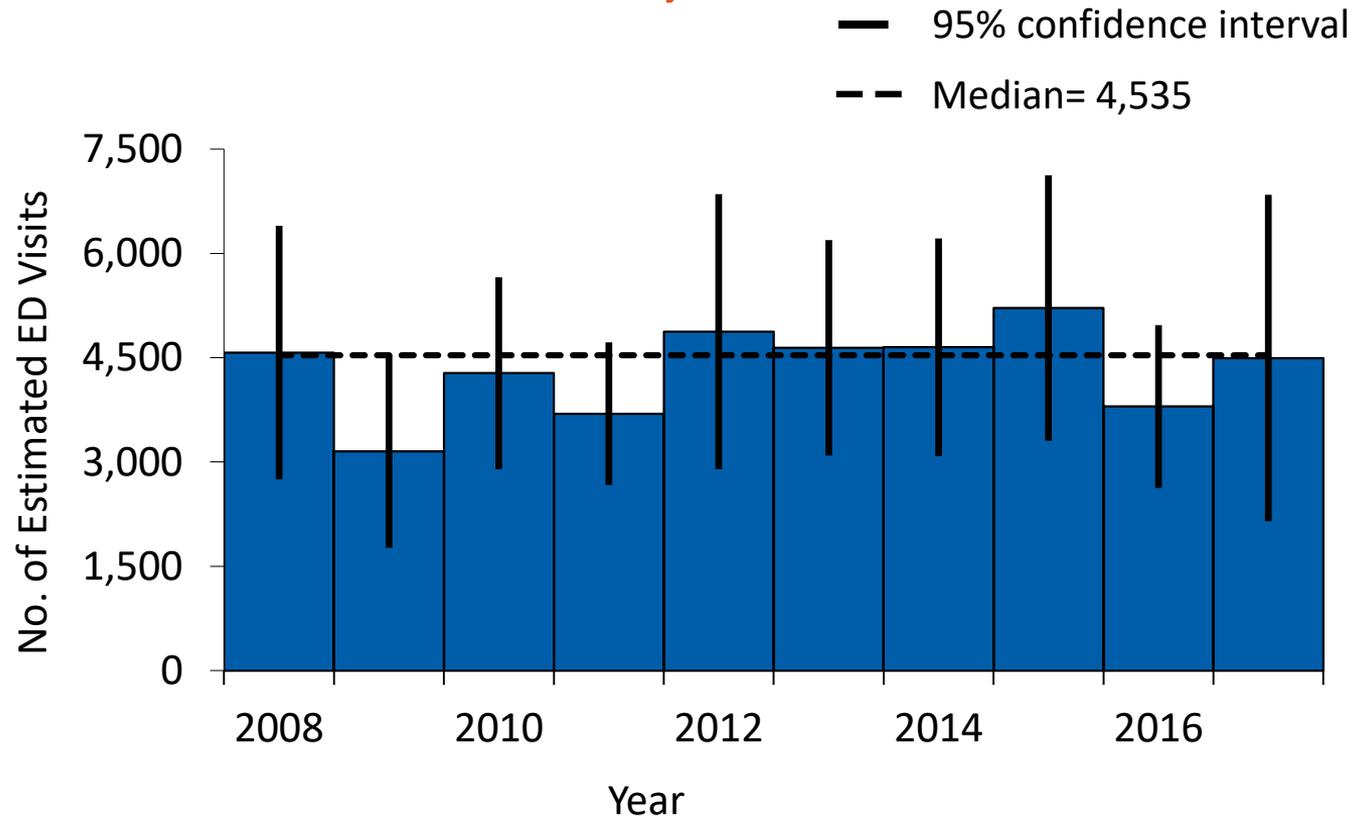
Dataset

- U.S. Consumer Product Safety Commission (CPSC): National Electronic Injury Surveillance System
- Nationally representative sample of ~100 U.S. hospitals
- Data collected on ED visits for injuries involving consumer products
- Variables:
 - Product code (pool chemicals = 938)
 - Patient age, sex, race/ethnicity
 - Injury diagnosis
 - Affected body part
 - Patient disposition
 - Incident location
 - Narrative

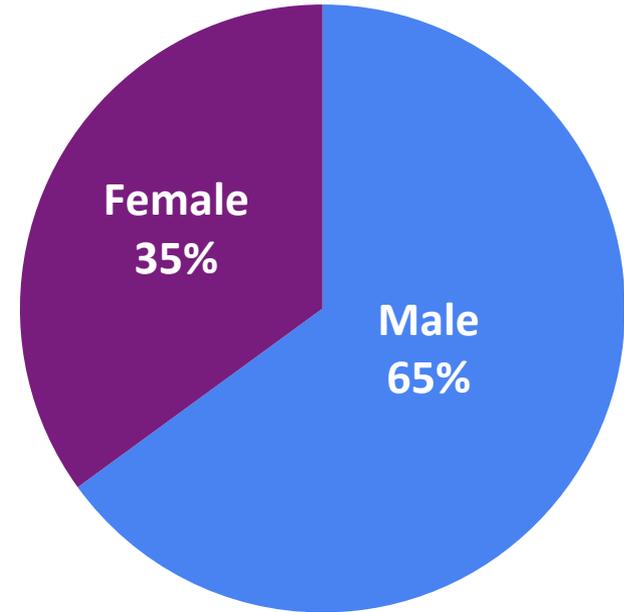
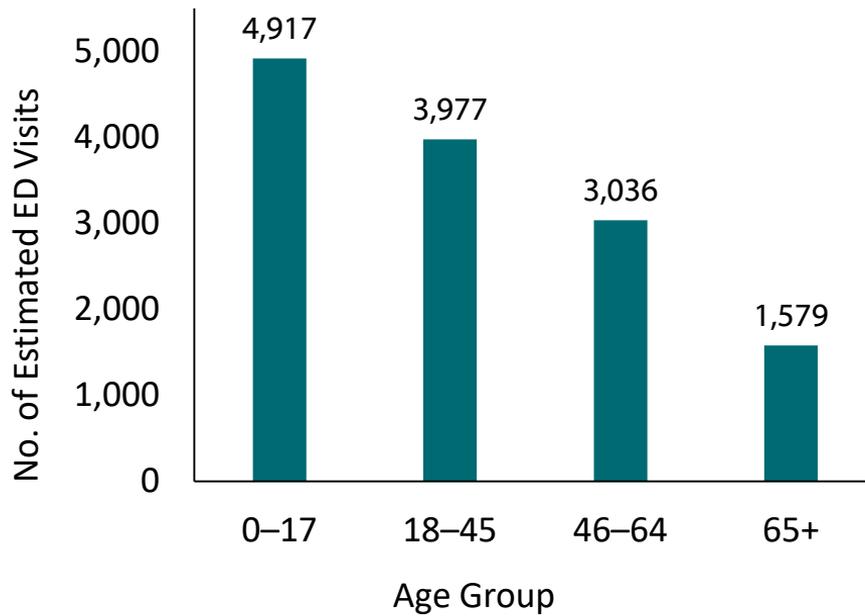
Methods

- Each case weighted based on the probability of the hospital being selected
- Weights summed to produce national estimates
- 95% confidence intervals calculated according to CPSC's direct variance method (accounts for complex sampling design)
- SAS 9.4 used to analyze data

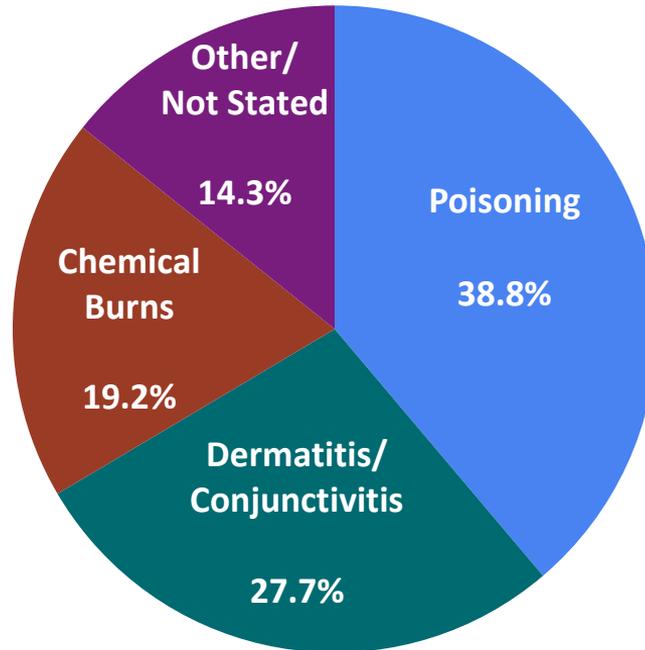
Estimated Number of ED Visits for Pool Chemical Injuries — United States, 2008–2017



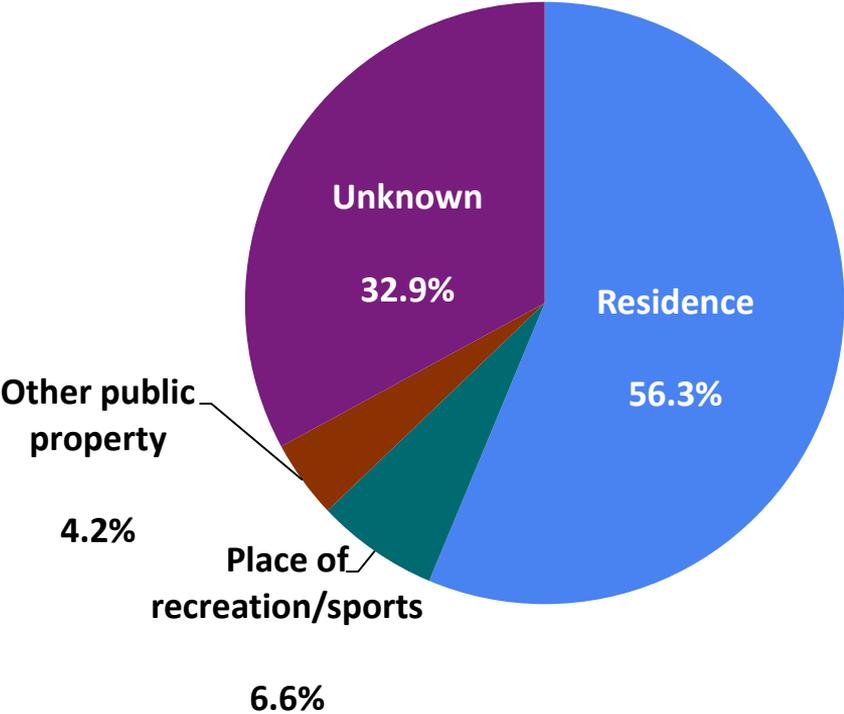
Patient Demographics — United States, 2015–2017



Pool Chemical Injuries — United States, 2015–2017



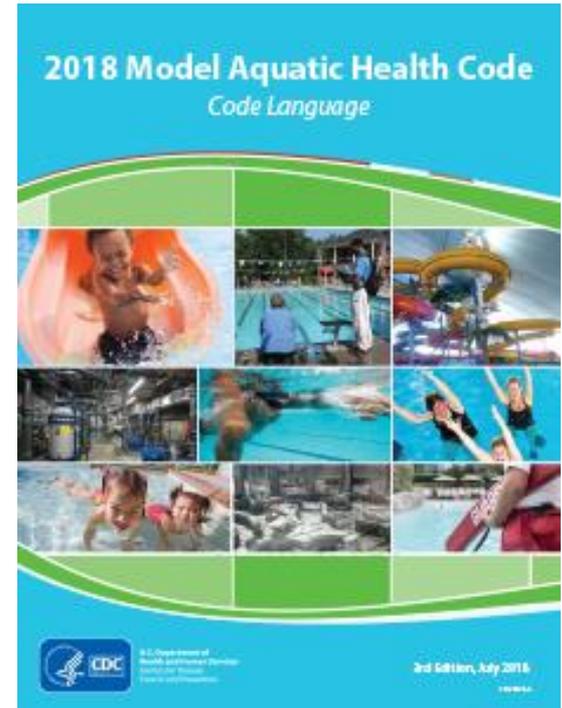
Pool Chemical Injuries by Incident Location United States, 2015–2017



When incident location was known, **83.8%** of injuries occurred at residence

Model Aquatic Health Code (MAHC)

- Guidance local/state jurisdictions can voluntarily adopt to prevent injury & illness at public pools, hot tubs/spas, and water playgrounds
 - Guidance to prevent pool chemical injuries, including pool operator training and engineering
- **NEW** Mini-MAHCs: pool chemical safety, toxic chlorine gas events (<https://www.cdc.gov/mahc/editions/current.html>)
- MAHC change requests can be submitted through Jan. 6, 2020



Pool Chemical Safety Resources

- [CDC Pool Chemical Safety webpage](#)
- [State-based Resources](#)
- [Preventing Unintended Chemical Injection Video](#)
- [Pool Chemical Safety video](#)
- [FREE Pool Chemical Safety Posters](#)

POOL CHEMICAL SAFETY: USE
PROTECT YOURSELF AND SWIMMERS FROM THE THOUSANDS OF PREVENTABLE INJURIES THAT OCCUR EACH YEAR

BEFORE YOU USE POOL CHEMICALS

- Get trained in pool chemical safety (for example, during operator training course)
- Ask for help if you are NOT trained for specific tasks
- Read entire product label or Material Safety Data Sheet (MSDS) before using
- Learn your pool's Emergency Chemical Spill Response Plan and practice steps (for example, evacuation)

USING POOL CHEMICALS SAFELY

- Dress for safety by wearing appropriate safety equipment (for example, safety goggles, gloves, and mask)
- Read chemical product label before each use
 - Handle in a well-ventilated area
 - Open one product container at a time and close it before opening another
 - Minimize dust, fumes, and splashes
 - Measure carefully
- Never mix
 - Chlorine products with acid; this could create toxic gases
 - Different pool chemicals (for example, different types of chlorine products) with each other or with any other substance
- Only pre-dissolve pool chemicals when directed by product label
 - If product label directs pre-dissolving, add pool chemical to water; NEVER add water to pool chemical because violent (potentially explosive) reaction can occur

Always respond to pool chemical spills immediately. Follow your pool's Emergency Chemical Spill Response Plan, and be sure to contact the proper authorities and management.

Pool Address and Phone Number:
Emergency Response Phone Number:
Local Health Department Phone Number:

For more information about the safe use of pool chemicals, check your pool safety plan or visit www.cdc.gov/nceh/ehp/ehp11n1g

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

