

# Pool Code Adoption and Enforcement in Local Jurisdictions: Model Aquatic Health Code



## Introduction

Recreational water activities provide ways for Americans to get the physical activity and recreation necessary for a healthy life. Adults and children swim hundreds of millions of times in pools, hot tubs, and spas each year and most people have a safe and healthy time enjoying the water. However, swimming in public pools or other aquatic facilities that are not clean or safe can lead to drowning, injury from pool chemicals, or waterborne illness. Health department leaders and staff should be aware of the following:

- Outbreaks of recreational water illnesses have increased significantly over the last several decades.
- Drowning is a leading cause of unintentional injury-related death for children ages 1–14, second only to motor vehicle crashes.
- Injuries from pool chemicals account for almost 5,000 emergency department visits each year.

Additionally, recent studies have shown that during routine inspections up to one in eight (12%) of public pools and one in nine (11%) of public spas were closed due to pressing health issues.<sup>1</sup> Public pools and spas must be designed, constructed, operated, and inspected to keep swimmers healthy and safe. In the United States, no federal regulatory agency is responsible for aquatic facilities. As a result, most pools and spas are regulated at the state or local level; 68% of local health departments (LHDs) have public pool inspection programs.<sup>1</sup>

## How the MAHC Can Help

To assist state and local health departments, the Centers for Disease Control and Prevention (CDC) developed the Model Aquatic Health Code, which integrates the latest knowledge and best practices in preventing recreational water illnesses, drowning, and chemical poisoning.<sup>2</sup>

The MAHC includes specific code language and explanatory materials covering the design, construction, operation, and maintenance of swimming pools, spas, hot tubs, and other public disinfected aquatic facilities.

As a result, local and state agencies needing to create or update swimming pool and spa codes, rules, regulations, guidance, laws, or standards can now use the MAHC as a resource to improve health and safety while conserving valuable time and resources previously used to write or update code language.

## Background

The National Association of County and City Health Officials (NACCHO) is working with the CDC to understand the adoption and enforcement of pool codes by LHDs. As part of this assessment, NACCHO interviewed nine LHDs across the nation. The assessment will inform the CDC and NACCHO of challenges, strategies, and resources related to the adoption and enforcement of pool codes, including the MAHC, in local jurisdictions.



NACCHO specifically sought to do the following:

- Identify best practices, technical assistance needs, and tools to support the adoption of the MAHC;
- Better understand issues, successes, and challenges that health departments anticipate with the potential adoption of the MAHC; and
- Identify best practices and technical assistance needs of local environmental health programs so that future NACCHO and CDC guidance documents, tools, and other resources reflect local needs.

## Methods

From February to May 2015, NACCHO conducted key informant interviews with nine LHDs regarding pool code adoption and enforcement. The LHDs interviewed represent diverse jurisdictional, organizational, and management structures. NACCHO also selected several respondents based on their responses to a question that asked about their level of awareness of the MAHC in a study conducted by NACCHO and Axiall, *Looking for Trouble: Seeing Eye to Eye with Health Inspectors: A Report on U.S. Aquatic Venue Inspections, Findings, and Recommendations*.<sup>3</sup> NACCHO ensured that health departments with varying levels of familiarity with the MAHC were included in the interview.

NACCHO developed the standard key informant interview questions. In addition, an intern conducted research and developed site-specific questions for each LHD interviewed. Questions were finalized and organized into the following topic areas:

- General background information about the health department;
- Local pool code;
- Adoption of MAHC;
- Recreational water illnesses and injuries; and
- Jurisdiction-specific questions.

*The majority of the respondents stated that they or their state planned on using the MAHC in some capacity in revising the pool code. Most planned to use the MAHC in part, while some may adopt the MAHC in whole and modify pieces of it.*

## Results

### Response to Illnesses and Injuries

In response to recreational water-related illnesses and injuries, respondents typically provided additional education to the public and industry, additional trainings to staff, or revised inspection requirements and forms to clarify regulations. In response to drownings, health departments were often asked to provide the pool facilities' documentation and inspection reports for legal proceedings.

### Pool Closures

The percentage of inspections that resulted in a pool closure ranged from 3.6% to 50% among the respondents. The majority of pool closures were the result of chemical levels, sanitation, and safety, including improper levels of chlorine, pH, stabilizer, and other water chemistry; issues with filtration and recirculation; licensure sanitation issues; and malfunctioning filtrations units, broken main drain grates, hazardous debris around pool facilities, electrical hazards, and lack of fire extinguishers on site.

### Overview of Pool Codes

Seven of nine respondents were required to adopt their states' pool code. In general, the health departments participated as stakeholders with industry and others to adopt and revise the pool code, regardless if the code were a state or local code. All but one respondent had updated their pool codes within the last 11 years; most planned on revising the code in the next couple of years.

### Training for Pool Operators and Owners

The respondents reported varied requirements for training for pool operators, ranging from requiring certification from a nationally recognized training organization to requiring training if their facilities had poor violation records. A few respondents offered voluntary certified pool operator courses through their departments and other pool training opportunities such as basic pool operation workshops and seminars.

### Issues with Current Processes and Policies

For many respondents who had adopted their states' pool codes, any revisions to their local pool ordinance first had to be authorized through the state. In some instances, the process made it difficult to ensure that pool codes were keeping pace with changes in design, contraction, operation, and maintenance of aquatic venues. In some cases, communication between state and local pool regulations were out of sync. Additionally, many respondents felt that more practical and location-specific training should be available for pool operators.



## MAHC Adoption

The majority of the respondents stated that they or their state planned on using the MAHC in some capacity in revising the pool code. Most planned to use the MAHC in part, while some may adopt the MAHC in whole and modify pieces of it.

## MAHC Concerns

The respondents were asked if they had any concerns with the MAHC. A top concern was that health departments were unsure whether they would be able to implement and enforce regulations as extensive as the MAHC because the MAHC was much larger and more comprehensive than their current regulations. Many respondents stated that they would need extra resources and time to develop an education program for industry, pool owners, and pool operators about the MAHC. Additionally, the process to adopt the MAHC would be very difficult to achieve without additional funding because many health departments face budget limitations.

Respondents also stated that they thought adopting the MAHC would be in the best interest of public health, but they faced obstacles such as the requirement to adhere to state pool codes. In addition to obtaining support from state health departments, LHDs would need to generate support from various stakeholders that play a role in revising the pool code. These stakeholders need assurance that the MAHC would not be more burdensome than the current regulation; additional regulations are often viewed as a barrier to economic development or a restriction to private businesses.

## MAHC Benefits

The respondents described a variety of benefits that they associated with MAHC adoption. The most commonly stated advantage was that adopting the MAHC would benefit public health since the model code provides evidence-based best practices. Another benefit stated was that the MAHC provides nationwide standardized inspection reports and the opportunity to compare programs across states and regions. The MAHC would also standardize the requirements for construction, operation, and maintenance of public pools, which would benefit the industry and regulators.

Respondents also noted that the MAHC could be used as a reference for developing proposed code amendments or conducting research for variance requests to the current water recreational facilities ordinance. LHDs could also opt in and out of various sections within the model code to develop a practical code for their jurisdictions. The MAHC would also produce more compliant pools and decrease the number of pool closures and re-inspections because the model code requires more training for all pool staff and operators than current pool codes.

## MAHC Adoption: Resource Needs

One purpose of the interviews was to identify resources that LHDs would need to adopt the MAHC in their jurisdictions. Such resource needs include the following:

- Support in educating stakeholders and public (e.g., pamphlets, stock presentations, short videos, expert guest speakers);
- Support in training staff and industry;
- Lobbying and advocacy resources;
- Mentorship program that would put health departments in touch with a network of peers that have already gone through the process and others who are in similar stages of implementation;
- Toolkits or repository of example forms;
- Funding to help local jurisdictions adopt the MAHC;
- Search engine for the MAHC website;
- Digitalizing the MAHC to be compatible with local jurisdictions' inspection systems;
- Examples of pool codes or case studies from other health departments that have had similar experiences incorporating the MAHC into pool code;
- CDC-supported technical training for local pool inspectors;
- CDC-sponsored workshop for health departments that are considering adopting the MAHC; such a workshop could help health departments to move forward and generate support at the local level by elevating the MAHC's importance and relevance to local governments; and
- Supporting documentation and testimony to get the MAHC approved at the state level.

# [RESEARCH BRIEF]

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## References

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2. Centers for Disease Control and Prevention. Model aquatic health code. Available at <http://www.cdc.gov/healthywater/swimming/pools/mahc/>
3. National Association of County and City Health Officials. (2014). *Looking for Trouble: Seeing Eye to Eye with Health Inspectors: A Report on U.S. Aquatic Venue Inspections, Findings, and Recommendations*. Available at <http://eweb.naccho.org/prd/?na619pdf>

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**FOR MORE INFORMATION, PLEASE CONTACT MAHCNET@NACCHO.ORG.**

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1100 17th St, NW, 7th Floor Washington, DC 20036

P 202-783-5550 F 202-783-1583

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