

Stories from the Field: Aquatic Health & Safety Pilot Program



Strengthening Pool Codes and Use of the Model Aquatic Health Code in Local Jurisdictions

Background

Swimming and other water-related activities can play a major role in maintaining a healthy lifestyle. Some of the many benefits of swimming include preventing chronic illnesses, improving health for people with diabetes and heart conditions, improving mental health, and providing a safe way for older adults to participate in aerobic exercise.¹ However, water-based activities are not without risk: chemical-related injuries, outbreaks from recreational waters, and drowning continue to occur. Almost 500 recreational water illness outbreaks were reported between 2000 and 2014, and drowning is the fifth leading cause of unintentional injury and death in the United States.^{2,3}

To prevent and reduce recreational water-associated illnesses and injuries, pool codes are developed to provide rules and regulations for designers, builders, and managers of public aquatic facilities. With no federal authority charged with monitoring or regulating pool codes, state and/or local governments are responsible for the development, approval, review, and enforcement of regulations pertaining to aquatic facilities. Consequently, standards and processes related to pool codes vary greatly between jurisdictions. To help state and local authorities regulate public aquatic facilities, the Centers for Disease Control and Prevention (CDC) developed a voluntary guidance document based on science and best practices called the Model Aquatic Health Code (MAHC).

The Model Aquatic Health Code

The Centers for Disease Control and Prevention released the first edition of the Model Aquatic Health Code (MAHC) in 2014 to assist local and state governments in regulating public aquatic facilities. The MAHC — which is updated every three years to include the latest science and information — contains guidelines and best practices, which jurisdictions can voluntarily adopt partially or fully when developing or updating pool codes. This resource can streamline the process of pool code updates by providing a national standardized set of guidelines.

In 2016 and subsequently in 2019, the National Association of County and City Health Officials (NACCHO) conducted a study to assess the status of local pool codes in the United States, and to understand the processes and barriers local jurisdictions face in updating their codes.^{4,5} The main results from this latest assessment showed:

- The authority of local public health agencies to update pool codes varies extensively, with the majority required to keep rules at least as strict as that of their state;
- Pool code updates often lack set schedules, and they require complex legislative processes that involve local/state agencies and stakeholders;
- The main barriers preventing local jurisdictions from updating their pool codes include length and time of the process, cost, staff bandwidth, and competing interests of stakeholders; and
- Recreational water-related injuries and drownings were commonly reported as popular drivers of pool code updates.

Aquatic Health and Safety Pilot Program

Recognizing that local health departments frequently lacked dedicated resources for maintaining and updating pool codes, NACCHO, with the support of CDC, launched the Aquatic Health and Safety Pilot Program in 2020. This program aimed to assist local health departments to review, revise, and strengthen aquatic health codes by examining how the MAHC can help address needs and gaps. The Aquatic Health and Safety Pilot Program provided funding and expertise to two local health departments: the Cuyahoga County Board of Health in Ohio and the City of Kansas City Health Department in Missouri. This project encouraged both sites to engage with local stakeholders throughout this process to advance pool code updates, and utilize CDC's 2018 3rd Edition MAHC as a resource.

Cuyahoga County Board of Health

Through funding from the Aquatic Health and Safety Pilot Program, the Cuyahoga County Board of Health (CCBH) aimed to compare the current and proposed

Ohio pool code from the 2014 rule review with the MAHC, and develop a draft action plan to address the gaps between Ohio's pool codes and the MAHC. This action plan would subsequently be shared with the Ohio Rule Advisory Committee for consideration when the Committee convenes to review the state's current pool codes.

Cuyahoga County, OH

www.ccbh.net

Located in Northeastern Ohio, Cuyahoga County encompasses the city of Cleveland, and is the second most populous county in the state. The Cuyahoga County Board of Health (CCBH) serves 58 cities, villages, and townships. In 2019, CCBH licensed 618 public aquatic facilities.



State of Pool Codes

In Ohio, the state government is responsible for developing and maintaining pool codes, while local governments are given the authority to enforce the codes. The Ohio Rule Advisory Committee, represented by organizations and industries affected by pool codes, is required to meet every five years to conduct a review of the pool codes. The last revision to the Ohio pool codes was made effective in 2011. In 2014, a proposed rule was developed using the MAHC as a guidance document but it was not approved by the Ohio Rule Advisory Committee and never took effect.

CCBH utilized the funding to hire a local consultant – Northeast Ohio Aquatic Consulting & Training, LLC – to serve as the subject-matter expert for Ohio's pool codes. The consultant conducted an extensive side-by-side comparison of the Ohio pool codes and the MAHC to determine gaps in the state's pool codes, and to identify opportunities for updates. The consultant also collected feedback from stakeholders by virtually convening the Northeast Ohio Aquatics Roundtable, a group managed by Northeast Ohio Aquatic Consulting & Training, LLC. Pool operators, managers, suppliers, and contractors make up this stakeholder group, representing multiple perspectives when updating pool codes. In addition to soliciting their input, this roundtable also enabled CCBH and the consultant to convey information about the MAHC and how updates would be beneficial.

After undergoing this review, CCBH determined that the Ohio pool codes lacked specificity in several topics when compared to the MAHC. Major items that were not covered in Ohio's pool codes included:

- **Float and sensory deprivation tanks.** Ohio's current pool codes do not offer regulation on these unique aquatic venues. The MAHC provides guidance to support CCBH in drafting regulations for flotation tanks;
- **Underwater shelves and benches.** As the design and features of aquatic venues become more complex, state and local governments can turn to the MAHC for guidance on best practices and up-to-date scientific data to inform pool code updates;
- **Qualified operator training.** Ohio's pool codes currently contain minimal content regarding training for operators. CCBH is using

information from the MAHC to add more content to their draft action plan; and

- **Maximum capacity.** This topic raised many questions in 2020, with aquatic facilities having to limit bather capacity in accordance with the novel coronavirus disease (COVID-19) safety regulations. In order for venues to enforce "25% capacity," or "50% capacity," Ohio's pool codes need to be updated to include specific requirements.

The Northeast Ohio Aquatic Consulting & Training, LLC and CCBH have seats on the Ohio Rule Advisory Committee, which is tasked with reviewing Ohio's pool codes on a five-year basis. During the upcoming review process, CCBH will propose updates to the Ohio pool codes based on their draft action plan developed through funding and expertise from NACCHO's Aquatic Health and Safety Pilot Program. The Ohio Rule Advisory Committee began the most recent review of pool codes in late 2020 and expects to complete the review process toward the end of 2021. By implementing these updates within Ohio's pool codes, CCBH hopes to ensure that aquatic facilities in their county, and the greater state of Ohio, remain safe and healthy environments for community members to enjoy.



City of Kansas City Health Department

The City of Kansas City Health Department (CKCHD) aimed to use NACCHO's Aquatic Health and Safety Pilot Program to assess the state of their pool codes, identify gaps and areas of improvement, and draft an updated ordinance. Given the MAHC is one of the most comprehensive guidance documents for aquatic facilities since Kansas City's last pool code update, the CKCHD aimed to use it as a resource in their assessment and final ordinance update.

After familiarizing themselves with the MAHC, CKCHD staff created a spreadsheet to compare the MAHC to their current set of pool codes. Using the MAHC Annex, they were able to add scientific and public health rationale to validate potential updates. Before drafting an updated ordinance, CKCHD considered the pros and cons of each update from the perspectives of swimmers, pool operators, permit holders, and regulatory authorities. With a detailed understanding of the burden(s) that would be placed on stakeholders with each potential update, CKCHD prioritized updates that would address their unique local needs. Their proposed updates are:

- **Proposing changes to existing requirements.** CKCHD has proposed updates to existing regulations, such as pool slope requirements, minimum height for pool enclosure fences, and maximum capacity. These updates will align Kansas City's pool codes with the MAHC recommendations;
- **Adding more specific requirements to existing items.** The design and location of features like stairs, handrails, and depth markers lacked specific requirements. Using the MAHC's recommendations, CKCHD is proposing more detailed specifications; and
- **Proposing new requirements.** After comparing with the MAHC, CKCHD identified several requirements that were missing from Kansas City's pool codes. Upon considering the pros and cons of each item, CKCHD selected 11 items to be included as proposed updates, including the prohibition of single outlets for main drains, mandating diaper changing stations, and requiring facilities to have marked safety lines on pool floors and walls at a depth of five feet.



Kansas City, MO

www.kcmo.gov/city-hall/departments/health

Kansas City is the largest city in Missouri by both population and area and is uniquely located on the Kansas-Missouri state line.



State of Pool Codes

In Kansas City, the local government has the authority to review and adapt pool ordinances based on local needs. Kansas City does not have a set schedule for pool code updates. The current edition of Kansas City's pool code was adopted in 2014. As the lack of a statewide pool code presents the potential for inconsistencies, Kansas City works with neighboring jurisdictions to compare pool codes and increase uniformity throughout their region.

collaboratively on their pool code updates using the MAHC, strengthening their ability to inform and impact local authorities.

Conclusions and Recommendations

The Cuyahoga County Board of Health and City of Kansas City Health Department serve as model examples for how health departments can utilize the MAHC as a resource to keep their pool codes up to date with the latest science- and evidence-based practices. CDC is scheduled to publish the 4th Edition of the MAHC in summer of 2021. In addition to using the MAHC, recommendations for jurisdictions updating their pool codes include:

1. Engage and inform stakeholders, including decision makers;
2. Join NACCHO's MAHC Network (www.naccho.org/mahc) for education and training opportunities;
3. Take advantage of CDC's tools and resources (www.cdc.gov/mahc) including the smaller and succinct Mini-MAHCs, MAHC-based model inspection forms, a free aquatic inspector app, and a code comparison tool; and
4. Engage with the Council for the Model Aquatic Health Code (cmahc.org).



Through this process, CKCHD has successfully drafted an updated pool code ordinance. For approving this updated ordinance, buy-in from other stakeholders and approval from city departments will be required. Although challenging, the evidence-based rationale provided by the MAHC will help staff at CKCHD to demonstrate the benefits of an updated ordinance with the city's division management. By participating in this project, CKCHD has also been able to provide guidance to neighboring jurisdictions and plan to work



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The mission of the National Association of County and City Health Officials (NACCHO) is to improve the health of communities by strengthening and advocating for local health departments.

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