Welcome to the Model Aquatic Health Code Network Webinar

Aligning Inspections with the MAHC:
Introducing CDC’s New App, Aquatic Inspector
Featured Presenter: Jasen Kunz, MPH, CDC National Center for Environmental Health

Thank you for your interest and attendance!

Please use your computer speakers to listen to today’s presentation

Due to the number of attendees, please only submit questions and comments via the chat box

We will begin at 1:00 PM Eastern
Updates from NACCHO

Next Webinar: May 2018
  • Healthy and Safe Swimming Week
  • Join the MAHC Network today! Email your request to MAHCnet@naccho.org

Ongoing survey evaluation of MAHC Webinar Series
  • We want your feedback!
  • To give your opinion, sign up to be part of the MAHC Network

Technical Assistance in Vector Control
  • Applications open this week!
  • Follow @NACCHOalerts on Twitter for more information
  • Visit https://www.naccho.org/programs/environmental-health/hazards/vector-control to apply!

Model Aquatic Health Code Network (MAHC) Webpage
  • Archived webinars & MAHC resources
MAHC NETWORK
March 27, 2018
CMAHC UPDATES

Douglas Sackett
Executive Director
Council for the Model Aquatic Health Code
CMAHC UPDATES
Committees

- New committees established
  - Annex Revision and Update *Standing Committee*
  - Indoor Aquatic Facility Ventilation Design and Air Quality *Ad Hoc Committee*

- Additional committees planned
  - CMAHC/APSP *Standing Committee*
  - Spray Ground/Spray park (Interactive Water Venue) Design *Ad Hoc Committee*
  - Pool Shell Design *Ad Hoc Committee*
Annex Revision and Update Standing Committee

Objectives and Outcomes

- Expand and improve the science- and evidence-based language in the Annex that is key support for MAHC adoption and MAHC users.
  - Review the MAHC Code and Annex to determine if existing Annex content needs updating and, where no Annex information is provided, if content is needed.
  - Identify subject matter experts to update and/or write new Annex sections.
  - Manage completion of Annex language by subject matter experts.
Indoor Aquatic Facility Ventilation Design and Air Quality Ad Hoc Committee

- Objectives and Outcomes
  - Identify and assess the factors affecting air quality at indoor aquatic facilities, including:
    - Air handling/air distribution system design, effectiveness, and operation
    - Water quality/water chemistry
    - Pool water treatment operation and maintenance
    - Pool types (flat water, agitated water, water features, hot water)
      - Evaporation rate calculation.
    - Bather load
    - Spectator areas
CMAHC UPDATES
Committees

- **Indoor Aquatic Facility Ventilation Design and Air Quality Ad Hoc Committee**
  - Objectives and Outcomes (continued)
    - Review and evaluate current Model Aquatic Health Code (MAHC) requirements to determine if identified factors affecting air quality are adequately addressed.
    - Develop revisions to the MAHC design and operational standard/best practice recommendations and corresponding Annex content to address ventilation/air quality design and operational criteria, as appropriate.
MAHC MEMBERSHIP

- All 2015-2017 memberships expired on Nov. 19, 2017
- To renew:
  - Go to the membership sign-up form at https://cmahc.org/membership-signup-form.php
    - can also be found by clicking on the “Join, Sponsor, and Get Involved” button on the Home page
    - click on “Become a Member”
    - next click on “Sign up using our secure form”
    - If you have been a member, at the top of the form check the “Check if Renewal” box
    - When prompted, fill in your email address and password
    - enter payment information and click on “Submit Membership”
Contact Information

Doug Sackett
Executive Director, CMAHC
DouglasSackett@cmahc.org
Phone: 678-221-7218
MAHC
More Information: Search on “CDC MAHC” or visit the Healthy Swimming MAHC Website: www.cdc.gov/mahc
Email: mahc@cdc.gov

CMAHC
More Information: Search on “CMAHC” or visit the CMAHC Website: www.cmahc.org
Email: info@cmahc.org
Introducing Aquatic Inspector
A CDC iPad App to Streamline Pool Inspections

Presented by:
CDR Jasen Kunz, MPH

MAHC Network Webinar March 27, 2018
INTRODUCTION
Background

- 68% of local health depts regulate, license or inspect recreational water including public pools (NACCHO, 2016)
- Environmental health practitioners prevent illness and injuries at aquatic facilities through inspections and code enforcement
2/3 of adults, who regularly participate in aquatics or whose children do, don’t know that they can ask for inspection scores for individual public aquatic venues (Hlavsa et al., 2014)

Posting inspection scores online and on site can increase public awareness and help the public determine which facilities to use
The Power of Inspection Data

- Environmental health programs can help direct enforcement (e.g., risk-based inspections) and education efforts by using inspection data to
  - Monitor trends in violations, closures, and out-of-range readings overall and by specific pool settings (e.g., hotel, waterpark) and venues (hot tub/spa vs. pool)
  - Measure the impact of the aquatic inspection program on reducing violations and closures
Standardized Approach to Inspections

- Inspector training is critical to conducting a standardized inspection (MAHC Inspector Training coming soon!)
- Using a model inspection form is key to analyzing inspection data (MAHC Model Inspection Form)
- Aquatic Inspector puts the MAHC Model Inspection Form at your fingertips
PROJECT GOALS
Standardized Approach to Inspections

- Use evidence-based MAHC guidance, Inspection Form and Cross-Reference Guide to conduct inspections
- Streamline inspections and save time
- Analyze inspection data to drive decision making
What tools are you currently using to conduct aquatic inspections?
Aquatic Inspector Design

- Based on the MAHC Model Inspection Form, and Marking Guide (coming soon!)

### Model Aquatic Health Code Aquatic Facility Inspection Report

<table>
<thead>
<tr>
<th>Item</th>
<th>Descriptions (bold = critical violation)</th>
<th>Points</th>
<th>IN</th>
<th>OUT</th>
<th>N/A</th>
<th>N/O</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Enclosure: fencing, walls, gates, and doors in good repair</td>
<td>10</td>
<td>✓</td>
<td></td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Self-closing/self-latching gates or doors operational</td>
<td>10</td>
<td></td>
<td>x</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Protected overhead electrical wires/GFCI electrical receptacles</td>
<td>10</td>
<td>x</td>
<td></td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Grab rails, ladders secured; shell, deck in good repair</td>
<td>5</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>

95% Score

A Letter Grade
Benefits of Aquatic Inspector

Unlike a paper form, Aquatic Inspector allows users to

- Seamlessly access the full MAHC for reference to ensure consistent marking
- Easily attach photos to reports
- Copy facility and venue information within an inspection
- Validate fields to ensure they’re entered correctly
- Store reports for future use
- Email reports on-site (need cellular connection)
HUMAN-CENTERED DESIGN
Human-Centered Design

Involving end-users (your audience) in the design and development of a product, message, or campaign
Aquatic Inspector and Human-Centered Design

- **Technical expertise** from CDC
- **Tips and feedback** from local pool inspectors
- **Usability testing** with pool inspectors
- **Listening session** with aquatic health managers
- **Feedback** based on app use after launch
Launch, home screen, start an inspection, add facility information
Video 1
Facility: choose, edit, add new

View all facilities in the menu
Video 2
Video 3

All venues
Video 4

Pool/Spa: Venue 1
### Pool/Spa Area

- **IN = in compliance**
- **OUT = out of compliance**
- **N/A = not applicable**
- **N/C = not observed**

*Critical violation: an imminent health hazard requiring immediate correction or closure*

<table>
<thead>
<tr>
<th>Item</th>
<th>IN</th>
<th>OUT</th>
<th>N/A</th>
<th>N/C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enclosure: fencing, walls, gates and doors in good repair</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Grab rails, ladders secured, shell, dock in good repair</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Float/safety line clearly present</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;Depth&quot; &amp; &quot;no diving&quot; markers; stair strips, in good repair and visible</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Flow meter present and operating</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pump: Failure to have all components of the recirculation system kept in operation (24 hours per day)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Recirculation pump: approved, good repair, operating*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>MAHC Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>IN</td>
<td></td>
</tr>
</tbody>
</table>
Pool/Spa: Venues 2 and 3 and preview form
Video 5
Video
6
Water chemicals and water quality preview table
Video 6
Other tabs, form filled in for all venues
Video 7
New inspection with choose and add facility
Video 8

Aquatic Inspector

New Inspection Form

Inspections In Progress

Holiday Inn 12/14/2016

City Pool 13/14/2016

Inspections Previously Completed

Generate Summary Report
How To Use This App

How to Use This App

Welcome to the Model Aquatic Health Code App.

This app can help you complete and store Model Aquatic Health Code (MAHC) Inspection Reports quickly and easily. The MAHC form in this app is just like the paper form — and the full MAHC is available and fully searchable, too.

- On the Basics tab, you’ll be asked to fill in information about the facility, agency, and inspection. After you’ve completed these fields once, facility and agency information will fill in automatically on future forms.
- If an item is out of compliance, you must include a comment explaining why. You can also include additional information like a photo, related local/state code, and whether an item has been out of compliance in a prior inspection.
- As you complete your Inspection Report, you can preview the in-progress report at any time. You’ll also be able to preview the score and letter grade based on the information you’ve filled out so far.
- You don’t have to fill out the Inspection Report in any specific order — but you won’t be able to submit your report until you’ve completed all fields.
- When you’re ready to complete the inspection Report, you’ll be able to preview it with the Operator. Then, you can both sign it in the app.

If you have questions or feedback about the app, contact MAHC@cdc.gov
Search the MAHC

4.7.1 Recirculation Systems and Equipment
All aquatic facilities shall be equipped and operated with a recirculation and filtration system capable of meeting the provisions outlined in MAHC 4.7.

4.7.2 Filtration
Filtration shall be required for all aquatic venues that recirculate water.

5.7.1 Recirculation Systems and Equipment
All components of the filtration and recirculation systems shall be kept in continuous operation 24 hours per day.

5.7.2 Filtration
Filters and filter media shall be listed and labeled to NSF/ANSI 50 by an ANSI-accredited certification organization.

5.12.8 Wading Pools
Spa filtration systems shall be operated 24 hours per day except for periods of draining, filling, and maintenance.

5.12.7 Spas
Spa filtration systems shall be operated 24 hours per day except for periods of draining, filling, and maintenance.

6.6.3 Inherent Health Hazards
Any of the following violations are imminent health hazards which shall require immediate correction or immediate pool closure:

1) Failure to provide adequate supervision...
## Summary Reports

<table>
<thead>
<tr>
<th>Item #</th>
<th>Details</th>
<th>Correct by date</th>
<th>MAHC Code</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>OUT</td>
<td>12/15/17</td>
<td></td>
<td>Lorem ipsum dolor sit amet, aii consectetur in mei, illum tation ei quo. Ex tibique eleifend quisque nec, has le nsi verer instruction, maxim mollis interiegeb mult ea. Ex diam perculia prodesst vel, soaveola constututo ut quo, usu et simul dolore do ming.</td>
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</tbody>
</table>

OUT = out of compliance
R = Repeat
COS = Corrected on Site
Key Features Recap

- Save Department and Facility information for easy future re-use
- Save and preview form at any step
- Includes related local code for inspectors who are required to record additional information
- Easy access to MAHC cheat sheet and full MAHC

<table>
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<th>Flow meter present and operating</th>
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</tr>
</tbody>
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<tr>
<th>Recirculation pump: approved, good repair, operating*</th>
</tr>
</thead>
</table>

* Indicates necessary check.
CHALLENGES AND LIMITATIONS
Challenges and Limitations

• Indicating where local code differs from the MAHC
• Reporting is limited to summaries
NEXT STEPS AND FUTURE OPPORTUNITIES
Next Steps and Future Opportunities

- Available for free on iTunes
- App updated based on:
  - Latest iOS releases
  - 2018 MAHC
  - Bug fixes
  - User feedback
- Data vendors can use MAHC app content/layout to update existing software packages
Download the App!

- Search for “Aquatic Inspector” from App Store on iPad
More Resources

Model Aquatic Health Code
www.cdc.gov/mahc

Search the MAHC
www.cmahc.org/search-the-mahc.php
Acknowledgments

- Communicate Health
- Maggie Byrne: CDC
- CDR Joe Laco: CDC
- Pam Wigington: CDC
- Michele Hlavsa: CDC
- National Environmental Health Association
Contact Us

• Questions about the Model Aquatic Health Code or Aquatic Inspector?
  ➤ Email MAHC@cdc.gov
  ➤ Email JKunz@cdc.gov