The Model Aquatic Health Code (MAHC)

NYS Conference of Environmental Health Directors

2017 Spring Meeting

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Douglas Sackett
Executive Director, CMAHC
MAHC/CMAHC and Other Acronyms

- Who knows about the Model Aquatic Health Code (MAHC)?

- Who knows about the Council for the MAHC (CMAHC)?

- Who is a member of the CMAHC?
AGENDA

- Intro to MAHC and CMAHC
- Status - MAHC Renewal
- Adoption & Impact of the MAHC
- MAHC vs Part 6
- Public Health Participation
- Questions & Answers
What is the MAHC?

- Voluntary model public pool and spa code based on science and best practices created by the CDC
  - 1st Edition released August 2014
- Helps local and state authorities and aquatics sector make swimming and other water activities healthier and safer
- States and localities can use the MAHC to create or update existing pool codes
  - To reduce risk for outbreaks, drowning, and pool-chemical injuries
- All-inclusive and addresses design, construction, operation, maintenance, policies, and management of public aquatic facilities
What’s Inside?

1) Preface
2) User Guide
3) Glossary, Acronyms, Initialisms
4) Design and Construction
5) Operation and Maintenance
6) Policies and Management
7) MAHC Resources
8) Appendices
The Conference for the Model Aquatic Health Code (CMAHC)

- What is CMAHC?
  - 501c(3) non-profit organization

- Why does it exist?
  - Established in 2013 to manage updates to the MAHC

- Administration & Operation
  - Bylaws, Board of Directors, Executive Director
  - Committees include Technical Review Committee and Ad Hoc Committees
The Conference for the Model Aquatic Health Code (CMAHC)

- **Role**
  - Conduit for funneling advice and data-driven, science-based information from public health and aquatic industry experts to CDC
  - Support use of MAHC

- **Vision**
  - To keep the MAHC up-to-date, science-based, sustainable, easily understood and implemented by pool programs across the U.S. so as to support healthy and safe aquatic experiences for everyone.
The Conference for the Model Aquatic Health Code (CMAHC)

- **Mission**
  - Collect, assess, and relay input on MAHC revisions back to CDC for final acceptance
  - Provide advocacy and needed support to health departments and other partners on using the MAHC
  - Solicit, coordinate, and prioritize research needs
MAHC RENEWAL
2016 MAHC 2nd Edition

- Released July 15, 2016
- Incorporated results of CMAHC member vote
  - CMAHC passed 92/159 (58%) change requests. CDC accepted 84/92 (91%) plus one editorial CR that was not passed
  - Underscores CDC’s CMAHC partnership commitment
- Demonstrates the CMAHC process works
  - On track to support biennial review and updating of the MAHC so users can expect a regular biennial update schedule
MAHC ADOPTION
MAHC Adoption Status

- **Key considerations**
  - States must review and fit into regulatory process and timeframe: adoption can take $\geq 2$ years; Food Code sped up after 3-6 years

- **Endorsements**
  - NACCHO 2015; NEHA imminent; CSTE 2017?

- **Adoption**
  - Full adoption: NM (08/01/2016 after 2+ years prep); Nova Scotia, Canada
  - Partial adoption: DE, PWTAG/UK
  - In review for potential adoption: almost 30 jurisdictions such as CO; IA; IN; MD; NY; OH; Ontario, Canada; Colombia

- **Clear role for aquatics sector advocacy to speed adoption**
Visible Groundswell Following MAHC Release: Becoming a Standard While Waiting for Adoption

- Operational adoption: Use in operations, MAHC-compliant operational materials, and operational assistance
  - e.g., YMCA operations manual, Great Wolf Lodge operational guidance, Jeff Ellis & Assoc. guarding materials
- Variances granted: MAHC-based variances/waivers given liberally to requestors while discussing adoption (e.g., FL, NY, CT)
- Surrogate pool code: States without a pool code pointing to MAHC for design, operation, management guidance (e.g., MS)
- Acceptance of design requirements: MAHC design features becoming accepted and not immediately removed from designs due to cost
  - Clients signing liability waivers if they require removal (e.g., UV disinfection on increased risk venues)
- Standard of care: Being referred to as standard of care based on expert witness feedback
DESIGN STANDARDS
MAHC : PART 6
WHAT’S DIFFERENT
MAHC vs Part 6
Selected Design Items

- Consultation required during plan process
  - Ventilation and Air Handling
    - Intended use and operating conditions
  - Design for Risk Management
    - Aquatic risk management consultant
    - Include layout for zones of patron surveillance
    - Features and design configurations that can impact patron surveillance
Examples of Features or Design Configurations that Can Impact Patron Surveillance

Facility design and features....
Examples of Features or Design Configurations that Can Impact Patron Surveillance

Curves, islands, vegetation....
Examples of Features or Design Configurations that Can Impact Patron Surveillance

Spray features....
MAHC Ventilation Requirements

- Purpose - health and safety of building’s patrons
- Most codes only address moisture control
- Variety of health effects can occur due to poor ventilation due to accumulation of chemical and biological products in the air
Indoor Aquatic Facility Air Quality

- Findings/conclusions of MAHC Ventilation & Air Quality Technical Committee
  - Poor indoor air quality has increasingly been linked to health effects
  - Increased reporting of health events
  - Large indoor facilities have proliferated
  - Bather exposure times longer in these facilities
  - Does not appear that ventilation standards are adequate to keep up with aquatics needs
MAHC Ventilation Requirements

- MAHC Ventilation & Air Quality requirements
  - Require compliance with ASHRAE 62.1
- Include as a priority research item
  - Develop guidance to improve indoor air quality at aquatic facilities
  - Determine if the problem is inadequate design, poor operation, poor maintenance, or a mix
MAHC Ventilation Requirements

- MAHC Ventilation & Air Quality requirements
  - Require compliance with ASHRAE 62.1

- Performance Requirements
  - Minimum amount of outdoor air
  - Minimum air delivery rate
  - Air flow/distribution
  - Relative humidity & dew point
  - Disinfection by-product removal
  - Intake locations (avoid re-entrainment of exhaust)
  - Purge
POOL SHELL/STRUCTURE:
COLOR AND FINISH-MUNSELL COLOR VALUE
Color and Finish

Instead of “White or light colored”……

4.5.11.1.1 Munsell Color Value
The finish shall be at least 6.5 on the Munsell color value scale.
Munsell Color Value

- Many Pool Codes Specify Pool Walls & Floors to be “white or light colored”.
  - Somewhat subjective

- Munsell Color Order System
  - Addresses chroma (color purity), hue (red, yellow, green, blue, purple), and **value** (lightness)
    - **Value scale** ranges from 0 (pure black) to 10 (pure white)
  - System used in other industries
  - Information is easily available
Color and Finish

4.5.11.1.1 Munsell Color Value

The finish shall be at least 6.5 on the Munsell color value scale.
Secondary Disinfection

4.7.3.3.1.2 Required Facilities

The new construction or substantial alteration of the following increased risk aquatic venues shall be required to use a secondary disinfection system after adoption of this code:

1. Aquatic venues designed primarily for children under 5 years old, such as
   a) Wading pools,
   b) Interactive water play venues with no standing water, and
2. Therapy pools.
MAHC -2017 Update Cycle
Proposed Change Requests (CR’s)

- 180 submitted CR’s, here are 2 examples:
  - Acoustical Design
    - Provides new acoustical design criteria that address:
      - finishes
      - construction assemblies; and
      - Mechanical, electrical, and plumbing (MEP) system noise in indoor facilities
  - Floatation Tanks
    - Design & operational requirements
PUBLIC HEALTH PARTICIPATION
Sustainability

Membership
- 680 members
  - 44 local public health
  - 63 State public health

Need members to be help generate new ideas for organizational sustainability

Only members can:
- Comment on and vote on proposed changes to the MAHC
- Serve on one of the many CMAHC Committees
- Receive direct communication from CMAHC regarding MAHC/CMAHC issues
Public Health Participation

- If you are not a CMAHC member, why? Are these some of the reasons:
  - My State or local jurisdiction has not adopted the MAHC so there is no benefit to joining.
  - I don’t feel I have the expertise to provide valuable input.
  - I was previously not aware of CMAHC membership.
  - My Health Department prohibits participation.
  - I don’t have the time.
  - My Health Department won’t pay for my membership.
Public Health Participation

- What are your Recommendations for Increasing Public Health Participation?
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
Contact Information

Doug Sackett
Executive Director, CMAHC
E-mail: DouglasSackett@cmahc.org
Phone: 678-221-7218
QUESTIONS ?