

# Why Create the MAHC?

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**NEHA, Las Vegas, NV**  
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Centers for Disease Control and Prevention  
National Model Aquatic Health Code Program

# Outline

- ❑ Rationale for the MAHC?
- ❑ How the MAHC was created?
- ❑ How the MAHC is structured?
- ❑ How jurisdictions can use it?
- ❑ What are the potential benefits?
- ❑ How will the MAHC be kept up to date?
- ❑ What does the future look like?





# **CDC'S COMMITMENT TO AQUATICS**

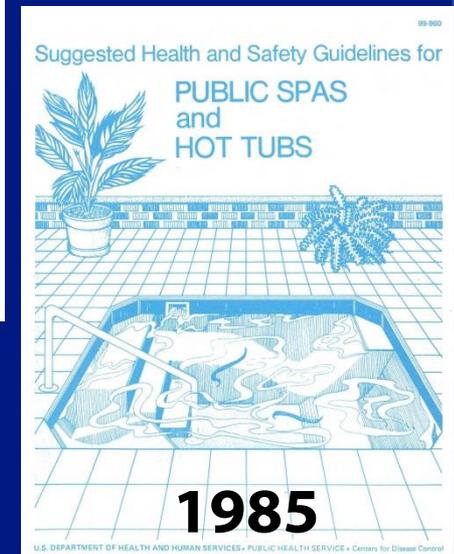
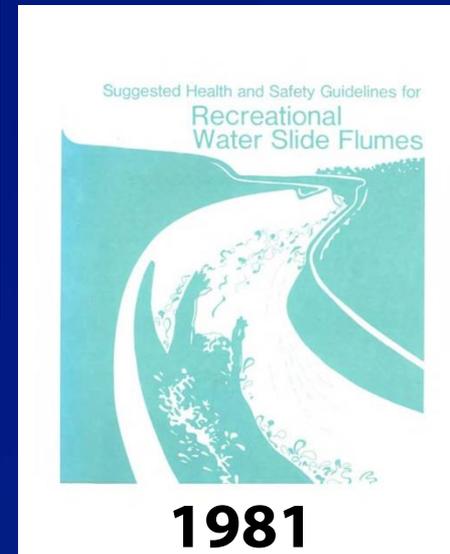
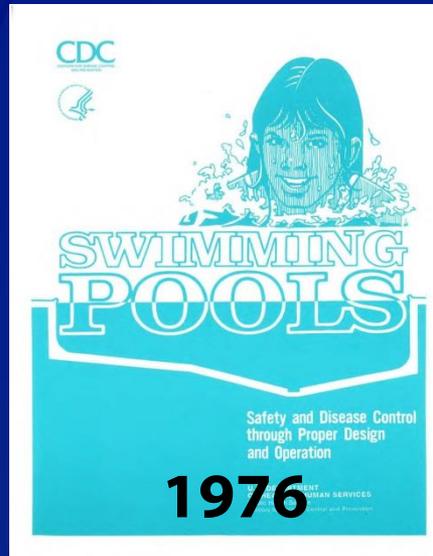
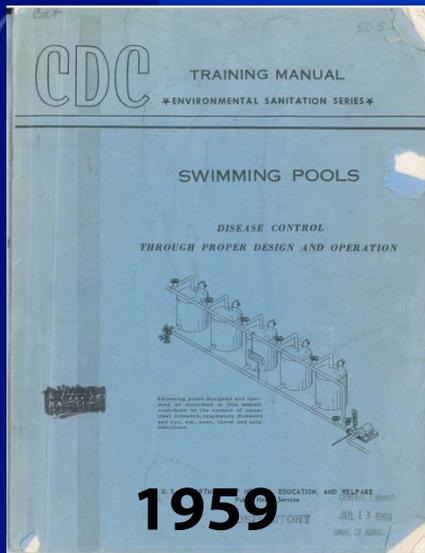
# Why the MAHC?

## Keeping the Health Benefits of Swimming While Reducing Disease, Disability, and Injury

- ❑ One of top sports in the US – >300 million visits a year
- ❑ Low impact exercise improves joint use with arthritis and cardiovascular health
- ❑ Improves mood, bone health, quality of life and reduces disability
- ❑ Clear negative public health outcomes such as drowning, chemical and other injuries, spread of infectious diseases



# CDC Historical Perspective



- CDC supporting aquatics since the 1950's

# CDC Historical Perspective

CDC - HealthySwimming 2001 - Microsoft Internet Explorer

Address: http://www.cdc.gov/healthyswimming/

Division of Parasitic Diseases  
**Healthy Swimming 2001**

Healthy Swimming behaviors are needed to protect you and your kids from Recreational Water Illnesses (RWIs) and will help stop germs from getting in the pool in the first place.

Here are six "P-L-E-A-S" that promote Healthy Swimming:

PLEASE swim safely (especially the rear end) with soap and water before swimming. We all have germs on our bodies that end up in the pool.

2001

## ■ CDC's Healthy Swimming Program 2001-2014

CDC Home  
Centers for Disease Control and Prevention  
CDC 24/7: Saving Lives. Protecting People.™

Healthy Water  
All CDC Topics

Healthy Swimming/Recreational Water

For Specific Groups  
Public  
Public Health Professionals  
Medical Professionals  
Aquatics Staff  
Travelers  
En Español

Publications, Data, & Statistics  
Healthy Swimming Publications, Data, & Statistics

Healthy Swimming Resources  
Health Promotion Materials  
Find Your State  
Outbreak Response  
Newsroom, Features, Observances, & Announcements  
Training & Education  
CDC at Work: Healthy Swimming  
Policy & Recommendations  
Fast Facts  
Index of Healthy Water-related Topics

Healthy Water Sites  
Healthy Water Home  
Drinking Water  
Healthy Swimming/Recreational Water  
Global Water, Sanitation, & Hygiene (WASH)  
Other Uses of Water  
Water-related Emergencies & Outbreaks  
Water-related Hygiene

Drowning  
New Report Sheds Light on Racial and Ethnic Disparities

Swimming and other water-related activities are excellent ways to get the physical activity and health benefits needed for a healthy life. Americans swim hundreds of millions of times in pools, oceans, lakes, rivers, and hot tubs/spas each year and most people have a safe and healthy time enjoying the water. However, it is important to be aware of ways to prevent recreational water illnesses (RWIs), sunburn, and drowning that can occur. CDC's Healthy Swimming Program and website, launched in 2001, provides information for the public, public health and medical professionals, and aquatics staff so everyone can maximize the health benefits of swimming while minimizing the risk of illness and injury.

Recreational Water Illness (noun):  
Illness caused by germs and chemicals found in the water we swim in

Healthy Swimming & Recreational Water Topics

<b>Health Benefits</b> Chronic Illness, Mental Health, Older Adults...	<b>Swimmer Protection</b> Tips for Healthy Swimming, Pool and Hot Tub User Information...
<b>Recreational Water Illnesses</b> Chronic Illness, Education & Prevention Materials, State Resources...	<b>Other Recreational Water Issues</b> Drowning, Injuries, Boating, Sun Protection, Extreme Heat...
<b>Pools &amp; Hot Tubs</b> Design, Operation, Disinfection,	<b>Oceans, Lakes, &amp; Rivers</b> Beach Monitoring, Water Quality...
<b>Model Aquatic Health Code</b> FAQs, Development, Committees...	<b>Natación Saludable</b> Información en Español...

Healthy Swimming Fast Facts

- There are 10.4 million residential and 309,000 public swimming pools in the United States.
- In the United States during 2009, there were approximately 301 million swimming visits each year by persons over the age of six.
- Thirty-six percent of children aged 7-17 years, and 15% of adults in the United States, swim at least six times per year.
- About half (56.8%) of spas are in violation of local environmental health ordinances, and about 1 in 9 spas require immediate closure (11%).

Healthy Water Sites

1. The Association of Pool & Spa Professionals. *U.S. Swimming Pool and Hot Tub Market 2011*. [PDF - 1 page]

2. US Census Bureau. *Statistical Abstract of the United States: 2012, Arts, Recreation, and Travel Participation in Selected Sports Activities 2009*. [PDF - 2 pages]

3. CDC. *Surveillance Data from Public Spa Inspection - United States, May-September 2002*. MMWR Morbidity Weekly Rep. 2004;53(29):553-5.

\*1978-2010; Ordered from highest to lowest frequency (i.e., #1 is the most-commonly reported etiology). Only confirmed etiologies in source databases have been included in the analysis. For outbreaks with multiple etiologies, each etiologic agent counted towards the total.

Popular Links

- Swimmer's Ear
- What are Recreational Water Illnesses?
- Hot Tub Rash
- Giardia
- Pool & Hot Tub Disinfection and Remediation
- Posters on Pool Safety and RWIs
- Frequently Asked Questions

Top Causes of All Recreational Water Outbreaks

Top 10 Causes:\*

- Cryptosporidium
- Pseudomonas
- Shigella



**WHY HAS CDC SUPPORT CONTINUED?**

# Drowning



- ❑ **2<sup>nd</sup> leading cause of unintentional death from injury (behind motor vehicle crashes) for ages 1-14<sup>1</sup>**
  - **Average 3,533 people/year for 2005-2009<sup>1</sup>**
- ❑ **More than 50% of drowning victims treated in EDs require hospitalization or transfer for further care. These injuries can cause severe brain damage and long-term physical and mental disabilities <sup>2,3,4</sup>**
- ❑ **Deaths more common in males and African Americans (particularly ages 5-14)<sup>2</sup>**

<sup>1</sup> CDC. MMWR 2012;61:344-347. <sup>2</sup> Cummings et al. JAMA 1999;281:2198-2202.

<sup>3</sup>Spack et al. Pediatr. Emerg. Care. 1997;13:98-102. <sup>4</sup>Gilchrist et al. MMWR 2014;63:421-426.

## Diving Injuries: “No Diving”



- ❑ Diving into water that is too shallow can result in spinal cord injuries (SCIs)
- ❑ Diving momentum leaves little if any time for course correction if not trained
- ❑ ~10,000 SCIs/year, ~4.5% (1995-2000) from diving (~450/yr)<sup>1</sup>
- ❑ Average cost of life-long support for a 25-year old quadraplegiac ~\$2.8 million

<sup>1</sup> DeVivo, 2003.

## Air Quality: Disinfection By-Product Formation



- ❑ **Di- and tri-chloramine production occurs when HOCl reacts with nitrogenous waste in urine, sweat, other waste**
- ❑ **Both are volatile & out-gas to envelope above pool**
- ❑ **Both are strong eye and lung irritants**
  - **Not just pools**
  - **Poultry and produce processing where chlorine used to disinfect or clean material**
    - **Chloramines identified as occupational issue**
  - **Some data suggest a link to asthma**

<sup>1</sup> Weisel et al. Environ Hlth Perspect. 2009;117:500-507.

## Pool Chemical-Associated Injuries

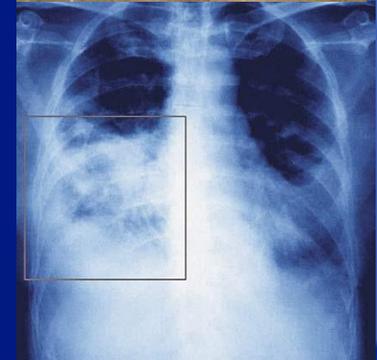


- ❑ **CPSC's National Electronic Injury Surveillance System (NEISS)**
  - **Estimates based on visits to ~100 hospital emergency departments (EDs) in the U.S.**
- ❑ **4876 (95%CI 2821-6930) people in 2012 visited an ED for a pool chemical-associated injury**
  - **~50% children**
- ❑ **100% preventable**

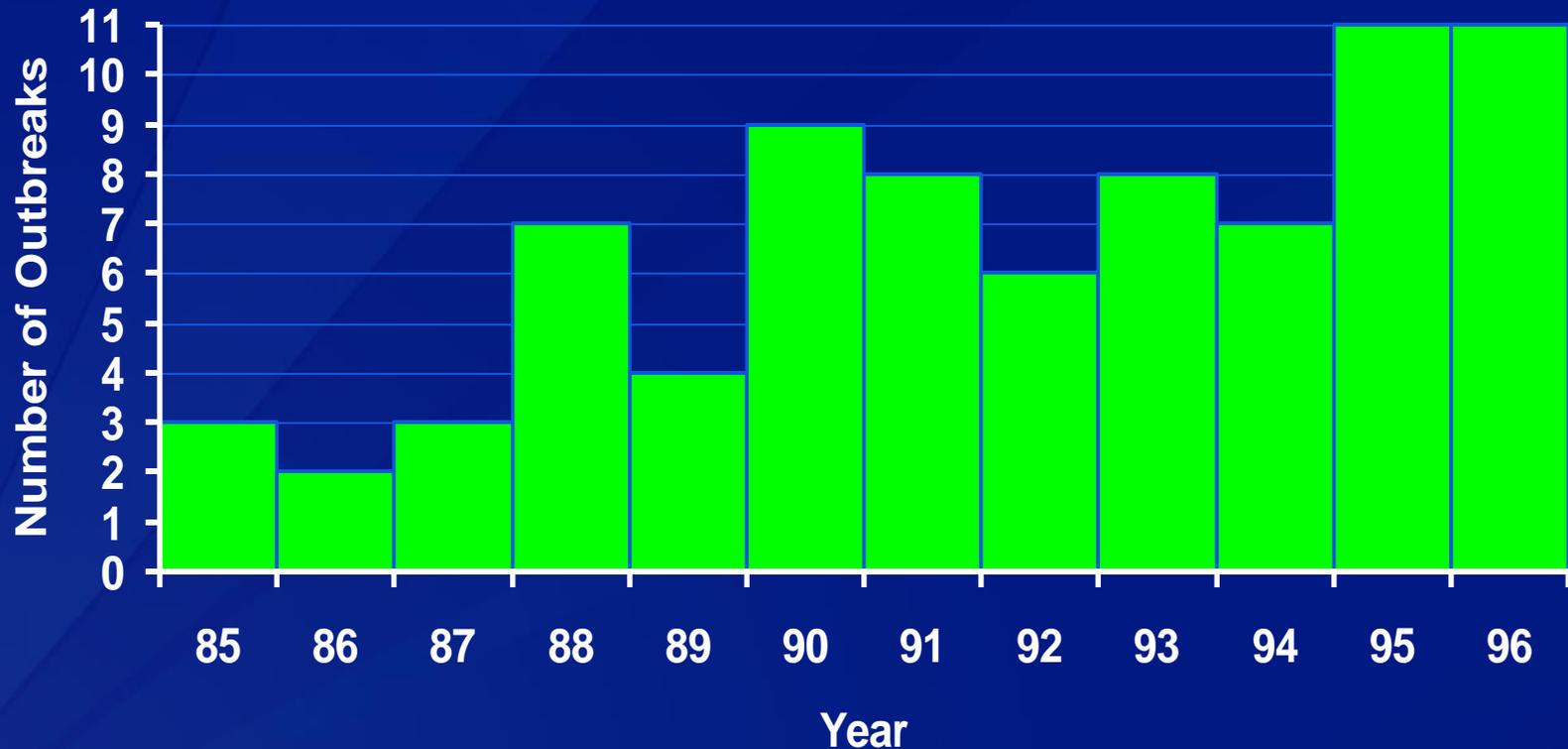
<sup>1</sup> Hlavsa et al. MMWR 2014;63:427-430.

# Disease Transmission

- Disease outbreaks
- Gastrointestinal infections
- Skin infections
- Ear infections
- Eye infections and irritation
- Respiratory infections and irritation
- Neurologic, urinary tract infections



# Recreational Water Outbreaks, United States, 1985-1996: GI Illness



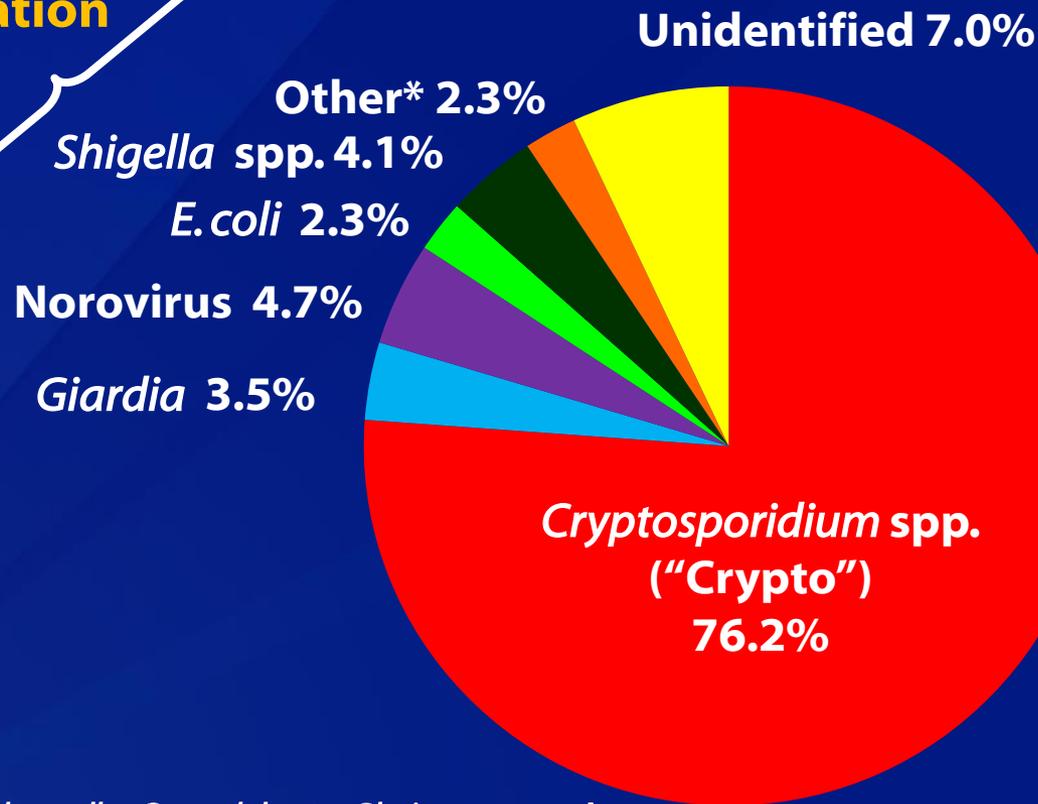
## Outbreaks of Acute Gastrointestinal Illness Associated with Recreational Water, United States, 1978–2010



n=393; Hlavsa MC *et al.* 2014. *MMWR* 63(1):6–10.

# Outbreaks of Acute Gastrointestinal Illness Associated with Treated Recreational Water, United States, 2001–2010

**Chlorine sensitive:  
Poor pool operation  
& maintenance**



**Game Changer**

**Extremely chlorine tolerant**

n=172; Other includes *Salmonella*, *Campylobacter*, *Plesiomonas*, and multiple pathogens; Hlavsa MC et al. 2014. MMWR 63(1):6–10.

# Inadequate Pool Operation and Maintenance is NOT Uncommon



- ❑ Pool inspection data from 4 state and 11 local pool inspection programs
- ❑ Inspected >120,000 pools
- ❑ Conducted January 1–December 31, 2008
- ❑ 12.1% of routine inspections resulted in immediate closure of the pool pending correction of violation
- ❑ Little surprise that ~25% of GI illness outbreaks are operational breakdowns/errors



# MAHC DEVELOPMENT

# MAHC Genesis



- ❑ **How can you effect change?**
- ❑ **2004, Council of State and Territorial Epidemiologists position statement passed**
  - **Asked CDC to fund a meeting to develop recommendations for reducing RWI outbreaks**
- ❑ **2005, CDC-sponsored workshop**
  - **“Recreational Water Illness Prevention at Disinfected Swimming Venues”; Atlanta, GA**

# MAHC Genesis



- ❑ **Workshop recommendation #1**
  - **Create model guidance with broad national industry and public health input**
  - **Give open access to all users**
  - **Update regularly based on new data**
  - **CDC should sponsor process**



## MAHC Vision and Mission

- ❑ **Healthy and safe aquatic experiences for everyone**
- ❑ **Provide user-friendly guidance to state and local officials to assist in transforming health department pool programs into data-driven, knowledge-based, risk reduction efforts to prevent disease and injuries and promote healthy recreational water experiences**



# MAHC Genesis



- ❑ **May 2007: Organize Steering Committee**
  - **Develop organizational plan and structure**
  - **Program outline/guidance, Strawman blueprint**
  - **Develop 2 modules as guidance examples**
- ❑ **Fall 2008: Organize Technical Committees**
  - **Appoint Chairs, recruit membership**
- ❑ **Spring 2009: Initial Technical Committees start work with ~140 volunteers using modular approach**
- ❑ **Fall 2010 to Summer 2013: 12 more modules created and posted for 1<sup>st</sup> 60-day public comment period**

# MAHC Development: Process and Timeline

1. Recirculation Systems and Filtration
2. Monitoring and Testing
3. Contamination Burden
4. Hygiene Facilities
5. Fecal/Vomit/Blood Contamination Response
6. Operator Training
7. Recirculation Systems and Filtration
8. Facility Design and Construction
9. Lifeguarding and Bather Supervision
10. Disinfection and Water Quality
11. Regulatory Program Administration
12. Facility Maintenance and Operation
13. Risk Management/Safety
14. Ventilation and Air Quality

**14  
Modules**

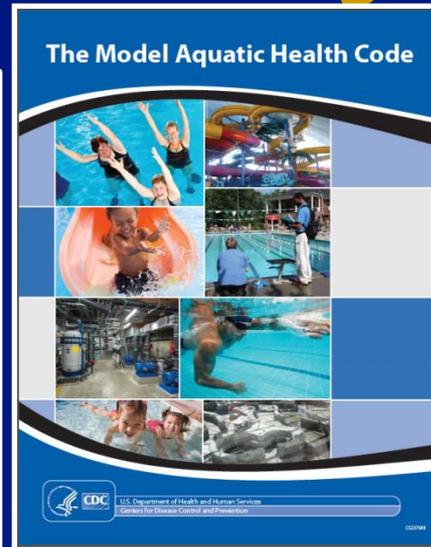
**Develop modules;  
Post for 1<sup>st</sup> round of  
public comment  
10/2010-7/2013**

**Completed**

1. Recirculation Systems and Filtration
2. Monitoring and Testing
3. Contamination Burden
4. Hygiene Facilities
5. Fecal/Vomit/Blood Contamination Response
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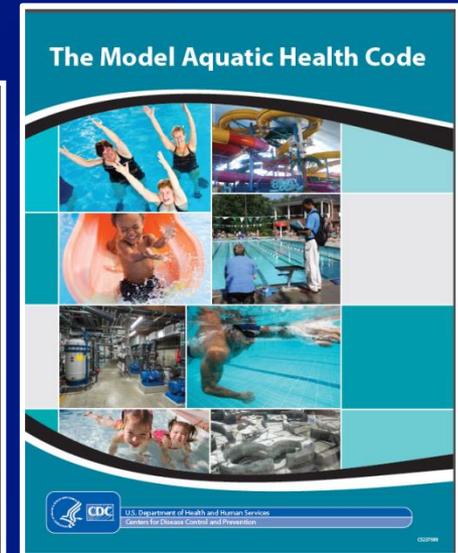
**Revise-repost all  
modules.  
2979 comments: 76%  
of comments asking  
for change accepted**

**Completed**



**Merge all modules;  
Post "Knitted"  
Version for 2<sup>nd</sup>  
(final) round of  
public comment  
3/2014  
1428 comments**

**Completed**



**Revise and post  
MAHC 1<sup>st</sup> Edition  
1428 comments  
currently being  
addressed**

**Summer 2014**

# MAHC Structure

## □ Chapters

- 1) Preface
- 2) User Guide
- 3) Glossary, Acronyms, Initialisms
- 4) Design and Construction
- 5) Operation and maintenance
- 6) Policies and Management

## □ Code: enforceable language

- 303 pgs; 258 text, 232 code language

## □ Annex: rationale and references for code language

- 367 pgs, 283 text

## The Model Aquatic Health Code The Code



4.0	Design and Construction	CODE
4.0	Design and Construction	71
4.1	Plan Submittal	REG
4.1.1	Plan Submittal	REG
4.1.1.1	Purpose	REG
AQUATIC FACILITY construction plans shall be designed to provide sufficient clarity to indicate the location, nature, and extent of the work proposed		
4.1.1.2	Conform	REG
AQUATIC FACILITY construction plans shall show in detail that it will conform to the provisions of this CODE and relevant laws, ordinances, rules and regulations, as determined by the AHJ and to protect the health and SAFETY of the facility's BATHERS and PATRONS.		
4.1.1.3	Approved Plans	REG
No person shall begin to construct a new AQUATIC FACILITY or shall SUBSTANTIALLY ALTER an existing AQUATIC FACILITY without first having the construction plans detailing the construction of SUBSTANTIAL ALTERATION submitted to and approved by the AHJ.		
4.1.1.4	Plan Preparation	REG
All plans shall be prepared by a design professional who is registered or licensed to practice their respective design profession as defined by the state or local laws governing professional practice within the jurisdiction in which the project is to be constructed.		
4.1.1.5	Required Statements	REG
All construction plans shall include the following statements:		
1) "The proposed AQUATIC FACILITY and all equipment shall be constructed and installed in conformity with the approved plans and specifications or approved amendments," and		
2) "No SUBSTANTIAL ALTERATION, changes, additions, or equipment not specified in the approved plans or allowed in the CODE can be made or added until the plans for such SUBSTANTIAL ALTERATION, changes, additions, or equipment are submitted to and approved by the AHJ."		
4.1.2	Content of Design Report	REG
4.1.2.1	Basis of Design Report	REG
4.1.2.1.1	Names / Addresses	REG
AQUATIC FACILITY plans shall include the name, address, and contact information for the owner, designer, and builder if available at the time of submission.		
<small>"The information is distributed solely for the purpose of pre-dissemination public comment under applicable information quality guidelines. It has not been formally disseminated by the Centers for Disease Control and Prevention. It does not represent and should not be construed to represent any agency determination or policy."</small>		

e for  
Public Comment  
2014  
C02706

## MAHC in Context

<b>Document type?</b>	<b>Model code, not a law</b>
<b>Creation Process?</b>	<b>CDC led, with substantial input from state and local public health, aquatics sector, and academia Evolution NOT revolution</b>
<b>Public comment?</b>	<b>Yes, two public comment periods plus 3<sup>rd</sup> comment period when users choose to adopt</b>
<b>Can be updated?</b>	<b>Yes, improvements based on data and expertise from public health and aquatics</b>
<b>Enforceable?</b>	<b>Must be adopted by state or local authority first</b>
<b>All pools?</b>	<b>No, only public facilities in adopting jurisdictions. Also, design and construction provisions mostly apply to new and remodeled construction</b>

## Interactions with Other Codes



- ❑ **Public health partners believe regulatory role makes involvement critical from construction to operation to ensure health and safety at aquatic facilities**
- ❑ **Must work hand in hand with building code officials**
- ❑ **ICC/IAPMO (International Code Council; International Association of Plumbing and Mechanical Officials)**
- ❑ **CDC signed MOUs with both groups**
- ❑ **CDC voting member of both groups**
- ❑ **Work to minimize conflict and overlap**
  - **Have gone through ICC code and changed MAHC to minimize conflicts or will change ICC**

## Other Support Features

- ❑ **Guidance and toolkits for operators**
- ❑ **Design and interpretation assistance**
- ❑ **Research agenda for aquatics**





# HOW CAN JURISDICTIONS USE THE MAHC

# Jurisdictional Support Features



- ❑ MAHC can be adopted in total, by piece, or not at all
- ❑ MAHC can be altered to fit jurisdictional needs
- ❑ MAHC is intended to save jurisdictional time to create or update codes
  - No need to recreate the wheel
- ❑ Design and interpretation assistance
- ❑ Guidance and toolkits for regulatory programs
  - Operations and administrative code guidance
  - Inspections and forms



## **ANTICIPATED OUTCOMES**

## Short Term Outcomes: Immediate After Guidelines Adopted



- ❑ Automated controllers and feeders
- ❑ Chemical feeder-recirculation interlocks
- ❑ Diaper changing station criteria
- ❑ Training for pool operators & inspectors
- ❑ Preventive maintenance checks
- ❑ Policies: employee illness, body fluid response, pool surface cleaning to reduce biofilm

# Short Term Outcomes: New Construction or Substantial Alteration After Guidelines Adopted

- ❑ Secondary disinfection for increased risk aquatic venues
- ❑ Slower filtration rates
- ❑ Improved flow meters
- ❑ Improved backwash rates
- ❑ Improved chemical storage/handling
- ❑ Inclusion of rinse showers
- ❑ Minimum distances for bathrooms



# Intermediate Outcomes: System Improvements

- ❑ Fewer pool/facility closures
- ❑ Improved collection and use of inspection and surveillance data
- ❑ Development of a research agenda to fill gaps
- ❑ Enhanced collaboration among stakeholders
- ❑ Data-based uniformity in key areas



# Long-Term Public Health Outcomes

- ❑ Fewer outbreaks of recreational water illnesses resulting from exposure to contaminated swimming water
- ❑ Fewer drowning incidents in aquatic venues
- ❑ Fewer injuries from pool chemicals/disinfection by-products
- ❑ Fewer ED visits due to swimming-related issues





# UPDATING THE MAHC

## How Will the MAHC Be Kept Up-To-Date?



- ❑ **CDC owns, revises, and publicly posts the MAHC**
- ❑ **Need to renew and update to keep up with change**
- ❑ **Self-sustaining mechanism to advise on change**
- ❑ **Needs a conduit to gather input on what is needed**
  - **Public health, aquatics, academia, general public**
- ❑ **Conduit needs to gather national input, decide on scientific merit, and summarize changes needed for CDC to decide on acceptance**
- ❑ **Model after Conference for Food Protection that oversees FDA Model Food Code**

# The Conference for the Model Aquatic Health Code (CMAHC)



- ❑ **Role:** Serve as a national input clearinghouse to advise CDC on keeping the MAHC up-to-date and support use
- ❑ **Vision**
  - An up-to-date , knowledge-based MAHC that supports healthy and safe aquatic experiences for everyone and is used by pool programs across the U.S.
- ❑ **Mission:**
  - Collects, assesses, and relays national input on MAHC revisions back to CDC for final acceptance
  - Provides advocacy and needed support to health departments and other partners on using the MAHC
  - Solicits, coordinates, and prioritizes research needs

## **CMAHC Advantages**



- ❑ Can play an advocacy role with health departments and legislatures**
- ❑ Can fund raise and support MAHC adoption activities**
- ❑ Can serve as national clearinghouse without over burdening government resources**
- ❑ Can keep government attention on the perpetual need to renew the MAHC**
  - Want to ensure CDC long-term interest, vs. having a person-specific program that can easily fall apart**
- ❑ Can serve as advisory group to CDC without having to “own” or “alter” the MAHC (CDC’s role)**

# CMAHC Organizational Progress



- ❑ **CMAHC incorporated as an independent 501(c)3 non-profit organization**
  - **CDC still owns, revises, and publicly posts the MAHC**
- ❑ **Board of Directors being finalized**
- ❑ **By-laws and CMAHC organization outlined**
- ❑ **Developing financial sustainability plan**
  - **NSPF signed on as Founding Sponsor**
- ❑ **CMAHC biennial meeting planning structure outlined**
- ❑ **Website launched ([www.cmahc.org](http://www.cmahc.org))**
- ❑ **Other functions to include outreach, technical assistance, research agenda, toolkit development**

# **CMAHC Organization: Board of Directors and Updates**



- ❑ **10 members**
  - **Regulatory: local (2), state (2)**
  - **Industry: builder (1), designer (1), operator large facility (1), hospitality (1 to be filled)**
  - **CDC (2), ½ vote each (tentative)**
- ❑ **CMAHC organization/biennial meeting planning begun**
  - **October 8, 2014 organizational meeting before WAHC meeting in Portland, OR**
  - **October 2015, 1<sup>st</sup> CMAHC Meeting held prior to WAHC**

# CMAHC Long-Term Strategy



- ❑ **Develop a sustainable model for renewing the MAHC**
  - **Financially independent and sustainable. Must have broad funding base to be viable long-term and be viewed as an independent organization**
  - **Strongly partnered with CDC and other groups**
  - **National clearinghouse for advising CDC on data-based changes to MAHC**
  - **National CMAHC Conference held every 2 years to formulate proposed changes to MAHC**
  - **Serves as national support center for MAHC use**
    - **Technical assistance, toolkits, research**
  - **Coordinates development of MAHC research plan**



## **CONCLUSIONS & FUTURE DIRECTIONS**

# MAHC, CMAHC, Pool Program, and Aquatics Industry Benefits



- ❑ Establishes system to renew and support wide adoption of the MAHC
- ❑ Saves state/local resources being used to essentially “reinvent the wheel” in separate jurisdictions across U.S.
- ❑ Scientifically or best practices based guidance
- ❑ Renewed on biennial basis
- ❑ Creates toolkit with forms/guides to assist facilities
- ❑ Provides “Administrative Code” guidance to facilitate pool program improvements
- ❑ Improves performance and data-based decision making by pool programs

# MAHC, CMAHC, Pool Program, and Aquatics Industry Benefits



- ❑ **Builds stronger relationships between regulators and aquatics industry**
- ❑ **Drives design, construction, and operational uniformity across jurisdictions**
- ❑ **Improves operation of lower end of aquatics sector that are more likely to have repeated violations and higher risks that hurt overall aquatics sector**
- ❑ **Builds stronger relationships with building code creators and officials**
  - **Working to smooth this process with ICC and IAPMO**

## Future Directions



- ❑ **Next 6 Months**
  - **Finalizing MAHC 1<sup>st</sup> Edition**
  - **Strong web presence and knowledge of CMAHC role and clear plan for collecting national input on MAHC**
- ❑ **2015**
  - **Convene 1<sup>st</sup> CMAHC Biennial Conference**

## Future Directions

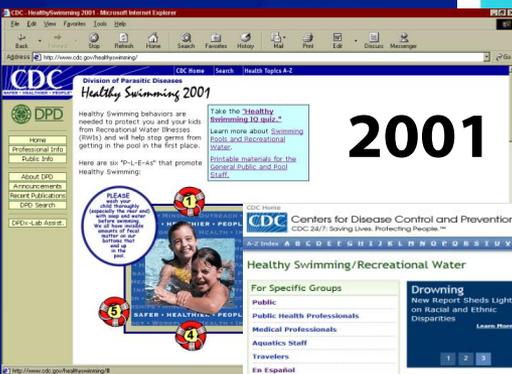
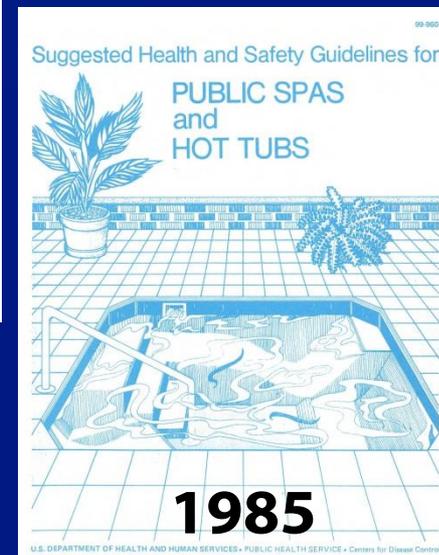
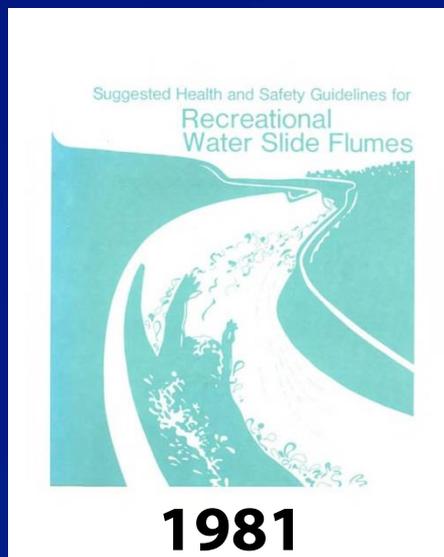
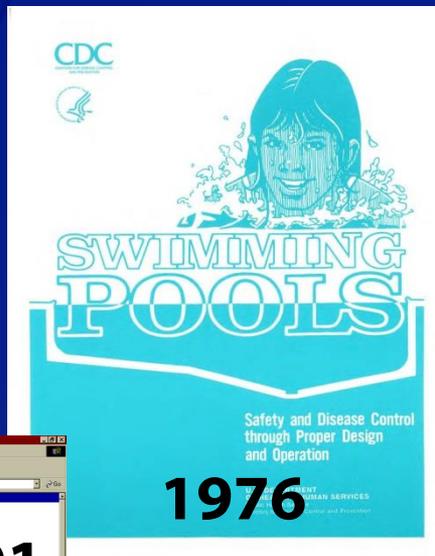
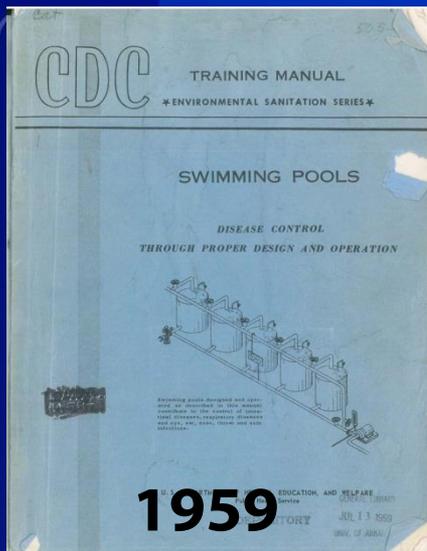


### □ 5-20 Years

- **Wide use of MAHC domestically/internationally**
- **Diversified, stable funding for CMAHC**
- **MAHC renewal process robust and functional so members feel they have input**
- **CMAHC assists state and local HD's in taking the first evolutionary steps in redefining and improving aquatics in the U.S.**
- **CMAHC process builds a strong coalition between public health and aquatics sector**
- **The process drives a robust research agenda**

# CDC Historical Perspective: 1959-2014

- CDC supporting aquatics since the 1950's



# U.S. Aquatics Pool Treatment Paradigm: 1920 to Present



Chlorine/pH control



Regulatory inspections



Rapid Filtration  
Recirculation



"shocking"

# U.S. Aquatics Paradigm Evolution: Improved Design, Operation, Oversight



Automatic halogen/pH control ;  
Secondary disinfection

Improved water quality



Slower filtration rates,  
flocculation, backwashing



Decreased  
chloramine  
formation/  
volatilization



Focus on  
training, safety,  
prevention,  
cleaning, H<sub>2</sub>O  
replacement



Improved  
bather hygiene



Increased  
regulatory  
oversight



# National Consensus Bridge to Healthy and Safe Aquatic Experiences for Everyone: 2015-2035



## The Model Aquatic Health Code

The Code

U.S. Department of Health and Human Services  
Centers for Disease Control and Prevention

## Health Code

The Annex

U.S. Department of Health and Human Services  
Centers for Disease Control and Prevention

**CMAHC**  
Conference for the Model Aquatic Health Code

- Home
- About the CMAHC
- View the MAHC
- Improving the MAHC
- Get Involved
- Public Health Materials
- Newsrooms & Announcements
- Contact Us
- Become a Member
- Support the MAHC

**Welcome to the Conference for the Model Aquatic Health Code**

The Conference for the Model Aquatic Health Code (CMAHC) is a nonprofit organization created in 2014 to support and improve public health by promoting healthy and safe aquatic experiences for everyone. The CMAHC will serve as a national clearinghouse for input and advice on needed improvements to the Centers for Disease Control and Prevention's (CDC) Model Aquatic Health Code (MAHC). The MAHC is a voluntary, science- and best-practices-based guidance document that can help local and state authorities make swimming and other water activities healthier and safer. The CMAHC will collect, assess, and relay national input on needed MAHC revisions back to CDC to keep the MAHC current and up to date with the latest public health issues and aquatics sector advances. As a new organization, we encourage interested parties to join and help us build this new organization into a driving force for improved health, safety, and fun at the nation's public swimming facilities.

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Page last updated: July 3, 2014

**Announcements**

**Workshop: National Environmental Health Association** — July 7, 2014

**Springboard to Prevention: The Model Aquatic Health Code, 1st Edition**

This workshop at the National Environmental Health Association (NEHA) Annual Educational Conference (AEC) will present the "beta" version of the Model Aquatic Health Code (MAHC).

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**Meeting: Conference for the Model Aquatic Health Code** — October 8, 2014

The FREE organizational meeting gives public health officials and members of the aquatics industry the great opportunity to help form the Conference for the Model Aquatic Health Code (CMAHC), which will become the preeminent organization for good and safe standard of care across the country.

[More...](#)

## **MAHC Acknowledgments**

- ❑ CMAHC Interim Board of Directors**
- ❑ MAHC Technical Committee Chairs & Members**
- ❑ MAHC Steering Committee Members**
- ❑ Funding from NSPF, Lonza (Arch Chemical)**
  
- ❑ NYS: Doug Sackett, Amanda Tarrier**
- ❑ CDC, NCEH: Rob Blake, Jasen Kunz, Charles Otto, Laina Curtiss, Maggie Byrne, Teresa Sims, Pam Wigington**
- ❑ CDC, NCEZID Healthy Swimming Program: Michele Hlavsa, Michael Beach, Lee Tate, Vince Hill, Jenn Murphy**
- ❑ CDC, Injury: Julie Gilchrist**
- ❑ CDC, PHLP: Montrece Ransom, Molly Berkery, Staci Close, Matthew Penn**

**More Information: Search on  
 "CDC MAHC" or visit the  
 Healthy Swimming MAHC  
 Website: [www.cdc.gov/mahc](http://www.cdc.gov/mahc)  
 Email: [mahc@cdc.gov](mailto:mahc@cdc.gov)**

**More Information: Search on  
 "CMAHC" or visit the CMAHC  
 Website: [www.cmahc.org](http://www.cmahc.org)  
 Email: [info@cmahc.org](mailto:info@cmahc.org)**

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A-Z Index **A B C D E F G H I J K L M N O P Q R S T U V W X Y Z #**

### The Model Aquatic Health Code (MAHC): A National Model Public Swimming Pool and Spa Code

**MAHC Resources**

- Health Promotion Materials
- Newsroom
- Announcements

**Healthy Water Sites**

- Drinking Water
- Healthy Swimming/Recreational Water
- Global Water, Sanitation, & Hygiene (WASH)
- Other Uses of Water
- Water-related Emergencies & Outbreaks
- Water-related Hygiene

**The Model Aquatic Health Code**

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[Contact CDC-INFO](mailto:ContactCDC-INFO)

For more information, please contact us at [MAHC@cdc.gov](mailto:MAHC@cdc.gov)

**MAHC Topics**

<b>General Information</b> Purpose, outcomes, FAQs...	<b>MAHC Status</b> First complete "knitted" version...
<b>MAHC Development</b> Development & oversight of the MAHC...	<b>Steering Committee</b> Guiding the MAHC process...
<b>Technical Committees</b> Providing specialized knowledge...	

**News!** The public comment period for the first complete version of the MAHC closed on May 27, 2014. The first edition of the MAHC will be released in summer 2014.

**CMAHC**  
 Conference for the Model Aquatic Health Code

- Home
- About the CMAHC
- View the MAHC
- Improving the MAHC
- Get Involved
- Public Health Materials
- Newsroom & Announcements
- Contact Us
- Become a Member
- Support the MAHC
- Founding Sponsor



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