Use and Acceptability of the Model Aquatic Health Code (2024)

STLT Generic Information Collection Request
OMB No. 0920-0879

July 23, 2024

Supporting Statement - Section A

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- **Goal of the study:** To characterize use of the Model Aquatic Health Code (MAHC), MAHC acceptability amongst states, and assess the facilitators and barriers to MAHC use and implementation.
- **Intended use of the resulting data:** Results from this assessment will inform future planning and prioritization of CDC's MAHC activities and optimize the MAHC as a resource for state, tribal, local, and territorial (STLT) public health partners and aquatics stakeholders.
- **Methods to be used to collect:** Prospective cohort quantitative survey; focus groups with low, medium, and high MAHC adopters identified through the survey and using a semi-structured interview guide; case studies of jurisdictions to model strategies for MAHC use and implementation.
- **The subpopulation to be studied:** State, tribal, local and territorial (STLT) public health partners.
- **How data will be analyzed:** Quantitative data will be analyzed in SAS and R for descriptive statistics to summarize findings. Qualitative data will be analyzed in MAXQDA to interpret key and emerging themes and highlight illustrative quotes. Case study data will be analyzed using descriptive techniques.

1. Circumstances Making the Collection of Information Necessary

Background

CDC's Model Aquatic Health Code (MAHC) is guidance to prevent injury and illness linked to public aquatic venues, such as pools, hot tubs, and splash pads. MAHC guidance brings together the latest science and best practices into a model code that jurisdictions can voluntarily use or implement to save time and resources when they develop and update pool codes in their jurisdiction. Pool codes regulate how aquatic venues that are open to the public are designed, constructed, operated, and managed. These codes address topics such as how aquatic facilities are built, how lifeguards are trained and certified, and how chlorine levels in the water are tested.

While CDC's focus has been on developing and keeping the MAHC current, the agency has thus far taken a passive approach to understanding stakeholder adoption of the MAHC. Given that the first edition of the MAHC was released in 2014, there is a need to formally assess and characterize MAHC use and acceptability among STLT public health partners.

This information collection is being conducted using OMB No. 0920-0879 "Information Collections to Advance State, Tribal, Local and Territorial Governmental Agency System Performance, Capacity, and Program Delivery" nicknamed the "STLT Generic." The respondent universe for this information collection aligns with that of the STLT Generic. Data will be collected from a total of 1,334 respondents across 4,000 state, local, tribal, and territorial health departments/ jurisdictions, and delegate organizations. Respondents acting in their official capacities include STLT epidemiologists and environmental health specialists.

This information collection is authorized by Section 301 of the Public Health Service Act (42 U.S.C. 241). This information collection falls under the essential public health service(s) of

☐ 1. Assess and monitor population health status, factors that influence health, and community needs and assets

☐ 2. Investigate, diagnose, and address health problems and hazards affecting the population

☐ 3. Communicate effectively to inform and educate people about health, factors that influence it, and how to improve it

☐ 4. Strengthen, support, and mobilize communities and partnerships to improve health

☒ 5. Create, champion, and implement policies, plans, and laws that impact health

☐ 6. Utilize legal and regulatory actions designed to improve and protect the public's health

☐ 7. Assure an effective system that enables equitable access to the individual services and care needed to be healthy

☐ 8. Build and support a diverse and skilled public health workforce

☒ 9. Improve and innovate public health functions through ongoing evaluation, research, and continuous quality improvement

☐ 10. Build and maintain a strong organizational infrastructure for public health[1]

Overview of the Information Collection System

CDC proposes to use a mixed methods (quantitative and qualitative) data collection approach to characterize use and acceptability of the MAHC amongst STLT partners and assess the facilitators and barriers to MAHC implementation. Results from this assessment will inform future planning and prioritization of CDC's MAHC activities and optimize the MAHC as a resource for STLT public health partners and aquatics stakeholders. All STLT partners will be invited to participate in the quantitative survey through CDC's network of public health points of contact, and also through non-governmental organization (e.g., National Environmental Health Association [NEHA], National Association of City and County Health Organizations [NACCHO]) partner lists. A sub-set of STLT partners will be asked to participate in focus groups based on the level of MAHC use reported in the survey. Finally, three to five jurisdictions will be asked to participate in a case study about incorporating the MAHC into jurisdictional codes.

This investigation will use a two-phase, mixed-methods study design. Across both phases, the respondent universe will be comprised of STLT government staff and delegates that act on behalf of an agency in providing essential public health services.

Items of Information to be Collected

1. **In Phase I**, we will conduct a quantitative survey (amongst both state/territorial and local-level STLT partners) (Attachment D). We will use results of the survey to allocate participants into stratified focus groups across levels of MAHC use and implementation (Attachments D1-D3). Phase I will allow us to capture information on MAHC use and implementation nationwide. Here, surveys will be distributed to STLT partners across all 55 states and territories. We will collect consent before survey participation (Attachment J). To reach local-level partners, we will distribute the survey to CDC's STLT partner contacts, and via email lists administered by non-governmental organization such as NACCHO and NEHA (Attachments G1-G2). The survey will remain open for six weeks. We will send reminder emails every two weeks for the six weeks that the survey remains open (Attachment G3). If response rates remain low one month after distribution, we will also explore a snowball sampling approach, in which STLT partners respondents would be asked to voluntarily provide the contact information for other states that may be interested in participating (Attachment H). Survey results will be analyzed through descriptive statistics and parametric/non-parametric statistical tests.

   Focus groups will be administered among STLT public health programs with different levels of MAHC use and implementation (Attachment C). Based on quantitative survey results, we will conduct focus groups across three different levels of MAHC use and implementation (i.e., limited use, moderate use, advanced use) (Attachments D1-D3). We will recruit 4–6 STLT representatives per level. Partners will be recruited into each level based on survey responses, in which participants will be asked to approximate the extent to which their jurisdiction's public swimming pool regulations use MAHC language; as well as barriers and facilitators to MAHC use and implementation. Once respondents are invited and accept, they will receive an initial confirmation email and then a reminder email (Attachments I1-I3) with details about their focus group meeting. They will be asked to provide their consent before participating in the focus group (Attachment J). Analytic methods for the focus groups will include thematic analyses in MAXQDA to interpret key and emerging themes from the interviews and to highlight illustrative quotes. Findings will be used to contextualize and support results from the survey.

2. **In Phase II**, we will conduct in-depth case studies among STLT partners. Data collection will be conducted in the form of key-informant interviews across multiple stakeholders within a given jurisdiction (e.g., epidemiologists, environmental health professionals, policy specialists) (Attachment E). Participants will be recruited into the case study based on indicated interest during the focus group (Attachment K1). Once participants are identified they will receive a confirmation email (Attachment K2) with detailed information about the case study meeting session. Before participation, respondents will be asked to provide consent (Attachment L). Case studies will offer rich, in-depth information about the interactions between MAHC use and implementation and its socio-political context for

"case" jurisdictions [1] and serve as examples of how to widely use and implement the MAHC within a jurisdiction. Cases will be bound by time and place (or setting), and we will collect detailed information using a variety of data collection procedures over a sustained period [2, 3]. We will conduct three to five case studies with approximately 15 key informants.

A descriptive [multi] case study approach will be used. This descriptive focus is essential, as it allows us to develop a deep, comprehensive understanding of the MAHC's impact. The objective of case study analysis is transferability, which will allow us to make claims about MAHC use and implementation based on insights gained from a few cases (i.e., jurisdictions). We assert that the understanding gathered from the in-depth study of four local-level jurisdictions and how they interact with the MAHC will be transferable to other jurisdictions. The [multi] case study analysis uses purposeful sampling of 1–4 units (i.e., jurisdictions). By being specific about which jurisdictions select as cases, this purposeful sampling will allow us to gather data from a variety of sources for a specific jurisdiction.

Data collection: In Phase II, data collection will be conducted in the form of key-informant interviews across multiple stakeholders within a given jurisdiction (e.g., epidemiologists, environmental health professionals, policy specialists). We will conduct case studies featuring three to five jurisdictions, with approximately 15 total key informants (three to five key informants per jurisdiction). Additional qualitative research methods may include policy and legislative document analysis (i.e., local jurisdiction aquatic code review), as well as stakeholder and timeline mapping.

2. Purpose and Use of Information Collection

The overarching goals of this project are to characterize MAHC use and acceptability, and the facilitators and barriers to MAHC use and implementation. Results from this assessment will inform CDC's decision-making regarding MAHC activities and optimize the MAHC as a resource for state, tribal, local, and territorial (STLT) public health partners. For the purposes of this project, we define MAHC "use" as MAHC language being incorporated into the jurisdiction's pool code; or the MAHC being used as a reference to address a gap or need that is not addressed directly in the jurisdiction's code. "Implementation" is being defined as the operationalization of code changes (e.g., training of pool inspectors and operators; updating inspection forms; educating health officials and operators on new guidelines).

In the 10 years since the MAHC's release, CDC has focused on developing and keeping the MAHC current and in line with the scientific literature. However, the agency has thus far taken a passive, informal approach to understanding stakeholder use and implementation of the MAHC. The MAHC is currently written in "code language" so that individual jurisdictions can readily use all or parts of MAHC language, modify the MAHC as needed to meet their unique needs, or choose not to use the MAHC at all. Based on anecdotal reports from across the United States, CDC is aware of

multiple jurisdictions incorporating MAHC language into their pool regulations or using the MAHC or MAHC Annex as references. There is a need for CDC to formally characterize the use and acceptability of the MAHC and assess the contextual factors that contribute to or serve as barriers for MAHC use and implementation to ensure the MAHC and MAHC Annex are meeting CDC's STLT partner needs and help to prioritize program resource allocation for future MAHC/Annex activities (e.g., revisions, associated resources such as training materials or infographics). This activity falls under Objective 1 of CDC Waterborne Disease Prevention Branch's (WDPB) 2024 strategic objectives: to prevent and control Water, Sanitation, and Hygiene (WASH)-related outbreaks. Within NCEZID's Domestic Water, Sanitation, and Hygiene Epidemiology (DWASHE) Team, this work establishes a baseline understanding of partners' level of understanding or engagement with WASH-related policies, regulations, and prevention behaviors.

CDC does not anticipate that these data collection activities will yield generalizable data. Rather, results will be used to better understand the range of experiences among STLT participants and serve as one of many data inputs into MAHC program management and decision-making. Specifically, we expect that results will indicate which sections of the MAHC are most useful to STLT partners (including supplemental resources available on the CDC website including the MAHC Annex, mini-MAHCs, training resources, etc.). We aim to learn where the MAHC could be streamlined or reformatted and what further supporting resources may need to be developed to facilitate MAHC use and implementation. Further, we will gain an understanding of why the MAHC may not be used or implemented by a jurisdiction (e.g., the jurisdiction already has a comprehensive code that is in agreement with the MAHC). Finally, we aim to put forth case studies of jurisdictions to provide strategies for future MAHC use and implementation.

3. Use of Improved Information Technology and Burden Reduction

Data from the quantitative survey will be collected using Epi Info™, an online CDC data collection tool. Focus groups and case study data collection will be conducted using online video meetings (i.e., Zoom®) because these discussions require direct interaction between respondents and project staff.

4. Efforts to Identify Duplication and Use of Similar Information

CDC recognizes and understands the fact that many collection requests are made to governmental health agencies and their delegates. This data collection activity does not duplicate other current or recent requests for information about the MAHC overall. CDC is aware that portions of the MAHC have been evaluated during small projects by non-governmental organizations in the 10-year history of the MAHC; however, these data collection activities had limited reach (i.e., requested information from a few jurisdictions) and scope (i.e., focused on a part of the MAHC or MAHC resource). Information gathered during this current assessment will not duplicate previous assessments and will be invaluable to CDC as decisions are made to improve the MAHC and its related activities and resources in the future.

5. Impact on Small Businesses or Other Small Entities

No small businesses will be involved in this data collection.

6. Consequences of Collecting the Information Less Frequently

This is a one-time information collection. Some respondents may choose to participate in more than one part of this full data collection activity (i.e., quantitative survey, focus group, and/or case study). For example, a sub-set of survey respondents (N≤1,334) will be asked to participate in focus groups (n≤24), and a sub-set of focus group participants will be asked to participate in the case studies (n≤15); approximately 15 participants may participate in all three data collection activities (total time commitment = 2.25 hours). This multi-phased approach will allow us to gain a substantially more robust understanding of MAHC use and implementation, which will be used to inform program and resource improvement. Conducting this mixed quantitative-qualitative assessment will allow CDC to improve the MAHC as a resource for CDC's partners, modify the MAHC-related support we provide our STLT partners, and provide necessary systemic enhancements to MAHC-related activities in the future.

7. Special Circumstances Relating to the Guidelines of 5 CFR 1320.5

There are no special circumstances with this information collection package. This request fully complies with the guidelines of 5 CFR 1320.5.

8. Comments in Response to the Federal Register Notice and Efforts to Consult Outside the Agency

This data collection is being conducted using the Generic Information Collection mechanism of the PHIC STLT Generic Information Collection Service (STLT Generic) – OMB No. 0920-0879. A 60-day Federal Register Notice was published in the Federal Register on January 23, 2023, Vol. 88, No. 14, pp. 3991-3992. One non-substantive comment was received; no changes were made to the generic clearance. Additional public comment periods are not required for project-specific data collection requests submitted under this generic clearance.

CDC partners with professional STLT organizations, such as the Association of State and Territorial Health Officials (ASTHO), the National Association of County and City Health Officials (NACCHO), and the National Association of Local Boards of Health (NALBOH) along with the National Center for Health Statistics (NCHS) to ensure that the collection requests under individual ICs are not in conflict with collections they have or will have in the field within the same timeframe.

9. Explanation of Any Payment or Gift to Respondents

CDC will not provide payments or gifts to respondents.

10. Protection of the Privacy and Confidentiality of Information Provided by Respondents

The Privacy Act does not apply to this data collection. State, tribal, local, and territorial government agency staff or delegates will be speaking from their official roles. If asked to provide any identifiable information, it will relate to their official duties (e.g., title, professional email address). All identifiable information will be securely stored. All results will be reported in the aggregate with all identifiable information removed.

11. Institutional Review Board (IRB) and Justification for Sensitive Questions

No information will be collected that are of personal or sensitive nature. This data collection is not research involving human subjects.

12. Estimates of Annualized Burden Hours and Costs

A. Estimated Annualized Burden Hours

The burden is calculated based on the assumption that within the U.S., there are approximately 800 state and territorial (800) as well as 3,000 county health officials/employees, with a representative sample of at most 100 municipal/city employees. We estimate a total of 4,000 based on 50 states, 8 territories, 574 federally recognized tribes, and additional room for various positions in health department (epidemiology, environment health, etc.). From these 4,000, we anticipate that we will have a response rate of approximately 33% (1,334).

An average hourly salary of approximately $40.80 is assumed for all respondents, based on the Bureau of Labor Statistics' National Occupational Employment and Wage Estimates [4]. Respondents will be STLT epidemiologists ($41.29/hr) and environmental health specialists ($40.30/hr). With a maximum annual respondent burden of 708 hours, the overall annual cost of respondents' time for the proposed collection is estimated to be a maximum $28,886.40 (706 hours x $40.80).

Type of Respondent	Form Name	No. of Respondents	No. Responses per Respondent	Avg. Burden per response (in hrs.)	Total Burden (in hrs.)
STLT Staff and Delegates	MAHC Use and Acceptability Survey (Attachment B)	1,334 (4,000 staff and delegates with a response rate of ~33%)	1	0.5	667
STLT Staff and Delegates	Focus Group Guide (Attachments D1-D3)	24	1	1.0	24

STLT Staff and Delegates	Case Study IDI Guide (Attachment E)	15	1	1.0	15
Total					706

B. Estimated Annualized Burden Costs

Type of Respondent	Form Name	Total Burden Hours	Hourly Wage Rate	Total Respondent Costs
STLT Staff and Delegates	MAHC Use and Acceptability Survey (Attachment B)	667	$40.80	$27,213.6
STLT Staff and Delegates	Focus Group Guide (Attachments D1, D2, D3)	24	$40.80	$979.20
STLT Staff and Delegates	Case Study IDI Guide (Attachment E)	15	$40.80	$612.00
Total				**$28,804.80**

13. Estimates of Other Total Annual Cost Burden to Respondents or Record Keepers

There are no direct costs to respondents other than their time to participate.

14. Annualized Cost to the Government

There are no equipment or overhead costs. The only cost to the federal government is the salary of CDC staff (or contractors) supporting the data collection activities and associated tasks. This GenIC was prepared by CDC staff (FTE). An FTE manager reviewed all data collections. CDC staff from the National Center for Emerging and Zoonotic Infectious Diseases, National Center for Injury Prevention and Control, and National Center for Environmental Health worked together on data collection preparations, and will conduct the data collections, and analyze data. A senior level FTE reviewed and approved the activities.

The estimated cost to the federal government for this mixed methods activity is $25,432.60.

Estimated Annualized Cost to the Government per Activity				
Cost Category	Average Hourly Rate	Approximate Number of Staff	Approximate Number of Hours	Estimated Annualized* Cost
FTE coordinator (GS-12)	$35.67	1	10	$238.99

FTE instrument preparation, data collection, data analysis (GS-14, GS-13, GS-12)	$42.73	12	15	$5,153.24
FTE data collection (GS-14, GS-13, GS-12)	$42.73	5	40	$5,725.82
FTE data analysis (GS-14-, GS-13, GS-12)	$42.73	5	100	$14,314.55
Total				**$25,432.60**

*Estimated Annualized Cost = total 1.5-year project cost * 0.67 to ascertain cost for 1 year.

15. Explanation for Program Changes or Adjustments

This is a new data collection.

16. Plans for Tabulation and Publication and Project Time Schedule

Data will be collected from the time of approval through October 2024. Data cleaning and analysis for each activity (survey, focus group, case study) will be conducted when each collection period is finalized. Analysis and reporting will begin as soon as they are final, but no later than November 2025, with final result dissemination occurring no later than December 2025.

Project Time Schedule	
Activity	Time Schedule
IRB review complete, determined non-research	March 2024
Receive OMB approval under 0920-0879	July/August 2024
Initiate quantitative survey	August/September 2024
Begin analyzing survey results	October 2024
Complete focus groups	November 2024
Begin analyzing focus group results	December 2024
Begin to conduct case studies	January 2025
Finalize data analysis and reporting	November 2025
Disseminate results	December 2025

17. Reason(s) Display of OMB Expiration Date is Inappropriate

CDC does not request exemption from display of the OMB expiration date.

18. Exceptions to Certification for Paperwork Reduction Act Submissions

There are no exceptions to the certification.

Attachments

A. STARS_MAHC

B. MAHC Use and Acceptability Survey

C. Algorithm for Determining Focus Group Placement

D1. MAHC Use and Acceptability Focus Group Discussion Guide—Limited Use

D2. MAHC Use and Acceptability Focus Group Discussion Guide—Moderate Use

D3. MAHC Use and Acceptability Focus Group Discussion Guide—Advanced Use

E. Case Study In Depth Interview Guide

F. Survey Consent Form

G1. Survey Recruitment Email

G2. Survey Partner Listserv Recruitment Email

G3. Survey Reminder Email

H. Survey Snowball Sampling Recruitment Email

I1. Focus Group Invitation Email

I2. Focus Group Confirmation Email

I3. Focus Group Reminder Email

J. Focus Group Consent Form

K1. Case Study Recruitment Email

K2. Case Study Confirmation Email

L. Case Study Consent Form

References

1. Schoch, Kurt. "Case study research." Research design and methods: An applied guide for the scholar-practitioner (2020): 245-258.
2. Stake, Robert E. Multiple case study analysis. Guilford press, 2013.
3. Creswell, John W., and Cheryl N. Poth. Qualitative inquiry and research design: Choosing among five approaches. Sage publications, 2016.
4. Bureau of Labor Statistics. "National occupational employment and wage estimates." (2022). https://www.bls.gov/oes/current/oes_nat.htm