IDI study of *Legionella* and legionellosis detection, treatment, remediation and prevention activities, messages, and materials

Generic Information Collection
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New

Supporting Statement Part B

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B. DATA COLLECTION & STATISTICAL METHODS

Data collection will consist of in-depth interview methodology. In-depth interviews are widely used in stages 1 and 2 of the Health Communication Process (National Cancer Institute, 2002). In an in-depth interview, a member of the target audience engages in a semi-structured discussion of selected topics of interest directed by an interviewer. Key questions provide guidance and help define areas to be explored while allowing the interviewer and/or interviewee the flexibility to pursue an idea or response in more detail. This approach allows for discovery and elaboration of information that is important to the participant(s) but may not have been thought of as pertinent by the research team. In-depth interviews encourage participants to describe their experiences and preferences without the limitations of preset response categories. Furthermore, in-depth interviews can produce rich data complete with nuances that often may be obscured in quantitative data collection techniques.

Qualitative information will be collected to provide insights about respondents' knowledge, attitudes, beliefs, and behaviors related to *Legionella* and legionellosis. CDC will also assess understanding, clarity of *Legionella* materials and guidance documents including the "Developing a Water Management Program to Reduce *Legionella* Growth & Spread in Buildings" toolkit and a *Legionella* fact sheet with clinicians, building managers and water maintenance staff and water system risk management and remediation company staff. Qualitative findings from this research will be used to fine tune existing materials, avoid unintended consequences of untested messages and materials, and inform development of future messages and materials.

B1. Respondent Universe

CDC plans to conduct 48 in-depth interviews by telephone. Participants for the interviews will be nationally inclusive and selected from areas with recent legionellosis outbreaks as well as those that have not had recent outbreaks. The four participant groups are:

1. Sixteen treating clinicians; 8 in areas with recent legionellosis outbreaks (New York City, Illinois, Michigan, Pittsburgh, and California) and 8 in areas from the rest of the continental United States without recent legionellosis outbreaks
2. Sixteen infection control clinicians; 8 in areas with recent legionellosis outbreaks (New York City, Illinois, Michigan, Pittsburgh, and California) and 8 in areas from the rest of the continental United States without recent legionellosis outbreaks
3. Eight building managers/water maintenance staff from across the U.S.
4. Eight water system risk management and remediation company staff from across the U.S.

The sample will be a convenience sample from the four distinct audiences for testing CDC messages and materials and collecting activity information.

The recruitment and screening process is designed to identify participants who are in the target groups. Participants can be male or female, any race or ethnicity, and must be over age 18. Inclusion criteria for each audience are detailed in Table B1-A. For participants working in areas without recent legionellosis outbreaks, an equal number will be recruited from each of the four U.S. Census regions. Since the interviews will be conducted by telephone,

recruiters will assess if participants have phone access and the capability to use an online screen-sharing platform to display materials or if materials will need to be sent to them via USPS or email.

Table B1-A. Inclusion Criteria	
Audience	**Inclusion criteria**
Treating clinicians	• MD or DO who diagnoses and treats patients in a hospital • Spends at least 20% of his/her time diagnosing and treating patients in a hospital setting • Regularly diagnoses and treats patients with respiratory diseases like pneumonia
Infection control clinicians	• One of the people primarily responsible for oversight of infection control in his/her hospital
Building managers and water maintenance staff	• Oversight of water systems, such as cooling towers, hot tubs, or potable water, is a part of his/her professional responsibilities • Spends at least 20% of his/her time managing or conducting water-system related activities • Works with buildings that are at least 11 stories (including the basement) or contain a cooling tower
Water system risk management and remediation company staff	• Risk management or remediation of water systems, such as cooling towers, hot tubs, or potable water, is a major part of his/her professional responsibilities • Tests for Legionella as part of his/her work • Has conducted water system risk management or remediation in a one of the following: o Residential building, hotel or office that is at least 11 stores o Medical facility o Public building o Other building that is at least 11 stories

B2. Procedures for Information Collection

The following steps will occur to refine existing materials and to plan for the development of new materials for *Legionella* guidance and educational materials.

Participants will be identified and recruited using a Screening Form (Appendices 1, 2, 3, and 4). Estimated burden of screening possible participants is ten minutes. All participants will provide written, informed consent to take part in the study (Appendices 5, 6, 7 and 8). While identifying information (i.e., hospital) will be disclosed on the screener and the consent forms, any identifiable information will be omitted from the interview transcripts and all reporting. The information that the respondents will provide will be kept private and secure to the extent provided by law.

Participants will be recruited using a professional recruiting firm (e.g. using proprietary lists and databases maintained by professional recruiting). Once eligible participants have been identified by the professional recruiting firm that will be used for recruitment, the appropriate number of participants for each group will be asked to participate based on the sampling frame.

In-depth interviews will be conducted under the direction of a professionally trained interviewer, who will use the Interview Guides **(**Appendices 9, 10, 11 and 12) and materials (Appendices 13, 14, 15, and 16). The estimated burden per response is one hour. The information collected will be used to appropriately plan for development of new *Legionella* materials and refine existing materials. These interview guides will be utilized in every interview. The interviewer will ask a series of questions to assess knowledge, attitudes, and beliefs related to *Legionella* and will also show print materials and images to participants, to assess the appeal and understandability of the messaging and materials. Information derived from the discussion will guide CDC planning for new messaging and materials as well as possible refinement to existing materials.

B3. Methods to Maximize Response Rates

Each participant will receive a nominal monetary acknowledgement as a token of appreciation to facilitate the recruitment of the identified professionals who are in very specific specialty roles and expected to be hard to reach and recruit. This acknowledgement will reduce the number of no shows and the time of the research and government staff will have to invest for no shows. This will also help reduce the labor hours of recruiters, representing a potential cost savings to the Government. To the extent possible, interview opportunities will be available throughout the day and evenings to make it convenient for respondents.

To assess the need for and amount of an appropriate token of appreciation to participants, four IDI planners and moderators who work on government initiatives as well as for the private sector were consulted. These individuals have extensive experience in planning and conducting in-depth interviews, and are in constant contact with research firms who recruit research participants around the country. They are up-to-date with recruitment challenges and current practices related to incentives that aid in recruitment of in-depth interview participants. The tokens of appreciation proposed here are the minimum recommended based on our consultation with these experts and their extensive knowledge and experience in effective recruitment and participation. They are also consistent with past practices related to CDC's research with clinicians. Participants are required to have phone and are preferred to have computer access and participate in the interview for 60 minutes.

Providing each clinician group (treating clinicians and infection control clinicians) with $200 helps to show appreciation for his or her participation and recognize the effort involved in rearranging their schedule, workload, and/or patient load in their practice, hospital, or other job site to participate in the interview. They will also need to use a personal or business phone and computer during the 60 minutes. Additionally, clinicians are a specialized group and half of the clinicians interviewed will be from five areas with recent legionellosis outbreaks and with this limited catchment area and the fact that IDI interviews/research is not

core to their practice, a nominal monetary acknowledgement as a token of appreciation that aid in recruitment will be important.

Building managers and water maintenance staff and water system risk management and remediation company staff are two critical target audiences for this research as they are the end users of the guidance and educational materials being tested and the senior leaders in charge of prevention, detection, treatment, management, and remediation practices at the national, regional, state, and local community level. Their participation in this research is critical. This will be the first time that NCIRD has engaged these groups in research. We anticipate this audience may be challenging to reach; they may not have a high level of awareness of public health issues specific to legionellosis outbreaks and their impacts. These two groups will receive $100.00 as a token of appreciation. This acknowledgement will be critical to aid in recruitment and to boost participation in the interviews.

B4. Tests or Procedures or Methods to be Undertaken

The Health Communication Process is not linear, but rather is a circular model in which stages are revisited in a continuous loop of planning, development, implementation, and refinement of campaigns. Innovations and improvements are incorporated into subsequent campaign cycles. This process and the use of in-depth interviews to inform the development and refinement of communication materials and campaigns currently proposed have been used and refined by NCIRD in communication and public education campaigns over the past ten years.

Analysis of the interview data will employ a transcript and note-based approach. The transcript/note-based analysis will rely primarily on transcripts, observation notes, and any debriefing sessions, and summary comments made after the conclusion of interviews. The interviews will be audio recorded and transcripts, with identifying information removed, will be prepared. Analysis will include the identification of key findings and overarching themes which will be presented in a report to NCIRD.

B5. Individuals Consulted on Statistical Aspects and Individuals Collecting and/or Analyzing Data

The following individuals have been consulted on the design of this qualitative information collection.

Individuals consulted	**Key Roles**
Allison Fisher, MPH Division of Bacterial Diseases Centers for Disease Control and Prevention (404) 639-3604 aqp0@cdc.gov	Study design, data analysis
Alison Albert, MPH Division of Bacterial Diseases Centers for Disease Control and Prevention (404) 639-3604 aqp0@cdc.gov	campaign planning, material development, material refinement, study development
Angela Jiles, MPH	campaign planning, material development, material

Division of Bacterial Diseases Centers for Disease Control and Prevention (404) 639-4752 avb8@cdc.gov	refinement, study development
Jessica Kolis, MPH Division of Bacterial Diseases Centers for Disease Control and Prevention (404) 718-1259 ywe5@cdc.gov	campaign planning, material development, material refinement, study development
Rebecca Ledsky FHI 360, Social Marketing and Communication (202) 884.8814 rledsky@fhi360.org	Study design, implementation, data analysis
Thomas Lehman FHI 360, Social Marketing and Communication 202.884.8863 tlehman@fhi360.org	Study design, implementation, data analysis
Lauren Bader FHI 360, Social Marketing and Communication (202) 884.8545 lbader@fhi360@fhi360.org	Implementation, data analysis
Sandra Hannon The Hannon Group (301) 839.2744 shannon@thehannongroup.com	Implementation

References

Centers for Disease Control and Prevention. Legionella (Legionnaires' disease) Web site. https://www.cdc.gov/legionella/index.html

National Cancer Institute. (2002). Making Health Communication Programs Work (NIH Publication No. 02-5145). Bethesda, MD: Department of Health and Human Services.