

Legionnaires' Disease Hypothesis-generating Questionnaire Template

<Instructions to the interviewer appear in italics. Please read the entire questionnaire before beginning the interview.>

<After confirming a case of Legionnaires' disease or Pontiac fever and completing the CDC Legionellosis Case Report Form, you can use this form to collect additional epidemiologic data. These data may be useful in detecting outbreaks or in a future cluster/outbreak investigation. You may add this form to your state's electronic notifiable disease surveillance system in whole or in part for routine data collection. A more detailed questionnaire that you can customize to the outbreak location should be developed and used for cases associated with a known outbreak.>

What was the patient's outcome? Recovered Still Ill Died Unknown

Interviewer identification

Interviewer's name: _____ Health department: _____

Phone: _____ Email: _____

Patient contact information

Name: _____ Age: _____ Sex: M F

Address: _____

City: _____ State: _____ Zip: _____ County: _____

Phone: _____ Alt. phone: _____

Proxy contact information *<List proxy contact information if patient is unable to be interviewed or has died.>*

Name: _____ Relationship to patient: _____

Phone: _____ Alt. phone: _____

Template call script

Hello, my name is _____ and I'm calling from _____.
I understand you have already spoken with someone about your recent Legionnaires' disease *<or Pontiac fever>* illness. Legionnaires' disease *<or Pontiac fever>* is a reportable disease, which means that healthcare providers must report cases to public health so that we can determine if there is a public health concern. I'd like to ask you several additional questions about your activity during the 14 days before you got sick. The answers to the questions might help us find a source of water that contains the *Legionella* germ and is making people ill. I understand you may have already answered some of these questions previously, and you do not have to answer any of the questions again, but we appreciate your

cooperation and it could help prevent others from getting sick. Do you have a few minutes to talk? If not now, when would be a good time for me to call back?

Typical symptoms of Legionnaires’ disease include:

- Cough
- Shortness of breath
- Fever
- Muscle aches
- Headaches

<If Pontiac fever, replace symptoms above with fever, muscle aches, and headaches.>

I have that your first symptom started on *<insert onset date>* _____. Is this correct?

Yes No Not sure

If no, what was the first date you started feeling sick? _____

Exposure information

<Important: Use a calendar to calculate the exposure period. Start at the date of earliest symptom onset documented above and count backwards 14 days. See the example below.>

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3 <i>1st day of exposure period</i>	4	5
6	7	8	9	10	11	12
13	14	15	16	17 <i>Date of onset</i>	18	19

<Document exposure period here: _____ to _____.>

I’d like to ask you some questions about your travel and exposures during the **14 days before you got sick**. The time period I’m asking about is between _____ and _____.

During the 14 days before you got sick, did you work at, get treatment in, or visit a hospital?

Yes No Not sure

<If yes, check all that apply:>

Exposure	Hospital name and location	Reason for visit	Date(s)
<input type="checkbox"/> Inpatient			Admission: _____ Discharge: _____
<input type="checkbox"/> Outpatient			
<input type="checkbox"/> Visitor			
<input type="checkbox"/> Employee			
<input type="checkbox"/> Volunteer			

Comments: _____

During the 14 days before you got sick, did you work at, get treatment in, or visit a doctor’s office, clinic, or dental office?

Yes No Not sure

<If yes, check all that apply:>

Type of clinic	Exposure	Name of doctor and location	Reason for visit	Date(s)
<input type="checkbox"/> Doctor’s office or clinic	<input type="checkbox"/> Outpatient <input type="checkbox"/> Visitor <input type="checkbox"/> Employee <input type="checkbox"/> Volunteer			
<input type="checkbox"/> Dentist	<input type="checkbox"/> Outpatient <input type="checkbox"/> Visitor <input type="checkbox"/> Employee <input type="checkbox"/> Volunteer			

Comments: _____

During the 14 days before you got sick, did you work at, reside in, or visit a long-term care facility?

- Yes No Not sure

<If yes, check all that apply:>

Type of facility	Exposure	Name of facility and location	Date(s)
<input type="checkbox"/> Long-term care facility (nursing home, rehab facility, or skilled nursing facility)	<input type="checkbox"/> Resident <input type="checkbox"/> Inpatient <input type="checkbox"/> Visitor <input type="checkbox"/> Employee <input type="checkbox"/> Volunteer		

Comments: _____

During the 14 days before you got sick, did you work at, reside in, or visit a senior living or assisted living facility?

- Yes No Not sure

<If yes, check all that apply:>

Type of facility	Exposure	Name of facility and location	Date(s)
<input type="checkbox"/> Senior Living (retirement homes without skilled nursing or personal care)	<input type="checkbox"/> Resident <input type="checkbox"/> Visitor <input type="checkbox"/> Employee <input type="checkbox"/> Volunteer		
<input type="checkbox"/> Assisted Living (facilities providing support with activities of daily living, i.e., bathing and dressing)	<input type="checkbox"/> Resident <input type="checkbox"/> Visitor <input type="checkbox"/> Employee <input type="checkbox"/> Volunteer		

Comments: _____

During the 14 days before you got sick, did you spend any nights away from home (excluding healthcare settings), such as staying at a hotel or going on a cruise? <Note: If the patient has been on a cruise during the exposure period, complete the CDC's [Legionnaires' Disease Cruise Ship Questionnaire Template](#).>

- Yes No Not sure

<If yes, complete the following table:>

Accommodation name	Address	City, state/ country	Room #	Dates of stay	
				Arrival	Departure

Comments: _____

During the 14 days before you got sick, did you visit a hotel **without** staying overnight? (e.g., dinner, wedding, employee)?

Yes No Not sure

<If yes, complete the following table:>

Accommodation name	Address	City, state/ country	Date(s)	Reason for visit

Comments: _____

During the 14 days before you got sick, did you attend any conventions or public gatherings?

Yes No Not sure

<If yes, complete the following table:>

Type of event	Name of venue	Location	Date(s)

Comments: _____

During the 14 days before you got sick, During the 14 days before you got sick, did you work at, reside in, or visit a congregate living facility (e.g., correctional facility, shelter, dormitory)?
 Yes No Not sure

<If yes, complete the following table:>

Type of event	Name of venue	Location	Date(s)

Comments: _____

During the 14 days before you got sick, did you have exposure to any of the following, either while traveling or at home?
 Yes No Not sure

<If yes, complete the following table:>

Exposures	<Check one:>			Location	Date(s)
	Yes	No	Not sure		
Hot tub, Jacuzzi®, or whirlpool spa					
Sat NEAR a working hot tub but did not get in					
Pool					
Recreational misters					
Outdoor cooling mister					
Lawn or golf course sprinkler					

Exposures	<Check one:>			Location	Date(s)
	Yes	No	Not sure		
Steam room or wet sauna					
Decorative fountain or waterfall					
Humidifier					
Shower (away from home only)					

Comments: _____

Did you use a nebulizer, CPAP, BiPAP, or any respiratory therapy equipment for the treatment of sleep apnea, COPD, asthma, or for any other reason?

Yes No Not sure

<If yes, complete the following table:>

Type of device	Location	Date(s)

If yes, does this device use a humidifier? Yes No Not sure

If yes, describe what type of water you use in this device (e.g., sterile, tap, distilled) and how you clean it.

Where do you get your water at home? <Check all that apply>

- Municipal water system
- Private well
- Unknown
- Other (specify): _____

Do you recall any general construction, plumbing projects, water main breaks, or water line work either at your home or at any other locations during the 6 months before you got sick?

- Yes No Not sure

<If yes, complete the following table:>

Type of work	Location	Date(s)

Comments: _____

During the 14 days before you got sick, did you shop at a grocery store where there were mister machines spraying the fruits and vegetables?

- Yes No Not sure

<If yes, complete the following table:>

Name of store	Location	Date(s)

Comments: _____

During the 14 days before you got sick, did you work in a garden, have contact with potting soil, or visit a garden center?

- Yes No Not sure

<If yes, complete the following table:>

Activity	Location	Date(s)

Comments: _____

During the 14 days before you got sick, did you visit an area with large buildings, such as shopping centers, high-rise offices or hotels, or industrial buildings?

Yes No Not sure

<If yes, complete the following table:>

Name	Location	Date(s)

Comments: _____

Do you work or volunteer full- or part-time?

Yes No

<If yes, complete the following table:>

Job description	Name of employer	Location	Any exposure to misty water?

Comments: _____

Specifically, do you work in any of the following settings?

Exposures	<Check one:>			Location	Date(s)
	Yes	No	Not sure		
Construction					

Exposures	<Check one:>			Location	Date(s)
	Yes	No	Not sure		
Industrial/manufacturing plant with water spray cooling or processes					
Building water system/device operation or maintenance (e.g., cooling towers, plumbing, hot tubs)					
Water-related leisure activities (e.g., hotels, cruise ships, water parks)					
Waste water treatment plant					
Truck driving (long haul)					
Dishwashing (e.g., in a commercial or industrial kitchen)					
Custodial services (e.g., housekeeping, janitorial work)					
Other job with water exposures					

Comments: _____

Associates with symptoms

Do you know anyone with symptoms similar to yours?

Typical symptoms of Legionnaires' disease include:

- Cough
- Shortness of breath
- Fever
- Muscle aches
- Headaches

<If Pontiac fever, replace with fever, muscle aches, and headache.>

Yes No Not sure

If yes, may we contact them to ask a few additional details about their illness?

Yes No

<If yes, complete the following table:>

Name	Phone	State of residence	Details shared

Medical history and health behaviors

Now I’m going to ask a few questions about your medical history and health behaviors. Have you ever been told by a healthcare provider that you had:

Underlying medical condition	<Check one:>			Comments
	Yes	No	Not Sure	
Chronic lung disease (COPD, emphysema)				
Asthma				
Diabetes				
Heart disease or heart failure				
Chronic kidney disease				
Liver disease				
Stroke				
Dementia				
Risk for aspiration				
Weakened immune system due to medications or treatment (e.g., chemotherapy, radiation therapy, immunosuppressive medications)				
Weakened immune system due to underlying illness (e.g., HIV, immunoglobulin deficiency, splenectomy, sickle cell anemia)				
Hematologic cancer (e.g., lymphoma, leukemia, multiple myeloma)				
Solid organ cancer				
Bone marrow transplant				
Solid organ transplant				
Other conditions <list>				

Behaviors	<Check one:>		Quantity per day (packs or drinks)	Duration (years)
	Yes	No		
Are you currently a smoker?				
Are you a former smoker?				
Do you drink alcohol?				

That is the end of the questionnaire! Thank you for your time. Do you have any questions about Legionnaires' disease <or Pontiac fever> that I can help answer? If you have any questions or remember any further details, you may reach me at _____. Thank you.