

# National Outbreak Reporting System (NORS)

## User Training Document –Water Section

### Table of Contents

1. INTRODUCTION – WATER SECTION.....	2
2. TYPE OF WATER EXPOSURE TAB .....	3
3. EPIDEMIOLOGIC DATA TAB .....	4
3.1 EPIDEMIOLOGIC DATA SECTION.....	5
3.2 GEOGRAPIC LOCATION SECTION .....	8
3.3 ROUTE OF ENTRY SECTION .....	9
3.4 ASSOCIATED EVENTS SECTION .....	10

## 1. INTRODUCTION – WATER SECTION

This is a National Outbreak Reporting System (NORS) training guide for waterborne disease outbreak reports. The document provides a brief overview of how to complete the Water section in NORS. The Water Section collects information about the type of water implicated in the outbreak investigation and any epidemiologic data related to the water exposure. Training guides for the other types of sections are available in separate training documents.

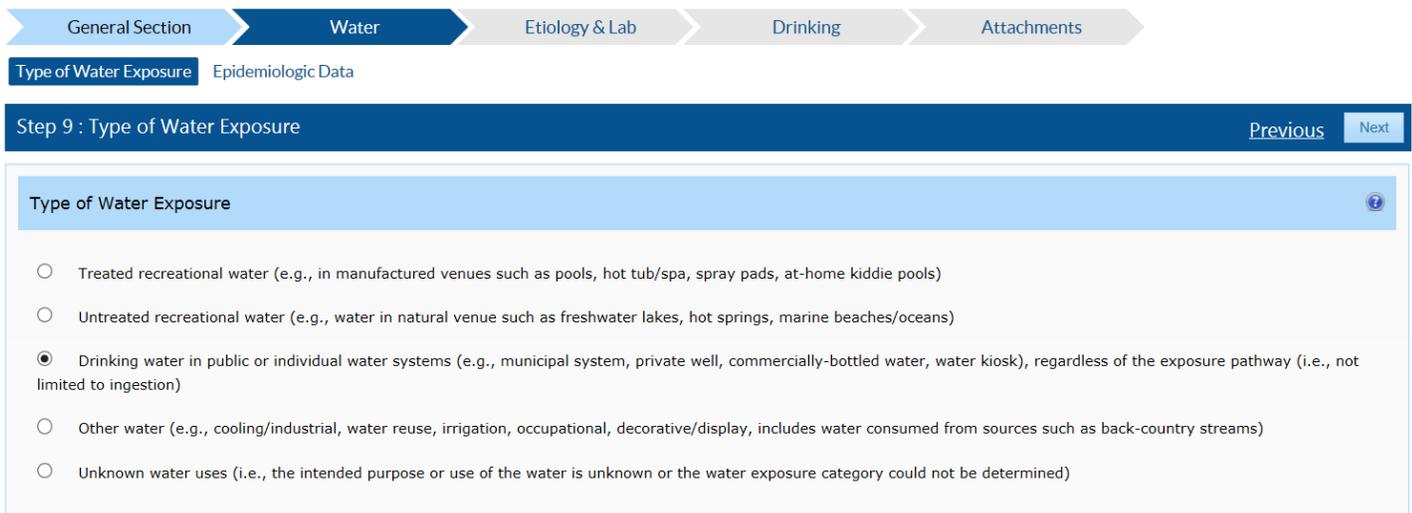


If you need additional guidance or have other report questions, click on the Quick Help icon, a blue button with the question mark near the top of each question box within the NORS interface, the NORS-Water Guidance Document at [www.cdc.gov/nors/forms.html](http://www.cdc.gov/nors/forms.html). 

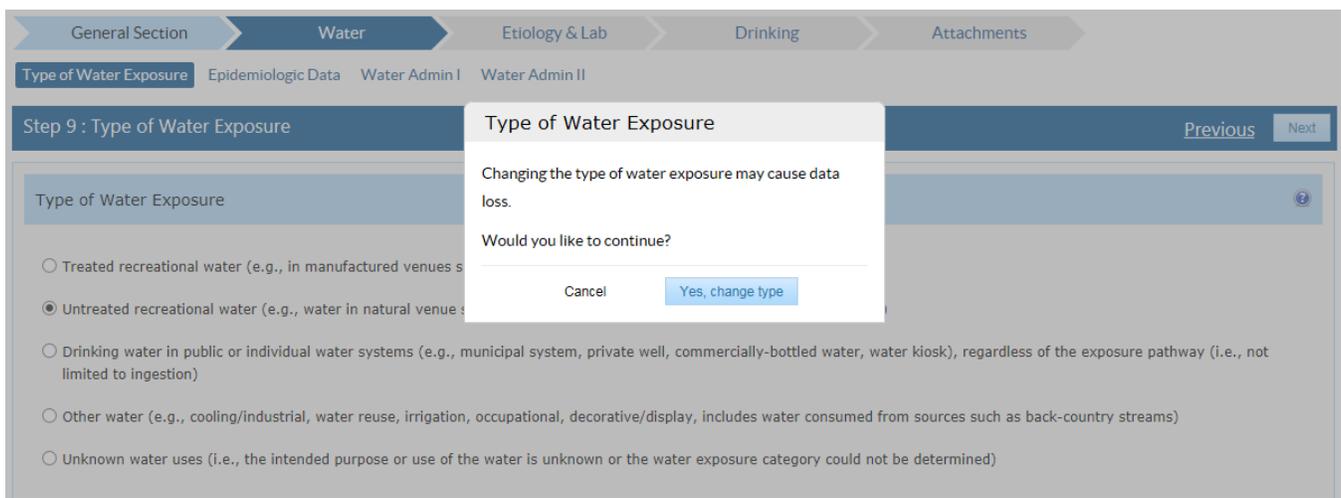
## 2. TYPE OF WATER EXPOSURE TAB

Begin with the Type of Water Exposure Tab, Step 9. This question indicates the primary “Type of Water Exposure” that led to the waterborne disease outbreak.

Click on the radio button next to the type of water exposure that was involved in the outbreak. The options in this section are “Treated recreational water”, “Untreated recreational water”, “Drinking water in public or individual water systems”, “Other water”, and “Unknown water uses”.



If you are updating an existing NORS report and need to change the “Type of Water Exposure”, select the new “Type of Water Exposure” from the listed options. Once the new “Type of Water Exposure” is selected a pop-up window will appear that will ask you to verify the change. In the pop-up window, click the “Yes” button to continue. The new exposure type will be saved and you can then proceed to the following page. Note that when a new “Type of Water Exposure” is selected, some information in subsequent sections of the report may be lost.



### 3. EPIDEMIOLOGIC DATA TAB

The Epidemiologic Data Tab summarizes the epidemiologic investigation and its findings for water implicated in the outbreak investigation. There are four sections within this tab: the Epidemiologic Data Section, the Geographic Location Section, the Route of Entry Section, and Associated Events Section.

General Section **Water** Etiology & Lab Attachments

Type of Water Exposure **Epidemiologic Data** Water Admin I Water Admin II

Step 10 : Epidemiologic Data Previous Next

Epidemiologic Data ?

1. Estimated total number of persons with primary exposure:

2. Were data collected from comparison groups to estimate risk?  
 Yes  No  Unknown

If No or Unknown, was water the common source shared by persons who were ill?  
 Yes  No  Unknown

[+ Add Exposure](#)

Attack rate for residents of reporting state:  %      Attack rate for non-residents of reporting state:  %

Geographic Location ?

Percent of primary cases living in reporting state:  %

Associated Events ?

Was exposure associated with a specific event or gathering?  
 Yes  No  Unknown

If Yes, what type of event or gathering was involved?

If outbreak occurred during a defined event, dates of event:  
Start Date:       End Date:

Route of Entry ?

- Contact
- Ingestion
- Inhalation
- Other
- Unknown

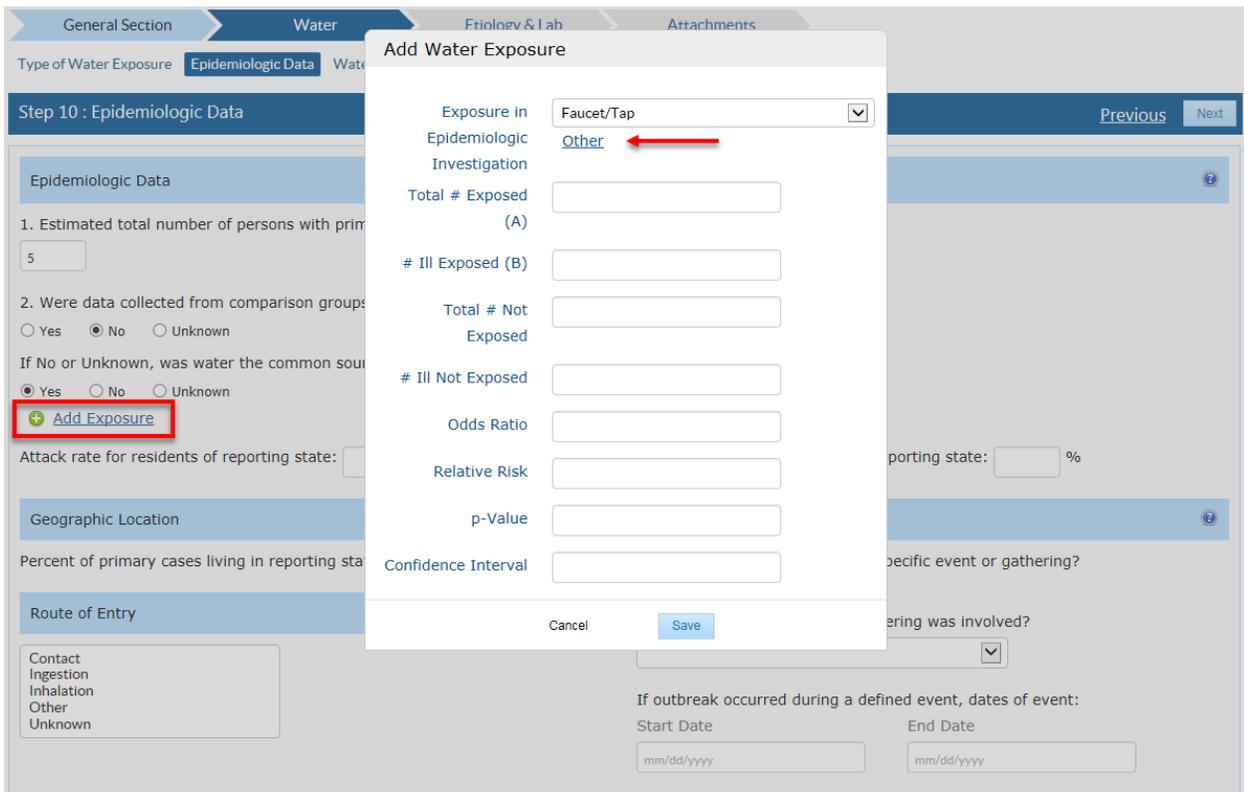
### 3.1 EPIDEMIOLOGIC DATA SECTION

In the Epidemiologic Data Section, the first question asks for the “Estimated total number of persons with the primary exposure”, regardless of whether they became ill or not. If known, enter the actual number of persons with the primary exposure instead.

The second question in the Epidemiologic Data section asks “Were data collected from comparison groups to estimate risk?” If an epidemiologic study such as a cohort, case-control, or cross-sectional study was completed, click on the radio button next to “Yes”. Otherwise, select “No” or “Unknown” and complete the third question, which asks if water was the common source (i.e., exposure) shared by persons who were ill. If it is only suspected that water was the common source (i.e., exposure), select “Unknown.”

If you have epidemiologic data from a cohort, case-control, or cross-sectional study, enter data into the Epidemiologic Data Section by clicking the “Add Exposure” link and entering information into the pop-up window. You can report the following information: the “Exposure in Epidemiologic Investigation”, the “Total # Exposed (A)”, the “# Ill Exposed (B)”, the “Total # Not Exposed”, the “# Not Exposed”, the “Odds Ratio”, the “Relative Risk”, the “p-Value”, and the “Confidence Interval”.

In the pop-up window, the Exposure in the Epidemiologic Investigation field describes the type of exposure, vehicle or setting that was evaluated by the epidemiological study, for example a swimming pool or lake. If you do not find the exposure that you need in the drop down list, click the “Other” link below the “Exposure in Epidemiologic Investigation” field to add the new value. Check the list to verify that a value does not exist before adding it to the list.



If the value does not already exist in the “Exposure in Epidemiologic Investigation” drop down list, enter the new value in the highlighted textbox and click the “Save” link to save the new value. Once a new value is added it will be included in the drop down list of options available to all NORS users. In the remaining fields below the “Exposure in Epidemiologic Investigation” field, enter the numerical values identified from the outbreak investigation, then click on the “Save” button to complete the entry and close the pop-up window.

The screenshot displays the NORS Water Section interface. The main window is titled "Step 10 : Epidemiologic Data" and includes sections for "Epidemiologic Data", "Geographic Location", and "Route of Entry". A pop-up window titled "Add Water Exposure" is open, allowing users to input data for a specific exposure event. The pop-up contains the following fields:

- Exposure in Epidemiologic Investigation: A text input field with a "Save" link to the right.
- Total # Exposed (A): A numeric input field.
- # Ill Exposed (B): A numeric input field.
- Total # Not Exposed: A numeric input field.
- # Ill Not Exposed: A numeric input field.
- Odds Ratio: A numeric input field.
- Relative Risk: A numeric input field.
- p-Value: A numeric input field.
- Confidence Interval: A numeric input field.

Buttons for "Cancel" and "Save" are located at the bottom of the pop-up window.

Once information has been entered into the Epidemiologic Data Section, a table will appear below the “Add Exposure” link to reflect the reported information. Note that the exposure-specific “Attack Rate (%) (B/A)” will be automatically calculated if you enter the “Total # Exposed (A)” and the “# Ill Exposed (B)”. To edit data in the table, click on the row you would like to edit and edit values in the pop-up window. To delete data in the table, click in the “X” button at the far right of the table to delete the exposure. If you have attack rates for residents or non-residents of the reporting state enter these data in the fields below the Epidemiologic Data table.

Step 10 : Epidemiologic Data

[Previous](#)
[Next](#)

Epidemiologic Data
?

1. Estimated total number of persons with primary exposure:

2. Were data collected from comparison groups to estimate risk?

Yes
  No
  Unknown

If No or Unknown, was water the common source shared by persons who were ill?

Yes
  No
  Unknown

[+ Add Exposure](#)

Exposure in Epidemiologic Investigation	Total # Exposed (A)	# Ill Exposed (B)	Total # Not Exposed	# Ill Not Exposed	Attack Rate (%) (B/A)	Odds Ratio	Relative Risk	p-Value	Confidence Interval
Faucet/Tap	15	10	5		66.67				

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Attack rate for residents of reporting state:  %

Attack rate for non-residents of reporting state:  %

Geographic Location
?

Percent of primary cases living in reporting state:  %

Associated Events
?

Was exposure associated with a specific event or gathering?

Yes
  No
  Unknown

If Yes, what type of event or gathering was involved?

Route of Entry
?

Contact

Ingestion

Inhalation

Other

Unknown

If outbreak occurred during a defined event, dates of event:

Start Date:

End Date:

### 3.2 GEOGRAPIC LOCATION SECTION

In the Geographic Location Section, if known, enter the numeric value for the “Percentage of primary cases living in the reporting state”.

Step 10 : Epidemiologic Data

[Previous](#)
[Next](#)

Epidemiologic Data
?

1. Estimated total number of persons with primary exposure:

2. Were data collected from comparison groups to estimate risk?  
 Yes  No  Unknown

If No or Unknown, was water the common source shared by persons who were ill?  
 Yes  No  Unknown

+ [Add Exposure](#)

Exposure in Epidemiologic Investigation	Total # Exposed (A)	# Ill Exposed (B)	Total # Not Exposed	# Ill Not Exposed	Attack Rate (%) (B/A)	Odds Ratio	Relative Risk	p-Value	Confidence Interval
Faucet/Tap	15	10	5		66.67				

Attack rate for residents of reporting state:  %

Attack rate for non-residents of reporting state:  %

Geographic Location
?

Percent of primary cases living in reporting state:  %

Associated Events
?

Was exposure associated with a specific event or gathering?  
 Yes  No  Unknown

If Yes, what type of event or gathering was involved?

If outbreak occurred during a defined event, dates of event:  
 Start Date:  End Date:

Route of Entry
?

Contact

Ingestion

Inhalation

Other

Unknown

### 3.3 ROUTE OF ENTRY SECTION

In the Route of Entry Section, select the route(s) by which people were exposed to contaminated water. More than one “Route of Entry” may be selected. The options in this list are:

- “Ingestion” (i.e., intentional and/or accidental ingestion of water)
- “Contact” (i.e., physical contact with water that does not involve ingestion or inhalation)
- “Inhalation” (This may include inhalation or mist, steam, or larger water droplets)
- “Other” (Please explain in the General Remarks field)
- “Unknown” (Use this category if the route of entry is suspected or cannot be determined)

Step 10 : Epidemiologic Data

[Previous](#)
Next

Epidemiologic Data
?

1. Estimated total number of persons with primary exposure:

2. Were data collected from comparison groups to estimate risk?

Yes
  No
  Unknown

If No or Unknown, was water the common source shared by persons who were ill?

Yes
  No
  Unknown

[+ Add Exposure](#)

Exposure in Epidemiologic Investigation	Total # Exposed (A)	# Ill Exposed (B)	Total # Not Exposed	# Ill Not Exposed	Attack Rate (%) (B/A)	Odds Ratio	Relative Risk	p-Value	Confidence Interval
Faucet/Tap	15	10	5		66.67				

Attack rate for residents of reporting state:  %

Attack rate for non-residents of reporting state:  %

Geographic Location
?

Percent of primary cases living in reporting state:  %

Associated Events
?

Was exposure associated with a specific event or gathering?

Yes
  No
  Unknown

If Yes, what type of event or gathering was involved?

Route of Entry
?

Contact

Ingestion

Inhalation

Other

Unknown

If outbreak occurred during a defined event, dates of event:

Start Date

End Date

### 3.4 ASSOCIATED EVENTS SECTION

In the Associated Events Section, the first question asks “Was the water exposure was associated with a specific event or gathering?”. If there was an association of exposure with a specific event or gathering, click on the radio button next to “Yes”. Otherwise, select “No” or “Unknown”. If the response is “Yes”, describe the type of event or gathering by selecting from the pick list. If the option you need is not listed, select “Other” from the drop down list and report the type of event or gathering in the Remarks Tab. If known, enter the start and end dates of the event.

Step 10 : Epidemiologic Data

[Previous](#)
[Next](#)

Epidemiologic Data
?

1. Estimated total number of persons with primary exposure:

2. Were data collected from comparison groups to estimate risk?

Yes  
  No  
  Unknown

If No or Unknown, was water the common source shared by persons who were ill?

Yes  
  No  
  Unknown

+ [Add Exposure](#)

Exposure in Epidemiologic Investigation	Total # Exposed (A)	# Ill Exposed (B)	Total # Not Exposed	# Ill Not Exposed	Attack Rate (%) (B/A)	Odds Ratio	Relative Risk	p-Value	Confidence Interval
Faucet/Tap	15	10	5		66.67				

Attack rate for residents of reporting state:  %

Attack rate for non-residents of reporting state:  %

Geographic Location
?

Percent of primary cases living in reporting state:  %

Route of Entry
?

Contact  
 Ingestion  
 Inhalation  
 Other  
 Unknown

Associated Events
?

Was exposure associated with a specific event or gathering?

Yes  
  No  
  Unknown

If Yes, what type of event or gathering was involved?

If outbreak occurred during a defined event, dates of event:

Start Date: 
 End Date:

You have now finished reviewing the Water Section of a waterborne disease outbreak report. Make sure to click the “Save Report” button near the top of the screen before exiting the report.

If you need assistance in completing other sections of NORS, please refer to the online technical and guidance documents located at.

For further assistance or for questions or comments, please email [NORSWater@cdc.gov](mailto:NORSWater@cdc.gov).