

National Outbreak Reporting System (NORS)

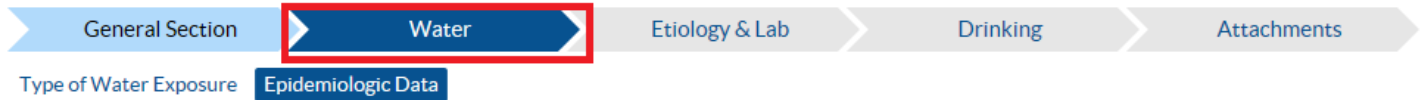
User Training Document –Water Section


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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. 

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”.

General Section Water Etiology & Lab Drinking Attachments

Type of Water Exposure Epidemiologic Data

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Type of Water Exposure

- ☐ Treated recreational water (e.g., in manufactured venues such as pools, hot tub/spa, spray pads, at-home kiddie pools)
- ☐ Untreated recreational water (e.g., water in natural venue such as freshwater lakes, hot springs, marine beaches/oceans)
- ☒ Drinking water in public or individual water systems (e.g., municipal system, private well, commercially-bottled water, water kiosk), regardless of the exposure pathway (i.e., not limited to ingestion)
- ☐ Other water (e.g., cooling/industrial, water reuse, irrigation, occupational, decorative/display, includes water consumed from sources such as back-country streams)
- ☐ Unknown water uses (i.e., the intended purpose or use of the water is unknown or the water exposure category could not be determined)

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.

General Section Water Etiology & Lab Drinking Attachments

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

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Type of Water Exposure

- ☐ Treated recreational water (e.g., in manufactured venues such as pools, hot tub/spa, spray pads, at-home kiddie pools)
- ☒ Untreated recreational water (e.g., water in natural venue such as freshwater lakes, hot springs, marine beaches/oceans)
- ☐ Drinking water in public or individual water systems (e.g., municipal system, private well, commercially-bottled water, water kiosk), regardless of the exposure pathway (i.e., not limited to ingestion)
- ☐ Other water (e.g., cooling/industrial, water reuse, irrigation, occupational, decorative/display, includes water consumed from sources such as back-country streams)
- ☐ Unknown water uses (i.e., the intended purpose or use of the water is unknown or the water exposure category could not be determined)

Type of Water Exposure

Changing the type of water exposure may cause data loss.

Would you like to continue?

Cancel Yes, change type

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

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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: %

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

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.

The screenshot displays the NORS Water Section Training Guide interface. The main window is titled "Step 10: Epidemiologic Data" and contains several sections: "Epidemiologic Data", "Geographic Location", "Route of Entry", and "Attack rate for residents of reporting state:". The "Epidemiologic Data" section includes two questions: "1. Estimated total number of persons with primary exposure" (with a value of 5 entered) and "2. Were data collected from comparison groups to estimate risk?" (with "No" selected). Below these questions is a red box containing the "Add Exposure" link. The "Add Water Exposure" pop-up window is open, showing a dropdown menu for "Exposure in Epidemiologic Investigation" with "Faucet/Tap" selected. Below the dropdown is a red arrow pointing to the "Other" link. The pop-up window also contains input fields for "Total # Exposed (A)", "# Ill Exposed (B)", "Total # Not Exposed", "# Ill Not Exposed", "Odds Ratio", "Relative Risk", "p-Value", and "Confidence Interval". At the bottom of the pop-up are "Cancel" and "Save" buttons. The background window shows the "Route of Entry" section with a dropdown menu for "Contact", "Ingestion", "Inhalation", "Other", and "Unknown".

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 Training Guide interface. The main window is titled "Step 10 : Epidemiologic Data" and contains several sections: "Epidemiologic Data", "Geographic Location", and "Route of Entry". The "Epidemiologic Data" section includes fields for "1. Estimated total number of persons with primary illness" (value: 5), "2. Were data collected from comparison groups?" (radio buttons: Yes, No, Unknown; No is selected), and "If No or Unknown, was water the common source?" (radio buttons: Yes, No, Unknown; Yes is selected). There is also a link to "Add Exposure".

Overlaid on the main window is a pop-up window titled "Add Water Exposure". This window contains the following fields:

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

At the bottom of the pop-up window are "Cancel" and "Save" buttons.

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.

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Epidemiologic Data

1. Estimated total number of persons with primary exposure:

5

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 mm/dd/yyyy

End Date mm/dd/yyyy

3.2 GEOGRAPHIC LOCATION SECTION

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

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Epidemiologic Data ?

1. Estimated total number of persons with primary exposure:

5

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)

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Epidemiologic Data

1. Estimated total number of persons with primary exposure:

5

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 mm/dd/yyyy

End Date mm/dd/yyyy

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.

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Epidemiologic Data

1. Estimated total number of persons with primary exposure:

5

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

mm/dd/yyyy mm/dd/yyyy

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.