

National Outbreak Reporting System (NORS)

User Training Document – Etiology & Lab Section

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1. INTRODUCTION – ETIOLOGY & LAB SECTION

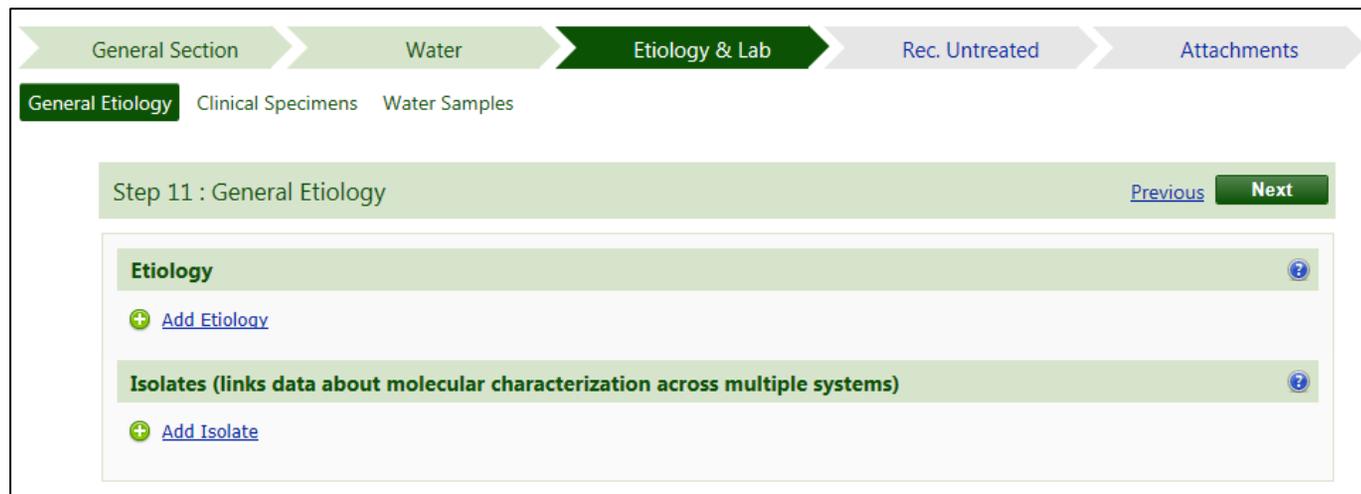
This is a National Outbreak Reporting System (NORS) training guide for waterborne disease outbreak reports. The document provides a brief overview of how to complete the Etiology & Lab Section in NORS. Training guides for the other types of water sections are available in separate training documents.



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 window within the NORS interface,  or see the NORS-Water Guidance Document at <http://www.cdc.gov/nors/forms.html>.

2. GENERAL ETIOLOGY TAB

Begin with the General Etiology tab. This tab collects information about the suspected or confirmed etiology of an outbreak (i.e., the pathogen, chemical, or toxin that caused the outbreak) and water testing related to the outbreak investigation.



2.1 ETIOLOGY SECTION

The Etiology Section summarizes the suspected or confirmed outbreak etiology, what type of specimen or sample was detected, what the specimen or sample was detected in, the total number of people (primary cases) who were tested, and the total number of those people who tested positive. To add an entry, click on the “Add Etiology” link, and a pop-up window will appear. The default value in the “Confirmed” field is “Suspected.” Change this value to “Confirmed” if the agent has been laboratory confirmed as a cause of the outbreak. Report the etiology by selecting from the “Genus/Chemical/Toxin”, “Species”, and if applicable the “Serotype/Serogroup/Serovar” or “Genotype/Subtype” drop down lists. Report where the etiology was detected (e.g., clinical specimens, water samples) by selecting a value from the “Detected In” drop down list. If the total number of people who were tested and/or tested positive are known, enter the numbers in the appropriate entry areas for “Total # people tested” and the “Total # people positive” fields. Click on the “Save” button to complete the entry and close the pop-up window. Repeat the process if multiple etiologies were identified in an outbreak.

The screenshot displays the 'Etiology & Lab' section of the NORS interface. A pop-up window titled 'Add Water Etiology' is open, allowing for the entry of outbreak data. The form contains the following fields and values:

- Confirmed:** Confirmed (dropdown menu)
- Genus/Chemical/Toxin:** Cryptosporidium (dropdown menu)
- Species:** hominis (dropdown menu)
- Serotype/Serogroup/Serovar:** (empty dropdown menu)
- Genotype/Subtype:** IaA13R2 (dropdown menu)
- Detected In:** Clinical Specimens & Water Samples (dropdown menu)
- Total # people tested:** 3 (text input field)
- Total # people positive:** 2 (text input field)

At the bottom of the pop-up, there are 'Save' and 'Cancel' buttons. In the background, the 'Add Etiology' link is highlighted with a red box, and a table shows the current entry: Confirmed Cryptosporidium.

2.2 ISOLATES SECTION

Information entered in the Isolates Section can improve linkage of NORS data with laboratory data systems that contain molecular data obtained from tests such as Pulse Field Gel Electrophoresis (PFGE) or Multiple Locus Variable number tandem repeat Analysis (MLVA). To add an entry, click on the “Add Isolate” link, and a pop-up window will open. The “CDC System” is a required field in this table; it also contains options for “Other”, “Unknown”, or “None” if the drop list values do not apply. If available, report the “CDC Lab System Outbreak Number”, the “State Lab ID”, and up to two molecular designations in the “Molecular Designation 1” and “Molecular Designation 2” fields. Click on the “Save” button to save information and close the window.

The screenshot displays the NORS web application interface. At the top, navigation tabs include 'General Section', 'Water', 'Etiology & Lab' (selected), 'Rec. Untreated', and 'Attachments'. Below these are sub-tabs for 'General Etiology', 'Clinical Specimens', and 'Water Samples'. The main content area is titled 'Step 11 : General Etiology' and features an 'Etiology' section with an 'Add Etiology' link. A table lists etiologies with columns for 'Confirmed or Suspected' and 'Genus/ Chemical/ Toxin'. One entry shows 'Confirmed' and 'Cryptosporidium'. Below the table is an 'Isolates (links data about molec...)' section with an 'Add Isolate' link highlighted by a red box. A 'Next' button is visible on the right. A 'Add Isolate' pop-up window is open, containing the following fields:

- CDC System:** CryptoNet (dropdown menu)
- CDC Lab System Outbreak Number:** 456 (text input)
- State Lab ID:** StateA (text input)
- Molecular Designation 1:** 123 (text input)
- Molecular Designation 2:** (empty text input)

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

3. CLINICAL SPECIMENS TAB

The Clinical Specimens Tab collects information about any clinical specimens collected, testing for clinical specimens, and the type of testing performed on clinical specimens in two sections: the Clinical Specimens – Laboratory Results Section and the Test Types Section.

3.1 CLINICAL SPECIMENS – LABORATORY RESULTS SECTION

The first question asks “Were clinical diagnostic specimens taken from persons?”. If no specimens were collected, click on the radio button next to “No”, and you will not be able to add specimen information to Clinical Specimens Section. If specimens were collected, click on the radio button next to “Yes” and answer the subsequent question by entering the number of people from whom specimens were collected. Click on the “Add Specimen” link to describe the specimens collected in the pop-up window. The type of specimen can be selected from the drop down list for the “Specimen Type” field. If the specimen type was “Autopsy” or “Biopsy”, the second question becomes available with a drop down list of organs and tissues from which the specimens were obtained. The third question in the pop-up window asks which types of pathogens (e.g., bacteria, viruses) were tested for. In order to make multiple selections, press “Ctrl” on the keyboard as you click on multiple pathogen types in the picklist. Click on the “Save” button complete the entry and close the pop-up window.

The screenshot displays the NORS web application interface. At the top, there are navigation tabs: General Section, Water, Etiology & Lab (selected), Rec. Untreated, and Attachments. Below these are sub-tabs: General Etiology, Clinical Specimens (selected), and Water Samples. The main content area shows 'Step 12: Clinical Specimens' with a sub-section 'Clinical Specimens - Laboratory Results'. A question asks 'Were clinical diagnostic specimens taken from persons?' with 'Yes' selected. Below it, 'If yes, how many persons were specimens taken?' is answered with '3'. A red box highlights the '+ Add Specimen' link. The 'Add Clinical Specimen' pop-up window is open, showing a 'Specimen Type' dropdown set to 'Stool', an empty 'If Autopsy or Biopsy, Specimen SubType' dropdown, and a 'Tested For' picklist with the following options: Bacteria, Chemicals/Toxins, Fungi, Other, Parasites, Unknown, and Viruses. At the bottom right of the pop-up are 'Save' and 'Cancel' buttons.

3.2 TEST TYPES SECTION

The Test Types Section collects information on the types of clinical tests conducted on the specimens. Select all “Test Types” that were conducted by clicking on the check window next to each of the “Test Types” listed.

Test Types (select all test types used on clinical specimens) ?

<input checked="" type="checkbox"/> Culture	<input type="checkbox"/> Chemical Testing
<input checked="" type="checkbox"/> DNA or RNA Amplication/Detection (e.g., PCR, RT-PCR)	<input type="checkbox"/> Tissue Culture Infectivity Assay
<input type="checkbox"/> Microscopy (e.g., fluorescent, EM)	<input type="checkbox"/> Other (describe in the general remarks)
<input type="checkbox"/> Serological/Immunological Test (e.g., EIA, ELISA)	<input type="checkbox"/> Unknown

4. WATER SAMPLES TAB

The Water Samples Tab asks questions about any water samples that may have been tested, results from general water quality tests conducted on the samples, and results from pathogen or chemical/toxin tests conducted on the samples. For all “Water Types” except for “Recreational Treated” (Rec. Treated) water, there are three sections in the Water Samples Tab: the Water Samples Section, the Quality Indicators Section, and the Microbiology or Chemical/Toxin Analysis Section. For the “Recreational Treated” (Rec. Treated) water type, there are two sections in the Water Samples Tab: the Water Samples Section and the Microbiology or Chemical/Toxin Analysis Section. For all sections in the Water Sample Tab, the “Sample Number” field is used to link “Water Samples” to other sections in the Water Sample Tab. Identify the “Sample Number” in the other sections so that the information is linked with the correct “Water Sample”.

General Section
Water
Etiology & Lab
Rec. Untreated
Attachments

General Etiology
Clinical Specimens
Water Samples

Step 13 : Water Samples [Previous](#) [Next](#)

Water Samples ?

Was water tested? Yes (specify in table below) No Unknown

[+ Add Sample](#)

Quality Indicator ?

Microbiology or Chemical/Toxin Analysis ?

4.1 WATER SAMPLES SECTION

First, report whether the water was tested. Click on the appropriate radio button next to “Yes”, “No”, or “Unknown”. If the answer is “Yes”, then proceed to click on the “Add Sample” link to provide basic descriptive information about the water sample in the pop-up window. Describe source of the water sampled in the “Sample Source” field. More than one option can be selected in the “Sample Source” field by pressing “Ctrl” on the keyboard as you click multiple sample sources. Enter a brief description of the “Sample Source” in the “Description” field and provide the date of when the water was sampled in the “Date” field. If known, report the volume of water tested and its unit, the temperature and its unit, any residual and combined disinfectant levels and their units, the turbidity of the water, and the pH of the sample tested. If more than one sample was collected, report each sample by clicking on the “Add Sample” link and filling in the appropriate fields. At least one sample needs to be added in order to fill the subsequent table(s) on this page.

The screenshot shows the 'Add Water Sample' pop-up window. The 'Sample Source' dropdown menu is open, showing options: Fountain - Interactive, Fountain - Ornamental, Fountain - Unknown Intent, Hot Spring (selected), Lake/Reservoir/Impoundment, Manicure Bath, and Mist/Steam - Device (e.g., steam cleaner). The 'Description' field contains 'outdoor natural hot spring'. The 'Date' field contains '06/15/2014'. The 'Volume Tested' field contains '50'. The 'Volume Unit' dropdown is set to 'mL'. The 'Temperature' field contains '90'. The 'Temperature Unit' dropdown is set to '°F'. The 'Residual' field is empty. The 'Save' and 'Cancel' buttons are at the bottom right of the pop-up.

In the background, the 'Water Samples' section is visible. It includes a table with the following data:

Sample Number	Source of Sample	Additional Description
1	Hot Spring	

The 'Add Sample' button in the 'Water Samples' section is highlighted with a red box.

4.2 QUALITY INDICATOR SECTION [not present in Recreational Treated (Rec. Treated) Water reports]

In the Quality Indicator Section report any water quality indicators (e.g., bacterial or viral quality indicators) identified in the water sample by clicking on the “Add Quality Indicator” link and entering information in the pop-up window. Indicate the appropriate “Sample Number” to describe any quality indicators identified in the “Water Sample” listed in the Water Samples Section. Select the “Water Quality Type”, “Concentration”, and “Concentration Unit” if applicable. Click the “Save” button to complete the entry and close the pop-up window. If multiple water samples have been tested or multiple water quality tests were performed, add this information by repeating the process outlined above. At least one “Water Sample” needs to be reported in the Water Samples Section in order to report quality indicator information.

The screenshot displays the 'Step 13 : Water Samples' interface. At the top, navigation tabs include 'General Section', 'Water', 'Etiology & Lab', 'Rec. Untreated', and 'Attachments'. Below these, sub-tabs for 'General Etiology', 'Clinical Specimens', and 'Water Samples' are visible. The main content area shows a 'Water Samples' section with a table of samples. A 'Quality Indicator' section is highlighted, containing a red-bordered link '+ Add Quality Indicator'. A pop-up window titled 'Add Quality Indicator' is open, showing the following fields:

- Sample Number:** 1 (dropdown menu)
- Water Quality Type:** Fecal Coliforms (dropdown menu)
- Concentration:** .5 (text input)
- Concentration Unit:** CFU/100 mL (dropdown menu)

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

4.3 MICROBIOLOGY OR CHEMICAL/TOXIN ANALYSIS SECTION

The last section on this page collects information for microbial or chemical/toxin analysis that was performed for individual samples. Add analysis results by clicking on the “Add Analysis” link and entering information in the pop-up window. First, identify the “Sample Number” and report the “Genus/Chemical/Toxin” identified. If the agent is microbial and if applicable, report the “Species”, “Serotype/Serogroup/Serovar”, “Genotype/Subtype”, and “PFGE Pattern”. Likewise, if the agent is a chemical or a toxin, select the chemical or toxin from the drop down menu in the “Genus/Chemical/Toxin” field. Indicate whether or not the sample results were positive or negative for the pathogen or chemical/toxin in the “Test Results Positive” field. If available, report the concentration, the type of test used for analysis and the specific method of testing. Click the “Save” button to complete the entry and close the pop-up window. To enter analysis results for more than one sample, click on the “Add Analysis” link and repeat the process outlined above. At least one “Water Sample” needs to be reported in the Water Samples Section in order to report information for microbial or chemical/toxin analyses.

The screenshot displays the 'Add Sample Analysis' pop-up window over the 'Water Samples' section of the NORS interface. The background shows the 'Water Samples' table with one entry: Sample Number 1, Source of Sample Hot Spring, and Additional Description outdoor natural hot spring. The 'Add Analysis' link is highlighted with a red box. The pop-up window contains the following fields:

- Sample Number:** 1 (highlighted with a red box)
- Genus/Chemical/Toxin:** Cryptosporidium
- Species:** hominis
- Serotype/Serogroup/Serovar:** (empty)
- Genotype/Subtype:** laA13R2
- PFGE Pattern:** 123
- Test results positive?:** Yes No
- Concentration:** 0.23
- Concentration Unit:** Genomic Copies/100 mL
- Test Type:** DNA or RNA Test

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

You have now finished reviewing the Etiology & Lab 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 <http://www.cdc.gov/nors/>.

For further assistance or for questions or comments, please email NORSWater@cdc.gov.