National Outbreak Reporting System (NORS)
New User Training Document – General Section, Etiology, and Attachment Tabs

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INTRODUCTION

This user training document provides instruction on how to complete the questions in the General Section, Etiology, and Attachments tabs of the National Outbreak Reporting System (NORS) for reports of foodborne, person-to-person contact, environmental contamination, animal contact, and indeterminate/unknown mode of transmission outbreaks. With the exception of the Etiology tab, these instructions also apply to waterborne outbreaks. Although not all fields are required to submit an outbreak report, this document provides instructions on how to enter data for all fields in these sections.

CREATE A NEW REPORT

Additional information for each variable can be found by clicking the blue button with the question mark near the top of each variable box. The NORS Guidance Document contains additional explanation of variable list options and term definitions [www.cdc.gov/nors/forms.html](http://www.cdc.gov/nors/forms.html).

Information entered into each tab is automatically saved when navigating through a report. To ensure information is saved before logging out or exiting a report, click “Save Report” at the top of the screen.
There are two ways to create a new report within NORS. One is through the Quick Start menu on the homepage and the other is through the Reports page. Both ways will be described in this document.

Create a Report through the NORS Home Page

1. Click on “Create a new report” in the “Quick Start” section on the home page of the NORS interface to create a new report.

2. Enter the unique state-assigned identification number for the outbreak report in the “State ID” field. Each ID cannot be used more than once for reports from your state or territory. This is a REQUIRED FIELD for all reports.

3. Indicate the date the first primary case became ill (REQUIRED FIELD).

4. Enter the number of primary cases (REQUIRED FIELD).
5. Select the primary mode of transmission for the outbreak (**REQUIRED FIELD**).

6. Click “Create Report” to create the new report and proceed to the next section.

7. Report Status, State ID, Date Created, Primary Mode of Transmission, CDC ID, and Author appear in the top section of the newly-created report. The CDC ID is a unique report identification number that is automatically assigned by the system. The Author is the username of the author of the NORS report and is automatically populated by the system. The Report Status is automatically set to “Active” for all new reports.

Create a new report through the Reports page

1. Navigate to the Reports page by clicking on “Reports” in the top navigation bar
2. Click on “New Report” button near the top of the screen on the Reports page

3. Enter in State ID, Date first case became ill, estimated total primary cases, and primary mode of transmission (REQUIRED FIELDS).

4. When fields are completed, a “Create NORS Report” button will appear at the bottom of the page. Click the button to create the report and proceed to the next page.
CHANGE THE PRIMARY MODE

1. If the primary mode of transmission needs to be updated at any time, open the report and click the pencil icon that appears next to the primary mode of transmission at the top bar of the report. A drop down menu with the transmission modes will appear.

   Status: Active  
   Primary Mode: Environmental  
   State ID: NORS_Training_Test  
   CDC ID: 45449  
   Created: Thursday, 09/07/2017  
   Author: lkz5

2. Select the new mode of transmission from the drop down menu, and click the “Update” button to change the primary mode of transmission.

   Status: Active  
   Primary Mode: Food  
   State ID: NORS_Training_Test  
   CDC ID: 45449  
   Created: Thursday, 09/07/2017  
   Author: lkz5

3. The primary mode of the report has now been changed. Mode-specific tabs and fields may appear or be hidden depending on which mode of transmission is selected. For example, changing the primary mode of a report from person-to-person to foodborne transmission will hide the tab labeled “Settings,” and a tab labeled “Food” will appear. Data previously entered in the “Settings” tab will not be deleted; if you change the primary mode back to person-to-person, you will see the data that were previously entered in the “Settings” tab.
GENERAL SECTION TAB

Step 1: Investigation Methods & Dates

Investigation Methods

1. Select all methods used to investigate of the outbreak. To select more than one item, hold down the “Ctrl” button on the keyboard while selecting the items with the mouse. To deselect an item without unselecting all the other items, hold down the “Ctrl” button and click the items that you would like to deselect. If the investigation method is not listed, select “Other” and provide the additional investigation method(s) in the comment section.

2. Enter any additional information about the investigation methods in the “Investigation Method Comments” box.

For example, in the screenshot to the right, “Other” has been selected from the list, and the additional method “Third party data collection” has been specified in the comment section.

Dates (MM/DD/YYYY)

This section refers to primary cases that resulted from the mode of transmission selected above. Do not include information regarding secondary cases in this section.

1. Enter the following dates in the MM/DD/YYYY format:
   - Date first case became ill
     - This field is automatically populated based on the data that were entered when creating the NORS report but can be edited here.
   - Date last case became ill
   - Date of initial exposure
   - Date of last exposure
   - Date of report to CDC (Other than this form)
   - Date of notification to State/Territory or Local/Tribal Health Authorities
2. Click the “Next” button to move to the next section. This will automatically save your work.
Step 2: Geographic Location

This section refers to primary cases that resulted from the mode of transmission selected above. Do not include information regarding secondary cases in this section.

Exposure State

1. Select the state where the exposure occurred. This field will auto-populate based on the state affiliation of the report author but can be changed.

2. If the outbreak resulted from a common exposure that occurred in multiple states, check the box “Exposure occurred in multiple states.” The list of states in the “Exposure State” box will disappear and will be replaced with “Multistate Outbreak (Choose states in Other States list)” as shown in the screenshot. Select the other states involved in the outbreak from the “Other States” box. To select or deselect more than one state, hold down the “Ctrl” button on the keyboard while selecting states with the mouse.
3. If an exposure occurred in a single state but cases resided in multiple states, check the box labeled “Exposure occurred in a single state, but cases resided in another state or multiple states,” select the state where exposure occurred from the “Exposure State” box, and select the other states involved in the outbreak from the “Other States” box.

In the example to the right, the exposure occurred in Arizona, but cases resided in both Arizona and Utah.

4. If the outbreak exposure occurred in multiple states or cases resided in multiple states, individual case counts can be added for each state involved, if known. Click “Add/Edit Case Counts” and enter the number of cases in each state in the pop-up window. States can be deleted from the list by clicking the “X” marks besides the boxes. Click the “Save” button or “Cancel” button to close the pop-up window without saving the work. The case counts entered in the pop-up window will appear in parentheses next to their corresponding states in the “Other States” box, as shown in the screenshot.
5. To give temporary read-only access to all agencies in the other states involved in the outbreak, click on “Share Report.” The pop-up window will show you which states you have selected to share the report. To confirm this access, click “Save.”
Exposure County

1. Indicate the name of the county where the exposure occurred.

2. If the exposure occurred in multiple counties in the exposure state, check the box “Exposure occurred in multiple counties in exposure state.” The list of counties will be replaced by “Multicounty Outbreak (Choose counties in Other Counties list),” as shown in the screenshot. Select the other counties involved the outbreak from the “Other Counties” box. To select or deselect more than one county, hold down the “Ctrl” button on your keyboard while selecting the counties.

In this example, the exposure occurred in both Ada and Bear Lake Counties.
3. If an exposure occurred in a single county but ill persons resided in multiple counties, check the box “Exposure occurred in one county, but cases resided in multiple counties,” select the county where exposure occurred in the “Exposure County” box, and select the other counties involved in the outbreak from the “Other Counties” box.

In the screenshot to the right, residents of Maricopa, La Paz, and Pima Counties were exposed in Maricopa County.

City/Town/Place of Exposure

1. Enter the city, town, or place of exposure. Do not include proprietary information, private facility names, or physical addresses in this field. If necessary, this type of information may be reported in the “Remarks” field, located in the Agency & Remarks section (Step 8) of the report.

In the screenshot below, cases were exposed in Mesa, a city in Maricopa County, AZ.
Step 3: Primary Cases

This section should only include information on primary cases that resulted from the primary mode of transmission. Do not include secondary case numbers in these case counts; secondary case information should be recorded in the “Secondary Cases” section.

Primary Case Counts

Enter the number of primary cases in the following categories

- Lab-confirmed primary cases
- Probably primary cases
- Estimated total primary cases (**REQUIRED FIELD**)

In the screenshot, there were 52 total primary cases, of which 5 were lab-confirmed, and 47 were probable. More examples are available in the guidance document. ([www.cdc.gov/nors/forms/html](http://www.cdc.gov/nors/forms/html)).

Primary Case Outcomes

1. In the column on the left (# of Cases), enter the number of primary cases who had the following outcomes as a result of the outbreak:
   - Died
   - Hospitalized
   - Visited Emergency Room
   - Visited a health care provider (include any kind of outpatient health care provider except for the Emergency Room)

   If there were no patients with these outcomes, enter “0”; do not leave these fields blank.

2. In the right column (“# of Cases with Info Available”), enter the number of primary cases for whom information on each outcome was available. If no information on the particular outcome is available, please enter “0” in the right column only.
Sex

1. Enter the number or percent of males and females among the total number of primary cases. Put the number or percent of cases for which this information is unknown in the “Unknown” field. The number of cases in all three rows should add up to the number of estimated primary cases; percentages should add up to 100.

2. If entering case counts, enter the counts and click on “Calculate Percentage of cases” to automatically calculate percentages.
Age

1. Enter the number or percent of cases that fall into each age group among the total number of primary cases. Put the number or percent of cases for which age information is unknown in the “Unknown” field. The number of cases in all rows should add up to the number of estimated primary cases; percentages should add up to 100.

2. If entering case counts, enter the counts and click on “Calculate Percentage of cases” to automatically calculate percentages.
Step 4: Incubation & Duration

This section refers only to primary cases that resulted from the primary mode of transmission indicated. Do not include information on secondary cases.

**Incubation Period**

The incubation period is the amount of time between the implicated exposure and the onset of illness for each primary case.

1. Indicate the shortest, median, and longest incubation period known amongst the primary cases, as well as the total number of primary cases for whom this information is available. If sufficient data are not available to calculate a particular data point, leave that field blank. If information is only available for one case, then enter the same information for the shortest, median and longest incubation periods.

2. Select the appropriate units (minutes, hours, or days) for each row.

3. If the incubation period is not known for any of the primary cases, check the box labeled “Unknown incubation period.”
Duration of Illness

The duration of illness is the time between the onset of symptoms to the time the last symptom ended for each primary case.

1. Indicate the shortest, median, and longest duration of illness known amongst the primary cases, as well as the total number of primary cases for whom this information is available. If sufficient data are not available to calculate a particular data point, leave that field blank. If information is only available for one case, then enter the same information for the shortest, median, and longest durations of illness.

2. Select the appropriate units (minutes, hours, or days) for each row.

3. If duration of illness is unknown, check the box labeled “Unknown duration period.”
Step 5: Signs or Symptoms

The section refers only to primary cases that resulted from the primary mode of transmission indicated in the report. Do not include information on secondary cases.

1. For each symptom reported, enter the number of primary cases who experienced that symptom during the outbreak. For example, if 2 people in an outbreak reported vomiting, enter “2” for # of cases with signs or symptoms.
2. For each symptom reported, enter the number of primary cases for whom information is available on whether or not they experienced that particular symptom during the outbreak. For example, if 2 people in the outbreak reported vomiting, but only 4 out of 6 people in the outbreak were interviewed regarding their symptoms, enter “4” for the # of cases with information.

If no information on the particular symptom is available, please enter “0” in the “Total # of cases for whom info is available” field.

3. If Shiga toxin-producing *E. coli* (STEC) is the outbreak etiology, please ensure that you enter all available data for the symptoms hemolytic uremic syndrome (HUS).
   - If HUS was not reported for any patients, enter “0” for “# of Cases with signs or symptoms” and enter the number of cases with information about HUS in the column “Total # of cases for whom information is available.”
   - If no information on HUS is available, please enter “0” in the “Total # of cases for whom info is available” field.
4. To enter information on other symptoms, you may select from a more comprehensive list by clicking “Add Other Sign/Symptom.”
5. A pop-up window labeled “Add New Symptom” will open. Select the desired sign or symptom name from the list provided. Enter the number of cases with that sign or symptom and the number of cases with information about that sign or symptom in the appropriate boxes. Click the “Save” button when finished entering the information.

![Add New Symptom Window]

6. The new symptom will be saved in rows beneath the static list of symptoms. To edit a symptom that has been added, click on the corresponding row in the table. The pop-up window will open again, and the information can be updated. To delete the sign or symptom, move the cursor onto the corresponding row in the table and click the “X” that appears there, as in the screenshot below.

![ Symptom Table ]

To edit the added symptom, click on the row.

To delete the symptom, click the “X” on the row.
Step 6: Secondary Cases

This section only includes information on secondary cases. Secondary cases are those who were not directly exposed to the primary exposure implicated in the initial outbreak but had another related exposure that led to illness (such as a household contact of a primary case).

1. Select the secondary mode(s) of transmission by checking the box(es) beside each picture. Select all that apply.

2. Enter the number of secondary cases in the following categories:
   - Lab-confirmed secondary cases
   - Probably secondary cases
   - Estimated total secondary cases

The “Estimated total cases (Primary + Secondary)” field will auto populate to include all primary and secondary cases, using the previously entered primary case information.
Step 7: Other CDC Symptoms, Traceback, & Recall

Other CDC System IDs

The first row is used to link data from NORS outbreak investigation reports to data from environmental investigations, as entered into the National Environmental Assessment Reporting System (NEARS). If one or more NEARS reports contain information related to the NORS report, enter the evaluation ID(s) into the fields provided. The second row is used to link data from NORS outbreak investigation reports to data from harmful algal bloom investigations, as entered into the One Health Harmful Algae Bloom System (OHHABS). If one or more OHHABS reports contain information related to the NORS report, enter the OHHABS ID(s) into the fields provided.

<table>
<thead>
<tr>
<th>Other CDC System IDs</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>NEARS ID</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OHHABS ID</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Traceback (for food and bottled water only, not public water)

1. If local, state, and/or federal authorities attempted a traceback investigation in order to determine the source of contaminated food or bottled water, check the box labeled “Please check if traceback conducted.” Check the box regardless of the success of the traceback.
2. Click “Add Traceback” to add traceback information.

3. In the “Source Name” field, enter where the contaminated food or bottled water came from if a regulatory agency and/or the company made this information publicly available.
   
   If the source name has not been made publicly available, do not include proprietary information, private facility names, or physical addresses in this field.

4. In the “Source Type” field, enter the facility type where food or bottled water came from.

5. In the “State” field, enter the state from which the contaminated food or bottled water came. If not in the United States, leave this field blank and enter the area, province, or region in the “comments” field.

6. In the “Country” box, enter the country from which the contaminated food or bottled water came.

7. In the “Comments” box, enter the agency that conducted the traceback and any additional comment(s) pertaining to the information found in the traceback.

8. Click “Save” to save the traceback information and close the pop up box.
9. To edit the traceback information, click the corresponding row in the table. The pop-up window will open again, and the information can be updated. To delete the traceback information, move the cursor onto the corresponding row in the table and block the “X” that appears there, as in the screenshot below.

Recall

1. If any foods or bottled water involved in the outbreak were recalled, check the box labeled “Please check if any food or water product was recalled.”

2. In the “Type of item recalled” field, enter in a general description of the type of item recalled.
3. In the “Recall Comments” field, enter in any additional information about the recall in the text box provided.

- Peanut Butter ABC, Lot numbers: XXX-XXX, YYY-YYY, ZZZ-ZZZ
Step 8: Agency & Remarks

Reporting Agency

This section auto-populates based on the report author to show the report author’s agency, the agency contact’s name, title, phone number, e-mail address, and fax number associated with that outbreak report. The contact name listed may not be the same as the author of the report.

Remarks

Briefly describe any additional important aspects of the outbreak in this field, such as:

- Dates that are not included elsewhere in the NORS report
- Any adverse outcomes that have occurred in special populations (e.g., pregnant women, immunocompromised persons)
- Other information pertinent to the outbreak not covered elsewhere in the NORS report

You have now completed the General tab. Click “Save Report” at the top of the page before clicking on any of the NORS Menu links or exiting the system.
ETIOLOGY TAB

Step 9: General Etiology

This section pertains only to primary cases. Do not enter any information concerning specimen collection or laboratory testing of secondary case samples. Both suspected and confirmed etiologies should be reported in this section. Waterborne disease outbreak reports have a separate section for reporting etiology and clinical specimen data. Refer to NORS waterborne outbreak training and guidance documents for more information on completing this section (www.cdc.gov/nors/).

Clinical and Environmental Testing

1. If any samples were collected or tested, select “Yes.” If not, select “No.”

2. Specify how many samples of each type were tested, what they were tested for, and test types.

3. In question 5, indicate whether antimicrobial susceptibility testing (AST) was performed. If yes, indicate where it was performed and whether any antimicrobial resistant strains were associated with the outbreak. To select or deselect more than one location, hold down the “Ctrl” button on the keyboard while selecting locations with the mouse.

4. In question 6, indicate whether there are any laboratory-confirmed or suspected outbreak etiologies.
Etiology

1. To add information on a confirmed or suspected outbreak etiology, click “Add Etiology.” A pop-up box will appear.

2. In the “Genus” field, select the genus name for the first suspected or confirmed etiology; chemicals/toxins are also listed in this category. If the correct genus is not listed in the drop-down, select “Other Bacterium,” “Other Virus,” “Other Parasite,” or “Other Chemical/Toxin” as appropriate and then specify the etiology in the “Other Characteristics” field.

3. In the “Species” field, select the appropriate species name for the suspected or confirmed etiology. If more than one species of a single genus is involved in an outbreak (e.g., both *Shigella sonnei* and *Shigella flexneri*), enter each one as a separate etiology.
4. In the “Serotype/Genotype” field, select the serotype or genotype for each suspected and confirmed etiology if known. If more than one serotype or genotype of a single species is involved in an outbreak, enter each one as a separate etiology. Provide serotypes for all STEC and *Salmonella enterica* outbreaks.

**PLEASE NOTE:** If you are entering norovirus as an etiology, the “Serotype/Genotype” field will be replaced with “Polymerase” and “Capsid” fields to accommodate dual typing data. If no information on either the polymerase or capsid is available, please enter “unknown” in the “Capsid” field. These fields will be concatenated and will appear together in the etiology table under the Serotype/Genotype field. Etiology data from confirmed norovirus outbreaks may also be imported to the Etiology table from CaliciNet. For information regarding the CaliciNet Integration, please refer to the CaliciNet Integration training document on the NORS website at [www.cdc.gov/nors/training/general.html](http://www.cdc.gov/nors/training/general.html).

5. Specify whether the etiology listed is a laboratory-confirmed etiology or a suspected etiology for the outbreak. Confirmation guidelines for foodborne etiologies are located at: [www.cdc.gov/foodsafety/outbreaks/investigating-outbreaks/confirming_diagnosis.html](http://www.cdc.gov/foodsafety/outbreaks/investigating-outbreaks/confirming_diagnosis.html). These guidelines may also be used for person-to-person, environmental contact, and indeterminate/unknown mode of transmission outbreaks.

6. In the “Other Characteristics” field, list any other pertinent characteristics of the outbreak etiology, such as virulence factors, metabolic profile, and additional serotype, or genotype information that may not be captured elsewhere.

7. In the “Detected In” field, select all samples in which the etiology was detected:
   - Patient specimen
   - Food specimen
   - Environmental specimen
   - Food worker specimen
   - Water sample, and/or
   - Animal specimen

8. Indicate the number of laboratory-confirmed primary cases associated with each etiology reported.
9. Click “Save,” then repeat the steps above to add information on additional etiologies, if necessary. You may enter multiple confirmed and/or suspected etiologies.

10. To edit an etiology, click the corresponding row to open the pop-up window. To delete the etiology, move the cursor onto the corresponding row in the table and click the “X” that appears there, as in the screenshot below.

### Isolates

If there is no confirmed or suspected etiology, skip this section. If the etiology is confirmed or suspected, enter isolate/sequence information from PulseNet, CaliciNet, and/or NARMS, if available. For information related to PulseNet, visit: [www.cdc.gov/pulsenet/](http://www.cdc.gov/pulsenet/). For information related to CaliciNet, visit: [www.cdc.gov/norovirus/reporting/caliciNet/](http://www.cdc.gov/norovirus/reporting/caliciNet/). For information related to the National Antimicrobial Resistance Monitoring System, visit: [www.cdc.gov/narms/](http://www.cdc.gov/narms/).

Isolate data from CaliciNet may also be imported directly from CaliciNet. For information regarding the CaliciNet Integration, please refer to the CaliciNet Integration training document on the NORS website at [www.cdc.gov/nors/training/general.html](http://www.cdc.gov/nors/training/general.html).

1. Click “Add Isolate” to add isolate/sequence information. A pop-up window will appear.
2. In the “CDC System” field, indicate the system from which the isolate or sequence data originate.

3. In the “State Lab ID/Accession ID/CaliciNet Key/PulseNet Key” field, provide the state-assigned laboratory isolate identification number. For norovirus strains uploaded to CaliciNet, provide the CaliciNet key in this field.

4. In the “PulseNet Outbreak Code or CaliciNet Outbreak Number” field, indicate the PulseNet outbreak cluster code for bacterial pathogens, or CaliciNet outbreak number for specimens from norovirus outbreaks.

5. In the “CDC PulseNet Pattern Designation for Enzyme 1” field, indicate the PulseNet pattern/PFGE pattern for the first enzyme.

6. In the “CDC PulseNet Pattern Designation for Enzyme 2” field, indicate the PulseNet pattern/PFGE pattern for the second enzyme.

7. In the “CaliciNet Sequenced Region/Whole genome sequencing ID” field, indicate the CaliciNet sequenced region (e.g., Region D) for outbreaks entered into CaliciNet or the whole genome sequencing ID.

8. In the “CaliciNet Genotype/Other Molecular Designation” field, indicate the CaliciNet genotype for outbreaks entered into CaliciNet (e.g., GII_3) or any other molecular information related to this outbreak (e.g., MLVA).

9. Click “Save” and add information on additional isolates as necessary.
10. To edit information for a particular isolate, click on the corresponding row in the table to open the pop-up window. To delete information, move the cursor onto the corresponding row and click the “X” that appears there, as in the screenshot below.

You have now completed the Etiology tab. Click “Save Report” at the top of the page before clicking on any of the NORS Menu links or exiting the system.
ATTACHMENTS TAB

File Attachment

1. Click “Browse” and select the file to be uploaded. The maximum file size acceptable is 4 MB.

2. Click “Upload.” Do not refresh the page after adding the file. It will re-process the transaction and cause the file to be added twice.
3. The following confirmation will appear if the file was uploaded successfully.

<table>
<thead>
<tr>
<th>Document Name</th>
<th>Document Length (bytes)</th>
<th>Document Type</th>
<th>Upload Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>test.docx</td>
<td>11,555</td>
<td>application/vnd.openxmlformats-officedocument.wordprocessingml.document</td>
<td>10/10/2017</td>
</tr>
</tbody>
</table>

You have now completed the Attachments tab. Click “Save Report” at the top of the page before clicking on any of the NORS Menu links or exiting the system. For assistance in completing mode-specific sections of NORS, refer to other NORS training guides located at: www.cdc.gov/nors/training/index.html. For further assistance, questions, or comments, email the NORS Admin team at NORSadmin@cdc.gov.