

National Outbreak Reporting System (NORS) Tips

This document presents tips for reporting outbreaks to the Centers for Disease Control and Prevention (CDC) via NORS, addressing several areas of the form that commonly generate questions. This is not intended to be a comprehensive guide; for complete guidance and additional detail please see the CDC NORS Guidance document (“CDC Guidance,” http://www.cdc.gov/nors/pdf/NORS_Guidance_20130219_508c.pdf).

Links to NORS forms, guidance, and appendices are available in the [CD Resources and Forms](#) section of www.michigan.gov/cdinfo.

Reporting Timelines

It is an accreditation requirement that NORS forms be submitted according to established reporting timelines:

Indicator 3.4

The local health department shall complete and submit the necessary foodborne or waterborne outbreak investigation forms.

This indicator may be met by:

For foodborne outbreaks, the local health department completes and submits the CDC 52.13 (foodborne) outbreak form to MDCH and the Michigan Department of Agriculture and Rural Development (MDARD) [within 60 days of the date the first case became ill](#).

For waterborne outbreaks, the local health department completes and submits the CDC 52.12 (waterborne) outbreak form to MDCH within 60 days of the date the first case became ill.

* [In the event that an investigation is still ongoing 60 days post first illness onset date](#), a preliminary 52.12 or 52.13 report (which includes data such as county of outbreak, onset date, exposure date, number of cases, and laboratory results) must be submitted to MDCH within 60 days of the date the first case became ill; the completed final outbreak report form must then be sent to the appropriate agency(s) within 90 days.

NORS-Reportable Outbreaks

Per CDC, the definition of an outbreak reportable to NORS is “two or more cases of similar illness associated with a common exposure.” Unlike the Michigan Food Code definition of an outbreak, the NORS definition explicitly includes outbreaks with patients in the same household. For additional detail, see CDC Guidance p.4.

If the investigation team determines that an outbreak meets the NORS definition, the outbreak should be reported to CDC via NORS. The NORS form collects information about laboratory, epidemiologic, and environmental findings that support your conclusions about the mode of transmission and outbreak vehicle.

Primary Mode of Transmission

The NORS 52.13 form is used to report outbreaks of illness that occur through a variety of modes of transmission. For additional detail on selecting a mode of transmission, see CDC Guidance p.6.

Not all sections of the form are applicable to all outbreaks. Use the guidance at the top of page 1 of the form to determine which sections of the form to complete.

The image shows the top portion of the National Outbreak Reporting System (NORS) form. At the top left is the Michigan Department of Health and Human Services logo. In the center, the title reads "National Outbreak Reporting System" with the subtitle "Foodborne Disease Transmission, Person-to-Person Disease Transmission, Animal Contact". Below this is a brief instruction: "This form is used to report enteric foodborne, person-to-person, and animal contact-related disease outbreak investigations. This form has 5 sections, General, Etiology, Settings, Animal Contact, and Food, as indicated by tabs at the top of each page. Complete the General and Etiology tabs for all modes of transmission and complete additional sections as indicated by the mode of transmission. Please complete as much of all sections as possible." Below the instruction are two input fields: "CDC Report ID" and "State Report ID". On the right, there is a CDC logo and the text "Form Approved OMB No. 0920-0004". A dark brown bar contains the heading "Primary Mode of Transmission (check one)". Below this bar are six radio button options:

- Food (complete General, Etiology, and Food tabs)
- Person-to-person (complete General, Etiology, and Settings tabs)
- Water (complete CDC 52.12)
- Environmental contamination other than food/water (complete General, Etiology, and Settings tabs)
- Animal contact (complete General, Etiology, and Animal Contact tabs)
- Other/Unknown (complete General, Etiology, and Settings tabs)

Example: When reporting a foodborne outbreak, complete the General (p.1-2), Etiology (top half of p.3), and Food (p.4-6) sections.



Do not enter information into sections of the form that are not applicable to the route of transmission you have selected, because it cannot be entered into the electronic NORS interface.

Similarly, if you select “Food vehicle undetermined” or “Contributing factors unknown” in the Food section, you will be unable to enter any information about implicated foods or contributing factors, respectively.

Critical Variables

Some variables on the NORS 52.13 form are required to be complete for the outbreak to be reported; several other variables are important to enable analysis of the data at a national level. Please try to complete as much of the applicable sections of the form as possible, and make a particular effort to provide data for the following variables.

Missing information will trigger follow-up requests for data.

<u>Section</u>	<u>Critical Variables</u>
General Section (p.1)	Date first case became ill (required), Estimated total primary cases (required)*, Lab-confirmed primary cases*, Sex, Age, Primary Case Outcomes (Died, Hospitalized)*
General Section (p.2)	HUS (Symptoms table)
Etiology Section (p.3)	State Lab ID (Isolates/Strains) – bacterial etiologies only
Food Section (p.4)	Reason(s) suspected (required), Contaminated food imported to US*

*See further guidance under “Tips for Individual Variables”

Etiology Section (p.3)

Consult the CDC criteria for confirming an outbreak etiology:

http://www.cdc.gov/foodsafety/outbreaks/investigating-outbreaks/confirming_diagnosis.html

If you strongly suspect a particular etiology for an outbreak that you are reporting but have not met the criteria for confirmation, you can report it as a suspect etiology. Enter the etiology information in the table, and leave the 'Confirmed outbreak etiology' box unchecked.

<i>(Name the bacterium, chemical/toxin, virus, or parasite. If available, include the serotype and other characteristics such as phage type, virulence factors, and metabolic profile. Confirmation criteria available at http://www.cdc.gov/outbreaknet/references_resources/guide_confirming_diagnosis.html or MMWR2000/Vol. 49/SS-1/App. B)</i>						
Genus	Species	Serotype/Genotype	Confirmed outbreak etiology	Other characteristics	Detected in*	# Of Lab-Confirmed cases
<i>Escherichia</i>	<i>coli</i>	O157:H7	<input type="checkbox"/> yes	STX2	1	1
			<input type="checkbox"/> yes	positive		
			<input type="checkbox"/> yes			
			<input type="checkbox"/> yes			

*Detected in (choose all that apply): 1 - patient specimen 2 - food specimen 3 - environment specimen 4 - food worker specimen

Enter the types of specimens (patient, food, environment, food worker) from which the outbreak organism was isolated in the "Detected In" column.

Note that an outbreak can be reported as foodborne without isolation of the outbreak organism from food samples. Similarly, it is possible to report an outbreak transmitted via water or animal contact without isolation of the outbreak organism from water or animals.

For outbreaks with certain bacterial etiologies, PulseNet information is entered in the Isolates section, including: State Lab ID (e.g, MI_CL14-xxxxxx), PulseNet Outbreak Code, and CDC PulseNet Pattern Designations. PulseNet designations are assigned by CDC and will be provided to the reporting jurisdiction for inclusion on the NORS form.

Tips for Individual Variables

Number of Primary Cases (Primary Cases section, p.1)

Per CDC, the estimated total primary cases should be **greater than or equal to** the sum of the lab-confirmed (A) and probable (B) primary cases (i.e, can't be less than A + B). Usually, Estimated total primary cases = A + B.

Example:

Number of primary cases	
A Lab-confirmed primary cases	5 #
B Probable primary cases	12 #
Estimated total primary cases	17 #

Estimated total primary cases is a required variable, and is the maximum denominator for the rest of the Primary Cases section (including Sex, Age, Incubation Period, Duration of Illness, and Signs or Symptoms). Enter information about secondary cases in the Secondary Cases section on p.2 only. Do not include well persons when reporting any of the variables that pertain to cases.

Geographic Location (General Section, p.1)

If you select “Exposure occurred in a single state/county, but cases resided in multiple states/counties in reporting state,” you must provide the names of the other states/counties.

Primary Case Outcomes (Primary Cases section, p.1)

In this section, “Total # of cases for whom info is available” is the denominator for each outcome. For example, if 2/17 cases were hospitalized, no cases died, and 3 confirmed cases visited an ER (but you only have data for the 5 confirmed cases on whether they visited an ER), the outcomes section would be completed as follows:

Primary Case Outcomes	# Cases	Total # of cases for whom info is available
Died	0 #	17 #
Hospitalized	2 #	17 #
Visited Emergency Room	3 #	5 #
Visited health care provider (excluding ER visits)	#	#

Do not include secondary case outcomes in this section.

Traceback (General Section, p.2)

A traceback is conducted by local, state, and/or federal authorities to determine where contaminated food or bottled water came from, as far back to its origin or source as possible. Although LHDs may fill in this section if they complete the traceback, typically it is filled in by MDARD staff. Indicate if a traceback was attempted, regardless of its success.

Traceback (for food and bottled water only, not public water)				
<input checked="" type="checkbox"/> Please check if traceback conducted				
Source name <i>(if publicly available)</i>	Source type <i>(e.g., poultry farm, tomato processing plant, bottled water factory)</i>	Location of source		Traceback Comments
		State	Country	
	Lettuce processing plant	OH	US	Lettuce served at Restaurant X was traced by LHD and state regulators to common processor in OH who provided to other states with cases

- **Source name (if publicly available):** Describe where the contaminated food or bottled water came from (i.e. grocery store, specific farm, processor, etc...) If the

source name has not been made publicly available, do not include proprietary information, private facility names, or physical addresses.

- **Source Type:** List facility where food or bottled water came from (i.e. poultry farm, processing plant, bottled water facility).
- **Location of Source:** In what **State** and **Country** did contaminated food or bottled water originate?
- **Comments:** List which Agency conducted the traceback and any additional comments. Include any referrals of information to other agencies, such as FDA or USDA-FSIS.

Recall (General Section, p.2)

Check the box if foods or bottled water involved in an outbreak were recalled. Type of item recalled could be the product (i.e. peanut butter) and Comments could include the brand and lot numbers.

Food Vehicle (Food Section, p.4)

An outbreak may be considered to be foodborne in nature, even if no specific food vehicle was identified. If that is the case, select 'Food' for the primary mode of transmission and be sure to mark the 'Food Vehicle Undetermined' box on p.4.

Food
Food Section – complete for foodborne primary mode of transmission
<input checked="" type="checkbox"/> Food vehicle undetermined

Processing and Preparation (Food Section, p.4)

Processing refers to modifications to a food before it arrives at the final point of use location. *Preparation* refers to modifications to the implicated food after it arrives at the final point of use location (often a retail establishment such as a restaurant or grocery store).

When describing implicated foods on the NORS form:

- The *method of processing* field refers only to the contaminated ingredient
- The *method of preparation* and *level of preparation* fields refer to the overall food items that were implicated in the outbreak

Please see an example completed Food section on the next page.

Several of the fields in the Food Section are limited to options selected from lists in the NORS appendix (http://www.cdc.gov/outbreaknet/pdf/NORS_Appendix_v2.pdf).

Total # of cases exposed to implicated food (Food Section, p.4)

Report only ill persons (cases) exposed to each implicated food item (i.e, do not count well persons who reported eating the food item).

Contaminated food imported to US (Food Section, p.4)

If import status is unknown, please write in "unknown," or note this in the Remarks.

Example:

Food	1	2	3
Name of food (Implicated Food) <i>(excluding any preparation)</i>	Hamburger		
Ingredient(s) <i>(enter all that apply)</i>	Ground beef, lettuce, tomato, cheese, bread		
Contaminated ingredient(s) <i>(enter all that apply)</i>	Lettuce		
Total # of cases exposed to implicated food	15		
Reason(s) suspected <i>(enter all that apply from list in appendix)</i>	1 – Statistical evidence, 3 – Compelling supportive information		
Method of processing <i>(enter all that apply from list in appendix)</i>	3 – Shredded or diced (refers to Contaminated ingredient = lettuce)		
Method of preparation <i>(select one from list in appendix)</i>	4 – Cook and Serve Foods – Immediate service (refers to Implicated food = hamburger)		
Level of preparation <i>(select one from list in appendix)</i>	3 – Foods eaten heat processed (refers to Implicated food = hamburger)		
Contaminated food imported to US?	<input type="checkbox"/> Yes, Country _____ <input type="checkbox"/> Yes, Unknown <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes, Country _____ <input type="checkbox"/> Yes, Unknown <input type="checkbox"/> No	<input type="checkbox"/> Yes, Country _____ <input type="checkbox"/> Yes, Unknown <input type="checkbox"/> No
Was product <i>both</i> produced under domestic regulatory oversight <i>and</i> sold?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown

Quick and Dirty

Quick and Dirty 2012 (An Epi Info™ 7 Based Program to Facilitate Outbreak Investigations) produces output that aligns directly with the formats required for several of the NORS form variables: Sex, Primary Case Outcomes, Age (Primary Cases section, p.1); Incubation Period, Duration of Illness, Signs/Symptoms (p.2); and Total # of cases exposed to implicated foods (Food Section, p.4).

For more information about Quick and Dirty, contact your Regional Epidemiologist.

For more information or assistance with NORS reporting:

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Regional Epidemiologists (MDCH)

http://www.michigan.gov/documents/MDSS_Support_Resources_87777_7.pdf