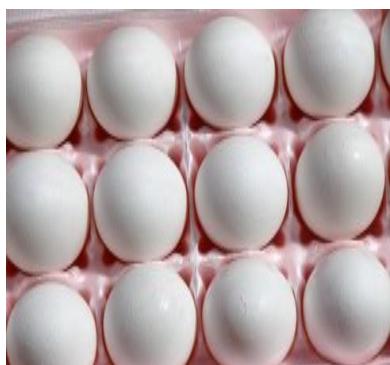


# New Mexico Enteric Illness Investigation Manual



**New Mexico Department of Health**  
**Epidemiology and Response Division**  
Public Health Division  
Scientific Laboratory

**New Mexico Environment Department**  
Environmental Health Bureau

2024

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# 1 Introduction

## 1.1 Purpose

The purpose of this manual is to guide prompt detection of and response to enteric illness outbreaks in New Mexico (NM), recognizing that a successful enteric illness outbreak investigation requires collaboration between partners from the disciplines of epidemiology, environmental health, food science, and microbiology. The most important reason to investigate enteric illness reports is to identify the cause of disease and how it might be further spread so that appropriate actions can be taken to prevent additional illness. This manual defines enteric illness investigation partner roles and responsibilities, describes investigation procedures, addresses public education, and suggests corrective measures.

## 1.2 List of partners

Depending on the nature and scope, enteric illness investigations in New Mexico can involve government agencies at the federal, state, and local levels, as well as private and community partners. See Section 10.1.1 for contact lists for the New Mexico Department of Health (NMDOH). See Section 10.1.2 for contact lists for the New Mexico Environment Department (NMED). Other important contacts are included in Section 10.1.3. A non-exhaustive list of potential partners includes:

- New Mexico Environment Department, Environmental Health Bureau
- New Mexico Department of Health
- New Mexico Department of Agriculture
- New Mexico Livestock Board
- City of Albuquerque Environmental Health Department
- Bernalillo County Environmental Health Office
- Indian Health Service
- Centers for Disease Control and Prevention
- United States (US) Food and Drug Administration
- US Department of Agriculture
- Food service establishments
- Food producers and retailers
- Law enforcement agencies
- Tribal agencies
- Colleges and universities
- Institutional settings (e.g., daycares, schools, health care facilities, prisons)

## 1.3 Confidentiality

Data on individuals collected during an enteric illness investigation is confidential under New Mexico law and New Mexico Department of Health (NMDOH) policy. For this reason, data collection on individuals is the responsibility of authorized officials (e.g. public health officials) and should

not be delegated. All data collected during a FBI investigation will be maintained with strict confidentiality by all persons and agencies involved in the investigation.

## 2 Background

### 2.1 Acronyms

BERNCO	Bernalillo County Office of Health and Social Services
CABQ	City of Albuquerque Environmental Health
CTSE	Council for State and Territorial Epidemiologists
CIFOR	Council to Improve Enteric Outbreak Response
CCP	Critical Control Point
CDC	Centers for Disease Control and Prevention
EHB	Environmental Health Bureau
EM	Environmental Microbiology
ERD	Epidemiology and Response Division
FARF	Food Analysis Request Form
FDA	Food and Drug Administration
HACCP	Hazard Analysis and Critical Control Points
HAN	Health Alert Network
IDEB	Infectious Disease Epidemiology Bureau
IHS	Indian Health Services
LRN	Laboratory Response Network
NMDOH	New Mexico Department of Health
NMED	New Mexico Environment Department
NORS	National Outbreak Reporting System
PFGE	Pulse field gel electrophoresis
PHD	Public Health Division
PHO	Public Health Office
SLD	Scientific Laboratory
STEC	Shiga-toxin Producing Escherichia coli
USDA	United States Department of Agriculture

## 2.2 Epidemiology of enteric disease

(Adapted from the Centers for Disease Control and Prevention (CDC) Enteric homepage: <http://www.cdc.gov/foodsafety/> )

### 2.2.1 Etiologic agents

More than 250 different enteric illnesses have been described. Many of these illnesses are infections, caused by bacteria, viruses, and parasites that can be transmitted through food or other routes. Other illnesses are poisonings, caused by toxins or chemicals contaminating food.

The most commonly recognized enteric infections are those caused by the bacteria *Campylobacter*, *Salmonella*, *Shigella* and Shiga toxin-producing and *Escherichia coli*, and by a group of viruses called caliciviruses, with the most frequent being norovirus.

In addition to illness caused by direct infection, some enteric illnesses are caused by the presence of a microbe-produced toxin in food. For example, *Staphylococcus aureus* produces a toxin that causes intense vomiting. Botulism occurs when the bacterium *Clostridium botulinum* grows in food and produces a powerful paralytic toxin. These toxins can produce illness even if the microbes that produced them are no longer present.

Other toxins and poisonous chemicals can cause enteric illness. People can become ill if a pesticide is inadvertently added to a food, or if naturally poisonous substances are used to prepare a meal, such as poisonous mushrooms or certain reef fishes.

Refer to Section 10.2 for detailed information on specific enteric illnesses and their associated characteristics.

### 2.2.2 Reservoirs

Reservoirs for some common enteric illness agents are shown below:

**Humans:** Hepatitis A virus, norovirus, *Shigella* species, *Salmonella* species (including *Salmonella typhi*), *Staphylococcus aureus*, and *Vibrio cholerae*.

**Animals:** *Campylobacter* species, *Cryptosporidium parvum*, *Cyclospora cayetanensis*, Shiga toxin-producing *Escherichia coli* (including *E. coli* O157:H7), *Giardia lamblia*, *Salmonella* species, *Trichinella spiralis*, *Yersinia enterocolitica*, *Vibrio parahaemolyticus*, and *Vibrio vulnificus*.

**Environment:** *Bacillus cereus*, *Listeria monocytogenes*, *Clostridium* species, heavy metals, marine toxins, and fungal toxins.

### 2.2.3 Modes of transmission

Enteric illness agents may be transmitted in more than one way, such as person-to-person or animal-to-person. Enteric illness outbreaks due to *Shigella*, *Staphylococcus aureus*, hepatitis A and norovirus are generally caused by contamination of uncooked or cooled foods by an infected food handler. Enteric illness agents from animal-derived foods like eggs or meat can cross-contaminate raw foods through cooking utensils, the hands of

food handlers or food preparation surfaces. Pathogens with an animal reservoir may also be transmitted directly through food, such as ground beef contaminated with *E. coli* O157:H7 or eggs infected with *Salmonella enteritidis*. Norovirus can be transmitted via aerosolized vomitus and from contaminated surfaces. *Clostridium perfringens* and *Bacillus cereus* are ubiquitous in the environment and outbreaks caused by these agents generally result from holding food at a temperature that allows the organism to proliferate.

#### **2.2.4 Incubation and communicability periods**

Incubation and communicability periods vary greatly among enteric illnesses. Refer to Section 10.2 for more information on a specific agent.

#### **2.2.5 Diagnosis and treatment**

Enteric infections are usually diagnosed by specific laboratory tests that identify the causative organism. Bacteria such as *Campylobacter*, *Salmonella*, and *E. coli* O157 are best identified by culturing stool samples, although polymerase chain reaction (PCR) tests are rapidly becoming more common. Parasites like *Giardia lamblia* and *Cryptosporidium* are identified by testing stool with specific enzyme immunoassay (EIA) tests or by PCR. Viruses (e.g., norovirus) are typically not cultured and are usually identified by testing stool samples by PCR that identifies the specific virus is present. Enteric illnesses caused by toxins or poisonous chemicals are usually diagnosed by the presence of specific signs and symptoms in the ill person. Rapid, Multiplex PCR assays can quickly identify a multitude of pathogens. For example, the BioFire filmarray can detect *Campylobacter*, *Clostridium difficile* toxin A/B, *Plesiomonas shigelloides*, *Vibrio*, *Vibrio cholera*, *Yersinia enterocolitica*, Enterotoaggregative *E.coli* (EAEC), Enteropathogenic *E.coli* (EPEC), Enterotoxigenic *E.coli* (ETEC) lt/st, Shiga-like toxin producing (STEC) stx1/stx2 *E.coli* O157, *Cryptosporidium*, *Cyclospora cayetanensis*, *Entamoeba histolytica*, *Giardia lamblia*, Adenovirus F40/41, Astrovirus Norovirus G1/G2, Rotavirus A, and Sapovirus.

Enteric illnesses require different treatments depending on the symptoms they cause. Illnesses that involve primarily diarrhea or vomiting may require only adequate hydration. Antibiotics are usually not recommended for most enteric illnesses and healthy people typically recover without medical treatment. Pregnant women, the elderly, very young children, and those with weakened immune systems are more likely to develop serious illness and may need special treatment.

### **2.3 Hazard Analysis and Critical Control Points**

Hazard Analysis and Critical Control Points (HACCP) is a system of preventive controls that is the most effective way to ensure that food products are safe. This system was developed for the space program over 30 years ago. HACCP focuses on preventing, controlling, or eliminating hazards that could cause enteric illnesses by applying science-based controls, from raw materials to finished products.

HACCP involves seven principles:

- **Analyze hazards.** Potential hazards associated with a food and measures to control those hazards are identified. The hazard could be biological, such as a bacterium; chemical, such as a toxin; or physical, such as ground glass or metal fragments.

- **Identify critical control points.** These are points in a food's production – from its raw state through processing and shipping to consumption by the consumer – at which the potential hazard can be controlled or eliminated. Examples are cooking, cooling, packaging, and metal detection.
- **Establish preventive measures with critical limits for each control point.** For a cooked food, for example, this might include setting the minimum cooking temperature and time required to ensure the elimination of any harmful bacteria or viruses.
- **Establish procedures to monitor the critical control points.** Such procedures might include determining how and by whom cooking time and temperature should be monitored.
- **Establish corrective actions to be taken when monitoring shows that a critical limit has not been met.** For example, reprocessing or disposing of food if the minimum cooking temperature is not met.
- **Establish procedures to verify that the system is working properly.** For example, testing time-and-temperature recording devices to verify that a cooking unit is working properly.
- **Establish effective recordkeeping to document the HACCP system.** This would include records of hazards and their control methods, the monitoring of safety requirements and action taken to correct potential problems.

Each of these principles must be backed by sound scientific knowledge, such as published microbiological studies on time and temperature factors for controlling enteric pathogens.

When conducting an environmental inspection as part of an enteric illness investigation, the investigator should apply HACCP principles to focus on those food handling procedures and processes that pose the greatest potential for enteric illness. Group menu items into one of three food preparation processes:

1. Food preparation with no cook step (“ready to eat”).
2. Preparation for same day service.
3. Complex food preparation.

Identify the hazards of the particular food preparation process. Check whether the associated critical care points were achieved and if not, why they were not achieved.

### 3 Roles and Responsibilities

#### 3.1 New Mexico Department of Health

The New Mexico Department of Health (NMDOH) has legal authority to protect the public's health and is responsible for directing and coordinating investigations of potential enteric illness. Through the New Mexico Administrative Code (NMAC) (<http://www.nmcpr.state.nm.us/nmac/parts/title07/07.004.0003.htm>), the Public Health Division (PHD) maintains the New Mexico notifiable conditions list, which defines conditions that must be reported to NMDOH, including enteric illness and suspected enteric related outbreaks.

### **3.1.1      Public Health Division**

There are five regions in the NMDOH Public Health Division (PHD) and each region encompasses a number of local public health offices (PHO). (See Section 10.3 for a Region map). Within their respective jurisdictions, local and regional PHD staff members have primary responsibility for the following enteric illness investigation activities:

- Investigate reports of notifiable enteric illness in collaboration with the Center for Health Promotion (CHP) Infectious Disease Epidemiology Bureau (IDEB).
- Serve as liaisons between NMDOH enteric illness investigation partners and those in the community, such as health care providers, schools, and others.
- Regional PHD investigation representative ensures involvement of appropriate local PHO(s).
- Gather descriptive epidemiologic information in collaboration with investigation partners.
- Develop patient and food handler questionnaires in collaboration with IDEB and NMED.
- Administer patient interviews in collaboration with IDEB.
- Administer food handler interviews in collaboration with IDEB and NMED.
- Collect, package, and ship patient and food handler specimens in coordination with IDEB and SLD.
- Perform preliminary data analyses as appropriate.

### **3.1.2      Infectious Disease Epidemiology Bureau**

IDEB of PHD has primary responsibility for the following enteric illness investigation activities:

- Investigate reports of notifiable enteric illness in collaboration with PHOs.
- Determine nature and extent of epidemiologic investigation required for reports of potential enteric illness.
- Coordinate enteric illness investigations and ensure involvement of all appropriate federal, state, regional and local agencies.
- Gather descriptive epidemiologic information in collaboration with investigation partners.
- Administer patient and food handler questionnaires in collaboration with PHOs and NMED.
- Provide quality assurance for patient interviews in collaboration with PHD.
- Provide quality assurance for food handler interviews in collaboration with NMED.
- Coordinate with PHD and the State Laboratory Division (SLD) on proper patient and food handler specimen collection, handling and testing.
- Coordinate with NMED and SLD on proper food sample collection, handling and testing.
- Report results of laboratory testing to investigation partners.
- Perform statistical analyses to test hypotheses for the origin of the illness.
- Recommend control measures in collaboration with investigation partners.
- Provide data to assist NMED in implementing legal administrative actions.
- Decide on and develop public notifications in collaboration with NMED.
- Prepare final written report summarizing investigation.
- Complete National Outbreak Response System (NORS) report and other summary reports as necessary.

- Archive all documentation (electronic files) of investigation activities, including notes, line lists, questionnaire, interview data, laboratory results and written reports.

### **3.1.3 Scientific Laboratory**

The NMDOH Scientific Laboratory (SLD) is the public health reference laboratory for New Mexico. Hospitals and other laboratories in New Mexico routinely send clinical, environmental, and food specimens to SLD for identification, confirmation, serotyping, molecular subtyping, and Whole Genome Sequencing. SLD is the only Laboratory Response Network (LRN) facility in the state and has the capacity to provide emergency response work for bioterrorism events as well as for enteric illness outbreaks. SLD has primary responsibility for the following enteric illness investigation activities:

- Provide guidance and consultation regarding proper specimen handling and transport.
- Provide microbiological testing of clinical, food, and other environmental specimens.
- Report laboratory test results to PHD, IDEB, NMED, and private submitters and ensure involvement of all appropriate local agencies.
- Coordinate with other state and federal reference laboratories.

## **3.2 New Mexico Environment Department**

With the exception of CABQ the unincorporated portions of BERNCO and Tribal land, NMED has legal jurisdiction over regulated food facilities and related activities. Facility (as used in this manual) means a regulated food service or food processor facility, any facility regulated under the Food Act, a public water supply, public swimming pool, spa or bath, or any other entity regulated under the Environmental Improvement Act.

### **3.2.1 Environmental Health Bureau**

There are three districts in the NMED Environmental Health Bureau (EHB) and each district encompasses a number of local field offices. (See Section 10.4 for a District map). Within their respective jurisdictions, EHB staff members have primary responsibility for the following enteric illness investigation activities:

- Investigate reports of enteric illness that implicate a regulated facility.
- Perform facility inspections in accordance with established procedures, including a review of food handling practices by facility food handlers.
- Generate list of foods and beverages consumed or menu items potentially associated with a enteric illness investigation.
- Administer food handler questionnaires in collaboration with PHD and IDEB when determined necessary and agreed upon.
- Collect, package and ship food or other environmental samples in coordination with IDEB and SLD.
- Coordinate food trace backs with appropriate government agencies, if indicated.
- Decide on and develop public notifications in collaboration with IDEB.
- Implement legal administrative actions, if warranted, including permit suspension and facility closure.
- Prepare official report summarizing facility inspection findings and provide to IDEB for outbreak archive.

## 4 Detecting an Enteric Illness Outbreak

Enteric illness outbreaks are detected through routine surveillance for notifiable enteric illnesses, individual enteric illness complaints, and reports of gastrointestinal illness by health care providers, the public, schools, daycares, and other institutions.

### 4.1 Routine surveillance for notifiable conditions

Routine surveillance for enteric illness in New Mexico consists of the systematic collection, analysis, interpretation, and dissemination of data on persons with confirmed or suspected notifiable enteric illness. The following diseases that are commonly transmitted through food are included on the New Mexico notifiable conditions list. (See Section 10.5):

#### Emergency Reporting – Report immediately to IDEB

- Botulism
- Cholera
- Typhoid fever (*Salmonella typhi* infection)
- Suspected enteric illness in two or more unrelated persons (possible outbreak)

#### Routine reporting – Report within 24 hours to IDEB

- Brucellosis
- *Campylobacter* infections
- Cryptosporidiosis
- Cyclosporiasis
- Giardiasis
- Hepatitis A infections
- Listeriosis
- Shiga toxin-producing *E. coli* (STEC) infections, including *E. coli* O157:H7
- Shigellosis
- Salmonellosis
- Trichinosis
- *Vibrio* infections
- Yersiniosis

Each report of a notifiable enteric illness is referred to a local or regional public health office for investigation. Patients are interviewed with a standardized questionnaire (Template 11.1.1) to collect information on risk factors. Regional and IDEB epidemiologists review the results of those investigations to identify important exposures.

Another key component of routine surveillance is laboratory testing. Bacterial isolates of *Salmonella*, *Shigella*, *Listeria*, and Shiga toxin-producing *E. coli* (STEC) are routinely submitted to SLD for serotyping and genome sequencing (WGS) whole-genome sequencing (WGS). IDEB epidemiologists review WGS results to identify clusters (two or more cases that are highly genetically related, detected using whole-genome sequencing, within 30 days of one another) of potentially related organisms.

Although most routine enteric illness investigations do not detect outbreaks, timely and complete investigations remain crucial to identifying clusters and outbreaks of enteric illness.

### **Outbreak Detection by Whole Genome Sequencing (WGS):**

The NMDOH Scientific Laboratory Molecular Biology section performs routine and enhanced outbreak detection using WGS on clinical isolates from enteric bacteria (*Salmonella*, STEC, *Shigella*, *Vibrio*, *Listeria*, and *Chronobacter*) under the CDC's PulseNet program. Clinical isolates are submitted through NMDOH SL General Microbiology section.

In addition to clinical isolates, NMDOH SL performs routine WGS on *Salmonella*, *Campylobacter*, *E. coli*, and *Vibrio* from retail meats under the FDA's National Antimicrobial Resistance Monitoring System (NARMS) program. Isolates for retail meats are submitted through the NMDOH SL Environmental Biology section.

Note: Investigations should not be based on WGS alone but should include epidemiologic data to ensure linkages.

#### **1. Routine Cluster Detection:**

For routine surveillance, all clinical and FDA NARMS isolates are submitted for whole genome sequencing and analysis weekly. For multiple isolates, from the same patient and sample source, that are identical by traditional methods, a single isolate is submitted if within 6 months. Cluster detection is done by comparing similarity of isolate genomes generated using whole genome sequencing (WGS).

All sequences in the database from the previous 60-days (120-days for *Listeria spp.*) are compared based on allele differences between the sequences. Related clusters of sequences are determined using the following metrics:

Organism	Comparison window (days)	Allele differences <sup>2</sup>
<i>Campylobacter spp.</i>	60	0-10
<i>E. coli spp.</i>	60	0-10
<i>Shigella spp.</i>	60	0-10
<i>Salmonella spp.<sup>1</sup></i>	60	0-10
<sup>1</sup> <i>Salmonella Enteritidis</i>	60	0-5
<sup>1</sup> <i>Salmonella Typhimurium</i>	60	0-5

<i>Vibrio spp.</i>	60	0-10
<i>Listeria spp.</i>	120	0-10
<i>Chronobacter spp.</i>	60	0-10

<sup>1</sup>Based on historical data and the clonal nature of these organisms, the joint decision was made by ERD and Molecular Biology to decrease the number of allele differences allowed in clusters of this organism.

<sup>2</sup>Based on core genome allele calls using CDC approved software. Subject to change based on most recent data from outbreaks.

Updates to local and national clusters are performed weekly and line lists are shared with ERD. Enteric epidemiology team is notified by the Molecular Biology section via email of new additions to clusters.

## **2. Enhanced Outbreak Detection:**

For special requests, including enhanced outbreak investigations and additional ad hoc analysis, email the Molecular Biology Section Supervisor and NGS Line Supervisor.

Isolates, from other environmental as well as clinical and veterinary samples, can also be submitted as part of an outbreak investigation. Samples should be submitted to NMDOH SL Environmental Microbiology and General Microbiology sections, respectively.

### **4.2 Individual enteric illness complaints**

Individual potential enteric illness complaints can lead to the detection of enteric illness outbreaks. Potential enteric illness complaints may be received by a number of state and local government agencies. All potential enteric illness complaints without laboratory confirmation received by NMDOH or NMED personnel should be documented using the Enteric Illness Complaint Worksheet (Template 11.1.2) and forwarded to the appropriate agency as described below.

- Complaints involving two or more unrelated persons (i.e., from different households and/or otherwise unrelated) who develop similar illness at about the same time after sharing a common food or meal:
  - Notify immediately:
    - ERD (24/7 Telephone: 1-833-SWNURSE (1-833-796-8773), Fax: 505-827-0013)
    - Enter completed worksheet to Red Cap: [LINK>>>>>](#)
    - Notify Environmental Health regulatory agency with jurisdiction over implicated food facility:
      - NMED EHB Food Program, the Food Program will forward to appropriate EHB Field Office
      - City of Albuquerque Environmental Health Department
      - Bernalillo County Environmental Health Office
      - IHS Environmental Health
  - NMED Staff
    - Contact your immediate supervisor
    - Email completed form to [Food.Program@env.nm.gov](mailto:Food.Program@env.nm.gov)
    - Food Program staff will contact ERD at 1-833-796-8773

- Food Program staff will enter completed worksheet to Red Cap

\* ERD will notify regional and local public health staff as appropriate per protocol.

- Complaints involving a single ill person or two or more persons with similar illness from the same household (or otherwise related):
  - Submit completed work on Red Cap:
  - Environmental health regulatory agency with jurisdiction over implicated food facility:
    - NMED EHB Food Program, the Food Program will forward to the appropriate EHB Field Office. [Food.Program@env.nm.gov](mailto:Food.Program@env.nm.gov)
    - City of Albuquerque Environmental Health Department
    - Bernalillo County Environmental Health Office
    - IHS Environmental Health
  - NMED Staff
    - Submit completed form to [Food.Program@env.nm.gov](mailto:Food.Program@env.nm.gov)
      - Food Program staff will enter in Red Cap

## 5 Conducting the Epidemiologic Investigation

This chapter outlines the basic steps that should be followed when conducting an epidemiologic investigation of a potential enteric illness outbreak. Refer to Section 10.11 for a timeline of these steps and Section 10.13 for a checklist of activities.

### 5.1 Assess the nature and scope of illness

Collect the following information from each person associated with a possible enteric illness outbreak. For individual complaints of possible enteric illness, use the Enteric Illness Complaint Worksheet (see Section 4.2 and Template 11.1.2). For clusters of possible enteric illness associated with a common exposure, use the Enteric Illness Shotgun Questionnaire (Template 11.1.3) or Outbreak Questionnaire (Template 11.1.4) templates to generate a questionnaire.

- Demographics (including name, address, telephone number, age, gender, and other relevant information such as occupation, school or daycare).
- Signs and symptoms (including nausea, vomiting, diarrhea, bloody diarrhea, fever, abdominal cramps, muscle aches, chills, unusual fatigue, headache and any other signs or symptoms present).
- Illness onset date and time.
- Duration of symptoms.
- Food and beverage consumption history for at least 72 hours prior to illness onset.
- Diagnosis (whether or not medical care sought) and any laboratory testing results.

- Compile and review medical and laboratory records, as necessary.
- Contact information for any other persons who might be involved in the outbreak (including both ill and non-ill persons).

## **5.2 Determine if an enteric illness outbreak exists**

Based on the information collected in Step 5.1 determine whether or not an enteric illness outbreak exists and if so, the level of investigation required. Consider the following questions:

- Are there two or more unrelated persons who developed similar illness after sharing a common food or meal?
- Are the clinical signs and symptoms, dates of illness onset, duration of illness and incubation period consistent with a enteric disease agent?
- Is the number of ill persons higher than would normally be expected in this group of people and in the population as a whole?
- Have other organizations or agencies received reports of potentially associated illness?
- What is the likelihood of ongoing exposure?

## **5.3 Designate investigation team**

- An investigation team will be designated for each outbreak.
- Primary and secondary lead investigators should be assigned to each outbreak investigation.
- Depending on the situation, the outbreak investigation team could include representatives from IDEB, local and regional PHD offices, SLD, local and regional NMED offices and other government agencies.
- Daily verbal and written communication between investigation team members should be maintained throughout the investigation.

## **5.4 Develop working hypothesis, initial case definitions and type of study**

- Develop a preliminary case definition that includes person, place, and time.
- Based on signs, symptoms, dates of illness onset, duration of illness, and incubation period, hypothesize the most likely enteric pathogen(s). (Use Section 10.2 and Section 10.7 to compare signs, symptoms, duration of illness and potential incubation period to known enteric illness agents.)
- Decide on type of study: descriptive, case-control, or case-case.

## **5.5 Get list of potentially exposed persons and identify additional cases**

- Obtain as complete a list as possible of all potentially exposed persons and conduct case finding by means appropriate to the investigation. For example, talking to cases, contacting area health care providers, obtaining restaurant reservation lists and/or credit card receipts, obtaining event guest lists or issuing a press release.

- Consider other groups that may have been affected, such as other parties catered by the same food service establishment or other groups attending the same gathering.

## **5.6 Create line list of cases**

- As cases are identified, document information in a line list using the Enteric Illness Line List Template (Template 11.1.5) or using the HIPAA compliant REDCap survey linked provided by NMDOH Enteric Team.
- The line list should at a minimum contain the following information:
  - Demographics (age and gender)
  - Symptom profile
  - Illness onset date and time
  - Case definition classification
  - Laboratory testing results

## **5.7 Obtain a menu or list of foods**

- Coordinate with NMED to obtain a menu from the food service establishment or other list of foods as appropriate (see Section 6.3). Use the list of foods and beverages for hypothesis generation and questionnaire development.

## **5.8 Develop and administer questionnaire**

- Develop a standardized questionnaire and interview as many exposed persons, both ill and well, as possible. The Enteric Illness Shotgun Questionnaire (Template 11.1.3) or Outbreak Questionnaire (Template 11.1.4) templates may be used to generate the questionnaire.
- Begin interviews as soon as possible after the first case is identified in order to obtain the most reliable data.
- Ask all questions of both ill and well persons in order to facilitate data analysis.
- Ensure that all interviewers are familiar with the investigation form prior to administering the questionnaire. Stress the importance of strict adherence to the questionnaire for data analysis. If needed, allow new investigators to practice, observe first, or interview under supervision.

## **5.9 Interview food handlers**

- Coordinate food handler interviews with NMED when determined necessary and agreed upon (see Section 6.3).
- Using a standardized questionnaire interview all food handlers, regardless of job duties or shifts worked. The Food Handler Questionnaire (Template 11.1.6) may be used or it may be modified.
- At a minimum, the questionnaire should include the following information:
  - Work history or schedule
  - Job tasks and responsibilities

- Illness history
- Recent illness among household members
- Other establishments where employed
- Food service establishment employee absentee records should also be reviewed in collaboration with NMED (see Section 6.3).

## 5.10 Collect food and clinical specimens

- Coordinate with SLD on proper specimen collection and handling. (See Section 10.10).
- Collect stool specimens from cases and food handlers as appropriate to the investigation. Refer to Section 10.10.1, 10.10.2 and Section 10.10.3 for proper collection and shipping of stool specimens.
- Specimens should be collected as soon as possible after illness onset in order to facilitate recovery of the etiologic agent.
- If cases have food specimens available in the form of leftovers or “doggie bags”, request that they be saved and refrigerated in the event they are needed for testing.
- Coordinate with NMED on proper collection and handling of food specimens (see Section 10.10).

## 5.11 Establish surveillance for additional cases

- Establish a surveillance system for identifying subsequent cases and assessing ongoing transmission as appropriate to the investigation.

## 5.12 Enter data

- Use an excel spreadsheet (i.e., line list) or another database (i.e., RedCap) to enter questionnaire data in a timely fashion for analysis. A template is included in Template 11.1.5.

## 5.13 Finalize case definition and perform data analysis

- Finalize a case definition that includes person, place and time.
- Perform the following analyses (as appropriate) using excel or by importing the line list into RedCap and using the analytic tools:
  - **Demographic profile:** Number and percentage of cases by age group and gender.
  - **Symptom profile:** Number and percentage of cases who reported nausea, vomiting, diarrhea, bloody diarrhea, abdominal cramps, chills, fever, and any other signs or symptoms systematically collected.
  - **Epidemic curve:** Bar graph depicting the number of cases by time of illness onset.
  - **Duration of illness:** Including median and range.
  - **Incubation period:** Including median and range.
  - **Total attack rate:** Number of cases divided by the number of persons exposed.
  - **Food-specific attack rates:** Percentage of persons who became ill after eating a specific food item.
  - **Measure of association:** For example, the odds ratio.

- **Measure of significance:** For example, the p-value or confidence interval.

#### **5.14 Recommend control measures**

- Control measures and prevention activities should be recommended based on the characteristics of the outbreak (including etiologic agent, implicated food item(s), environmental investigation findings and facility setting).
- Provide NMDOH fact sheets to exposed persons, food handlers and other parties involved to minimize confusion and ensure understanding of transmission and control measures.
- Depending on the etiologic agent, isolation and work or daycare exclusion criteria may apply. Refer to Section 10.8 for a summary of exclusion criteria.
- If indicated, coordinate recall or traceback/traceforward activities with NMED and other partners. See Section 10.9 for general recall and traceback information.

#### **5.15 Complete final report and evaluation**

- Prepare a final written report summarizing the epidemiologic investigation within 2 weeks of investigation completion. Refer to Section 7.1 and Template 11.1.7 for more information on writing the final report.
- If appropriate, conduct an evaluation of the investigation process detailing key points and lessons learned from the investigation.

### **6 Conducting Environmental Investigation**

#### **6.1 Preparation**

An environmental investigation is not a routine inspection. It is an investigation triggered by an outbreak of enteric illness or a food contamination incident. The purpose of the investigation is to determine how the environment contributed to the introduction and transmission of pathogens or other hazards that caused illness or contamination. Plan the environmental investigation before arriving at the food establishment. The following items should be checked before leaving the office:

- Review facility file for previous violations relevant to the outbreak.
- Check the complaint log to see if other similar complaints on the food establishment have been registered with the office.
- Gather the appropriate forms and relevant SLD specimen testing kits.
- Coordinate the specimen collection with the NMDOH. NMED specific sampling procedures will be performed according to Manufactured Food Program SOP 308 Sampling Procedure (Current Version). The most current NMED SOP is located at the OneDrive portal within the NM FBI Investigations Manual Folder.

- Gather the necessary inspection equipment such as personal wear (hair restraint and lab coat), sanitizer test kits, thermocouples, thermometers, pH meter, and other measuring devices. Ensure that all the measuring devices have been calibrated (if necessary), are fully charged, and are functioning properly.
- Whenever possible, identify implicated food(s) and causative agent(s).
- Conduct the inspection of the food establishment and collect food samples (when applicable) as soon as possible, but no later than 24 hours after notification of possible enteric illness outbreak.

## 6.2 Inspector knowledge and investigation focus

- Understand how microorganisms that can cause enteric illness contaminate, survive, and proliferate, and the relationship to food handling practices.
- Understand the food flow in the food establishment and the relationship to the hazards. Identify the type of food operation (ready-to-eat, same day service or complex preparation).
- Focus the investigation on the CDC Risk Factors – food source, inadequate cooking, improper holding, contamination, poor personal hygiene, and environmental contamination.

## 6.3 Investigation steps

- Introduce yourself to the manager or person in charge on arrival at the food establishment. State the purpose for the inspection. Try to establish a level of cooperation with management. Assure management that every possibility for contamination will be investigated.
- Get information on menus, recipes, food preparation, food flow, names of food handlers, and their food handling responsibilities.
- Interview the food handlers on their present and past health and observe their hygiene practices.
- Review food handling practices with food handlers. Concentrate on the preparation of those suspect foods previously identified (including amounts, recipes, and sources of raw ingredients).
- Observe the food handling practices taking place while in the food establishment, primarily those associated with the suspect food or foods.
- Collect leftover foods from the suspect meal. If no leftover foods are available, collect raw ingredients or similarly prepared foods. Refer to sampling instructions in Section 10.10.4. NMED specific sampling procedures will be performed according to Manufactured Food Program SOP 308 Sampling Procedure (Current Version). The most current NMED SOP is located at the OneDrive portal within the NM FBI Investigations Manual Folder.
- Maintain an unbiased, neutral attitude throughout the inspection. The objective of the inspection is to ascertain the source and mode of microbial or chemical contamination of the food, the likelihood that pathogens survived processes designed to kill or reduce their numbers, and the opportunities for growth of pathogenic bacteria or toxigenic molds.
- Draw a separate flow chart showing each operation that the suspect food(s) underwent. Identify the hazards, CCPs, specific food handler(s) involved with the operation, and actual food handling of the food (information obtained from the food handlers). This

approach may help to identify the breakdown in food handling that led to the enteric illness. The flow chart may be revised repeatedly as new information is gathered.

- Take measures to protect food establishment proprietary trade secrets as required by law or agreement.

#### **6.4 Exclusions and restrictions of food handlers**

- Persons should be excluded from food handling if diagnosed with any communicable disease that can be transmitted through food or if suffering symptoms of acute gastrointestinal illness including diarrhea, vomiting, or jaundice. However, if the food handler can document that these symptoms are the result of a noninfectious condition such as Crohn's disease or during the early stages of a pregnancy, the food handler may remain working in a full capacity.
- Persons should not be allowed to return to food handling duties until recommended by NMDOH and NMED. Refer to Section 10.8 for the exclusion criteria for specific enteric illnesses.

#### **6.5 Recalls**

Recall procedures apply to all Class I, Class II, and Class III recalls including those from the United States Food and Drug Administration (FDA), the United States Department of Agriculture (USDA), and manufacturers of food products identified as adulterated or misbranded by NMED Inspectors or through customer complaints.

A recall is intended to remove food products from commerce when there is reason to believe the products may be adulterated or misbranded. The recall can be initiated voluntarily or be made mandatory once sufficient evidence is provided to determine that a food product is adulterated or misbranded. If the epidemiologic and environmental investigation findings indicate that a recall or traceback/traceforward is necessary, coordinate with NMED, NMDOH and other partners to complete these activities together with the current NMED Recall Coordinator. The NMED Food Program Manager will lead the recall efforts. NMED will follow procedures under Manufacturing Food Program SOP 306 Food Recall (Current Revision) for any recalls performed. The most current NMED SOP is located at the OneDrive portal within the NM FBI Investigations Manual Folder.

#### **6.6 Tracebacks and Traceforwards**

The purpose of a traceback is to follow the flow of a food product back to its original source. The steps in the process from the finished product to the farm ingredients used are investigated to identify the source of the product adulteration and/or product process break down. Tracing the source of food items or ingredients from the point of purchase/consumption back through distribution to the source of production can be critical to identifying epidemiologic links among individuals or ruling them out. The food items eaten by multiple individuals along a distribution pathway can help identify the source of contamination. Failure to identify common suppliers among suspected foods eaten by different individuals might indicate that the food item is not the vehicle for the outbreak.

Traceforward investigations are similar to tracebacks in that they are collecting food supply chain documentation, but they trace contaminated food from the source of contamination (manufacturing plant or farm) forward through the supply chain to ultimately end with the consumer. Their purpose is to identify all product types that potentially became contaminated from the original source and where these contaminated products were distributed and sold to consumers in order to remove contaminated products from the marketplace and notify consumers about these products. Traceforwards may happen in conjunction with a traceback investigation if a source is identified and a recall is initiated or may happen independently whenever contaminated food is identified (not necessarily associated with illness).

Initiation of a traceback investigation usually begins when 1) epidemiological evidence implicated a food product and 2) hazard analysis shows that other contributing factors were not to blame, for example, cross-contamination, ill food workers, or other on-site sources of the infectious agent. Traceback and traceforward of food products processed outside of New Mexico are coordinated by FDA and/or USDA. The NMED Food Program Manager will act as a liaison with FDA and/or USDA and coordinate New Mexico efforts in a traceback. Traceback and traceforward of food products processed within New Mexico will be coordinated by the regulatory agency that has jurisdiction over the food processor.

When evidence indicates intentional contamination of food, such shall be reported to the appropriate law enforcement agency. (See Section 10.1.3). NMED will follow procedures under Manufacturing Food Program SOP 307 Traceback and Traceforward (Current Revision) in case of traceback or traceforward performed. The most current NMED SOP is located at the OneDrive portal within the NM FBI Investigations Manual Folder.

## 7 Reporting the Investigation

### 7.1 NMDOH final written report

#### 7.1.1 Preparation

NMDOH ERD will prepare an archive folder and final written report summarizing the outbreak investigation within 2 weeks of investigation completion. The report should include, if appropriate, the following sections (see Template 11.1.7 for report template):

- Context/Background
- Methods
- Epidemiologic Investigation Results
- Laboratory Results
- Environmental Investigation Results
- Discussion/Conclusions
- Recommendations
- Key investigators and/or report authors
- Appendices
  - NORS Section

- Official environmental investigation report

A summary of any NMED environmental investigation findings should be included in the Environmental Investigation Results section of the final NMDOH written report. If available, a copy of the official environmental investigation report from NMED should be included as a Section. If a member of the outbreak investigation team other than the NMDOH lead epidemiologist completes the final written report, the report should be routed through the NMDOH lead epidemiologist for final approval and filing.

### 7.1.2 Retention of electronic and hard copies

**Electronic copy retention:** The final written report should be entered into the NMDOH outbreak folder using established procedures. The outbreak investigation number should be used to file electronic and hard copies of all documentation, including investigation notes. Electronic copies of documents associated with the investigation (e.g., questionnaires, databases, final report) should be copied to the numbered outbreak folder.

**Hard copy retention:** Hard copies of documents associated with the investigation (e.g., questionnaires, lab results, final report) should be filed together by outbreak number using established procedures. These also may be scanned and added to the electronic outbreak folder.

### 7.1.3 Distribution to stakeholders

The final NMDOH report should be distributed electronically for review to the stakeholders listed below as well as other collaborators as deemed appropriate by lead investigator (e.g., facility administrators, infection control practitioners).

#### NMDOH

- Center for Health Protection
  - Bureau Chief, IDEB
  - Enteric Disease Epidemiologists, IDEB
- Public Health Division
  - Regional Health Officer of involved Region(s)
  - Regional Nurse Epidemiologist of involved Region(s)
  - Other collaborators as deemed appropriate by lead investigator
- Scientific Laboratory
  - Division Director
  - Bureau Chief, Biological Sciences Bureau
  - Supervisor, General Microbiology Section
    - Supervisor, Environmental Microbiology Section

## NMED

- Environmental Health Bureau
  - Chief, EHB
  - Manager, Food Program
  - District Manager in involved District(s)
  - Other collaborators as deemed appropriate by lead investigator

### 7.2 National Outbreak Reporting System report

The National Outbreak Reporting System (NORS) is a surveillance system maintained by the Centers for Disease Control and Prevention (CDC). See website for details: <http://www.cdc.gov/nors/>. State and local health departments in all states use NORS to electronically report data about enteric outbreak investigations to CDC. These data are released by CDC in a public access database often used to evaluate state programs. NMDOH Enteric Disease Epidemiologist has the primary responsibility for entering completed NORS reports into the CDC database.

A NORS report should be filed for each enteric or waterborne outbreak investigation within 1-2 weeks of the completion of the investigation. Once the final outbreak report is completed, the Enteric Disease Epidemiologist should be notified for final NORS data entry. The NORS summary table in the final written investigation report template (Template 11.1.7) should be completed to facilitate NORS reporting. Additional information to be entered into NORS should be available in the outbreak final report.

### 7.3 NMED final written report

The goal of the NMED final report is to provide accurate and complete documentation about the establishment during the enteric illness investigation. The following items may be contained within the report:

- Date and time food related complaint(s) were received by NMED.
- Date and time of inspection.
- Samples collected.
- Food temperatures taken during the inspection.
- Dishwasher sanitizing rinse or disinfectant level in the equipment washing area.
- If any of the food handlers during the inspection showed signs of gastrointestinal illness, or open wounds or cuts without a bandage.
- All violations that were noted.

The NMED inspector(s) performing the investigation will prepare the final report as part of the Environmental Assessment Final Report, which should be restricted to actual inspection findings. All conclusions about suspected foods should be left to the IDEB final written report (see Section 7.1) and will be based on environmental samples, conditions in the facility, patient samples, and statistical analyses. A corrective action plan should be included that addresses deficiencies found during the inspection. The NMED Environmental Assessment Final Report should be included in the

outbreak archive folder. All activities regarding the final report will be performed in accordance to NMED Manufactured Food Program SOP 503 Food Program Investigation and Environmental Assessment (Current Version). The most current NMED SOP is located at the FoodShield portal within the NM FBI Investigations Manual Folder.

In circumstances where an NMED Final Report does not need to be developed or submitted, the following process can be used to obtain a copy of the desired Food Establishment Inspection Report or Manufactured Food Inspection Report:

- Interagency call-down list
  1. Locate the name and address of the facility in question.
  2. Depending on the location of the facility, find the respective Staff Manager for the area using the interagency call-down list.
  3. Request a copy of the inspection report or any other additional information.
- LPI Data Base
  1. Locate the name and address of the facility in question. Log-in to LPI Data Base with Username and Password.
  2. Once logged-in, at the main screen look under Facilities and Search for “Business Name” or search by permit number under the permits tab. Enter the facility name or permit number and click “Search”.
  3. From the list of facilities that may appear choose the correct one and click on the name/permit number. Once the facility opens, click on the Inspections and Permits tab.
  4. The most current inspection documentation will be on the inspections section. Choose the correct “Inspection Click the link to open the inspection. Choose the appropriate Reports folder and click the link to open the “Inspection Documentation”.
  5. An inspection report will appear as a PDF file.

## **8 Investigation Follow-up Activities**

### **8.1 Assure recommendations are followed**

### **8.2 Implementation of remediation and prevention measures**

- Some interventions may be done very early in an investigation if illness is very serious and/or case counts rapidly mount (e.g., closing restaurant, closing food production site, extensive environmental cleaning, etc.).
- Partner organizations (FDA, NMED, facility infection preventionist) may determine and implement prevention measures based on their jurisdiction.
- Consider sending letters to notify potentially exposed contacts in schools, etc.
- Contact the NMDOH Public Information Officer (PIO) and distribute a Health Alert Network (HAN) as appropriate.

### **8.3 Evaluation of investigation process**

- Specific evaluation is determined by pathogen, agency partners, and outbreak investigation findings.
- Determine end of outbreak date. One common way to determine the outbreak end is when there have been no new cases from last onset date to twice the incubation period.
- Examples of other factors:
  - Risk of exposure has been stopped by removing contaminated item from marketplace.
  - Food handler has been excluded and followed for safe return to work.
  - Recommended cleaning agents used effectively.

### **8.4 Documentation of investigation process**

- NMDOH will enter all confirmed, probable, and epi-linked outbreak cases in NMEDSS using CDC/CSTE case definition (for confirmed, probable, suspect). Outbreak number (e.g., 2012-021) also will be entered.
- Close out meeting with relevant partners involved in the investigation will be held to inform all participants and review lessons learned.
- NMDOH will save electronic copies of line lists, environmental investigation reports, summary notes, and any other documents under appropriate outbreak folder.
- NMDOH will complete/distribute summary reports.
- NORS form is the minimum summary (required of all outbreaks associated with enteric pathogens).
- Final narrative report should be written and saved in outbreak folder.
- FoodNet Outbreak Summary should be completed and provided to the NMDOH enteric epidemiologist.

## **9 Regional and local procedures**

Regional, district, and local procedures vary depending on available resources, regulations, and the agencies involved. Contact local jurisdictions to determine procedures.

### **9.1 Local jurisdictions defined**

- DOH has 5 regions (see Section 10.3)
  - Local public health offices and cooperating local agencies assist with investigations in their regions (see Section 10.1.1)
- NMED has 3 districts (see Section 10.4)
  - District field offices handle investigations in their area excluding the city of Albuquerque (see Section 10.1.2)
- The city of Albuquerque
  - The city of Albuquerque handles all investigations within the city limits (see Section 10.1.3)

- Tribal areas are outside the jurisdiction of the state (see Section 10.1.3)

## 10 Resources

### 10.1 Contact Lists

#### 10.1.1 New Mexico Department of Health Contacts

Office/Staff	City	Phone	Fax
Infectious Disease Epidemiology Bureau	Santa Fe	1-833-SWNURSE (1-833-796-8773)24/7/365	(505) 827-0013
Metro Region Nurse Epidemiologist	Albuquerque	(505) 841-4176	(505) 841-4104
Northwest Nurse Epidemiologist	Farmington	(505) 222-9095	(505) 326-1762
Northeast Nurse Epidemiologist	Santa Fe	(505) 946-8837	(505) 476-2694
Southeast Nurse Epidemiologist	Roswell	(575) 528-6017	(575) 347-2546
Southwest Nurse Epidemiologist	Las Cruces	(575) 528-5107	(575) 528-6060
Scientific Laboratory	Albuquerque	(505) 383-9000	(505) 383-9011
Biological Sciences Bureau Chief	Albuquerque	(505) 383-9122	(505) 383-9121
General Microbiology	Albuquerque	(505) 383-9128	(505) 383-9121
Environmental Microbiology	Albuquerque	(505) 383-9129	(505) 383-9121
Virology and Serology	Albuquerque	(505) 383-9124	(505) 383-9121

NMDOH Public Health Office (PHO) contact information can be found here:

<https://www.nmhealth.org/location/public/>

## 10.1.2 New Mexico Environment Department Contacts

Office	City	Phone	Fax
Food Program Manager	Las Cruces	(575)288-2050	(505) 222-9510 (575) 526-6162
District I Office	Albuquerque	(505) 222-9500	(505) 222-9510
District II Office	Santa Fe	(505) 827-1840	(505) 827-1839
District III Office	Las Cruces	(575) 288-2050	(575) 526-6162

NMED Field Offices by County				
Office	County	City	Phone	Fax
Albuquerque	Bernalillo	Albuquerque	(505) 222-9500	(505) 222-9510
Roswell	Chaves	Roswell	(575) 624-6046	(575) 624-2023
Grants (Milan)	Cibola	Grants (Milan)	(505) 209-4042	N/A
Raton	Colfax	Raton	(575) 445-3621	(575) 445-3376
Clovis	Curry	Clovis	(575) 762-3728	(575) 769-2527
Las Cruces	Dona Ana/Sierra	Las Cruces	(575) 288-2050	(575) 526-6162
Carlsbad	Eddy	Carlsbad	(575) 885-9023	(575) 887-9283
Silver City	Grant	Silver City	(575) 388-1934	(575) 388-3258
Hobbs	Lea	Hobbs	(575) 397-6910	(575) 397-6916
Ruidoso	Lincoln	Ruidoso	(575) 258-3272	(575) 258-4891
Gallup	McKinley	Gallup	(505) 722-4160	(505) 863-2664

<b>NMED Field Offices by County</b>				
<b>Office</b>	<b>County</b>	<b>City</b>	<b>Phone</b>	<b>Fax</b>
Alamogordo	Otero	Alamogordo	(575) 437-7115	(575) 434-1813
Tucumcari	Quay	Tucumcari	(575) 461-1671	(575) 461-1864
Espanola	Rio Arriba	Espanola	(505) 753-7256	(505) 753-1840
Farmington	San Juan	Farmington	(505) 566-9741	(505) 566-9757
Las Vegas	San Miguel	Las Vegas	(505) 454-2804	(505) 425-6604
Rio Rancho	Sandoval	Rio Rancho	(505) 771-5980	(505) 771-5981
Santa Fe	Santa Fe	Santa Fe	(505) 827-1840	(505) 827-1839
Taos	Taos	Taos	(575) 758-8808	(575) 758-9851
Los Lunas	Valencia/Socorro	Los Lunas	(505) 841-5280	(505) 841-5284

#### **10.1.3 Other Jurisdictional Contacts**

<b>Office</b>	<b>City</b>	<b>Phone</b>	<b>Fax</b>
City of Albuquerque Environmental Health Department	Albuquerque	(505) 768-2738	(505) 768-2617
Bernalillo County Office of Environmental Health	Albuquerque	(505) 314-0326	(505) 314-0470
Indian Health Service Division of Environmental Health Services	Albuquerque	(505) 248-4947	(505) 248-4265
NM State Police	Santa Fe	505-827-9000	N/A
NM Emergency Department of Homeland Security and Emergency Management (DHSEM)	Santa Fe	505-476-9600	N/A

NM DOH Bureau of Health Emergency Management (BHEM)	Santa Fe	505-231-5506.	N/A
USDA Compliance Investigator (Guillermo Orquiz)	Albuquerque	505-218-0697	N/A
FDA Regional Food Specialist David Gonzalez	Denver	(303) 236-9664	N/A

#### 10.1.4 NMED Enteric Illness Investigation Contact List

<b>NEW MEXICO ENVIRONMENT DEPARTMENT (NMED)</b> <b>ENVIRONMENTAL HEALTH BUREAU</b> <b>Enteric Illness Investigation (FBI)</b> <b>Contact List</b>					
<b>Office</b>	<b>Title</b>	<b>Name</b>	<b>Phone (office)</b>	<b>Fax</b>	<b>Email</b>
NMED	Food Program Manager	Marci Nevarez	(575) 288-2050	(575) 526-6162	<a href="mailto:marci.nevarez@env.nm.gov">marci.nevarez@env.nm.gov</a>
NMED	Bureau Chief	William Chavez	(505) 222-9500	(505) 222-9510	<a href="mailto:william.chavez@env.nm.gov">william.chavez@env.nm.gov</a>
NMED	Staff Manager	Ed Fox	(505) 771-5980	(505) 771-5981	<a href="mailto:ed.fox@env.nm.gov">ed.fox@env.nm.gov</a>
NMED	Staff Manager	Dominic Romero	(505) 222-9500	(505) 222-9510	<a href="mailto:dominicr.romero@env.nm.gov">dominicr.romero@env.nm.gov</a>
NMED	Staff Manager	James Rivera	(505) 827-1840	(505) 827-1839	<a href="mailto:james.rivera@env.nm.gov">james.rivera@env.nm.gov</a>
NMED	Staff Manager	Anai Hernandez	(505) 827-1840	(505) 827-1839	<a href="mailto:anai.hernandez@env.nm.gov">anai.hernandez@env.nm.gov</a>
NMED	Staff Manager	Steven Kokovay	(575) 288-2050	(575) 526-6162	<a href="mailto:steven.kokovay@env.nm.gov">steven.kokovay@env.nm.gov</a>
NMED	Staff Manager	Carrie Krzebiet	(575) 624-6046	(575) 624-2023	<a href="mailto:carrie.krzebiet@env.nm.gov">carrie.krzebiet@env.nm.gov</a>
NMED	District I-East Food Specialist	Hiromi Martinez	(505) 771-5980	(505) 771-5981	<a href="mailto:hiromi.martinez@env.nm.gov">hiromi.martinez@env.nm.gov</a>
NMED	District III-East Food Specialist	Melissa Johns	(575) 288-2050	(575) 526-6162	<a href="mailto:melissa.johns@env.nm.gov">melissa.johns@env.nm.gov</a>
NMED	District III-West Food Specialist	Corie Perry-Buchanan	(575) 258-3272	(575) 258-4891	<a href="mailto:corie.perry-buchanan@env.nm.gov">corie.perry-buchanan@env.nm.gov</a>
NMED	District I Manufactured Food Specialist	Sherman Paranandi	505-566-9741	(505)-566-9757	<a href="mailto:sherman.paranandi@env.nm.gov">sherman.paranandi@env.nm.gov</a>
NMED	District III Manufactured Food Specialist	Eric Carlson	(575) 288-2050	(575) 526-6162	<a href="mailto:eric.carlson@env.nm.gov">eric.carlson@env.nm.gov</a>

## 10.2 Tables of enteric illnesses and associated characteristics<sup>1</sup>

### 10.2.1 Enteric Illnesses and Associated Characteristics: Bacterial Agents

Can also be found at:  
<https://www.nmhealth.org/publication/view/general/5149/>

Agent	Usual Incubation Period (Range) <sup>2,3,4</sup>	Signs and Symptoms <sup>2,3,4</sup>	Duration <sup>2,3</sup>	Associated foods <sup>2</sup>	Period of Communicability <sup>2,3</sup>	CDC criteria for outbreak confirmation <sup>5</sup>
						SLD Test Kit See SLD Biological Sciences Bureau directory of services for up to date information <a href="https://nmhealth.org/about/sld/">https://nmhealth.org/about/sld/</a>
<i>Bacillus cereus</i> (diarrheal form)	6-24 hours	Abdominal cramps, watery diarrhea, nausea.	24-48 hours	Meats, stews, gravies, vanilla sauce.	Not communicable (enterotoxin formed in vivo).	Isolation of organism from stool of two or more ill persons OR isolation of $10^5$ organisms/g from epidemiologically implicated food. Contact Env.Micro section regarding food collection 505 383-9129
						Enteric Transport Kit (ETM). Refrigerate not frozen, place in container. Stool in ETM must be received at SLD within 48 hours of collection.
<i>Bacillus cereus</i> (emetic form)	1-6 hours	Sudden onset of severe nausea and vomiting, diarrhea may be present.	24 hours	Improperly refrigerated cooked and fried rice, meats.	Not communicable (preformed enterotoxin).	Isolation of organism from stool of two or more ill persons and not from stool of control patients OR isolation of $10^5$ organisms/g from epidemiologically implicated food, provided specimen is properly handled.
						Enteric Transport Kit (Refrigerate not frozen, place in container without preservative, vomitus must be without preservative). Must be received at SLD within 24 hours of collection
<i>Brucellosis</i> ( <i>Brucella abortus</i> , <i>B. melitensis</i> , <i>B. suis</i> )	Several days to several months; usually >30 days	Fever, chills, sweating, weakness, headache, muscle and joint pain, diarrhea, bloody stool during acute phase.	Weeks	Unpasteurized milk, unpasteurized cheese, contaminated meat.	Not known to be communicable from person-to-person.	Two or more ill persons and isolation of organism in culture of blood or bone marrow; greater than fourfold increase in standard agglutination titer (SAT) over several wks, or single SAT 1:160 in person who has compatible clinical symptoms and history of exposure.
						Call SLD General Microbiology (505-383-9128) for blood culture options and SLD Virology/Serology (505-383-9124) for antibody titer serology. Blood for testing must be separated and serum frozen.
<i>Campylobacter</i>	2-10 days; usually 2-5 days	Diarrhea, cramps, vomiting and fever; diarrhea may be bloody.	2-10 days	Raw and undercooked poultry, unpasteurized milk, contaminated water.	Excreted for 2-7 weeks; uncommon to have person-to-person spread.	Isolation of organism from clinical specimens from two or more ill persons OR isolation of organism from epidemiologically implicated food. Contact Env.Micro section regarding food collection 505 383-9129
						Enteric Transport Kit. Refrigerate, must be in preservative. Must be received at SLD within 48 hours of collection.

Agent	Usual Incubation Period (Range) <sup>2,3,4</sup>	Signs and Symptoms <sup>2,3,4</sup>	Duration <sup>2,3</sup>	Associated foods <sup>2</sup>	Period of Communicability <sup>2,3</sup>	CDC criteria for outbreak confirmation <sup>5</sup>
						SLD Test Kit See SLD Biological Sciences Bureau directory of services for up to date information <a href="https://nmhealth.org/about/sld/">https://nmhealth.org/about/sld/</a>
<i>Clostridium botulinum</i> (Enteric botulism)	2 hrs-8 days; usually 12-48 hrs	Vomiting, diarrhea, blurred vision, diplopia, dysphagia, descending muscle weakness.	Days to months, can be complicated by respiratory failure and death	Home-canned foods with a low acid content, improperly canned commercial foods, home-canned or fermented fish, foil-wrapped baked potatoes.	Not communicable (preformed enterotoxin)	Detection of botulinum toxin in serum, stool, gastric contents, or implicated food OR isolation of organism from stool or intestine.
						Stool, serological and food testing available only through CDC. Call SLD General Microbiology (505-383-9128) for specimen collection and shipping requirements.
<i>Clostridium botulinum</i> (infant botulism)	3-30 days	Infants <12 months: lethargy, weakness, poor feeding, constipation, poor gag and sucking reflex.	Variable	Raw honey, home-canned vegetables and fruits, corn syrup. (Majority of cases not associated with food)	Not communicable (preformed enterotoxin).	Detection of botulinum toxin in serum, stool, gastric contents, or implicated food OR isolation of organism from stool or intestine.
						Food testing available only through CDC. Call SLD Environmental Microbiology (505-383-9129) for food collection and transport requirements.
<i>Clostridium perfringens</i>	6-24 hours	Watery diarrhea, nausea, abdominal cramps.	24-48 hours	Meats, poultry, gravy, dried or precooked foods.	Not communicable (enterotoxin formed in vivo).	Isolation of $10^6$ organisms/g from stool of two or more ill persons, provided specimen is properly handled OR demonstration of enterotoxin in the stool of two or more ill persons OR isolation of $10^5$ organisms/g from epidemiologically implicated food, provided specimen is properly handled.
						For stool cultures, Enteric Transport Kit (with or without preservative, must be refrigerated) must be received at SLD within 48 hours of collection. Contact Env.Micro section regarding food collection 505 383-9129
Enterohemorrhagic <i>E. coli</i> (EHEC) including <i>E. coli</i> O157:H7 and other Shiga toxin-producing <i>E. coli</i> (STEC)	1-10 days; usually 3-4 days	Diarrhea that is often bloody, severe abdominal pain; fever occurs in less than 1/3 of cases.	5-10 days	Ground beef, unpasteurized milk and juice, fresh produce, ingestion of contaminated water also contact in petting zoos (sheep, deer, calves).	For the duration of excretion of the pathogen; typically a week or less in adults, but 3 weeks in 1/3 of children	Isolation of <i>E. coli</i> O157:H7 or other Shiga-like toxin-producing <i>E. coli</i> from clinical specimen from two or more ill persons OR isolation of <i>E. coli</i> O157:H7 or other Shiga-like toxin-producing <i>E. coli</i> from epidemiologically implicated food.
						Enteric Transport Kit (Stool in preservative, refrigerated). Must be received at SLD within 48 hours of collection. Contact Env. Micro section regarding food collection 383-9129

## Enteric Illnesses and Associated Characteristics: Bacterial Agents (continued)

Agent	Usual Incubation Period (Range) <sup>2,3,4</sup>	Signs and Symptoms <sup>2,3,4</sup>	Duration <sup>2,3</sup>	Associated foods <sup>2</sup>	Period of Communicability <sup>2,3</sup>	CDC criteria for outbreak confirmation <sup>5</sup>
						SLD Test Kit
Enterotoxigenic E. coli (ETEC)	6-48 hrs	Diarrhea, abdominal cramps, nausea; vomiting and fever less common	3-7 days or longer	. Contaminated fruits, vegetables and water.	For the duration of excretion of the pathogen, this may be prolonged. (Rare in the US, more common in infants and travelers to resource limited countries)	Isolation of organism of same serotype, demonstrated to produce heat- stable (ST) and/or heat-labile (LT) enterotoxin, from stool of two or more ill persons.
						-This test is included in BioFire panel, PCR multiplex. Availability based on supply and funding. Please contact SLD Bureau Chief 505 383-9122
<i>Listeria monocytogenes</i>	2-6 wks	Fever, muscle aches and nausea or diarrhea. Pregnant women may have mild flu-like illness and infection may lead to miscarriage. High risk patients may have meningitis or sepsis. Neonates may have pneumonia, sepsis or meningitis	Variable	Unpasteurized milk, fresh soft cheeses, ready-to-eat deli meats, hot dogs, melons, fruit salads	Infected persons can shed the organism for a week to several months.	Isolation of organism of same serotype from stool of two or more ill persons exposed to food that is epidemiologically implicated or from which organism of same serotype has been isolated.
						Stool culture not useful. Sterile site specimen such as CSF or blood culture clinical sample or isolate cultured at SLD. Call General Microbiology (505-383-9128) for more detail. Contact Env.Micro section regarding food collection 383-9129
<i>Salmonella</i> species (non-typhi)	6 hrs-10 days; usually 6-48 hrs	Diarrhea, fever, abdominal pain, nausea, headache.	4-7 days	Eggs, poultry, meat, unpasteurized milk or juice, contaminated fresh produce.	Throughout course of infection; carrier state may occur with excretion months to >1 year.	Isolation of organism of same serotype from clinical specimens from two or more ill person OR isolation of organism from epidemiologically implicated food.
						Enteric Transport Kit. (Stool in preservative, refrigerated, must be received at SLD within 48 hours. of collection)

## Enteric Illnesses and Associated Characteristics: Bacterial Agents (Continued)

Agent	Usual Incubation Period (Range) <sup>2,3,4</sup>	Signs and Symptoms <sup>2,3,4</sup>	Duration <sup>2,3</sup>	Associated foods <sup>2</sup>	Period of Communicability <sup>2,3</sup>	CDC criteria for outbreak confirmation <sup>5</sup>
						SLD Test Kit
<i>Salmonella</i> typhi	3-60 days; usually 7-14 days	Gradual onset of fever, headache, malaise, anorexia, abdominal pain. May have rose-colored spots on trunk, hepato-splenomegaly.	4-7 days	Food or water contaminated by feces or urine of infected patients or chronic carriers.	As long as organism is in excreta (i.e., stool or urine); 2-5% of infected persons become permanent gallbladder carriers.	Isolation of organism from clinical specimens from two or more ill persons OR isolation of organism from epidemiologically implicated food.
						Enteric Transport Kit (stool in preservative, refrigerated; must be received at SLD within 48 hours of collection)
<i>Shigella</i> spp.	12 hrs-6 days; usually 2-4 days	Diarrhea (sometimes bloody), often accompanied by fever and abdominal cramps				Isolation of organism of same species or serotype from clinical specimens from two or more ill persons OR isolation of organism from epidemiologically implicated food.
						Enteric Transport Kit (stool in preservative, refrigerated; must be received at SLD within 48 hours of collection).
<i>Staphylococcus aureus</i>	30 min-8 hrs; usually 2-4 hrs	Vomiting, diarrhea				Isolation of organism of same phage type from stool or vomitus of two or more ill persons OR detection of enterotoxin in epidemiologically implicated food OR isolation of 105 organisms/g from epidemiologically implicated food, provided specimen is properly handled.
						Enteric Transport Kit (stool or emesis in preservative, refrigerated; must be received at SLD within 48 hours of collection).
<i>Vibrio cholerae</i> , O1 or O139	1-5 days	Profuse watery diarrhea and vomiting.	3-7 days	Fish, shellfish, water or food contaminated by infected persons.	Usually a few days after recovery, except carrier state.	Isolation of toxigenic organism from stool or vomitus of two or more ill persons OR significant rise in vibriocidal, bacterial-agglutinating, or antitoxin antibodies in acute- and early convalescent-phase sera among persons not recently immunized OR isolation of toxigenic organism from epidemiologically implicated food.
<i>Vibrio parahaemolyticus</i>	4-30 hrs	Watery diarrhea, abdominal cramps, nausea, vomiting.	2-5 days	Undercooked or raw fish or shellfish.	Not normally communicable from person-to-person.	Isolation of <i>Vibrio</i> spp. from stool of two or more ill persons OR isolation of <i>Vibrio</i> spp. from epidemiologically implicated food, provided specimen is properly handled.
						Enteric Transport Kit. (Stool in preservative, refrigerated; must be received at SLD within 48 hours of collection). Contact Env. Micro section regarding food collection 383-9129

<i>Yersinia enterocolitica</i> and <i>Yersinia pseudotuberculosis</i>	1-10 days; usually 4-6 days	Appendicitis-like symptoms (diarrhea and vomiting, fever, and abdominal pain) occur primarily in older children and young adults. May have a scarlitiniform rash with <i>Y. pseudotuberculosis</i> .	1-3 weeks	Undercooked pork, unpasteurized milk, tofu, contaminated water. Infection has occurred in infants whose caretakers handled pig intestines.	Secondary transmission appears rare. There is fecal shedding as long as symptoms exist. Untreated cases may excrete organism for 2-3 months. Prolonged asymptomatic carriage has been reported in children and adults.	Isolation of organism from clinical specimen from two or more ill persons OR isolation of pathogenic strain of organism from epidemiologically implicated food.
						Enteric Transport Kit. (Stool in preservative, refrigerated; must be received at SLD within 48 hours of collection.)

## 10.2.2 Enteric Illnesses and Associated Characteristics: Viral Agents

Agent	Usual Incubation Period (Range) <sup>2,3,4</sup>	Signs and Symptoms <sup>2,3,4</sup>	Duration <sup>2,3</sup>	Associated foods <sup>2</sup>	Period of Communicability <sup>2,3</sup>	CDC criteria for outbreak confirmation <sup>5</sup>
						SLD Test Kit
Norovirus (and other caliciviruses)	12-48 hrs (median 33 hours)	Nausea, vomiting, abdominal cramps, watery diarrhea, may include myalgia and some headache. Diarrhea is more prevalent in adults and vomiting is more prevalent in children.	16-60 hours	Shellfish harvested from contaminated waters, fecally contaminated foods, ready-to-eat foods contaminated by infected food handlers such as salads, cookies, ice, sandwiches, fruit and leafy vegetables.	Extremely contagious, precise time when infected person is no longer contagious is unknown. Shown to be shed in stool and vomitus; viral shedding averages 4 weeks after infection and peaks 2-5 days.	<p>Detection of viral RNA in at least two bulk stool or vomitus specimens by real-time or conventional reverse transcriptase-polymerase chain reaction (RT-PCR) OR visualization of viruses (NoV) with characteristic morphology by electron microscopy in at least two or more bulk stool or vomitus specimens OR two or more stools positive by commercial enzyme immunoassay (EIA).</p> <p>Stool and/or vomitus collected in clean container (no preservative); refrigerated specimen must be tested within 14 days of collection. Do not freeze specimen. Requires pre-approval by ERD. Results reported only to ERD.</p>
Rotavirus (Retroviridae family-Group A most common)	1-3 days	Vomiting, fever, watery diarrhea, may result in severe dehydration in young children.	4-6 days	Foods handled by infected person, or foods prepared in proximity to diapered, ill infants; contaminated water.	During acute phase and shed up to 8 days after symptoms resolve.	<p>Demonstration of organism in stool of two or more ill persons.</p> <p>No testing done at SLD</p>
Hepatitis A	15-50 days; median: 28 days	Diarrhea, dark urine, jaundice, fever, headache, nausea, and abdominal pain.	Variable, 2 weeks-3 months	Shellfish harvested from contaminated waters, fecally contaminated foods, ready-to-eat foods contaminated by infected food handlers.	Maximum infectivity occurs during the 1 to 2 weeks before illness onset and diminishes by one week after onset of jaundice.	<p>Detection of immunoglobulin M antibody to hepatitis A virus (IgM anti-HAV) in serum from two or more persons who consumed epidemiologically implicated food.</p> <p>Serologic testing available at SLD. Contact Virology/Serology (505-383-9124). Blood sample with serum separated off. Refrigerated serum must be tested within 7 days of collection. If shipment will take longer, specimen must be frozen at -20°C (-4°F) and shipped on dry ice.</p>

### 10.2.3 Enteric Illnesses and Associated Characteristics: Parasitic Agents

Agent	Usual Incubation Period (Range) <sup>2,3,4</sup>	Signs and Symptoms <sup>2,3,4</sup>	Duration <sup>2,3</sup>	Associated foods <sup>2</sup>	Period of Communicability <sup>2,3</sup>	CDC criteria for outbreak confirmation <sup>5</sup>
						SLD Test Kit
<i>Cryptosporidium</i>	2-28 days; median: 7 days	Diarrhea (usually watery), stomach cramps, upset stomach, slight fever.	May be remitting and relapsing over weeks to months.	Drinking water, food contaminated by infected food handlers.	Usually two weeks after recovery, but shedding can continue for up to two months.	Demonstration of oocysts in stool or in small-bowel biopsy of two or more ill persons OR demonstration of organism in epidemiologically implicated food.
						No testing done at SLD, may forward specimens to CDC. Contact General Micro 505 383-9128
<i>Cyclospora cayetanensis</i>	1-14 days; median: 7 days	Diarrhea (usually watery), loss of appetite, weight loss, stomach cramps, nausea, vomiting, fatigue.	May be remitting and relapsing over weeks to months.	Fresh produce, berries, lettuce, herbs.	Unknown, person-to-person transmission has not been documented.	Demonstration of the parasite by microscopy or molecular methods in stool or in intestinal aspirate or biopsy specimens from two or more ill persons OR demonstration of the parasite in epidemiologically implicated food.
						No testing done at SLD, may forward specimens to CDC. Contact General Micro 505 383-9128
<i>Giardia lamblia</i>	3-25 days; median: 7 days	Diarrhea, stomach cramps, gas.	Days to weeks	Any food contaminated by infected food handler, drinking water.	As long as the organism is excreted in stool. Symptomatic giardiasis in adults usually lasts from 2 weeks to 2 months.	Demonstration of the parasite in stool or small-bowel biopsy specimen of two or more ill persons.
						No testing done at SLD.
<i>Trichinella spp.</i>	1-2 days for intestinal phase; 2-4 wks for systemic phase	Fever, myalgia, periorbital edema, high eosinophil count				Two or more ill persons and positive serologic test or demonstration of larvae in muscle biopsy OR demonstration of larvae in epidemiologically implicated meat.
						No testing done at SLD.

## 10.2.4 Enteric Illnesses and Associated Characteristics: Non-infectious Agents

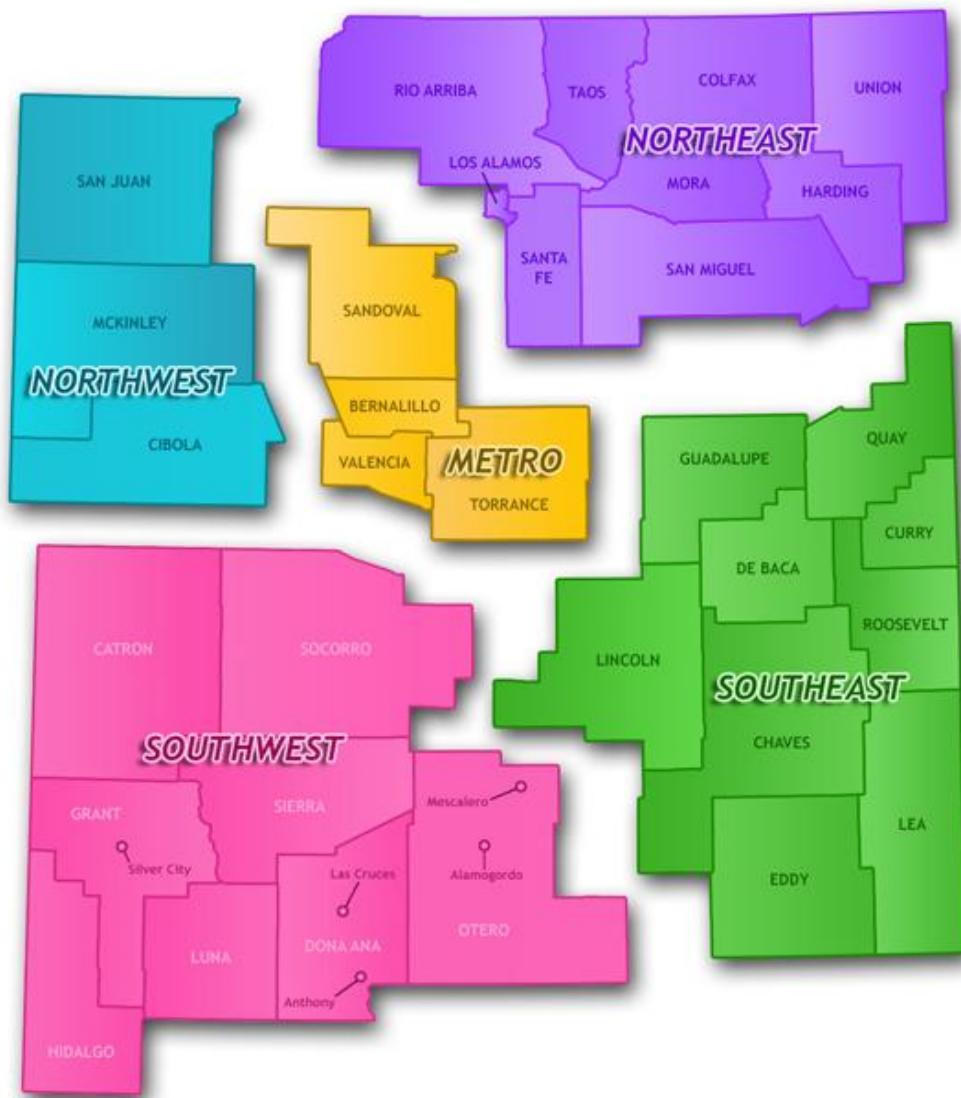
Agent	Usual Incubation Period (Range) <sup>2,3,4</sup>	Signs and Symptoms <sup>2,3,4</sup>	Duration <sup>2,3</sup>	Associated foods <sup>2</sup>	Period of Communicability <sup>2,3</sup>	CDC criteria for outbreak confirmation <sup>5</sup>
						SLD Test Kit
Ciguatoxin	1-48 hrs; usually 2-8 hrs	Usually abdominal pain, nausea, vomiting, diarrhea, followed by neurologic symptoms including paresthesias.	Variable, days to months	Large reef fish (grouper, red snapper, amberjack, and barracuda).	Not communicable.	Demonstration of ciguatoxin in epidemiologically implicated fish OR clinical syndrome among persons who have eaten a type of fish previously associated with ciguatera fish poisoning (e.g., snapper, grouper, or barracuda).
						No patient testing available. Collect suspect fish and contact Environmental Microbiology (505-383-9129).
Scombroid toxin (histamine)	1 min-3 hrs; usually 1 hr	Flushing, rash, burning sensation of skin, mouth and throat, dizziness, urticaria, paresthesias.	3-6 hours	Mishandled fish (bluefin, tuna, skipjack, mackerel, marlin, escolar and mahi mahi)	Not communicable.	Demonstration of histamine in epidemiologically implicated fish OR clinical syndrome among persons who have eaten a type of fish previously associated with histamine fish poisoning (e.g., mahi-mahi or fish of order Scomboidei)
						No patient testing available. Collect suspect fish and contact Environmental Microbiology (505-383-9129).
Paralytic shellfish poisoning (also referred to as Neurotoxic Shellfish Poisoning)	30 minutes to 3 hours	Diarrhea, nausea, vomiting leading to paresthesias of mouth, lips, weakness, dysphagia, dysphonia, respiratory paralysis.	Days	Scallops, mussels, clams, cockles.	Not communicable.	Detection of toxin in epidemiologically implicated food or Detection of large numbers of shellfish-poisoning-associated species of dinoflagellates in water from which epidemiologically implicated mollusks are gathered.
						No patient testing available. Collect suspect food and contact Environmental Microbiology (505-383-9129).
Puffer fish (tetrodotoxin)	10 min-3 hrs; usually 10-45 min	Parasthesias, vomiting, diarrhea, abdominal pain, ascending paralysis, respiratory failure.	Death, usually in 4-6 hours	Puffer fish.	Not communicable.	Demonstration of tetrodotoxin in epidemiologically implicated fish OR clinical syndrome among persons who have eaten puffer fish
						No patient testing available. Collect suspect food and contact Environmental Microbiology (505-383-9129).

Enteric Illnesses and Associated Characteristics: Non-infectious Agents (Continued) Agent	Usual Incubation Period (Range) <sup>2,3,4</sup>	Signs and Symptoms <sup>2,3,4</sup>	Duration <sup>2,3</sup>	Associated foods <sup>2</sup>	Period of Communicability <sup>2,3</sup>	CDC criteria for outbreak confirmation <sup>5</sup>
						SLD Test Kit
Heavy metals (antimony, cadmium, copper, iron, tin, zinc)	5 min-8 hrs; usually <1 hr	Vomiting, nausea, often metallic taste	Usually self-limited	Acidic foods or beverages prepared stored or cooked in containers coated, lines or contaminated with metal.,	Not communicable.	Demonstration of high concentration of metal in epidemiologically implicated food.
						No patient testing available. Collect suspect food or metal container and contact Environmental Microbiology (505-383-9129).
Mushroom toxins, shorter-acting (muscimol, muscarine, psilocybin, coprinus atramentaris, ibotenic acid)	2 hours	Vomiting, diarrhea, confusion, visual disturbance, salivation, diaphoresis, hallucinations, disulfiram-like reaction.	Self-limited	Wild mushrooms	Not communicable.	Clinical syndrome among persons who have eaten mushroom identified as toxic type OR demonstration of toxin in epidemiologically implicated mushroom or food containing mushroom.
						No patient testing available. Collect suspect food and contact Environmental Microbiology (505-383-9129) .
Mushroom toxins, longer-acting (amanitin)	6-24 hrs	Diarrhea, abdominal cramps, leading to hepatic and renal failure	Often fatal	Mushrooms	Not communicable.	Clinical syndrome among persons who have eaten mushroom identified as toxic type OR demonstration of toxin in epidemiologically implicated mushroom or food containing mushrooms.
						No patient testing available. Collect suspect food and contact Environmental Microbiology (505-383-9129) .

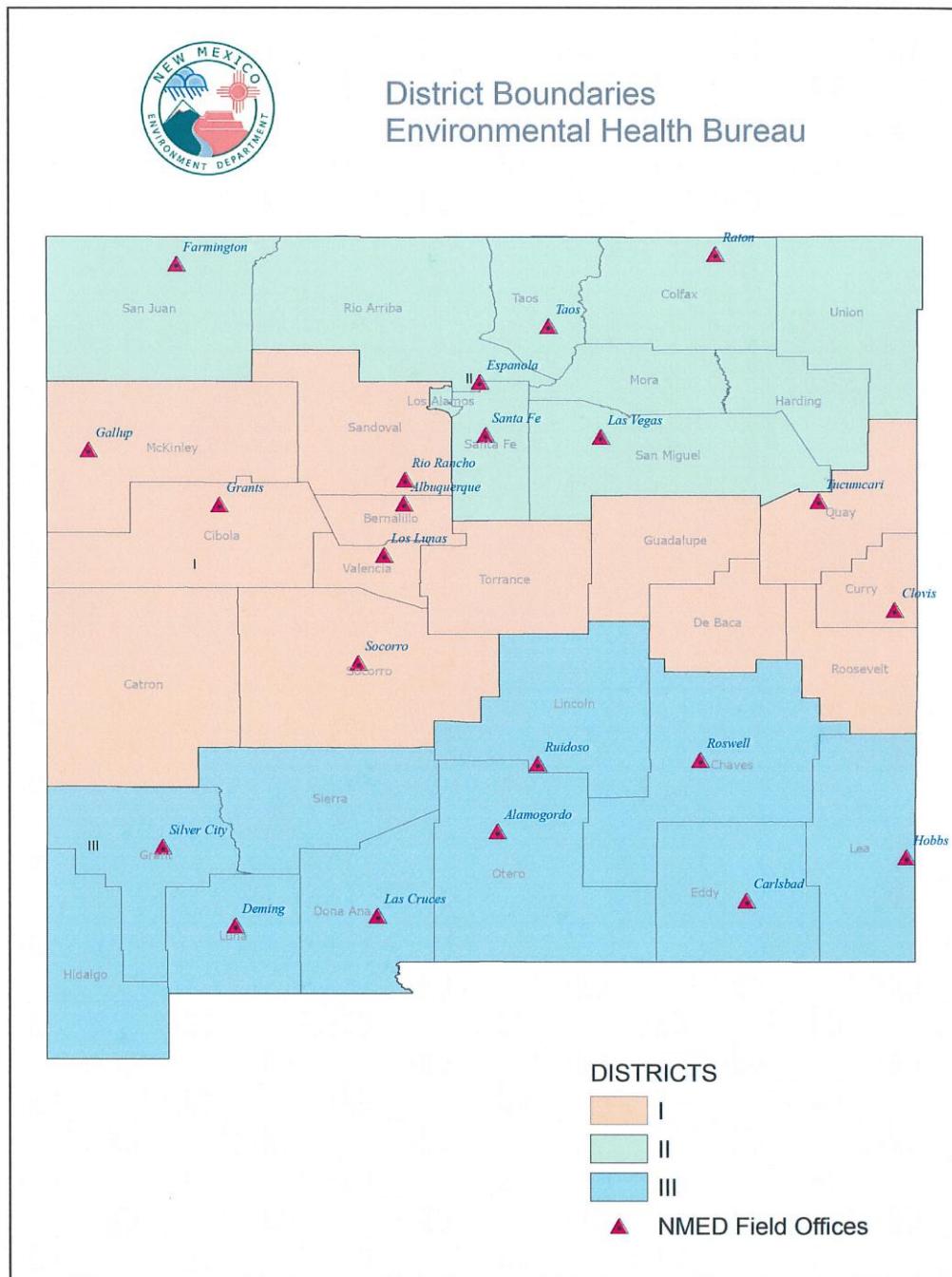
1. This table was originally based on a similar table developed by the Acute and Communicable Disease Prevention Program of the Oregon Department of Human Services. Accessed November 23, 2012.
2. CDC. Diagnosis and management of enteric illness: a primer for physicians and other healthcare providers. MMWR. 2004;53(RR4):1-33. Produced collaboratively by the American Medical Association; American Nurses Association - American Nurses Foundation; Centers for Disease Control and Prevention, Center for Food Safety and Applied Nutrition, Food and Drug Administration; Food Safety and Inspection Service, US Department of Agriculture. Available at <http://www.cdc.gov/mmwr/preview/mmwrhtml/r5304a1.htm>. Accessed November 23, 2012.
3. Switaj TL et al. Diagnosis and Management of Enteric Illness. Am Fam Physician. 2015 Sep 1;92(5):358-65. Used as updated information for available conditions.

4. Heymann DL, ed. Control of Communicable Diseases Manual, 19<sup>th</sup> ed. Washington, DC: American Public Health Association; 2008.
5. Kimberlin DW, ed. Red Book: 2015 Report of the Committee on Infectious Diseases, 30<sup>th</sup> ed. Elk Grove Village, IL: American Academy of Pediatrics; 2015.
6. CDC. Guide to confirming a diagnosis in enteric disease. Available at [https://www.cdc.gov/foodsafety/outbreaks/investigating-outbreaks/confirming\\_diagnosis.html](https://www.cdc.gov/foodsafety/outbreaks/investigating-outbreaks/confirming_diagnosis.html). Accessed December 14, 2016.
7. SLD Directory of Services available at <http://sld.state.nm.us/documents/SLD-BSB-DirectoryOfServices-2012.pdf>. Accessed March 13, 2017

### 10.3 NMDOH Foodborne Illness Regional Map



## 10.4 NMED Environmental Health Division District Map



**District I:** Bernalillo, Catron, Cibola, Curry, De Baca, Guadalupe, McKinley, Quay, Roosevelt, Sandoval, Socorro, Torrance, Valencia Counties.

**District II:** Colfax, Harding, Los Alamos, Mora, Rio Arriba, San Juan, San Miguel, Santa Fe, Taos, Union Counties.

**District III:** Chaves, Doña Ana, Eddy, Grant, Hidalgo, Lea, Lincoln, Luna, Otero, Sierra Counties.

## 10.5 New Mexico Notifiable Conditions List: <https://www.nmhealth.org/publication/view/general/5151/>

### NOTIFIABLE DISEASES OR CONDITIONS IN NEW MEXICO 7.4.3.13 NEW MEXICO ADMINISTRATIVE CODE

#### ALL REPORTS INCLUDING ELECTRONIC LABORATORY REPORTS OF NOTIFIABLE CONDITIONS MUST INCLUDE:

1. The disease or condition being reported;
2. Patient's name, date of birth/age, gender, race/ethnicity, address, patient's telephone numbers, and occupation;
3. Physician or licensed healthcare professional name and telephone number; and
4. Healthcare facility or laboratory name and telephone number, if applicable.

Laboratory or clinical samples for conditions marked with [\*] are required to be sent to the Scientific Laboratory Division.

#### EMERGENCY REPORTING OF DISEASES OR CONDITIONS

The following diseases, confirmed or suspected, require **immediate reporting** by telephone to Epidemiology and Response Division at 1-833-796-8773 (1-833-SWNURSE).

#### Infectious Diseases

Anthrax*	<i>Haemophilus influenzae</i> invasive infections*	Rubella (including congenital)
Avian or novel influenza*	Measles	Severe Acute Respiratory Syndrome (SARS)*
Bordetella species (including pertussis)*	Meningococcal Infections, invasive*	Smallpox*
Botulism (any type)*	Middle East Respiratory Syndrome	Tularemia*
Cholera*	Plague*	Typhoid fever*
Diphtheria*	Poliomyelitis, paralytic and non-paralytic	Viral hemorrhagic fever
	Rabies	Yellow fever

#### Other Conditions

Acute illnesses or conditions of any type involving large numbers of persons in the same geographic area	Severe smallpox vaccine reaction	Other illnesses or conditions of public health significance
Illnesses or conditions suspected to be caused by the intentional or accidental release of biologic or chemical agents*	Suspected enteric illness in two or more unrelated persons*	
	Suspected waterborne illness or conditions in two or more unrelated persons*	

#### Infectious Diseases in Animals

Anthrax	Rabies
Plague	Tularemia

#### ROUTINE REPORTING OF DISEASES OR CONDITIONS

**Infectious Diseases** (Report case within 24 hours to Epidemiology and Response Division by fax at 505-827-0013 or by phone at 1-833-796-8773 (1-833-SWNURSE).

; or contact  
the local health office)

Arboviral disease	Hansen's Disease/Leprosy	Q fever
Brucellosis	Hantavirus pulmonary syndrome	Relapsing fever
<i>Campylobacter</i> infections*	Hemolytic uremic syndrome	Rocky Mountain spotted fever
Chikungunya virus disease	Hepatitis A, acute	Salmonellosis*
<i>Clostridium difficile</i> *	Hepatitis B, acute or chronic	Shigellosis*
Coccidioidomycosis	Hepatitis C, acute or chronic	St. Louis encephalitis infections
Colorado tick fever	Hepatitis E, acute	<i>Streptococcus pneumoniae</i> invasive infections*
Cryptosporidiosis	Influenza-associated pediatric death	Tetanus
Cysticercosis	Influenza, laboratory confirmed hospitalization only	Trichinellosis
Cyclosporiasis	Legionnaires' disease	Toxic shock syndrome
Dengue	Leptospirosis	Varicella
<i>E. coli</i> 0157:H7 infections*	Listeriosis*	<i>Vibrio</i> infections*
<i>E. coli</i> , shiga-toxin producing (STEC) infections*	Lyme disease	West Nile Virus infections
Encephalitis, other	Malaria	Western equine encephalitis infections
Giardiasis	Mumps	<i>Yersinia</i> infections*
Group A streptococcal invasive infections *	Necrotizing fasciitis*	
Group B streptococcal invasive infections*	Psittacosis	

**Infectious Diseases in Animals** (Report case within 24 hours to Epidemiology and Response Division at 505-827-0006; or contact the local health office).

Arboviral, other	Psittacosis
Brucellosis	West Nile Virus infections

**Tuberculosis\*.**

Report suspect or confirmed cases to NM department of health tuberculosis program by fax at 505-827-0163 or by phone at 505-827-2471 or 505-827-2473: active disease within 24 hours; infection within 72 hours.

**Sexually Transmitted Diseases**

Report to Infectious Disease Bureau - STD Program, NM Department of Health, P.O. Box 26110, Santa Fe, NM 87502-6110, Fax 505-476-3638; or call 505-476-3636.

Chancroid

Gonorrhea

Syphilis

*Chlamydia trachomatis* infections

### **HIV (Human Immunodeficiency Virus) and AIDS (Acquired Immunodeficiency Syndrome)**

Report to HIV and Hepatitis Epidemiology Program, 1190 St. Francis Dr., N1350, Santa Fe, NM 87502, fax 505-476-3544 or call 505-476-3515.

All CD4 lymphocyte tests (count and percent)	All positive HIV cultures	Opportunistic infections, cancers, and any other test or condition indicative of HIV or AIDS
All confirmed positive HIV antibody tests (screening test plus confirmatory test)	All tests for HIV RNA or HIV cDNA (viral load tests)	
All HIV genotype tests	All tests to detect HIV proteins	

### **Occupational Illness and Injury**

Report to Epidemiology and Response Division, NM Department of Health, P.O. Box 26110, Santa Fe, NM 87502-6110; or call 505-827-0006.

Asbestos	Occupational asthma	Silicosis
Coal worker's pneumoconiosis	Occupational burn hospitalization	
Hypersensitivity pneumonitis	Occupational injury death	Other illnesses or injuries related to occupational exposure
Mesothelioma	Occupational pesticide poisoning	
Noise induced hearing loss	Occupational traumatic amputation	

### **Health Conditions Related to Environmental Exposures and Certain Injuries**

Report to Epidemiology and Response Division, NM Department of Health, P.O. Box 26110, Santa Fe, NM 87502-6110; or call 505-827-0006.

#### **Environmental Exposures**

All pesticide poisoning	Mercury in urine greater than 3 micrograms/liter or	Uranium in urine greater than 0.2 micrograms/liter or 0.2 micrograms/gram creatinine
Arsenic in urine greater than 50 micrograms/liter	Mercury in blood greater than 5 micrograms/liter	
Carbon monoxide poisoning		Other suspected environmentally-induced health conditions
Infant methemoglobinemia		
Lead (all blood levels)		

#### **Injuries**

Drug overdose	Firearm injuries	Fracture due to fall among older adults
Traumatic brain injuries		

### **Adverse Vaccine Reactions**

Report to Vaccine Adverse Events Reporting System, <http://www.vaers.hhs.org>. Send copy of report to Immunization Program Vaccine Manager, NM Department of Health, P.O. Box 26110, Santa Fe, NM 87502-6110; fax 505-827-1741.

### **Healthcare-associated infections**

Acute care hospitals only report through NHSN and confer rights to NM department of health.  
Central line-associated bloodstream infections (CLABSI) events *Clostridium difficile* infections

Report all infections, including non-healthcare-associated, within 24 hours to epidemiology and response division by fax at 505-827-0013 or by phone at 505-827-0006.  
carbapenem-resistant enterobacteriaceae\*; carbapenem-resistant *pseudomonas aeruginosa*\*

### **Cancer**

Report to NM DOH designee: New Mexico Tumor Registry, University of New Mexico School of Medicine, Albuquerque, NM 87131. Report all malignant and *in situ* neoplasms and all intracranial neoplasms, regardless of the tissue of origin.

### **Human Papillomavirus (HPV)**

Report to NM DOH designee: Laboratories report the following tests to the New Mexico HPV Pap Registry, 1816 Sigma Chi Rd NE, Albuquerque, NM 87106, phone 505-272-5785 or 505-277-0266.

Papanicolaou test results (all results) Cervical, vulvar and vaginal pathology results (all results) HPV test results (all results)

### **Birth Defects**

Report to Epidemiology and Response Division, NM Department of Health, P.O. Box 26110, Santa Fe, NM 87502-6110; or call 505-827-0006.

All birth defects diagnosed by age 4 years, including:

Defects diagnosed during pregnancy	Defects found in chromosome testing on amniotic fluid, chorionic villus sampling and products of conception for Trisomy 13, Trisomy 18 and Trisomy 21
Defects diagnosed on fetal deaths	

### **Genetic and Congenital Hearing Screening**

Report to Children's Medical Services, 2040 S. Pacheco, Santa Fe, NM 87505; or call 505-476-8868.

Neonatal screening for congenital hearing loss (all results) Suspected or confirmed congenital hearing loss in one or both ears All conditions identified through statewide newborn genetic screening

newborn critical congenital heart defects  
screenings (all results)

For details online of 7.4.3 NMAC see: <http://www.nmcpr.state.nm.us/nmac/parts/title07/07.004.0003.htm>

*List of Notifiable Diseases/Conditions in New Mexico revised June 15, 2016*

## 10.6 References

### 10.6.1 Publications

Manual for Investigation and Control of Communicable Diseases in New Mexico  
New Mexico Department of Health, Epidemiology and Response Division  
<https://www.nmhealth.org/about/erd/ideb/ids/cdm/>

Red Book: 2024-2027 Report of the Committee on Infectious Diseases, 33rd Edition  
American Academy of Pediatrics  
<https://publications.aap.org/redbook/book/755/Red-Book-2024-2027-Report-of-the-Committee-on>  
Control of Communicable Diseases Manual, 21st Edition  
American Public Health Association  
<https://secure.apha.org/imis/ItemDetail?iProductCode=978-07553-3230&CATEGORY=BK>

Diagnosis and Management of Enteric Illnesses  
American Medical Association, American Nurses Association, CDC, FDA, and USDA  
<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5304a1.htm>

FDA Bad Bug Book 2<sup>nd</sup> Edition  
<https://www.fda.gov/food/enteric-pathogens/bad-bug-book-second-edition>

Council to Improve Enteric Outbreak Response (CIFOR). Guidelines for Enteric Disease Outbreak Response.  
<https://cifor.us/products/guidelines>

### 10.6.2 Websites

CDC Food Safety Information  
[www.cdc.gov/foodsafety](http://www.cdc.gov/foodsafety)

US Government Food Safety Information Gateway  
[www.foodsafety.gov](http://www.foodsafety.gov)

Fight BAC!™ Education Campaign  
[www.fightbac.org](http://www.fightbac.org)

CDC listing of enteric disease outbreaks by year  
<https://www.cdc.gov/enteric-outbreaks/active-investigations/index.html>

CDC National Outbreak Reporting System (NORS) public website  
<http://www.cdc.gov/nors/>

FDA Food Related Emergency Exercise Bundle (FREE-B)

<https://www.fda.gov/Food/FoodDefense/ToolsEducationalMaterials/ucm295902.htm>

## 10.7 Table of Clinical Syndromes Associated with Enteric Illnesses<sup>1</sup>

### Nausea and vomiting, *without fever*

Usual incubation period	Agent	Table
Usually < 1 hour	Heavy metals (copper, tin, cadmium, iron, zinc)	Non-infectious
0.5-6 hours	<i>Bacillus cereus</i> , emetic form	Bacterial
2-4 hours	<i>Staphylococcus aureus</i>	Bacterial

### Abdominal cramps, watery diarrhea, vomiting, *without fever*

Usual incubation period	Agent	Table
8-12 hours	<i>Clostridium perfringens</i>	Bacterial
6-24 hours	<i>Bacillus cereus</i> , diarrheal form	Bacterial
12-48 hours	Norovirus, including other caliciviruses	Viral
1-3 days	<i>Vibrio cholerae</i>	Bacterial
1-8 days	Enterotoxigenic <i>E. coli</i> (ETEC)	Bacterial
1-14 days	<i>Cyclospora</i>	Parasitic
1-14 days	<i>Cryptosporidium</i>	Parasitic
1-4 weeks	<i>Giardia lamblia</i>	Parasitic

### Abdominal cramps, bloody diarrhea, *with fever*

Usual incubation period	Agent	Table
4-30 hours	<i>Vibrio parahaemolyticus</i>	Bacterial
6-72 hours	<i>Salmonella</i> species (non-Typhi)	Bacterial
1-14 days	<i>Yersinia enterocolitica</i>	Bacterial
1-7 days	<i>Shigella</i> species	Bacterial
1-7 days	<i>Campylobacter</i> species	Bacterial

### Abdominal cramps, bloody diarrhea, *without fever*

Usual incubation period	Agent	Table
1-8 days	Enterohemorrhagic <i>E. coli</i> ( <i>E. coli</i> O157:H7 and STECs)	Bacterial

### Neurologic manifestations (e.g., paresthesias, respiratory depression, cranial nerve palsies)

Usual incubation period	Agent	Table
10-45 minutes	Puffer fish (tetrodotoxin)	Non-infectious
30 minutes-3 hours	Neurotoxic paralytic shellfish poisoning	Non-infectious
2 hours	Mushroom toxins, shorter-acting	Non-infectious
2-8 hours	Ciguatoxin	Non-infectious
1 hour	Scombrotoxin (histamine)	Non-infectious
6-24 hours	Mushroom toxins, longer-acting	Non-infectious
6 hours-8 days (adults); 3-30 days (infants)	<i>Clostridium botulinum</i> (enteric botulism)	Bacterial

### Systemic illness (e.g., fever, weakness, arthritis, jaundice)

Usual incubation period	Agent	Table
24 hours (GI symptoms, 1-4 weeks invasive disease)	<i>Listeria monocytogenes</i>	Bacterial
3-4 weeks	Brucellosis	Bacterial
7-14 days	<i>Salmonella</i> Typhi	Bacterial
1-50 days	Hepatitis A	Viral

<sup>1</sup> Content source: Centers for Disease Control and Prevention (<http://www.cdc.gov/>)

[https://www.cdc.gov/foodsafety/outbreaks/investigating-outbreaks/confirming\\_diagnosis.html](https://www.cdc.gov/foodsafety/outbreaks/investigating-outbreaks/confirming_diagnosis.html)

Red Book: 2015 Report of the Committee on Infectious Diseases. Elk Grove Village, IL: American Academy of Pediatrics; 2012:921-925.

**10.8 Work and daycare exclusion criteria: please refer to NMDOH Communicable Disease Manual: <https://www.nmhealth.org/publication/view/general/5156/> for appropriate exclusion criteria.**

**Food Handlers**

Employee and Food Employee restrictions and exclusions and removal of restrictions and exclusions in Food Establishments and Food Processing Plants will be done in accordance with 7.6.2 NMAC and Section 2-2 of the NMED Retail Food Field Guide (Current Version).

Exclude symptomatic persons from food handling until diarrhea has stopped.

**10.9 Recall, Traceback and Traceforward procedures**

**10.9.1 Recalls**

This procedure applies to all Class I, Class II, and Class III recalls including those from the United States Food and Drug Administration (FDA), the United States Department of Agriculture (USDA), and manufacturers of food products identified as adulterated or misbranded by NMED Field Inspectors or through customer complaints.

A recall is intended to remove food products from commerce when there is reason to believe the products may be adulterated or misbranded. The recall can be initiated voluntarily or be made mandatory once sufficient evidence is provided to determine that a food product is adulterated or misbranded.

**Definitions**

**Class I** - A Class I recall involves a health hazard situation in which there is a reasonable probability that eating the food will cause health problems or death.

**Class II** - A Class II recall involves a potential health situation in which there is a remote probability of adverse health consequences from eating the food.

**Class III** - A Class III recall involves a situation in which eating the food will not cause adverse health consequences.

NMED will follow recall procedures outlined under Manufacturing Food Program SOP 306 Food Recall (Current Revision) for any recalls performed. The most current NMED SOP is located at the OneDrive portal within the NM FBI Investigations Manual Folder.

- The recall notice and distribution information should be distributed via the NMED Interagency Food Recall and Alerts listserv to the following individuals and organizations:

- All NMED Field Offices
- NMED Food Program Manager
- NMED Communications Director
- NMED Environmental Health Bureau Chief
- NMDOH Enteric Disease Epidemiologist
- Bernalillo County Environmental Health Office
- City of Albuquerque Environmental Health Department
- Indian Health Service Environmental Health Services

- The NMED Public Information Officer will coordinate all press releases regarding the recall.
- NMED field office staff will follow the instructions specified in the recall notice.
- In the event of vendor resistance, NMED will follow procedures under Manufacturing Food Program SOP 306 Food Recall (Current Revision) for any activities such as embargo. NMED will follow procedures under Manufacturing Food Program SOP 307 Traceback and Traceforward (Current Revision) in case of traceback or traceforward performed. The most current NMED SOP is located at the OneDrive portal within the NM FBI Investigations Manual Folder.

## 10.10 Laboratory testing information and guidelines

### Stool Specimen Collection Instructions for Bacterial Culture

#### Important things to remember:

1. DO NOT take antacids, laxatives or antidiarrheal medications (like Imodium) before collecting the stool sample. These medicines can interfere with the lab test.
2. DO NOT take stool out of the toilet bowl. The stool sample cannot be tested if mixed with water or urine.
3. DO wash your hands with soap and water before and after collecting the sample.

#### Instructions:

4. Get some sheets of clean newspaper or some plastic wrap (like Saran Wrap).
5. Wash your hands with soap and water and put on the gloves.
6. Lift the toilet seat and cover the toilet bowl with the newspaper or plastic wrap.
7. Using your hand, make a dent in the middle of the newspaper or plastic wrap to make room for the stool.
8. Lower the toilet seat and sit to pass stool onto the newspaper or plastic wrap. Do not urinate onto the newspaper or plastic wrap.
9. Unscrew the lid of the collection tube and use the scoop attached to the lid to add stool to the tube only until the liquid reaches the “Fill line.” If any parts of the stool are slimy, bloody, or watery, try to collect stool from these areas.
10. Stir the liquid with the scoop and screw the lid on tightly. If the tube leaks, the lab may not be able to test it.
11. Peel the paper off the piece of wax tape and stretch the tape around the lid to seal and prevent leaking.
12. Gently shake the tube to make sure it’s mixed.
13. Wrap the tube in the piece of cheesecloth and place it in the plastic bag.
14. Place the plastic bag and lab request form inside the paper bag.
15. Dispose of the soiled newspaper or plastic wrap in a safe manner.
16. Dispose of the gloves and wash your hands with soap and water.
17. Call the public health office at \_\_\_\_\_ to set up a time to drop off the sample or have someone come pick it up.
18. Store the paper bag in the refrigerator until the sample is dropped off or picked up.

#### For children in diapers:

19. Some disposable diapers have chemicals that will interfere with the lab test. You can line the diaper with plastic wrap or turn the diaper “inside out” with the plastic side next to the skin.
20. After the child has a bowel movement, remove the diaper, and follow the instructions above for collecting a stool sample. Try to keep urine out of the stool you collect.

**If you have questions, please call the public health office (refer to 10.1.1).**

### **10.10.1 Stool Sample Collection Specimen without preservative**

#### **Important things to remember:**

1. DO NOT take antacids, laxatives, or antidiarrheal medications (like Imodium) before collecting the stool sample. These medicines can interfere with the lab test.
2. DO NOT take stool out of the toilet bowl. The stool sample cannot be tested if mixed with water or urine.
3. DO wash your hands with soap and water before and after collecting the sample.

#### **Instructions:**

4. Get some sheets of clean newspaper or some plastic wrap (like Saran Wrap).
5. Wash your hands with soap and water and put on the gloves.
6. Take the collection tube out of the plastic bag and put it within reach.
7. Lift the toilet seat and cover the toilet bowl with the newspaper or plastic wrap.
8. Using your hand, make a dent in the middle of the newspaper or plastic wrap to make room for the stool.
9. Lower the toilet seat and sit to pass stool onto the newspaper or plastic wrap. Do not urinate onto the newspaper or plastic wrap.
10. Unscrew the lid of the collection cup and use the plastic spoon or wooden tongue depressor to add stool to the cup until it is about half full. If any parts of the stool are slimy, bloody or watery, try to collect stool from these areas.
11. Screw the lid on tightly. If the cup leaks, the lab may not be able to test it.
12. Peel the paper off the piece of wax tape and stretch the tape around the lid to seal and prevent leaking.
13. Wrap the cup in the piece of cheesecloth and place it in the plastic bag.
14. Place the plastic bag and lab request form inside the paper bag.
15. Dispose of the soiled newspaper or plastic wrap and plastic spoon or wooden tongue depressor in a safe manner.
16. Dispose of the gloves and wash your hands with soap and water.
17. Call the public health office at \_\_\_\_\_ to set up a time to drop off the sample or have someone come pick it up.
18. Store the paper bag in the refrigerator until the sample is dropped off or picked up.

#### **For children in diapers:**

19. Some disposable diapers have chemicals that will interfere with the lab test. You can line the diaper with plastic wrap or turn the diaper “inside out” with the plastic side next to the skin.
20. After child has a bowel movement, remove the diaper, and follow the instructions above for collecting the stool sample. Try to keep urine out of the stool you collect.

**If you have questions, please call the public health office at (refer to 10.1.1)**

## 10.10.2 Collecting and Shipping Stool Specimens

### Collection

The nature of the enteric illness outbreak will determine what testing should be done at the Scientific Laboratory. Consult with the Infectious Disease Epidemiology Bureau (IDEB) at 1-833-SWNURSE (1-833-796-8773) to determine appropriate testing. SLD requires approval from IDEB prior to testing outbreak related specimens.

Specimens should be collected as soon as possible after onset of symptoms to increase the likelihood of identifying a causative pathogen.

The following test kits are available from SLD and may be ordered by calling 505-383-9073 or faxing a request to 505-383-9062 or 505-383-9056. Kits have expiration dates so rotation or replacement is essential. The expiration date is stamped on vials of enteric transport media.

#### Enteric Pathogen Transport Kit (stool culture)

- Use: Isolation and identification of *Salmonella*, *Shigella*, Shiga toxin-producing *E. coli*, *Campylobacter*, *Yersinia*, *Vibrio*, and other bacterial species.
- Contents: Zip-lock biohazard bag, one vial enteric transport media (pink colored preservative or liquid Cary-Blair media), Parafilm strip, cheesecloth, instructions, and General Clinical Test Request Form.
- Pre-collection storage: Refrigerate
- Post-collection storage: Refrigerate

#### Bulk Stool (Stool without preservative) Collection Kit

- Use: Identification of norovirus, or *Clostridium perfringens* toxin
- Contents: Zip-lock biohazard bag, clean or sterile specimen cup, Parafilm strip, cheesecloth, instructions, and General Clinical Test Request Form
- Pre-collection storage: Room temperature
- Post-collection storage: Refrigerate

Refer to patient stool collection instructions for proper specimen collection procedures. (See Section 10.10.1 and 10.10.2).

If the patient will be collecting the stool specimen at home, create a take-home kit by placing the following items in a paper bag:

- Pair of gloves
- Appropriate SLD test kit(s)
- Plastic spoon or wooden tongue depressor

Review the collection instructions with the patient and write the public health office or other contact phone number in the space on the instruction sheet.

### **Shipping**

- Notify SLD about the shipment of specimens as soon as possible because some tests require special media that must be prepared in advance.
- For Enteric Pathogen Transport Kits (stool culture) or *Clostridium perfringens* toxin testing notify General Microbiology at 505-383-9128 prior to shipping.
- For norovirus testing, notify Virology/Serology at 505-383-9124 prior to shipping
- Ensure the patient's full name and date and time of specimen collection are written on the sample container or tube(s).
- Check that the sample container or tube lid is securely tightened and wrapped with Parafilm to prevent leaking.
- Complete the General Clinical Test Request Form and place it in the outside pocket of the biohazard bag. Check that the patient information on the sample container/tube matches that on the request form. Additional request forms may be obtained at <http://sld.state.nm.us/index.aspx> .
- Ship the sample at refrigerator temperatures as soon as possible, preferably via courier or in-person delivery. Use refrigerant cold packs instead of wet ice. Place all materials in a Styrofoam container and place in a transport mailer box.

### 10.10.3 Collecting, Handling, and Shipping Food Samples

NMED sampling procedures will be performed in accordance with Manufactured Food Program SOP 308 Sampling Procedure (Current Version). The most current NMED SOP is located at the OneDrive portal within the NM FBI Investigations Manual Folder.

The Environmental Microbiology Laboratory (EM) Section of the Scientific Laboratory conducts microbiological testing of food and water samples **upon request** from Infectious Disease Epidemiology Bureau (IDEB) staff. In order to ensure rapid and efficient service, frequent communication with the EM Laboratory is very important. EM will not test food without IDEB staff prior approval.

Before submitting any food samples for analysis, please contact the EM Lab at 505-383-9129, 505-383-9144, or 505-838-9143 for guidance regarding the sample collection and testing. Always use the chain of custody form (Section 10.11).

It is strongly recommended that refrigerated samples should not be analyzed more than 36 hours after collection (*FDA -Bacteriological Analytical Manual Online, April 2003 Chapter 1 Food Sampling and Preparation of Sample Homogenate*). Food samples should be collected as soon as an outbreak is suspected. The condition of food and environmental swab samples received for examination at the laboratory is of primary importance. All samples should be collected aseptically and with sterile implements. The use of sterile gloves and sterile sample containers is highly recommended. All suspect samples should be held at refrigerated temperature (< 10 °C) while in transit to the laboratory. Proper collection, identification, and the shipment of a sufficient amount of sample material to the laboratory is essential. If the samples are not properly collected, are mishandled during transport to the lab, or are not representative of the sampled lot, then there is an increased likelihood that laboratory results will be meaningless.

#### Collection

Whenever possible, submit food samples in their original containers. This minimizes the chances of cross contamination. Take extra care to package these food sample containers so that they will remain intact and not leak during transport. Note that if the original food sample containers are not stable and there is a possibility they will leak during transport, then aseptically transfer representative sample portions to sterile sample containers like whirl-pak® bags as described below. Use of glass containers is discouraged due to the possibility of breakage.

If the sample product is too bulky or if the sample is in a container that is of impractical size for proper submission, then transfer a representative portion to a sterile sample container (e.g., whirl-pak® bags) using aseptic technique.

If sampling from a large amount of suspected food product, a representative sample should be taken. When dealing with large food vessels/serving containers take a well mixed portion from the geometric center as well as from other locations in the food container. Use a sterile utensil to aseptically transfer the samples to sterile leak-proof containers. A representative sample is essential in order to detect the presence of pathogens or toxins that may be sparsely distributed within the food.

If the sample is in liquid form, to ensure homogeneity stir or shake the liquid sample before transfer. Pour or ladle the liquid food item, with a sterile utensil, into a sterile leak proof container. Pre-sterilized disposable plastic scoopers are preferred as utensils, although metal tablespoons, knives, and other metal utensils can be used if properly sanitized. To sanitize metal utensils, wash thoroughly with soap and hot water, wipe dry with a clean towel, saturate with 70% alcohol, and apply a flame to the utensil. Allow adequate time for flamed metal utensils to cool before using. Collect between 100 to 500 grams (milliliters) of sample. Properly seal the sample container to ensure that leakage will not occur during transport.

Do not mix different types of food or food from different sources. For example, if two plates (A and B) with ground beef are to be collected, transfer the ground beef from plate A to one whirl-pak® bag and the beef from plate B to a second whirl-pak bag®. It is important to keep different lots of food product separate to avoid cross contamination. Individual food product samples should be collected one at a time. Aseptically collect approximately 200 to 500 grams (sample portion about the size of a clinched fist), or fill a 18-ounce whirl-pak® bag to 50% of capacity). Properly seal the sample container to ensure that leakage will not occur during transport.

To seal whirl-pak® bags carefully fold over the twist tie opening of the bag at least three times. It is very important that each fold be wrinkle free. Then fold over each end of the twist tie toward the center of the bag and fasten (twist) the twist ties together. Give the bag a gentle squeeze between the palms of your hands to test the seal. If you notice any air leakage, re-seal the bag.

Identify each sample container with a properly marked strip of masking tape. If marking the sample container directly with a black permanent marker, do not puncture the container lining. Label each sample container with the sample type, date and time of collection. It is important that the sample identification on the sample container match the Field Sample identification on the Food Analysis Request Form.

For finished retail food products (e.g., beef jerky), submitting the product in its finalized package form is acceptable if there is enough sample for testing. Depending on the test type, 200-500 grams (7-16 ounces) of the food product is required for testing.

Include an additional sample to serve as a Temperature Control (TC) sample in addition to the samples collected for testing. If there are no additional samples available or if only sending environmental surface swabs, then a bottle (such as a Bacti-Water testing bottle) containing water can be substituted for the TC. The TC should always be in close proximity to the sample so that the sample temperature is accurately reflected. Remember to clearly indicate what you are using as the temperature control by marking “TC” on the temperature control sample with a black permanent marker. Record the temperature of the TC on the Test Request Form at the time of collection.

## **Sample Identification**

Complete a SLD Food Analysis Request Form (FARF) for each sample that is to be submitted. FARF's can be downloaded from the internet at the following address:  
<https://www.nmhealth.org/about/sld/bib/>. An example is included in Section 10.10.5.

For submitters sending in outbreak related samples it is important to write the proper Submitter Code and Submitter Name. (Call the laboratory if you do not know your submitter code). Also mark an “X” in the User Code box that is next to “Epidemiology” box and write in “51000”. Other required information on the Food Test Request Form includes:

- Name and telephone number of the sample collector
- Date and time the sample was collected
- Sample type
- Field sample identification number
- Address and telephone number of the food establishment involved
- Reason for collection,
- (If possible) the temperature of the temperature control sample at the time of packing
- Test(s) being requested
- Case incubation time and symptoms

## **Shipping**

Food samples should be held under refrigeration immediately after collection and should be maintained as such during transport to the laboratory. Ensure that all samples are held under refrigeration temperatures (preferably between 0.1°C and 4°C, but not to exceed 10°C) during transit to the laboratory. Do not freeze food samples as it causes a significant loss of viability of certain microorganisms.

If the food sample was frozen when initially collected, maintain it in the frozen state (using dry ice if possible) when shipping it to the laboratory. Shelf stable products, such as finished beef jerky and canned foods that are not perishable and are normally kept at ambient temperatures, need not be refrigerated.

When shipping the samples to the laboratory transport frozen or refrigerated samples in insulated containers of rigid construction (e.g., Styrofoam ice chests) so that they will arrive at the laboratory unchanged. Use pre-frozen icepacks or frozen bottles of ice to keep the samples cold. Dry ice should be used to ship frozen samples.

Samples should be transported via the most rapid and convenient means available (e.g., in person, courier, or express mail). A Food Analysis Request Form (see Section 10.10.6).

## 10.10.4 Clinical Sample Testing Request Form

Prefilled forms can also be found at: <https://www.nmhealth.org/publication/view/form/5325/>  
<https://www.nmhealth.org/publication/view/form/5326/>

 NEW MEXICO DEPARTMENT OF <b>HEALTH</b>		<b>SLD CLINICAL TEST REQUEST FORM</b> Scientific Laboratory Division 1101 Camino de Salud N.E. Albuquerque, NM 87102				<b>SLD LAB NO. ONLY</b> <b>ONE FORM PER SPECIMEN</b>																																																													
SLD Form 101 v2.1 <b>USER CODES →</b>		<b>PLEASE PRINT LEGIBLY</b>																																																																	
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PHONE # (_____) _____		OTHER ID (HIV#) _____																																																																	
<b>SPECIMEN INFORMATION</b>						<b>RACE: Check all that apply.</b>																																																													
<table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">S</td> <td style="width: 25%;"><input type="checkbox"/> Abscess</td> <td style="width: 25%;"><input type="checkbox"/> Bronchial Biopsy</td> <td style="width: 25%;"><input type="checkbox"/> Fluid (site): _____</td> <td style="width: 25%;"><input type="checkbox"/> Oral Fluid</td> <td style="width: 25%;"><input type="checkbox"/> Sputum, nebulized</td> </tr> <tr> <td>P</td> <td><input type="checkbox"/> Ascites fluid</td> <td><input type="checkbox"/> Bronchial Wash</td> <td><input type="checkbox"/> Liver</td> <td><input type="checkbox"/> Pericardial fluid</td> <td><input type="checkbox"/> Throat swab</td> </tr> <tr> <td>S</td> <td><input type="checkbox"/> Blood, femoral</td> <td><input type="checkbox"/> Bronchoalveolar lavage</td> <td><input type="checkbox"/> Lymph node</td> <td><input type="checkbox"/> Peritoneal fluid</td> <td><input type="checkbox"/> Throat wash</td> </tr> <tr> <td>E</td> <td><input type="checkbox"/> Blood, heart</td> <td><input type="checkbox"/> Cervix</td> <td><input type="checkbox"/> Lung, left</td> <td><input type="checkbox"/> Pleural fluid</td> <td><input type="checkbox"/> Tissue (site): _____</td> </tr> <tr> <td>O</td> <td><input type="checkbox"/> Blood, plasma</td> <td><input type="checkbox"/> CSF</td> <td><input type="checkbox"/> Lung, right</td> <td><input type="checkbox"/> Pleural Biopsy</td> <td><input type="checkbox"/> Tracheal aspirate</td> </tr> <tr> <td>C</td> <td><input type="checkbox"/> Blood, serum</td> <td><input type="checkbox"/> Ear</td> <td><input type="checkbox"/> Nail (site): _____</td> <td><input type="checkbox"/> Rectum/Vagina</td> <td><input type="checkbox"/> Urine</td> </tr> <tr> <td>U</td> <td><input type="checkbox"/> Blood, whole</td> <td><input type="checkbox"/> Endocervix</td> <td><input type="checkbox"/> Nasopharyngeal swab</td> <td><input type="checkbox"/> Rectum/Vagina</td> <td><input type="checkbox"/> Urethra</td> </tr> <tr> <td>I</td> <td><input type="checkbox"/> Bone</td> <td><input type="checkbox"/> Eye</td> <td><input type="checkbox"/> Nasopharyngeal wash</td> <td><input type="checkbox"/> Skin (site): _____</td> <td><input type="checkbox"/> Vagina</td> </tr> <tr> <td>R</td> <td><input type="checkbox"/> Bone marrow</td> <td><input type="checkbox"/> Feces/Stool</td> <td><input type="checkbox"/> Nasal swab</td> <td><input type="checkbox"/> Spleen</td> <td><input type="checkbox"/> Wound (site): _____</td> </tr> <tr> <td>M</td> <td><input type="checkbox"/> Brain</td> <td><input type="checkbox"/> Hair</td> <td><input type="checkbox"/> Nasal wash</td> <td><input type="checkbox"/> Sputum, natural</td> <td><input type="checkbox"/> Other: _____</td> </tr> </table>						S	<input type="checkbox"/> Abscess	<input type="checkbox"/> Bronchial Biopsy	<input type="checkbox"/> Fluid (site): _____	<input type="checkbox"/> Oral Fluid	<input type="checkbox"/> Sputum, nebulized	P	<input type="checkbox"/> Ascites fluid	<input type="checkbox"/> Bronchial Wash	<input type="checkbox"/> Liver	<input type="checkbox"/> Pericardial fluid	<input type="checkbox"/> Throat swab	S	<input type="checkbox"/> Blood, femoral	<input type="checkbox"/> Bronchoalveolar lavage	<input type="checkbox"/> Lymph node	<input type="checkbox"/> Peritoneal fluid	<input type="checkbox"/> Throat wash	E	<input type="checkbox"/> Blood, heart	<input type="checkbox"/> Cervix	<input type="checkbox"/> Lung, left	<input type="checkbox"/> Pleural fluid	<input type="checkbox"/> Tissue (site): _____	O	<input type="checkbox"/> Blood, plasma	<input type="checkbox"/> CSF	<input type="checkbox"/> Lung, right	<input type="checkbox"/> Pleural Biopsy	<input type="checkbox"/> Tracheal aspirate	C	<input type="checkbox"/> Blood, serum	<input type="checkbox"/> Ear	<input type="checkbox"/> Nail (site): _____	<input type="checkbox"/> Rectum/Vagina	<input type="checkbox"/> Urine	U	<input type="checkbox"/> Blood, whole	<input type="checkbox"/> 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type="checkbox"/> Non-Hispanic	
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<b>SPECIMEN COLLECTION</b>						<b>SPECIMEN TYPE</b>																																																													
Date/Time Collected _____ / _____ / _____ MM/ DD/ YYYY _____ Military Time						<input type="checkbox"/> Clinical <input type="checkbox"/> Reference																																																													
End of Quantiferon _____ / _____ / _____ MM/ DD/ YYYY _____ Military Time						<input type="checkbox"/> Asymptomatic <input type="checkbox"/> Symptomatic: Date of onset: MM / DD / YYYY _____ / _____																																																													
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PCR  <input type="checkbox"/> Other: _____ (ERD only)           </td> <td style="vertical-align: top;"> <b>VIRIOLOGY</b>  <input type="checkbox"/> Virus Isolation            Agent(s) suspected:            _____ Influenza            Rapid Test: Pos _____ Neg _____            Not Performed _____            _____ HSV            Other (Specify): _____           </td> <td style="vertical-align: top;"> <b>MOLECULAR</b>  <input type="checkbox"/> Dengue/Chikungunya PCR  <input type="checkbox"/> Ebola PCR  <input type="checkbox"/> Other: _____ (ERD only)           </td> </tr> </table>						<b>BACTERIOLOGY</b> <input type="checkbox"/> B. anthracis <input type="checkbox"/> B. cereus/S. aureus <input type="checkbox"/> Culture, OMI <input type="checkbox"/> Culture, OMI anaerobic <input type="checkbox"/> Campylobacter species: _____ <input type="checkbox"/> E. coli 0157:H7 <input type="checkbox"/> GC culture <input type="checkbox"/> H. influenzae typing <input type="checkbox"/> L. monocytogenes <input type="checkbox"/> Legionella culture <input type="checkbox"/> Necrotizing fasciitis <input type="checkbox"/> N. meningitidis typing	<input type="checkbox"/> Plague FA and culture <input type="checkbox"/> Salmonella, serotype: _____ <input type="checkbox"/> Shigella, serotype: _____ <input type="checkbox"/> Shiga Toxin test/isolation <input type="checkbox"/> Strep, Group B, isolation <input type="checkbox"/> Tularemia culture <input type="checkbox"/> Vibrio <input type="checkbox"/> Yersinia enterocolitica: _____ <input type="checkbox"/> Other: _____	<b>MYCOLOGY</b> <input type="checkbox"/> Aerobic actinomycetes <input type="checkbox"/> Coccidioides <input type="checkbox"/> Yeast/Mold Culture	<input type="checkbox"/> Brucella antibody <input type="checkbox"/> CDC referral (attach form 50.34) <input type="checkbox"/> HIV-1 antibody <input type="checkbox"/> HIV Rapid Test Confirmation <input type="checkbox"/> Hepatitis A Diagnosis (IgM Only) <input type="checkbox"/> Hepatitis A Immune Status <input type="checkbox"/> Hepatitis B Pre-Vaccination <input type="checkbox"/> Hepatitis B Prenatal Screen <input type="checkbox"/> Hepatitis B Post-Vaccination <input type="checkbox"/> Hepatitis B High Risk (Contact to HBV positive) <input type="checkbox"/> Hepatitis B High Risk and HCV <input type="checkbox"/> Hepatitis C Antibody (Anti-HCV)	<b>AFB/TUBERCULOSIS</b> <input type="checkbox"/> Culture <input type="checkbox"/> ID isolate	<input type="checkbox"/> Hepatitis A,B and C Diagnostic Panel (Acute) <input type="checkbox"/> Mumps Immune Status <input type="checkbox"/> Plague/Tularemia antibody <input type="checkbox"/> Rubella immune status <input type="checkbox"/> Rubella diagnosis (call first) <input type="checkbox"/> Rubella immune status <input type="checkbox"/> Rubeola diagnosis (call first) <input type="checkbox"/> Syphilis Antibody <input type="checkbox"/> TB Quantiferon <input type="checkbox"/> VZV immune status <input type="checkbox"/> Other: _____	<b>MOLECULAR</b> <input type="checkbox"/> Pertussis (Bordetella sp.) 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Phone #: General Microbiology (505)383-9128/2433; Molecular Biology (505)383-9130/60; Virology/Serology (505)383-9132; Switchboard (505)383-9121																																																																			

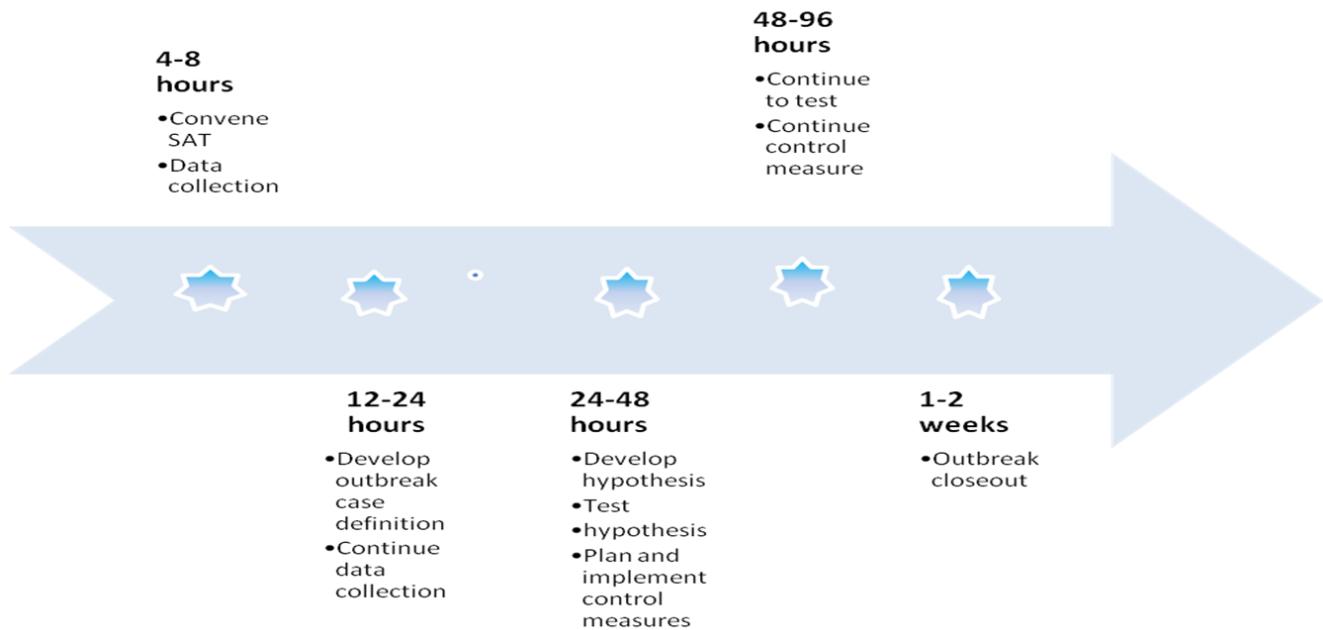
## 10.10.5 Food Sample Test Request Form

<b>NEW MEXICO DEPARTMENT OF HEALTH</b>		<b>FOOD ANALYSIS REQUEST FORM</b> Scientific Laboratory Division 1101 Camino de Salud NE Albuquerque, N. M. 87102 Phone # (505) 383-9129		<b>LAB NO.</b> Place Lab No. sticker in this area
DATE & TIME OF RECEIPT AT SLD		<b>USER CODE:</b> <input type="checkbox"/> 51000 (Epidemiology) <input type="checkbox"/> 55110 (NMED) <input type="checkbox"/> 70101 (VDS) <input type="checkbox"/> 70102 (NMDA) <input type="checkbox"/> 91300 (FDA) <input type="checkbox"/> Other: _____		
SUBMITTER CODE: _____		Submitter Agency Name: _____		
COLLECTED BY: _____ <small>Name last, First</small>		DATE SAMPLE COLLECTED: _____/_____/_____ <small>MM DD YYYY</small>		
Phone Number: _____		TIME SAMPLE COLLECTED: _____ <small>Military Time</small>		
<b>SAMPLE INFORMATION ~ to be filled out by the Sample Collector</b>				
SAMPLE TYPE: <input type="checkbox"/> FOOD <input type="checkbox"/> SWAB <input type="checkbox"/> OTHER: _____				
FIELD SAMPLE ID: _____				
<b>FOOD ESTABLISHMENT / SOURCE</b>				
Name: _____ Full _____ Address: _____  _____  _____				
Food Establishment #: _____		Phone #: _____		
<b>Reason for Collection</b> <input type="checkbox"/> Suspected Foodborne Illness <input type="checkbox"/> Routine Surveillance <input type="checkbox"/> Consumer Complaint <input type="checkbox"/> RMS NARMS <input type="checkbox"/> Other		<b>Product Information</b> Manufacturer/Brand: _____  Code / Lot: _____		
<b>Temperature Control at Time of Packing</b>  <small>°C / °F (Circle one)</small>  _____		<b>SLD Use Only</b>  Temp Control at SLD: _____ °C    Initials: _____  <input type="checkbox"/> Sample Not Intact <input type="checkbox"/> Sample Intact		
Comments: _____		Mode of Arrival: <input type="checkbox"/> DMC <input type="checkbox"/> In Person <input type="checkbox"/> Other		
<b>Analysis Requested (Check the following that applies:)</b>				
<input type="checkbox"/> Listeria <input type="checkbox"/> Salmonella <input type="checkbox"/> E. coli O157:H7 <input type="checkbox"/> E. coli O157:H7 Robust Test (325-grams) <input type="checkbox"/> Campylobacter <input type="checkbox"/> Meat Carcass Swab Coliform/E. coli count <input type="checkbox"/> Standard Plate Count (food) <input type="checkbox"/> Aerobic Plate Count (swab) <input type="checkbox"/> Beta Hemolytic Strep		<input type="checkbox"/> S. aureus <input type="checkbox"/> B. cereus <input type="checkbox"/> Shigella <input type="checkbox"/> Y. enterocolitica <input type="checkbox"/> C. perfringens <input type="checkbox"/> C. difficile <input type="checkbox"/> Yeast / Mold <input type="checkbox"/> Gram Negative Culture <input type="checkbox"/> Gram Positive Culture		<input type="checkbox"/> C. sakazakii <input type="checkbox"/> Gram Stain <input type="checkbox"/> pH <input type="checkbox"/> Foreign Matter ID <input type="checkbox"/> Container Analysis <input type="checkbox"/> Coliform Count <input type="checkbox"/> E. coli Count <input type="checkbox"/> Vibrio species <input type="checkbox"/> Other: _____

SLD Form 102 v1.0 For the proper food sample collection and shipping instructions please visit our website <http://www.sld.state.nm.us/em.asp>

Food Analysis Request Form - Version: 1.0. Index: SLD Form 102. Printed: 25-Mar-2011 13:24  
 Authorised on: 25-Mar-2011. Authorised by: Gary Oty. Document Unique Reference: 582-9728801. No review required.  
 Author(s): Paul Torres

## 10.11 Outbreak Investigation Timeline



## 10.12 Chain of Custody SLD Form for Food Samples

*Sample(s) / Sample box must have some form of Chain of Custody evidentiary seal.*

Chain of Custody information should be filled out for all individual samples or for all the samples as a group (if all samples are enclosed in a single holding container such as an ice chest during transport).

Samples submitted without information below and/or without use of sealing tape may result in sample rejection.

Sample Identified on reverse of this form was	PRINT NAME	SIGNATURE	Representing: (Company or Organization)	DATE	TIME
Collected by:					
and	For Sampler: Sample container sealed:			<input type="checkbox"/> YES	<input type="checkbox"/> NO
Placed in the care of:	Print Name Of Carrier				
and	For SLD Use Only : Seal intact:			<input type="checkbox"/> YES	<input type="checkbox"/> NO
Relinquish ed to:					
and	For Intermediary: Seal Intact:			<input type="checkbox"/> YES	<input type="checkbox"/> NO
Relinquish ed to and Tested by:			SLD-EM		
For SLD Analyst Use ONLY: Seal Intact			<input type="checkbox"/> YES	<input type="checkbox"/> NO	

## 10.13 Investigation Quality Assurance Checklist

<b>Outbreak Investigation Checklist</b>		
<b>Outbreak Name/Number:</b>		
<b>Primary investigator:</b>		<b>Secondary investigator:</b>
<b>Investigation team collaborators</b>		
<b>Name</b>	<b>Affiliation</b>	<b>Phone</b>
<b>Action</b>		
<input type="checkbox"/>	Convene meeting (designate roles including single point of communication)	
<input type="checkbox"/>	Determine if outbreak exists, develop outbreak definition, and level of investigation and central/regional coordination	
<input type="checkbox"/>	Assign outbreak number from sequential numbering system and pathogen code and list outbreak on IDEB outbreak log; assign NORS number	
<input type="checkbox"/>	Designate investigation team, including primary and secondary investigators	
<input type="checkbox"/>	Identify roles and responsibilities of partners and establish communication	
<input type="checkbox"/>	Develop working hypothesis and case definitions (confirmed, probable, suspect)	
<input type="checkbox"/>	Determine likelihood of on-going exposure/transmission	
<input type="checkbox"/>	Get list of potentially exposed persons and identify additional cases	
<input type="checkbox"/>	Collect food and person specimens	
<input type="checkbox"/>	Create line list	
<input type="checkbox"/>	Characterize person/place/time information	
<input type="checkbox"/>	Develop and administer questionnaire	
<input type="checkbox"/>	Evaluate why outbreak occurred/exposure/transmission	
<input type="checkbox"/>	Establish surveillance for additional cases	
<input type="checkbox"/>	Finalize case definition and perform data analysis	
<input type="checkbox"/>	Create epi curve	
<input type="checkbox"/>	Recommend/implement/evaluate control measures	
<input type="checkbox"/>	Convene close out meeting	
<input type="checkbox"/>	Assure all cases are entered in NMEDSS (and outbreak indicator is completed)	
<input type="checkbox"/>	Assure all documentation is scanned and added to electronic outbreak folder and any hard copy documentation is filed.	
<input type="checkbox"/>	Complete final report	
<input type="checkbox"/>	Distribute final report and file electronic and hard copies of the final report	
<input type="checkbox"/>	Assure completion of NORS report as appropriate (within 60 days of first onset and completed within 1 month from outbreak ends)	
<input type="checkbox"/>	Assure completion of FoodNet report as appropriate and fax to FoodNet Program Coordinator	
<input type="checkbox"/>	Complete investigation follow-up activities as appropriate	

Patient name:

DOB: / /

## 11 Templates

### 11.1.1 Enteric Surveillance Investigation Forms

#### Enteric Surveillance Investigation Form

 <p>Infectious Disease Epidemiology Bureau 1190 St. Francis Drive, N1350 P.O. Box 26110 Santa Fe, NM 87502-6110 Phone: 1-833-SWNURSE (1-833-796-8773) Fax: (505) 827-0013</p>	<b>NM-EDSS Patient ID:</b>  	<b>Case Status (Required for Notification):</b> <input type="checkbox"/> Confirmed <input type="checkbox"/> Not a case <input type="checkbox"/> Probable <input type="checkbox"/> Suspect <input type="checkbox"/> Unknown
	<b>MMWR Week:</b> <b>MMWR Year:</b>	
Investigator name:	Investigator phone:	ID EPI Contact:
Date completed: / /	Date received by ID EPI: / /	

#### Basic Demographic Data

<b>Patient Name (last, first):</b>		<b>DOB:</b> / /	
Sex: <input type="checkbox"/> Male <input type="checkbox"/> Female		Is the patient deceased? <input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, Date of Death: / /
Address (street):			
City:	County:	State:	ZIP:
Phone # (Home):		Phone # (Work):	Phone # (Cell):
Ethnicity: Please complete attached Ethnicity and Race questions			
Race: Please complete attached Ethnicity and Race questions			

#### EMERGENCY Reporting (IMMEDIATE reporting required, call ID EPI at 1-833-SWNURSE (1- 833-796-8773)

#### ROUTINE Reporting (Report within 24 hours)

Typhoid fever (*Salmonella* Typhi)  
(use both CDC form 52.5 and this enteric surveillance form)

Campylobacteriosis       Salmonellosis  
 Shigellosis       STEC  
 Yersiniosis

#### Investigation Summary

Jurisdiction:  NE  NW  SE  SW  Metro  NW Tribal  Tribal  Central

Investigation Start Date: / /      Investigation Status: Remember to select "Closed" in NM-EDSS when data entry completed

Investigator (Name of local or regional office):

#### Reporting Source

Date of Report (Date first reported to NMDOH): / /	Reporting Source (Lab or facility name):
Earliest Date Reported to County (Region): / /	Earliest Date Reported to State: / /

#### Epidemiologic

Is this patient associated with a day care facility? <input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes		
Is this patient a food handler? <input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes		
Confirmation Method: <input type="checkbox"/> Clinical diagnosis (non-lab confirmed) <input type="checkbox"/> Epi linked <input type="checkbox"/> Lab confirmed <input type="checkbox"/> Unknown		

Patient name:

DOB: / /

Patient name:

DOB: / /

### Symptoms (Condition Specific Custom Fields)

Did you experience any symptoms as a result of your infection with [Organism name]?  No  Unknown  Yes

(If no, Skip to **Day Care** section)

If yes, Did you have diarrhea?  No  Unknown  Yes

List other symptoms here (optional):

Did you have bloody diarrhea?  No  Unknown  Yes

Did you have a fever?  No  Unknown  Yes

### Clinical

Were you hospitalized overnight for this illness?  No  Unknown  Yes If yes, Hospital name: \_\_\_\_\_

Admit Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Discharge Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Duration of stay (days): \_\_\_\_\_

Were you transferred to another hospital for this illness?  No  Unknown  Yes If yes, Hospital name: \_\_\_\_\_

Admit Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Discharge Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Duration of stay (days): \_\_\_\_\_

When did you first feel ill? (Illness onset date): \_\_\_\_ / \_\_\_\_ / \_\_\_\_

When did you feel recovered? (Illness end date): \_\_\_\_ / \_\_\_\_ / \_\_\_\_

How long did your illness last? (Illness duration): \_\_\_\_\_ days

[If patient is female of childbearing age] Are you pregnant?  No  Unknown  Yes

[Investigator: Did the patient die from this illness?  No  Unknown  Yes]

### Treatment (Condition Specific Custom Fields)

Were you treated with antibiotics for this illness?  No  Unknown  Yes

If yes, When did you start the antibiotics?

\_\_\_\_ / \_\_\_\_ / \_\_\_\_ What antibiotic were you treated with? \_\_\_\_\_

Do you attend daycare?

No  Unknown  Yes If yes, Last date attended: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Do you work at a daycare?

No  Unknown  Yes If yes, Last date worked: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Do you live with a daycare attendee?

No  Unknown  Yes

If yes to any of the above, What type of daycare?

Adult day health care  Adult day social care  Alzheimer's specific day care  
 Child care center  Child care provided by relative, friend, neighbor  
 In-home caregiver

Name, address and phone # of daycare:

\_\_\_\_\_

Is food prepared at this daycare?

No  Unknown  Yes

Does this daycare care for diapered persons?

No  Unknown  Yes

### Food Handler

Do you work as a food handler or prepare food for others outside your home?  No  Unknown  Yes

If yes, Did you work as a food handler after the onset of your illness?  No  Unknown  Yes

If yes, Last date worked: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Where do you work as a food handler? \_\_\_\_\_

[Investigator: If patient attends or works at a daycare or is a food handler, review exclusion criteria with patient. After interview is complete, contact ID EPI **immediately** at 1-833-SWNURSE (1-833-796-8773) to have the epidemiologist on-call follow-up with the daycare facility or food service establishment regarding additional illnesses and exclusion criteria. Document the date and time of this phone call to ID EPI in the General Comments section of NM-EDSS Investigation screen.]

**Patient name:****DOB:** / /**Patient name:****DOB:** / /

Now I'm going to ask you some questions about events that may have occurred in the 7 days before you became ill [or the 7 days before specimen was collected if patient was asymptomatic] so that would be from [7 days prior to onset date]: \_\_\_\_ / \_\_\_\_ / \_\_\_\_ to [Onset date]: \_\_\_\_ / \_\_\_\_ / \_\_\_\_\_. It may be helpful for you to look at a calendar or daily planner for these questions. Would you like to get one?

## Travel History

Did you travel anywhere in the 7 days before your illness (including within NM)?  No  Unknown  Yes

If yes, Purpose of travel: (check all that apply)  Business  Migration  Visiting relatives/friends  Tourism  Other (specify): \_\_\_\_\_

Destination 1: \_\_\_\_\_

Mode of Travel:  airplane  bus  car  cruise ship  train      Arrival date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_      Departure date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Destination 2: \_\_\_\_\_

Mode of Travel:  airplane  bus  car  cruise ship  train      Arrival date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_      Departure date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Destination 3: \_\_\_\_\_

Mode of Travel:  airplane  bus  car  cruise ship  train      Arrival date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_      Departure date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

If more than 3 destinations, specify details here: \_\_\_\_\_

## Drinking Water Exposure

Did you reside in a home with a septic system seven days before your illness?

No  Unknown  Yes

What was the source of tap water at your home in the 7 days before your illness?

Don't use tap water  Municipal, city or county  Private well  
 Unknown  Other (specify): \_\_\_\_\_

If a Private Well, How is well water treated at your home?

Both filtered and disinfected  Disinfected  Filtered  
 Neither filtered nor disinfected  Unknown

What was the source of tap water at your work or school in the 7 days before your illness?

Don't use tap water  Municipal, city or county  Private well  
 Unknown  Other (specify): \_\_\_\_\_

If a Private Well, How is well water treated at your work or school?

Both filtered and disinfected  Disinfected  Filtered  
 Neither filtered nor disinfected  Unknown

Did you drink any untreated water in the 7 days before your illness (e.g. river while camping)?

No  Unknown  Yes

If yes, Where did you drink untreated water? \_\_\_\_\_

## Recreational Water Exposure

Did you have contact with a recreational water source in the 7 days before your illness, like the ocean, a lake, river or pool?  No  Unknown  Yes

If yes, What type of recreational water source? (check all that apply)  Hot spring  Hot tub, whirlpool, Jacuzzi or spa  Interactive fountain  
 Lake, pond, river or stream  Ocean  Recreational water park  Swimming pool  Other (specify): \_\_\_\_\_

Name and location of recreational water source: \_\_\_\_\_

## Animal Contact (In the 7 days before your illness)

Did you have contact with any animals, including pets or at a farm or petting zoo?  No  Unknown  Yes

If yes, What type(s) of animal? (check all that apply)  Cat  Cattle  Chicken  Dog  Goats  Lizard  Rodent  Sheep  Turkey  
 Pocket Pet (if checked, enter Pocket Pet under other)  Turtle  Unknown  Other (specify): \_\_\_\_\_

Where did you have contact with these animals (name and location)? \_\_\_\_\_

Did you have contact with a pet that had diarrhea?  No  Unknown  Yes

Visit, work, or live on farm, ranch, petting zoo, or other setting that has animals?  No  Unknown  Yes

Have any contact with any live poultry (e.g., chickens, turkeys, hens, etc.)?  No  Unknown  Yes

Have any contact with a bird, not including live poultry such as chickens or turkeys?  No  Unknown  Yes

Have any contact with any cattle, goats, or sheep?  No  Unknown  Yes

Have any contact with any pigs?  No  Unknown  Yes

Did you acquire a pet in the 7 days before your illness?  No  Unknown  Yes

Patient name:

DOB: / /

Do you have any underlying health conditions?  No  Unknown  Yes [Investigator: If no underlying condition, select "None" in NM-EDSS]

If yes, What underlying health conditions? \_\_\_\_\_

## Related Cases

Do you know anyone who had a similar illness in the 7 days before or after your illness?  No  Unknown  Yes

If yes, Who had a similar illness and when were they ill? \_\_\_\_\_

Contact info for ill contacts: \_\_\_\_\_

In the seven days before your illness did you have a household member or a close contact with diarrhea?  No  Unknown  Yes

[Investigator: To enter details of related cases into NM-EDSS, use General Comments field in NM-EDSS Investigation screen.]

## Grocery Stores and Restaurants (Condition Specific Custom Fields)

Where did you shop for groceries eaten during the 7 days before your illness (name & location)? \_\_\_\_\_

Did you eat in any restaurants during the 7 days before your illness?  No  Unknown  Yes

If yes, Collect the following information for all restaurants (If at all possible, **please get dates** of meals):

Restaurant 1 name and location: \_\_\_\_\_

Date of meal: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

List foods eaten: \_\_\_\_\_

Restaurant 2 name and location: \_\_\_\_\_

Date of meal: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

List foods eaten: \_\_\_\_\_

Restaurant 3 name and location: \_\_\_\_\_

Date of meal: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

List foods eaten: \_\_\_\_\_

If more than 3 restaurants, specify details here: \_\_\_\_\_

Did you attend any gatherings during the 7 days before your illness, like a wedding, feast day, fiesta or potluck?  No  Unknown  Yes

If yes, Date of event: \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Name, type and location of event: \_\_\_\_\_

If more than one event, specify details here: \_\_\_\_\_

Patient name:

DOB: / /

Now I'm going to read a list of foods and beverages you may have consumed during the 7 days before your illness. For each one, tell me whether you ate the item by saying "Yes" or "No." Answer "Yes" if you ate the item by itself or as part of another dish.

**Food Exposures (In the 7 days before illness, did you/your child...)**

Eat or drink any dairy products (e.g., milk, yogurt, cheese, ice cream, etc.)?  No  Unknown  Yes

Eat or drink any pasteurized cow's or goat's milk?  No  Unknown  Yes

Eat any soft cheese (brie, cream cheese, queso fresco, etc.)?  No  Unknown  Yes

Drink unpasteurized milk?  No  Unknown  Yes

Eat any unpasteurized soft cheese (queso fresco, etc.)?  No  Unknown  Yes

Eat unpasteurized cheese or yogurt?  No  Unknown  Yes

Eat or drink any other dairy products that were raw or unpasteurized (e.g., ice cream made from raw milk)?  No  Unknown  Yes

Drink unpasteurized cider or juice?  No  Unknown  Yes

Eat Fresh fruits or berries  No  Unknown  Yes

Eat any fresh (unfrozen) berries?  No  Unknown  Yes

Eat any fresh cantaloupe?  No  Unknown  Yes

Eat any watermelon?  No  Unknown  Yes

Eat any fresh vegetables or salads  No  Unknown  Yes

Eat any fresh, raw lettuce?  No  Unknown  Yes

Eat any fresh (unfrozen), raw spinach?  No  Unknown  Yes

Eat any fresh, raw tomatoes?  No  Unknown  Yes

Eat any sprouts?  No  Unknown  Yes

Eat any fresh (not dried) herbs (basil, cilantro, parsley)?  No  Unknown  Yes

Eat any eggs?  No  Unknown  Yes

Eat any eggs made outside of home, at a business such as a restaurant, deli, fast food, take-out, or catered event?  No  Unknown  Yes

Eat any eggs that were runny or raw, or uncooked foods made with raw eggs?  No  Unknown  Yes

Eat Poultry?  No  Unknown  Yes

Eat Chicken or any foods containing chicken?  No  Unknown  Yes

Eat any chicken at home that was purchased fresh (refrigerated)?  No  Unknown  Yes

Eat any chicken at home that was frozen when purchased?  No  Unknown  Yes

Eat any chicken made outside of home at a business such as a restaurant, deli, fast food, take-out, or catered event?  No  Unknown  Yes

Eat any ground chicken?  No  Unknown  Yes

Eat any turkey or any foods containing turkey?  No  Unknown  Yes

Eat any turkey made outside of home at a business such as a restaurant, deli, fast food, take-out, or catered event?  No  Unknown  Yes

Eat any ground turkey?  No  Unknown  Yes

Did you or anyone in household handle raw poultry?  No  Unknown  Yes

Eat beef or any foods containing beef?  No  Unknown  Yes

Eat any beef made outside of home at a business such as a restaurant, deli, fast food, take-out, or catered even?  No  Unknown  Yes

Eat any ground beef?  No  Unknown  Yes

Eat any ground beef that was undercooked or raw?  No  Unknown  Yes

Did you or anyone in household handle raw beef?  No  Unknown  Yes

Eat any pork or any foods containing pork?  No  Unknown  Yes

Eat any lamb or mutton?  No  Unknown  Yes

Eat any liver pate?  No  Unknown  Yes

Eat any raw or undercooked liver?  No  Unknown  Yes

Eat any fish or fish products?  No  Unknown  Yes

**Patient name:****DOB:** / /

Eat any fish or fish products that was raw or undercooked (e.g., sushi, sashimi)?	<input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes
Eat any seafood (e.g., crab, shrimp, oysters, clams, etc.)?	<input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes
Eat any seafood that was raw or undercooked (e.g., raw oysters, clams, etc.)?	<input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes
Did you or anyone in household handle raw fish or seafood?	<input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes
Eat shellfish?	<input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes
Eat Jerky?	<input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes

### Binational Case Question (in Custom Fields section of Investigation)

During the incubation and/or infectious period of the patient's disease, did the patient visit, travel in, or live in Mexico or any other foreign country? (Refer to Incubation Period Table to determine time period of interest)  No  Unknown  Yes

If yes, specify country: \_\_\_\_\_

During the incubation and/or infectious period of the patient's disease, did the patient have contact with anyone who visited, traveled in or lived in Mexico or any other foreign country? (Refer to Incubation Period Table to determine time period of interest)  No  Unknown  Yes

If yes, specify country: \_\_\_\_\_

*Now I would like to ask you some questions about your (or your child's) race and ethnicity. These questions are important for helping us know what diseases are affecting different groups of New Mexicans. Again, all the information you provide is strictly confidential.*

### Ethnicity (in Patient tab of Investigation)

Do you consider yourself (or your child) to be any of the following:

Hispanic or Latino or Chicano?  No  Yes

If the answer is not "Yes/No," or the patient responds with a question (e.g., "my mother is from Mexico and my father is of German descent from Wisconsin, so what does that make me?"), counter with a statement such as "how do you identify yourself (or your child)?"

If alternate response given ("I don't know" or "I can't tell you" or "It's none of your business"), leave blank and go to Q2.

### Race (in Patient tab of Investigation)

What race or races do you consider yourself (or your child) to be? You may select more than one (ask the patient to respond to each option):

White	<input type="checkbox"/> No <input type="checkbox"/> Yes
American Indian or Alaskan Native	<input type="checkbox"/> No <input type="checkbox"/> Yes
Black or African American	<input type="checkbox"/> No <input type="checkbox"/> Yes
Asian	<input type="checkbox"/> No <input type="checkbox"/> Yes
Native Hawaiian or Pacific Islander	<input type="checkbox"/> No <input type="checkbox"/> Yes
Another race I didn't mention	<input type="checkbox"/> No <input type="checkbox"/> Yes
Don't know	<input type="checkbox"/> No <input type="checkbox"/> Yes

Specify another race: \_\_\_\_\_

If the respondent still answers "Hispanic" (or another Hispanic category) to the race question, ask the following: "Would you say White Hispanic, American Indian Hispanic, Black/African-American Hispanic or Asian Hispanic?" Or reassure the patient by saying "People can be White Hispanic, American Indian Hispanic, Black/African-American Hispanic or Asian Hispanic. How would you identify yourself (or your child)?" The race should then be coded based on White, American Indian, Black/African-American or Asian. If the respondent won't commit, leave blank.

Patient name:

DOB: / /

### Tribal Affiliation (in Patient tab of Investigation)

If American Indian or Alaskan Native, what is your (or your child's) tribal affiliation? \_\_\_\_\_

If American Indian or Alaskan Native, do you (does your child) currently live on the reservation or pueblo at least part of each week? \_\_\_\_\_

No  Yes

### Country of Birth (in Patient tab of Investigation)

In which country were you (was your child) born? \_\_\_\_\_

### Primary Language (in Patient tab of Investigation)

What is the patient's (guardian's) primary language? \_\_\_\_\_

### Occupation (in Patient tab of Investigation)

What is your (your child's) occupation?  Child Care Worker  Food Handler  Healthcare Practitioner  Student  Teacher  Unemployed  Other

If other occupation, specify: \_\_\_\_\_

Name of employer or school: \_\_\_\_\_

### Administrative

General Comments:

**[Investigator:** Use these bullets as a starting point for educating the patient on proper food handling and hand hygiene.]

Thoroughly cook raw meat and poultry, wash raw fruits and vegetables thoroughly

Keep raw meat and poultry separate from produce, cooked foods, and ready-to-eat foods

Wash hands, knives, cutting boards and other surfaces that have been in contact with raw meat and poultry

Avoid eating unpasteurized dairy products and juices

Wash hands after contact with animals and after using the restroom

Don't prepare food for others when you have diarrhea. If patient is a food handler, he/she should stay home from work until symptoms have resolved (see exclusion criteria).

If patient attends or works at a daycare, he/she should stay home until symptoms have resolved (see exclusion criteria).

Avoid using recreational water sources (e.g., pool) until your diarrhea subsides.

*Thank you for your time. That's all the questions I have for you. Do you have any questions for me?*

Patient name:

DOB: / /

## Cryptosporidiosis/Giardiasis Investigation Form



Infectious Disease Epidemiology Bureau  
1190 St. Francis Drive, N1350  
P.O. Box 26110  
Santa Fe, NM 87502-6110  
Phone: 1-833-SWNURSE (1-833-796-8773)  
Fax: (505) 827-0013

NM-EDSS Patient ID:

MMWR Week:

MMWR Year:

Case Status

## (Required for Notification):

- Confirmed
- Not a case
- Probable
- Suspect
- Unknown

Investigator name:

Investigator phone:

ID EPI Contact:

Date completed: / /

Date received by ID EPI: / /

## Basic Demographic Data

Patient Name (last, first):

DOB: / /

Sex:  Male  FemaleIs the patient deceased?  Yes  No

If YES, Date of Death: / /

Address (street):

City: County: State: ZIP:

Phone # (Home): Phone # (Work): Phone # (Cell):

Ethnicity: Please complete attached Ethnicity and Race questions

Race: Please complete attached Ethnicity and Race questions

## Investigation Summary

Jurisdiction:  NE  NW  SE  SW  Metro  NW Tribal  Tribal  Central

Investigation Start Date: / / Investigation Status: Remember to select "Closed" in NM-EDSS when data entry completed

Investigator (Name of local or regional office):

## Reporting Source

Date of Report (Date first reported to NMDOH): / / Reporting Source (Lab or facility name):

Earliest Date Reported to County (Region): / / Earliest Date Reported to State: / /

## Epidemiologic

Is this patient associated with a day care facility?  No  Unknown  YesIs this patient a food handler?  No  Unknown  YesConfirmation Method:  Clinical diagnosis (non-lab confirmed)  Epi linked  Lab confirmed  Unknown

## Symptoms (Condition Specific Custom Fields)

Did you experience any symptoms as a result of your infection with *Cryptosporidium*?  No  Unknown  Yes

(If no, Skip to Day Care section)

If yes, Did you have diarrhea?  No  Unknown  YesDid you have bloody diarrhea?  No  Unknown  YesDid you have a fever?  No  Unknown  Yes

List other symptoms here (optional):

## Clinical

Were you hospitalized overnight for this illness?  No  Unknown  Yes

If yes, Hospital name: \_\_\_\_\_

**Patient name:****DOB:** / /

Admit Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Discharge Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Duration of stay (days): \_\_\_\_\_

Were you transferred to another hospital for this illness?  No  Unknown  Yes If yes, Hospital name: \_\_\_\_\_

Admit Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Discharge Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Duration of stay (days): \_\_\_\_\_

When did you first feel ill? (Illness onset date): \_\_\_\_ / \_\_\_\_ / \_\_\_\_

When did you feel recovered? (Illness end date): \_\_\_\_ / \_\_\_\_ / \_\_\_\_

How long did your illness last? (Illness duration): \_\_\_\_\_ days

[If patient is female of childbearing age] Are you pregnant?  No  Unknown  Yes[Investigator: Did the patient die from this illness?  No  Unknown  Yes]**Treatment (Condition Specific Custom Fields)**Were you treated with antibiotics for this illness?  No  Unknown  Yes

If yes, When did you start the antibiotics? \_\_\_\_ / \_\_\_\_ / \_\_\_\_

What antibiotic were you treated with? \_\_\_\_\_

**Day Care**

Do you attend daycare?

 No  Unknown  Yes If yes, Last date attended: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Do you work at a daycare?

 No  Unknown  Yes If yes, Last date worked: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Do you live with a daycare attendee?

 No  Unknown  YesIf yes to any of the above, What type of daycare?  Adult day health care  Adult day social care  Alzheimer's specific day care  
 Child care center  Child care provided by relative, friend, neighbor  
 In-home caregiver

Name, address and phone # of daycare: \_\_\_\_\_

Is food prepared at this daycare?  No  Unknown  YesDoes this daycare care for diapered persons?  No  Unknown  Yes**Food Handler**Do you work as a food handler or prepare food for others outside your home?  No  Unknown  YesIf yes, Did you work as a food handler after the onset of your illness?  No  Unknown  Yes

If yes, Last date worked: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Where do you work as a food handler? \_\_\_\_\_

**[Investigator: If patient attends or works at a daycare or is a food handler, review exclusion criteria with patient. After interview is complete, contact ID EPI immediately at 505-827-0006 to have the epidemiologist on-call follow-up with the daycare facility or food service establishment regarding additional illnesses and exclusion criteria. Document the date and time of this phone call to ID EPI in the General Comments section of NM-EDSS Investigation screen.]**

Now I'm going to ask you some questions about events that may have occurred in the **14** days before you became ill [or the **14** days before specimen was collected if patient was asymptomatic] so that would be from [14 days prior to onset date]: \_\_\_\_ / \_\_\_\_ / \_\_\_\_ to [Onset date]: \_\_\_\_ / \_\_\_\_ / \_\_\_\_\_. It may be helpful for you to look at a calendar or daily planner for these questions. Would you like to get one?

Patient name:

DOB: / /

## Travel History

Did you travel anywhere in the 14 days before your illness (including within NM)?  No  Unknown  Yes

If yes, Purpose of travel: (check all that apply)  Business  Migration  Visiting relatives/friends  Tourism  Other (specify): \_\_\_\_\_

Destination 1: \_\_\_\_\_

Mode of Travel:  airplane  bus  car  cruise ship  train

Arrival date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Departure date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Destination 2: \_\_\_\_\_

Mode of Travel:  airplane  bus  car  cruise ship  train

Arrival date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Departure date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Destination 3: \_\_\_\_\_

Mode of Travel:  airplane  bus  car  cruise ship  train

Arrival date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Departure date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

If more than 3 destinations, specify details here: \_\_\_\_\_

## Drinking Water Exposure

What was the source of tap water at your home in the 14 days before your illness?

Don't use tap water  Municipal, city or county  Private well  
 Unknown  Other (specify): \_\_\_\_\_

If a Private Well, How is well water treated at your home?

Both filtered and disinfected  Disinfected  Filtered  
 Neither filtered nor disinfected  Unknown

What was the source of tap water at your work or school in the 14 days before your illness?

Don't use tap water  Municipal, city or county  Private well  
 Unknown  Other (specify): \_\_\_\_\_

If a Private Well, How is well water treated at your work or school?

Both filtered and disinfected  Disinfected  Filtered  
 Neither filtered nor disinfected  Unknown

Did you drink any untreated water in the 14 days before your illness (e.g. river while camping)?

No  Unknown  Yes

If yes, Where did you drink untreated water? \_\_\_\_\_

## Recreational Water Exposure

Did you have contact with a recreational water source in the 14 days BEFORE your illness, like the ocean, a lake, river or pool?  No  Unknown  Yes

If yes, What type of recreational water source? (check all that apply)  Hot spring  Hot tub, whirlpool, jacuzzi or spa  Interactive fountain

Lake, pond, river or stream  Ocean  Recreational water park  Swimming pool  Drainage ditch/irrigation canal  Other (specify): \_\_\_\_\_

Name and location of recreational water source: \_\_\_\_\_

Date of last exposure: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Name and location of recreational water source: \_\_\_\_\_

Date of last exposure: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Did you have contact with a recreational water source in days DURING your illness, like the ocean, a lake, river or pool?  No  Unknown  Yes

If yes, What type of recreational water source? (check all that apply)  Hot spring  Hot tub, whirlpool, jacuzzi or spa  Interactive fountain

Lake, pond, river or stream  Ocean  Recreational water park  Swimming pool  Drainage ditch/irrigation canal  Other (specify): \_\_\_\_\_

Name and location of recreational water source: \_\_\_\_\_

Date of last exposure: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Name and location of recreational water source: \_\_\_\_\_

Date of last exposure: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Did you have contact with a recreational water source in the 14 days AFTER your illness, like the ocean, a lake, river or pool?  No  Unknown  Yes

If yes, What type of recreational water source? (check all that apply)  Hot spring  Hot tub, whirlpool, jacuzzi or spa  Interactive fountain

Lake, pond, river or stream  Ocean  Recreational water park  Swimming pool  Drainage ditch/irrigation canal  Other (specify): \_\_\_\_\_

Name and location of recreational water source: \_\_\_\_\_

Date of last exposure: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Name and location of recreational water source: \_\_\_\_\_

Date of last exposure: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

**Investigator:** If patient utilizes recreational water sources, review exclusion criteria with patient. After interview is complete, contact ID EPI immediately at 1-833-SWNURSE (1-833-796-8773) to have the epidemiologist on-call follow-up with the appropriate pool program regarding hyperchlorination and/or closure. Document the date and time of this phone call to ID EPI in the General Comments section of NM-EDSS Investigation screen.]

**Patient name:****DOB:** / /**Animal Contact**In the 14 days before your illness, did you have contact with any animals, including pets or at a farm or petting zoo?  No  Unknown  YesIf yes, What type(s) of animal? (check all that apply)  Cat  Cattle  Chicken  Dog  Goats  Lizard  Rodent  Sheep  Turkey  
 Turtle  Unknown  Other (specify): \_\_\_\_\_

Where did you have contact with these animals (name and location)? \_\_\_\_\_

Did you acquire a pet in the 7 days before your illness?  No  Unknown  Yes**Underlying Conditions**Do you have any underlying health conditions?  No  Unknown  Yes [Investigator: If no underlying condition, select "None" in NM-EDSS]

If yes, What underlying health conditions? \_\_\_\_\_

**Related Cases**Do you know of anyone who had a similar illness in the 14 days before or after your illness?  No  Unknown  Yes

If yes, Who had a similar illness and when were they ill? \_\_\_\_\_

Contact info for ill contacts: \_\_\_\_\_

[Investigator: To enter details of related cases into NM-EDSS, use General Comments field in NM-EDSS Investigation screen.]

**Grocery Stores and Restaurants (Condition Specific Custom Fields)**

Where did you shop for groceries eaten during the 14 days before your illness (name &amp; location)? \_\_\_\_\_

Did you eat in any restaurants during the 14 days before your illness?  No  Unknown  YesIf yes, Collect the following information for all restaurants (If at all possible, **please get dates** of meals):

Restaurant 1 name and location: \_\_\_\_\_

Date of meal: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

List foods eaten: \_\_\_\_\_

Restaurant 2 name and location: \_\_\_\_\_

Date of meal: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

List foods eaten: \_\_\_\_\_

Restaurant 3 name and location: \_\_\_\_\_

Date of meal: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

List foods eaten: \_\_\_\_\_

If more than 3 restaurants, specify details here: \_\_\_\_\_

Did you attend any gatherings during the 14 days before your illness, like a wedding, feast day, fiesta or potluck?  No  Unknown  Yes

If yes, Date of event: \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Name, type and location of event: \_\_\_\_\_

If more than one event, specify details here: \_\_\_\_\_

*Now I'm going to read a list of foods and beverages you may have consumed during the 14 days before your illness. For each one, tell me whether you ate the item by saying "Yes" or "No." Answer "Yes" if you ate the item by itself or as part of another dish.***Food Exposures (Condition Specific Custom Fields)**

Unpasteurized or raw milk	<input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes	Eggs	<input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes
Unpasteurized or raw cheese or yogurt	<input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes	Poultry	<input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes
Unpasteurized cider or juice	<input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes	Ground beef	<input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes
Fresh fruits or berries	<input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes	Shellfish	<input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes
Fresh vegetables or salads	<input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes	Jerky	<input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes

Patient name:

DOB: / /

## Binational Case Question (in Custom Fields section of Investigation)

During the incubation and/or infectious period of the patient's disease, did the patient visit, travel in, or live in Mexico or any other foreign country? (Refer to Incubation Period Table to determine time period of interest)

No  Unknown  Yes

If yes, specify country: \_\_\_\_\_

During the incubation and/or infectious period of the patient's disease, did the patient have contact with anyone who visited, traveled in or lived in Mexico or any other foreign country? (Refer to Incubation Period Table to determine time period of interest)

No  Unknown  Yes

If yes, specify country: \_\_\_\_\_

*Now I would like to ask you some questions about your (or your child's) race and ethnicity. These questions are important for helping us know what diseases are affecting different groups of New Mexicans. Again, all the information you provide is strictly confidential.*

## Ethnicity (in Patient tab of Investigation)

Do you consider yourself (or your child) to be any of the following:

Hispanic or Latino or Chicano?  No  Yes

If the answer is not "Yes/No," or the patient responds with a question (e.g., "my mother is from Mexico and my father is of German descent from Wisconsin, so what does that make me?"), counter with a statement such as "**how do you identify yourself (or your child)?**"

If alternate response given ("I don't know" or "I can't tell you" or "It's none of your business"), leave blank and go to Q2.

## Race (in Patient tab of Investigation)

What race or races do you consider yourself (or your child) to be? You may select more than one (ask the patient to respond to each option):

White  No  Yes

American Indian or Alaskan Native  No  Yes

Black or African American  No  Yes

Asian  No  Yes

Native Hawaiian or Pacific Islander  No  Yes

Another race I didn't mention  No  Yes Specify another race: \_\_\_\_\_

Don't know  No  Yes

If the respondent still answers "Hispanic" (or another Hispanic category) to the race question, ask the following: "**Would you say White Hispanic, American Indian Hispanic, Black/African-American Hispanic or Asian Hispanic?**" Or reassure the patient by saying "**People can be White Hispanic, American Indian Hispanic, Black/African-American Hispanic or Asian Hispanic. How would you identify yourself (or your child)?**" The race should then be coded based on White, American Indian, Black/African-American or Asian. If the respondent won't commit, leave blank.

## Tribal Affiliation (in Patient tab of Investigation)

If American Indian or Alaskan Native, what is your (or your child's) tribal affiliation? \_\_\_\_\_

If American Indian or Alaskan Native, do you (does your child) currently live on the reservation or pueblo at least part of each week?  No  Yes

## Country of Birth (in Patient tab of Investigation)

In which country were you (was your child) born? \_\_\_\_\_

## Primary Language (in Patient tab of Investigation)

What is the patient's (guardian's) primary language? \_\_\_\_\_

## Occupation (in Patient tab of Investigation)

What is your (your child's) occupation?  Child Care Worker  Food Handler  Healthcare Practitioner  Student  Teacher  Unemployed  Other

If other occupation, specify: \_\_\_\_\_

Name of employer or school: \_\_\_\_\_

Patient name:

DOB:      /      /

[Investigator: Use these bullets as a starting point for educating the patient on proper food handling and hand hygiene.]

- Thoroughly cook raw meat and poultry, wash raw fruits and vegetables thoroughly
- Keep raw meat and poultry separate from produce, cooked foods, and ready-to-eat foods
- Wash hands, knives, cutting boards and other surfaces that have been in contact with raw meat and poultry
- Avoid eating unpasteurized dairy products and juices
- Wash hands after contact with animals and after using the restroom
- Don't prepare food for others when you have diarrhea. If patient is a food handler, he/she should stay home from work until symptoms have resolved (see exclusion criteria).
- If patient attends or works at a daycare, he/she should stay home until symptoms have resolved (see exclusion criteria).
- Avoid using recreational water sources (eg., pool) until your diarrhea subsides and until 2 weeks after your diarrhea has resolved.

*Thank you for your time. That's all the questions I have for you. Do you have any questions for me?*

## Administrative

General Comments:

## 11.1.2 Enteric Illness Complaint Form

### New Mexico Interagency Enteric Illness Complaint Worksheet

Complaint date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Time: \_\_\_\_\_  AM  PM

Interviewer/Agency: \_\_\_\_\_

Interviewer phone: \_\_\_\_\_

#### Complainant information

Name: \_\_\_\_\_ DOB: \_\_\_\_/\_\_\_\_/\_\_\_\_ OR Age: \_\_\_\_\_ Sex:  Male  Female

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Home #: \_\_\_\_\_ Work #: \_\_\_\_\_ Cell #: \_\_\_\_\_

#### Illness History

Did you experience any of the following symptoms?

Vomiting  Yes  No If yes, Onset date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Time: \_\_\_\_\_  AM  PM

Recovery date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Time: \_\_\_\_\_  AM  PM

Diarrhea  Yes  No If yes, Onset date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Time: \_\_\_\_\_  AM  PM

Recovery date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Time: \_\_\_\_\_  AM  PM

Max # of stools in a 24 hour period: \_\_\_\_\_

Bloody stools  Yes  No Nausea  Yes  No

Cramps  Yes  No Fever  Yes  No If YES,  subjective or \_\_\_\_ °

Headache  Yes  No Other symptoms: \_\_\_\_\_

#### Medical treatment

Saw healthcare provider or went to urgent care or emergency room?  Y  N  DK Provider/Facility name: \_\_\_\_\_

Date of visit: \_\_\_\_/\_\_\_\_/\_\_\_\_ Phone: \_\_\_\_\_

Stool sample given?  Y  N  DK Date collected: \_\_\_\_/\_\_\_\_/\_\_\_\_ Result: \_\_\_\_\_

If no, willing to give a stool sample?  Y  N

Hospitalized?  Y  N  DK Name of hospital: \_\_\_\_\_

Admission date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Discharge date: \_\_\_\_/\_\_\_\_/\_\_\_\_

#### Establishment or product suspected by complainant

<input type="checkbox"/> Establishment	Name and location:
<input type="checkbox"/> Product	Brand, size, flavor, UPC, purchase date and location:

Date and time of suspect meal: \_\_\_\_/\_\_\_\_/\_\_\_\_ Time:  AM  PM

Foods and beverages consumed at suspect meal:

Are leftovers available?  Yes  No

If yes, willing to let us collect leftovers for testing?  Yes  No

Did complainant call establishment?  Yes  No

#### History of others in party (use additional sheets if necessary)

Number in party: \_\_\_\_\_ Number ill: \_\_\_\_\_

Name	Phone	III?
		<input 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
--	--	---

- If **one person** is ill, record entire 4-day food history
- If **2 or more persons from same HH or otherwise related** are ill, record entire 4-day food history
- If **2 or more unrelated persons** (i.e., from different HHs and/or otherwise unrelated) are ill, record only common meals

**Day of illness onset:** \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Meal time	Home or Out	Location if out	Foods and beverages consumed
Brk:			
Lun:			
Din:			
Oth:			

**Day prior to illness onset:** \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Meal time	Home or Out	Location if out	Foods and beverages consumed
Brk:			
Lun:			
Din:			
Oth:			

**Two days prior to illness onset:** \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Meal time	Home or Out	Location if out	Foods and beverages consumed
Brk:			
Lun:			
Din:			
Oth:			

**Three days prior to illness onset:** \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Meal time	Home or Out	Location if out	Foods and beverages consumed
Brk:			
Lun:			
Din:			
Oth:			

#### History of exposures

Domestic travel: Where? \_\_\_\_\_  International travel: Where? \_\_\_\_\_  
 Contact with ill person  Yes  No  Ill animal  Yes  No  
 Child care  Yes  No

#### Follow-Up Activities

Complaint involves **2 or more unrelated persons** (i.e., from different HHs and/or otherwise unrelated) with similar illness following common meal

Notify **immediately** by phone and fax completed worksheet to:

1. ID EPI Epidemiologist On-Call, phone: 505-827-0006, fax: 505-827-0013
2. Environmental Health regulatory agency with jurisdiction over suspected establishment

Complaint involves **single ill person OR 2 or more from the same HH or otherwise related** with similar illness following common meal

Fax completed worksheet **within one business day** to:

1. ID EPI, Enteric Disease Epidemiologist, secure email: [DOH-Foodborne@doh.nm.gov](mailto:DOH-Foodborne@doh.nm.gov) or fax: 505-827-0013
2. Environmental Health regulatory agency with jurisdiction over suspected establishment
3. Regional or local public health office (only if prior arrangement has been made with the office)

Agencies notified:  NMED  AEHD  BCEHD  IHS EH  NMDOH ID EPI  NMDOH PHO  Other:

#### **SUPPLEMENTAL SECTION: To be used for waterborne illness investigations only.**

**Type of complaint:**

Illness; Specify \_\_\_\_\_  
 Poor quality drinking water  
 Poor quality recreational water

Rash associated with water exposure  
 Chemical burns

**Water Source:**

City  
 Stream/Lake  
 Pool/Jacuzzi/Sauna

Bottled water  
Brand? \_\_\_\_\_  
 Vending machine  
 Well

Humidifier/Oxygen  
 Fountain/Splash Pad  
 Other: \_\_\_\_\_

Places where water was ingested in past 2 weeks, other than home (if known, list addresses):  
\_\_\_\_\_

Places where contact with recreation water occurred in past two weeks (if known, list addresses):  
\_\_\_\_\_

**Follow-Up Activities**

Complaint involves **2 or more unrelated persons** (i.e., from different HHs and/or otherwise unrelated) with similar illness following common water exposure

Notify **immediately** by phone:

1. ERD 24/7 Telephone: 1-833-SWNURSE (1-833-796-8773)
2. Notify Environmental Health regulatory agency with jurisdiction over suspected establishment
3. NMED staff: notify immediate supervisor, email completed form to [food.program@env.nm.gov](mailto:food.program@env.nm.gov), food program staff will enter completed form into Red Cap, supervisor will call ERD 24 hours line 1-833-796-8773.

Complaint involves **single ill person OR 2 or more from the same HH or otherwise related** with similar illness following common water exposure

Fax completed worksheet **within one business day** to:

1. Enter completed form into Red Cap.
2. NMED staff email to [food.program@env.nm.gov](mailto:food.program@env.nm.gov) for entry into Red Cap
3. Notify Environmental Health regulatory agency with jurisdiction over suspected establishment

Agencies notified:  NMED  AEHD  BCEHD  IHS EH  NMDOH ID EPI  NMDOH PHO  Other:

Comments:  
\_\_\_\_\_

### 11.1.3 Enteric Illness Shotgun Questionnaire

Outbreak Number: \_\_\_\_\_ NMEDSS: \_\_\_\_\_

*This shotgun questionnaire could be used to generate hypotheses about associations between persons with possible enteric illness. The content or format should be changed depending on the circumstances.*

**Introduction: This is an example of an introduction you could use to start the interview. Modify to be appropriate for the situation.**

Hello. My name is \_\_\_\_\_ and I'm calling from the New Mexico Department of Health. I'm calling because there have been several cases of \_\_\_\_\_ in our community and we are working to identify the source of the problem and prevent additional illness. We understand that you are one of the people who had this illness. Could I ask you some questions about your illness and things you did before becoming ill?

#### Demographics

Interviewed by \_\_\_\_\_ on \_\_\_\_ / \_\_\_\_ / \_\_\_\_ ASQa

Respondent was:  self  parent  caretaker  other: \_\_\_\_\_

Name: \_\_\_\_\_ DOB: \_\_\_\_ / \_\_\_\_ / \_\_\_\_ OR Age: \_\_\_\_ Sex:  M  F

Respondent name (if not self): \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ County: \_\_\_\_\_ Zip: \_\_\_\_\_

Home #: \_\_\_\_\_ Work #: \_\_\_\_\_ Cell #: \_\_\_\_\_

Occupation: \_\_\_\_\_

*If food handler or provides direct patient care or daycare, what is the date you last worked? \_\_\_\_ / \_\_\_\_ / \_\_\_\_*

Name & location of employer/daycare/school: \_\_\_\_\_

#### Symptoms

I'm going to read off a list of symptoms. For each one tell me "yes" or "no". Did you experience any...

Headache  Y  N  DK

Nausea  Y  N  DK

Vomiting  Y  N  DK

Diarrhea  Y  N  DK *If yes, Max number of stools in any 24-hour period: \_\_\_\_\_*

Blood in stool  Y  N  DK

Muscle aches  Y  N  DK

Abdominal cramps  Y  N  DK

Unusual fatigue  Y  N  DK

Chills  Y  N  DK

Fever  Y  N  DK *If yes,  subjective or \_\_\_\_\_ ° (max)*

Other symptom  Y  N  DK *Specify: \_\_\_\_\_*

Other symptom  Y  N  DK *Specify: \_\_\_\_\_*

## Onset and duration

Get precise answers for onset dates and times. If you don't get a date and time, it can't be placed on an epi curve. Estimates are OK. Prompt as needed: "What is your best guess of the time?" Don't let them get away "morning" or "after midnight." Be careful with times such as "midnight" or early morning hours – which day do they mean? By "2am Friday night," for example, do they mean Saturday morning? Keep probing until it is unambiguous.

What was your first symptom? \_\_\_\_\_

On what date did you first start to feel sick? \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

At what time did you first start to feel sick?  \_\_\_\_\_ AM  Noon  \_\_\_\_\_ PM  Midnight

If patient reported vomiting (on page 1):

On what date did the vomiting start? \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

At what time did the vomiting start?  \_\_\_\_\_ AM  Noon  \_\_\_\_\_ PM  Midnight

Are you still experiencing vomiting?  Y  N  DK

If no, Date of last vomiting episode: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Time of last vomiting episode:  \_\_\_\_\_ AM  Noon  \_\_\_\_\_ PM  Midnight

If patient reported diarrhea (on page 1):

On what date did the diarrhea start? \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

At what time did the diarrhea start?  \_\_\_\_\_ AM  Noon  \_\_\_\_\_ PM  Midnight

Are you still experiencing diarrhea?  Y  N  DK

If no, Date of last diarrhea episode: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Time of last diarrhea episode:  \_\_\_\_\_ AM  Noon  \_\_\_\_\_ PM  Midnight Other clinical info

Did you visit an emergency room, urgent care or doctor's office for your illness?  Y  N  DK

If yes, where: \_\_\_\_\_ when: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Were you hospitalized overnight for this illness?  Y  N  DK If yes, hospital name: \_\_\_\_\_  
Admit Date: / / Discharge Date: / / Duration of stay (days): \_\_\_\_\_

Were you transferred to another hospital for this illness?  Y  N  DK If yes, hospital name: \_\_\_\_\_

Admit Date: / / Discharge Date: / / Duration of stay (days): \_\_\_\_\_

Did you give a stool specimen?  Y  N  DK

If yes, to whom: \_\_\_\_\_ when: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

result: \_\_\_\_\_

Did you take any antibiotics for this illness?  Y  N  DK

If yes, which antibiotic: \_\_\_\_\_ when: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Did you take any ant diarrheal medications for this illness after onset of symptoms?  Y  N  DK

If yes, which antidiarrheals: \_\_\_\_\_ when: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Did anyone in your household have a similar illness before or after your illness?  Y  N  DK

If yes, name: \_\_\_\_\_ onset date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

name: \_\_\_\_\_ onset date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Do you know of anyone in your (neighborhood/school/daycare/work/church/synagogue etc.) that had a similar illness before or after your illness?  Y  N  DK

If yes, name: \_\_\_\_\_ onset date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

name: \_\_\_\_\_ onset date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

## General Exposures

Now I have some questions about things you might have done during the 7 days before you became sick, so that would be from \_\_\_\_ / \_\_\_\_ / \_\_\_\_ to \_\_\_\_ / \_\_\_\_ / \_\_\_\_.

During the 7 days before your illness, did you attend any gatherings? (e.g., wedding reception, showers, church events, clubs, school events, athletic events, office parties or banquets, parties, festivals, fairs)  Y  N  DK

If yes, what events?

Event 1: \_\_\_\_\_ location: \_\_\_\_\_ when: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Event 2: \_\_\_\_\_ location: \_\_\_\_\_ when: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

If "family event" please describe: \_\_\_\_\_

Was food provided at the family event?  Y  N

Who prepared the food? \_\_\_\_\_

During the 7 days before your illness, did you spend any nights away from home?  Y  N  DK

If yes, where: \_\_\_\_\_ when: \_\_\_\_ / \_\_\_\_ / \_\_\_\_ to \_\_\_\_ / \_\_\_\_ / \_\_\_\_

If commercial travel or public transportation (e.g., airline, train, bus, train, etc) what company/service(s)

Out going transportation trip #: \_\_\_\_\_ return transportation trip #: \_\_\_\_\_

foods eaten on transportation going there: \_\_\_\_\_

foods eaten on transportation coming back: \_\_\_\_\_

If stayed at resort, what resort: \_\_\_\_\_

If cruise ship, name of ship: \_\_\_\_\_ destinations: \_\_\_\_\_

During the 7 days before your illness, did you attend a daycare, work at a daycare or have contact with someone that attends daycare (e.g., adult daycare, childcare center, or in-home care)?  Y  N  DK

If yes, when: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Name of daycare: \_\_\_\_\_

Address: \_\_\_\_\_ Phone: \_\_\_\_\_

Are you aware of any other illness in the daycare?  Y  N  DK

During the 7 days before your illness, did you attend or work in a residential facility or institution (e.g., jail, nursing home)?

Y  N  DK

If yes, when: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Name of facility: \_\_\_\_\_

Address: \_\_\_\_\_ Phone: \_\_\_\_\_

Are you aware of any other illness in this setting?  Y  N  DK

During the 7 days before your illness, what types of water did you drink at home and away from home?

Municipal tap water  Y  N  DK

Private well water  Y  N  DK

Untreated surface water (River, pond, lake, etc)  Y  N  DK

Bottled water  Y  N  DK

Other source: \_\_\_\_\_

During the 7 days before your illness, did you do any swimming or wading?  Y  N  DK

If yes, where: Ocean/sea  Y  N  DK If yes, location: \_\_\_\_\_

Pool  Y  N  DK If yes, location: \_\_\_\_\_

Lake  Y  N  DK If yes, location: \_\_\_\_\_

Pond  Y  N  DK If yes, location: \_\_\_\_\_

River  Y  N  DK If yes, location: \_\_\_\_\_

Other  Y  N  DK If yes, location: \_\_\_\_\_

## ANIMAL EXPOSURES

During the 7 days before your illness, did you have contact with any reptiles (snakes, lizards, turtles)?

Y  N  DK

If yes, what type of reptiles: \_\_\_\_\_ where: \_\_\_\_\_

During the 7 days before your illness, did you have any pets at home, have contact with household pets elsewhere, or visit a household with pets?  Y  N  DK

If yes, what type of pets: \_\_\_\_\_

Did you acquire a new pet in the 7 days before your illness?  Y  N  DK

If you own pets, where do you buy pet food: \_\_\_\_\_ brand: \_\_\_\_\_

During the 7 days before your illness, did you handle any pet treats like pig ears or rawhide chews at home or anywhere else?  Y  N  DK

If yes, what type of pet treats: \_\_\_\_\_ brand: \_\_\_\_\_

During the 7 days before your illness, did you have direct contact with any farm animals?  Y  N  DK

If yes, what kind of farm animals: \_\_\_\_\_ where: \_\_\_\_\_

During the 7 days before your illness, did you visit an animal feed store, pet store, swap meet, or other places where animals or birds were sold or shown?  Y  N  DK

If yes, what kind of animals: \_\_\_\_\_ where: \_\_\_\_\_

During the 7 days before your illness, did you visit a farm, petting zoo or state/county fair?  Y  N  DK

If yes, what kinds of animals: \_\_\_\_\_ where: \_\_\_\_\_

During the 7 days before your illness, did you have any exposure to dried animal droppings or pellets (e.g., owl pellets for science fair projects)?  Y  N  DK

If yes, where did you buy: \_\_\_\_\_ brand: \_\_\_\_\_

During the 7 days before your illness, did you have any exposure to mice, rats, or similar pet food (typically used as food for snakes)?  Y  N  DK

If yes, what type of exposure: \_\_\_\_\_ where purchased: \_\_\_\_\_

During the 7 days before your illness, did you do any gardening?  Y  N  DK

If yes, when: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

During the 7 days before your illness, did you apply animal manure or compost derived from animal manure to your yard?  Y  N  DK

If yes, what type of manure (e.g., sheep, cow, goat): \_\_\_\_\_ when: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

what type of compost (e.g., sheep, cow, goat): \_\_\_\_\_ when: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

## Open ended food history

*Do a 5 day food history if possible but this could be shortened depending on the pathogen.*

Now I'm going to ask you to tell me what you ate during the 5 days before you started feeling sick. We'll start with the day before you got sick and work backwards.

Day before illness onset, \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Meal	Time of meal	Home	Out	Location (if not at home)	Foods eaten
Breakfast		<input type="checkbox"/>	<input type="checkbox"/>		
Lunch		<input type="checkbox"/>	<input type="checkbox"/>		
Dinner		<input type="checkbox"/>	<input type="checkbox"/>		
Snacks		<input type="checkbox"/>	<input type="checkbox"/>		

2 days before illness onset, \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Meal	Time of meal	Home	Out	Location (if not at home)	Foods eaten
Breakfast		<input type="checkbox"/>	<input type="checkbox"/>		
Lunch		<input type="checkbox"/>	<input type="checkbox"/>		
Dinner		<input type="checkbox"/>	<input type="checkbox"/>		
Snacks		<input type="checkbox"/>	<input type="checkbox"/>		

3 days before illness onset, \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Meal	Time of meal	Home	Out	Location (if not at home)	Foods eaten
Breakfast		<input type="checkbox"/>	<input type="checkbox"/>		
Lunch		<input type="checkbox"/>	<input type="checkbox"/>		
Dinner		<input type="checkbox"/>	<input type="checkbox"/>		
Snacks		<input type="checkbox"/>	<input type="checkbox"/>		

4 days before illness onset, \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Meal	Time of meal	Home	Out	Location (if not at home)	Foods eaten
Breakfast		<input type="checkbox"/>	<input type="checkbox"/>		
Lunch		<input type="checkbox"/>	<input type="checkbox"/>		
Dinner		<input type="checkbox"/>	<input type="checkbox"/>		
Snacks		<input type="checkbox"/>	<input type="checkbox"/>		

5 days before illness onset, \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Meal	Time of meal	Home	Out	Location (if not at home)	Foods eaten
Breakfast		<input type="checkbox"/>	<input type="checkbox"/>		
Lunch		<input type="checkbox"/>	<input type="checkbox"/>		
Dinner		<input type="checkbox"/>	<input type="checkbox"/>		
Snacks		<input type="checkbox"/>	<input type="checkbox"/>		

## Restaurants and other eating venues

Now I'd like to ask about the kinds of places where you might have eaten food in the 7 days before you got sick. This may help you remember specific food items, which I'll ask you about in a minute. Did you eat anything at any...

Y	?	N
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
fast-food restaurants		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
sit-down restaurants		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
grocery-store deli or other kind of deli		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
bakery, dessert, or pastry shop		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
coffee or tea shops (e.g., Starbucks)		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
street vendor/push cart/kiosk		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
event concession stands (e.g., sporting event, county fairs, or concerts)		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
gas stations, truck stops, or similar mini-mart		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
shopping mall or airport food courts		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ice cream, candy, and dessert shops		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
tavern or bar		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
free samples anywhere (e.g., grocery store, Costco, farmer's market)		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
cafeteria/dining room (e.g., worksite, hospital, school)		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
nursing home/assisted living/retirement center dining facility		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
hotel room service or hotel/motel breakfast		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
child-care facility		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
potluck-type meals with family or friends		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
catered private gatherings (e.g., weddings, parties)		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
any food at a religious gathering		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
food brought in to school classes, offices, or work place		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
any food at a meeting or conference		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
any mail-order or home-delivery foods or door-to-door sale items		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
airplanes (specify airline)		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
trains, buses, cruise ships, ferries		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
any food that you or your family or friends brought in from outside the U.S.		

Please list details for all eating venues: (*Please get street names for common venues e.g. McDonalds, Wal-Mart*)

Name: \_\_\_\_\_ Location: \_\_\_\_\_ Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Foods eaten: \_\_\_\_\_

Name: \_\_\_\_\_ Location: \_\_\_\_\_ Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Foods eaten: \_\_\_\_\_

Name: \_\_\_\_\_ Location: \_\_\_\_\_ Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Foods eaten: \_\_\_\_\_

Name: \_\_\_\_\_ Location: \_\_\_\_\_ Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Foods eaten: \_\_\_\_\_

Name: \_\_\_\_\_ Location: \_\_\_\_\_ Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Foods eaten: \_\_\_\_\_

Name: \_\_\_\_\_ Location: \_\_\_\_\_ Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Foods eaten: \_\_\_\_\_

## Sources of food at home

Now I'd like to ask about where the food came from that you ate at home in those 7 days before you got sick. In other words, this isn't necessarily where you shopped in those days, but where the food that you ate during that time came from. OK? Did any of it come from...

Y   ?   N

- grocery stores/supermarkets
- food warehouse stores (e.g., Costco, Sam's)
- small markets and mini-marts (e.g., Allsups)
- ethnic specialty markets (e.g., Mexican groceries)
- health food, "whole food" stores, coops
- other specialty markets (Trader Joe's, gourmet foods, ...)
- delicatessens, including supermarket delis
- bakeries, bagel and doughnut shops
- farmer's markets, roadside stands, open-air markets, on farm
- CSA produce (Community Supported Agriculture)
- fish or meat specialty shops; butcher's
- take-out or home delivered ready-to-eat food (e.g., pizza, Chinese)
- home delivery grocery services (e.g., Schwan's, Meals-on-Wheels)
- home-grown produce
- privately or custom-slaughtered meat
- food from other households (friends, family, etc.)
- food banks or charity kitchens

public assistance food programs (food, distribution food or pantry service)  
   other private households (friends, family, etc)  
   other (specify below)

Please list details for all sources of food at home. Include shopping records that may provide more information about the food and purchase dates (e.g., shopper card, receipts, check stubs, membership records): (*Please get street names for common sources e.g. Albertsons, Wal-Mart*)

Name: _____	Location: _____	Shopping records: _____
Name: _____	Location: _____	Shopping records: _____
Name: _____	Location: _____	Shopping records: _____
Name: _____	Location: _____	Shopping records: _____
Name: _____	Location: _____	Shopping records: _____
Name: _____	Location: _____	Shopping records: _____
Name: _____	Location: _____	Shopping records: _____
Name: _____	Location: _____	Shopping records: _____

### Specific food consumption history

Now I'd like to ask you about a long list of food items, and for each one my question will be "Did you eat it in the 7 days before you got sick?" The lists are organized into categories, like eggs and dairy foods, vegetables and fruits, and so on. For each item, give me a "yes" or "no" if you remember eating or even tasting it in those 7X days. Some of the questions might seem a little repetitive, but please try and answer each question individually, even if you think it was already covered. Unless I specify otherwise, I'm interested in whether you ate these items at home or away from home – either one, OK?

EGGS AND DAIRY									
Item	Y	?	N	How prepared	Type, variety or brand	Date eaten	Date purchased	Store or restaurant where purchased or eaten	
eggs (anything from fresh eggs)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
eggs at home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
eggs away from home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
eggs anywhere that were runny	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						

EGGS AND DAIRY								
Item	Y	?	N	How prepared	Type, variety or brand	Date eaten	Date purchased	Store or restaurant where purchased or eaten
anything that had raw eggs in it (e.g., dough, sauces, ice cream, mayo)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any egg substitutes (Egg-Beaters, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
butter (real butter; not margarine)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
buttermilk (fluid, not powdered)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
sour cream	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
whipped cream	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
other imitation dairy topping (e.g., Cool-Whip)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
fresh or store-bought yogurt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
frozen yogurt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
ice cream	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
ice cream bars or frozen dairy desserts (from store, vendor, or truck)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
pasteurized ("regular") milk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
unpasteurized (raw) milk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

Cheese								
Item	Y	?	N	How prepared	Type, variety or brand	Date eaten	Date purchased	Store or restaurant where purchased or eaten
cream cheese or Neufchatel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
cottage cheese	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Ricotta cheese	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
"string" cheese	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
pre-shredded cheese	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

cheese sold as or cut from solid blocks (e.g., cheddar, Swiss, Colby, Jack,...)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
cheese on a deli-type sandwich	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any flavored cheese spread in a tub	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any cheese spread or topping in a can	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
American (processed) cheese	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any soft cheese like Brie or Camembert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
uncooked mozzarella ( <i>not</i> cooked on pizza)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any <i>fresh</i> Parmesan or Romano, or similar dry cheese	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
dried (powdered) cheese (Parmesan, Romano,...)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
blue-veined cheese (Bleu, gorgonzola)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Feta cheese	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any goat cheese	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any sheep cheese	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
homemade Mexican-style cheese (queso fresco, queso blanco)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
store-bought Mexican-style cheese (queso fresco, queso blanco)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any imported cheese, including cheese that family or friends brought back	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any gourmet or "artisanal" cheese (usually expensive, often sold at specialty shops, markets, whole food stores...)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any cheese made from unpasteurized milk (homemade, farm fresh or door-to-door)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any cheese from a mail-order or internet source	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any cheese from an ethnic market or specialty shop	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any other cheese ( <i>specify</i> )	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

**FRESH AND FROZEN MEAT AND POULTRY**

Item	Y	?	N	How prepared	Type, variety or brand	Date eaten	Date purchased	Store or restaurant where purchased or eaten
chicken	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
anything from a "whole" chicken	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
anything from pre-cut chicken parts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
ground chicken	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
ground turkey	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any other turkey (whole or parts)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
duck or game hen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
pre-frozen hamburger patties at home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
pink on the inside when eaten?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
fresh hamburger patties at home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
pink on the inside when eaten?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any dish made with ground beef at home (e.g., casserole, tacos, pasta sauce)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
other beef (steak, roasts, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
veal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
pork	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
lamb	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any kind of game (deer/venison, elk, pheasant, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
organ meats (liver, kidneys, brains...)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
chitterlings, scrapple, cheek meat, "variety meats"	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
goat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

**COOKED OR PROCESSED MEATS (not canned)**

Item	Y	?	N	How prepared	Type, variety or brand	Date eaten	Date purchased	Store or restaurant where purchased or eaten
ham	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
pre-packaged sliced deli meats	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
other sliced deli meats ( <i>not</i> pre-packaged)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
corn dogs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
hot dogs (all beef, chicken, turkey, pork, vegetarian, unknown)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Bologna, pastrami, corned beef, or other processed meat products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
bacon (regular, turkey, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
breakfast sausage (links, patties, ground)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any other sausage/bratwurst/kielbasa...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
pepperoni, salami, prosciutto	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
store-bought/commercial dried meat products (jerky, strips, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
homemade dried meats (jerky, strips, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

FISH AND SEAFOOD (not canned)								
Item	Y	?	N	How prepared	Type, variety or brand	Date eaten	Date purchased	Store or restaurant where purchased or eaten
store-bought fresh fish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
smoked or dried fish (e.g., lox)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
crab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
shrimp, prawns, crawfish, lobster	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
oysters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Eaten raw?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

other shellfish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Eaten raw?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
sushi or sashimi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
ceviche	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any imitation crab meat (Krab or surimi) or similar product	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Tuna (either canned or fresh)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

**FRESH VEGETABLES (not frozen)** *Reminder: These questions refer only to fresh vegetables, not canned, jarred, or frozen.*

Item	Y	?	N	How prepared	Type, variety or brand	Date eaten	Date purchased	Store or restaurant where purchased or eaten
celery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
mini-carrots in sealed bag	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
loose or bagged carrots (full size)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
cucumbers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
broccoli	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
cauliflower	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
bell peppers (green, red, yellow, orange)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
jalapeños chili peppers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
serrano chili peppers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
other fresh peppers (specify type)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
radishes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
asparagus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
corn on the cob	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
peas or pea pods	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
green beans	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				

brussel sprouts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
zucchini or other "soft" squash	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
"hard" squash (pumpkin, acorn, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
onions (white, yellow or purple)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
green onions (scallions)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
leeks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				

FRESH VEGETABLES (not frozen) <i>Reminder: These questions refer only to fresh vegetables, not canned, jarred, or frozen.</i>								
Item	Y	?	N	How prepared	Type, variety or brand	Date eaten	Date purchased	Store or restaurant where purchased or eaten
avocado	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
tomatoes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked	<input type="checkbox"/> cherry <input type="checkbox"/> grape <input type="checkbox"/> Roma <input type="checkbox"/> on vine <input type="checkbox"/> other (e.g. beefsteak)			
any tomatoes on sandwiches or burgers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
cabbage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
eggplant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
potatoes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
yams or sweet potatoes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
beets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
turnips	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
jicama	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
alfalfa sprouts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
bean sprouts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
other sprouts (clover, mixed, broccoli, etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				

any stir fry meals that might have included bean sprouts?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
Did you handle sprouts even if you didn't eat them? <input type="checkbox"/> Yes <input type="checkbox"/> ? <input type="checkbox"/> No								
lettuce, spinach or salad in a bag or box	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
mesclun lettuce ("spring mix")	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
iceberg lettuce	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
romaine lettuce	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
other lettuce or salad greens	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
lettuce on sandwiches or burgers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
spinach	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
other greens (collard, mustard, etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
basil or pesto	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
parsley	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
cilantro	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
ginger	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
other herbs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
garlic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
mushrooms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
okra	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
rhubarb	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
any "organic" vegetables	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				
any fresh vegetable juice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> raw <input type="checkbox"/> cooked				

#### FRESH FRUITS (not frozen, canned, dried, or cooked)

Item	Y	?	N	How prepared	Type, variety or brand	Date eaten	Date purchased	Store or restaurant where purchased or eaten
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apples	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
pears	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
peaches	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
nectarines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
plums	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
apricots	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
oranges	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
tangerines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
grapefruit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
lemon (including as a drink garnish)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
lime	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
strawberries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
raspberries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
blueberries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
blackberries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
cranberries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
cherries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
green grapes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
red grapes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
bananas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
plantains	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
cantaloupe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
honeydew	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
watermelon	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

any pre-mixed cut melon or melon salad	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
kiwi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
pineapple	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
mango	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
papaya	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
guava	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
pomegranate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any "organic" fruit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any other fruit not mentioned	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

**PREMIXED, DRIED FOODS, NUTS**

Item	Y	?	N	How prepared	Type, variety or brand	Date eaten	Date purchased	Store or restaurant where purchased or eaten
store-bought fruit salad	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
store-bought pasta salad	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
store-bought potato salad	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
store-bought egg salad	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
store-bought seafood salad	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
store-bought tuna salad	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

**PREMIXED, DRIED FOODS, NUTS continued**

Item	Y	?	N	How prepared	Type, variety or brand	Date eaten	Date purchased	Store or restaurant where purchased or eaten
store-bought cole slaw	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
dried buttermilk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
other powdered milk ( <i>not including baby formula</i> )	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
flavored milk powder (e.g., chocolate)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

coconut (whole, shredded, canned coconut milk)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
dried beans (e.g., red, pinto, navy) or lentils	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
peanuts (loose or in shell)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
peanut butter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
almonds (whole or pre-chopped/sliced almonds, almond-dusted pastries or candies)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
walnuts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
cashews	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
pistachios	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
hazelnuts (filberts)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any other whole nuts or mixed nuts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any other pre-chopped or sliced nuts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any ground nut paste or spread other than peanut butter (e.g. cashew butter)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
sunflower seeds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
sesame seeds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
tahini, halva, other sesame products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
raisins	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
other commercial dried fruit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

Now I'd like to ask you about food items that are more likely to be associated with New Mexico. As before, for each one my question will be "Did you eat it in the 7X days before you got sick?" Again, for each item, give me a "yes" or "no" if you remember eating or even tasting it in those 7 days; regardless of whether it was a sauce, condiment, ingredient, and/or part of a main dish. For example, you may have eaten a chicken enchilada at a restaurant; include any other food items that may have been served on the plate and which you consumed.

**NEW MEXICO FOODS**

Item	Y	?	N	How prepared	Type, variety or brand	Date eaten	Date purchased	Store or restaurant where purchased or eaten
salsa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Homemade <input type="checkbox"/> Restaurant <input type="checkbox"/> Commercially-prepared				
guacamole	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Homemade <input type="checkbox"/> Restaurant <input type="checkbox"/> Commercially-prepared				
red chili sauce	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Homemade <input type="checkbox"/> Restaurant <input type="checkbox"/> Commercially-prepared				
green chili sauce (clarify whether alone or part of a recipe)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Homemade <input type="checkbox"/> Restaurant <input type="checkbox"/> Commercially-prepared				
tortilla chips	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
taco shells	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
tortillas (corn, flour, other)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
posole	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
tamales	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Calcacitas (squash, corn, chile or other ingredients)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Homemade <input type="checkbox"/> Restaurant <input type="checkbox"/> Commercially-prepared				
Any other New Mexican or Mexican foods Specify:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Homemade <input type="checkbox"/> Restaurant <input type="checkbox"/> Commercially-prepared				

Miscellaneous								
Item	Y	?	N	How prepared	Type, variety or brand	Date eaten	Date purchased	Store or restaurant where purchased or eaten
chips (potato, corn, tortilla, etc); pretzels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
other packaged snack food and treats (e.g., Pirate's Booty)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
commercial tomato sauce	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

store-bought, packages sauce or dip	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
hummus or baba ghanuj	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
bulk chocolate (not wrapped candy)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
cake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
pie	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
pastries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
uncooked dough or batter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
pre-made pudding or custard (not a mix)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
applesauce	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
apple juice or cider	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Freshly pressed and not pasteurized?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
orange juice freshly squeezed? (not from a carton or concentrate)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
orange juice from frozen concentrate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any juice from frozen concentrate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Any juice that is not pasteurized and not from a concentrate (often bought from farms or orchards, but may be sold commercially with a label saying it is unpasteurized and may contain bacteria)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
fruit smoothie	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
cold breakfast cereals in boxes or bags (e.g., Cheerios, Raisin Bran)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
hot breakfast cereals (oatmeal, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
granola	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
granola bars, power bars (e.g., Clif bar, Luna bar)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

trail mix, gorp, or similar product	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
commercially bottled water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
baby formula bought as a liquid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
baby formula bought as a powder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
store-bought puréed baby food (e.g., Gerbers)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any other foods specifically marketed for babies or popular with babies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any spices bought in bulk or at a ethnic specialty market (e.g., from a bin or in a plastic pouch)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any spices at home first opened in the 2 weeks before illness onset	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

<b>FROZEN FOODS</b>								
Item	Y	?	N	How prepared	Type, variety or brand	Date eaten	Date purchased	Store or restaurant where purchased or eaten
frozen dinners/entrees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
pot pies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
frozen pre-mixed meals in bag(e.g., stir-fry mix, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
frozen vegetables in a box	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
frozen vegetables in a bag	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
frozen snack foods (e.g., mozzarella sticks, jalapeño poppers, potato skins)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
frozen berries or fruit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
frozen vegetarian stuff (e.g., Gardenburgers, tofu hot dogs)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
frozen fish or fish products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
frozen chicken strips or nuggets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any other frozen chicken products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

(e.g., Chicken cordon bleu, Chicken Kiev)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
frozen pizza	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
frozen Mexican-style items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
frozen shrimp, lobster, crab, other seafood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
frozen diet meals of any kind	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

<b>SPECIFIC FOODS EATEN OUT</b> <i>These refer only to food eaten or prepared away from home.</i>								
Item	Y	?	N	How prepared	Type, variety or brand	Date eaten	Date purchased	Store or restaurant where purchased or eaten
burgers or ground beef at a fast-food place	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
other burger/ground beef away from home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
other beef away from home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
deli-type sandwich away from home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
sandwich with sprouts away from home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
sandwich or burger with lettuce away from home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
sandwich or burger with tomato away from home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
anything from a salad bar away from home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
If yes, were there sprouts on the salad bar? Yes <input type="checkbox"/> ? <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any salad made with lettuce or greens away from home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
anything with raw tomatoes away from home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
pizza away from home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
any kind of burrito or "wrap" away from home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
"smoothies" (e.g., from a vendor or shop)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

other food not yet mentioned:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
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## ADDITIONAL DEMOGRAPHIC QUESTIONS

Do you consider yourself (or your child) to be any of the following: Hispanic or Latino or Chicano?  Y  N

*If the answer is not "Yes/No," or the patient responds with a question (e.g., "my mother is from Mexico and my father is of German descent from Wisconsin, so what does that make me?"), counter with a statement such as "how do you identify yourself (or your child)?"*

*If alternate response given ("I don't know" or "I can't tell you" or "It's none of your business"), leave blank and go to the next question.*

What race or races do you consider yourself (or your child) to be? You may select more than one (ask the patient to respond to each option):

White  Yes  No American Indian or Alaskan Native  Yes  No

Native American or Pacific Islander  Yes  No Black or African American  Yes  No

Another race I didn't mention  Yes  No Don't Know  Yes  No

Specify another race: \_\_\_\_\_

*If the respondent still answers "Hispanic" (or another Hispanic category) to the race question, ask the following: "Would you say White Hispanic, American Indian Hispanic, Black/African-American Hispanic or Asian Hispanic?" Or reassure the patient by saying "People can be White Hispanic, American Indian Hispanic, Black/African-American Hispanic or Asian Hispanic. How would you identify yourself (or your child)?" The race should then be coded based on White, American Indian, Black/African-American or Asian. If the respondent won't commit, leave blank.*

### Tribal Affiliation

If American Indian or Alaskan Native, what is your (or your child's) tribal affiliation?

\_\_\_\_\_

If American Indian or Alaskan Native, do you (does your child) currently live on the reservation or pueblo at least part of each week?  Y  N

In which country were you (was your child) born? \_\_\_\_\_

*Please consider whether exclusion criteria apply to this individual based on occupation or attendance at a daycare center. Refer to the communicable disease manual for more information.*

OK. That's all the questions I have for you. Thanks for your time and patience. Hopefully the information that you provided will help us learn more about your infection. Just in case we have additional questions, do we have the best contact information for you? (Please check demographic information on page 1.)

Do you have any questions for me?

Comments:

## 11.1.4 Enteric Illness Outbreak Questionnaire

### Outbreak Questionnaire

*This questionnaire can be used in any event-associated outbreak investigation. The content or format should be changed depending on the circumstances.*

#### Introduction

*This is an example of an introduction to start the interview. Modify so it is appropriate for the situation.*

Hello. My name is \_\_\_\_\_ and I'm calling from the New Mexico Department of Health. You may have heard that a number of people became sick after the \_\_\_\_\_. We're trying to find out what made people sick. One of the ways we do that is by comparing the kinds of foods eaten by the people who got sick with those eaten by people who did not get sick. Could I ask you a few questions about your experience at the \_\_\_\_\_?

#### Demographics

Interviewed by \_\_\_\_\_ on \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Respondent was:  self  parent  caretaker  other: \_\_\_\_\_

Name: \_\_\_\_\_ DOB: \_\_\_\_ / \_\_\_\_ / \_\_\_\_ or Age: \_\_\_\_\_ Sex:  M  F

Respondent name (if not self): \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ County: \_\_\_\_\_ Zip: \_\_\_\_\_

Home #: \_\_\_\_\_ Work #: \_\_\_\_\_ Cell #: \_\_\_\_\_

#### Y DK N LEAD-IN QUESTIONS (EDIT AS APPROPRIATE FOR THE SITUATION)

Did you attend the rehearsal dinner on Friday night?

Did you go to the wedding?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Did you pet the iguana?
			Did you go swimming in the pond?

*Examples to modify as appropriate for the situation.*

Which days did you attend the fair?  Sun, 20  Mon, 21  Tues, 22  Wed, 23  Thur, 24  Fri, 25

Which lunch period were you in?  1  2  3  4  5

## Food Exposures

Let me ask you about the items that were available at the xxxxxxxxxxxxxxx or let me walk you through the meals served over the last few days. (Edit as appropriate for the situation).

About what time did you eat? Meal 1 \_\_\_\_\_ Meal 2 \_\_\_\_\_ Meal 3 \_\_\_\_\_ Meal 4 \_\_\_\_\_ Meal 5 \_\_\_\_\_

For each item, give me a “yes” or “no” answer if you remember eating or even tasting it.

Y	?	N	MEAL 3	Y	?	N	MEAL 2	Y	?	N	MEAL 3
A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> item	A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> item	A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> item
B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> item	B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx	B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx
C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx	C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx	C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx
D	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx	D	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx	D	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx
E	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx	E	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx	E	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx
F	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx	F	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx	F	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx
G	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx	G	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx	G	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx
H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx	H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx	H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx
I	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx	I	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx	I	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx
J	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx	J	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx	J	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx
K	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx	K	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx	K	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx
L	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx	L	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx	L	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx
M	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx	M	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx	M	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx
N	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx	N	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx	N	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx
O	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> xxxx								

<i>P</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>	<i>O</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>	<i>O</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>
<i>Q</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>	<i>P</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>	<i>P</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>
<i>R</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>	<i>Q</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>	<i>Q</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>
<i>S</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>	<i>R</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>	<i>R</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>
<i>T</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>	<i>S</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>	<i>S</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>
<i>U</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>	<i>T</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>	<i>T</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>
<i>V</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>	<i>U</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>	<i>U</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>
<i>W</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>	<i>V</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>	<i>V</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>
<i>X</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>	<i>W</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>	<i>W</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>
<i>Y</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>	<i>X</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>	<i>X</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <b>xxxx</b>
(number) _____ How many drinks with ice?	(number) _____ How many drinks with ice?	(number) _____ How many drinks with ice?

<b>Y</b>	<b>?</b>	<b>N</b>	<b>MEAL 4</b>	<b>Y</b>	<b>?</b>	<b>N</b>	<b>MEAL 5</b>	<b>Y</b>	<b>?</b>	<b>N</b>	<b>MEAL 6</b>
<i>A</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> item			<i>A</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> item	<i>A</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> item			<i>A</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> item	<i>A</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> item			<i>A</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> item
<i>B</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> item			<i>B</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> item	<i>B</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> item			<i>B</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> item	<i>B</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> item			<i>B</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> item
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(number) _____ How many drinks with ice?	(number) _____ How many drinks with ice?	(nNumber) _____ How many drinks with ice?

<b>Y</b> <input type="checkbox"/> <b>?</b> <input type="checkbox"/> <b>N</b> <b>OTHER QUESTIONS FOR EVERYBODY (MODIFY AS APPROPRIATE FOR THE SITUATION)</b>
<i>A</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Did you share a cabin with anyone?
<i>B</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Did anyone else in your cabin become ill <i>before</i> you did?
<i>C</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Did anyone else in your cabin become ill <i>after</i> you did?
<i>D</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Did anyone in your household who did not go to the wedding later become ill?
<i>Z</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Have you yourself been sick at all with <b>xxxxx</b> since <b>xxxxxxxxxx</b> ?

If this person has not been sick, STOP HERE. If they have had symptoms, CONTINUE to the Symptoms Sections.

## Symptoms

I'm going to read off a list of symptoms. For each one tell me "yes" or "no". Did you experience ...

Headache  Y  N  DK

Nausea  Y  N  DK

Vomiting  Y  N  DK

Diarrhea  Y  N  DK *If yes, Max number of stools in 24-hour period: \_\_\_\_\_*

Blood in stool  Y  N  DK

Muscle aches  Y  N  DK

Abdominal cramps  Y  N  DK

Unusual fatigue  Y  N  DK

Chills  Y  N  DK

Fever  Y  N  DK *If yes,  subjective or \_\_\_\_\_° (max)*

Other symptom  Y  N  DK Specify: \_\_\_\_\_

Other symptom  Y  N  DK Specify: \_\_\_\_\_

### Onset and duration

*Get precise answers for onset dates and times. Estimates are OK. Prompt as needed: "What is your best guess of the time?" Be careful with times such as "midnight" or early morning hours – which day do they mean? By "2am Friday night," for example, do they mean Saturday morning? Keep probing until it is unambiguous.*

What was your first symptom? \_\_\_\_\_

On what date did you first start to feel sick? \_\_\_\_ / \_\_\_\_ / \_\_\_\_

At what time did you first start to feel sick?  \_\_\_\_ AM  Noon  \_\_\_\_ PM  Midnight

*If patient reported vomiting:*

On what date did the vomiting start? \_\_\_\_ / \_\_\_\_ / \_\_\_\_

At what time did the vomiting start?  \_\_\_\_ AM  Noon  \_\_\_\_ PM  Midnight

Are you still experiencing vomiting?  Y  N  DK

*If no, Date of last vomiting episode: \_\_\_\_ / \_\_\_\_ / \_\_\_\_*

Time of last vomiting episode:  \_\_\_\_ AM  Noon  \_\_\_\_ PM  Midnight

*If patient reported diarrhea:*

On what date did the diarrhea start? \_\_\_\_ / \_\_\_\_ / \_\_\_\_

At what time did the diarrhea start?  \_\_\_\_ AM  Noon  \_\_\_\_ PM  Midnight

Are you still experiencing diarrhea?  Y  N  DK

*If no, Date of last diarrhea episode: \_\_\_\_ / \_\_\_\_ / \_\_\_\_*

Time of last diarrhea episode:  \_\_\_\_ AM  Noon  \_\_\_\_ PM  Midnight

### Other clinical info

Did you visit an emergency room, urgent care or doctor's office for your illness?  Y  N  DK

*If yes, where: \_\_\_\_\_ when: \_\_\_\_ / \_\_\_\_ / \_\_\_\_*

Were you hospitalized overnight for your illness?  Y  N  DK

If yes, where: \_\_\_\_\_ when: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Did you give a stool specimen?  Y  N  DK

If yes, to whom: \_\_\_\_\_ when: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

result: \_\_\_\_\_

Would you be willing to provide a stool specimen?  Y  N  DK

***That's all the questions I have for you. Thanks for your time. Do you have any questions for me?***

Comments:

### 11.1.5 Enteric Illness Line List

## 11.1.6 Food Handler Questionnaire

### Food Handler Questionnaire

Name of establishment: \_\_\_\_\_

Food Handler Name: \_\_\_\_\_ Title/Position: \_\_\_\_\_

Gender: M F DOB/age: \_\_\_\_\_

Home Address: \_\_\_\_\_

Home County: \_\_\_\_\_ Telephone: \_\_\_\_\_

Interviewer/Telephone: \_\_\_\_\_ Interview Date: \_\_\_\_\_

*When interviewing the employee, collect information for a 2-week period prior to the date initial transmission was suspected up to the interview date.*

Date Range of Concern:

Two weeks prior ← Date initial transmission was suspected → Date of interview

#### Work History and Practices:

1. How long have you worked at this establishment? \_\_\_\_\_ days/months/years (circle one)

2. Describe your job duties at this establishment: \_\_\_\_\_

3. When did you work at this food service establishment during \_\_\_\_\_ - \_\_\_\_\_ (enter date 2 weeks prior and interview date?) (Enter date and hours worked and compare employee's response to timesheets, if available)

Sun \_\_\_\_\_ Mon \_\_\_\_\_ Tues \_\_\_\_\_ Wed \_\_\_\_\_ Thurs \_\_\_\_\_ Fri \_\_\_\_\_ Sat \_\_\_\_\_

Sun \_\_\_\_\_ Mon \_\_\_\_\_ Tues \_\_\_\_\_ Wed \_\_\_\_\_ Thurs \_\_\_\_\_ Fri \_\_\_\_\_ Sat \_\_\_\_\_

Sun \_\_\_\_\_ Mon \_\_\_\_\_ Tues \_\_\_\_\_ Wed \_\_\_\_\_ Thurs \_\_\_\_\_ Fri \_\_\_\_\_ Sat \_\_\_\_\_

Sun \_\_\_\_\_ Mon \_\_\_\_\_ Tues \_\_\_\_\_ Wed \_\_\_\_\_ Thurs \_\_\_\_\_ Fri \_\_\_\_\_ Sat \_\_\_\_\_

4. Did you handle/prepare any foods during \_\_\_\_\_ - \_\_\_\_\_ (enter date 2 weeks prior and date of interview)?  Yes  No  Unknown

*If Yes: List foods on the food preparation history table at the end of this form*

5. Did you eat any foods prepared at this facility during \_\_\_\_\_ - \_\_\_\_\_ (enter date 2 weeks prior and date of interview)?  Yes  No  Unknown

*If Yes: Indicate foods eaten and dates/times:*

6. Have you received food safety training with this job or at another job?  Yes  No  Unknown

*If Yes: Describe training:*

7. Do you wear gloves when handling ready-to-eat foods (i.e., foods that are not cooked before serving)?

Yes  No  Unknown

8. Do you ever have bare hand contact with ready-to-eat foods?  Yes  No  Unknown

*If Yes: List ready-to-eat foods that have bare hand contact:*

9. Describe your hand washing practices (i.e., how often, when, before putting on gloves, always use soap, turn the faucets off with a paper towel, etc.)? \_\_\_\_\_

10. If you prepare drinks for customers, describe how you fill the glass with ice: \_\_\_\_\_

11. Describe how you handle lemons, limes, and any other drink garnishes for customer beverages: \_\_\_\_\_

12. What other jobs do you have (outside of this facility)? \_\_\_\_\_

Do you handle or prepare food at any of these jobs?

Yes  No  Unknown

**If Yes:** What is the name of the places where you handle or prepare food, and where are they located?

13. During \_\_\_\_\_ - \_\_\_\_\_ (enter date 2 weeks prior and date of interview) did you have any cuts on your hands or arms, or have a skin infection? \_\_\_\_\_

Yes  No  Unknown

### Illness

1. During \_\_\_\_\_ - \_\_\_\_\_ (enter date 2 weeks prior and date of interview) did you see any coworkers or customers vomit, or hear about any episodes of vomiting anywhere in the facility?

Yes  No  Unknown

**If Yes:** Describe who vomited, when it occurred, and where it occurred: \_\_\_\_\_

2. Do you know of any coworkers or other people sick with gastrointestinal illness during \_\_\_\_\_ - \_\_\_\_\_ (enter date 2 weeks prior and date of interview)? ?

Yes  No  Unknown

**If Yes:** Who? \_\_\_\_\_

3. Did you have any of the following symptoms during the \_\_\_\_\_ - \_\_\_\_\_ (enter date 2 weeks prior and date of interview)?

Nausea: Y N U

Chills: Y N U

Fever: Y N U (Temp: \_\_\_\_\_ or subjective)

Vomiting: Y N U

Headaches: Y N U

Abdominal cramps/pain: Y N U

Muscle aches: Y N U

Diarrhea: Y N U

Bloody diarrhea: Y N U

Other: \_\_\_\_\_

**If Yes to diarrhea or bloody diarrhea:** Maximum number of episodes in a 24-hour period \_\_\_\_\_

**If Yes to any of the above symptoms, answer the following questions:**

1. Onset Date and time: \_\_\_\_\_

2. Did you see a medical provider or go to the hospital?  Yes  No  Unknown

**If Yes:** Who was your medical provider? \_\_\_\_\_ Diagnosis? \_\_\_\_\_

Name of clinic/hospital? \_\_\_\_\_ Date of visit? \_\_\_\_\_

Was a stool specimen taken?  Yes  No  Unknown

Test result? \_\_\_\_\_

Would you be willing to submit a stool specimen?  **Yes**  **No**

3. Did you work while you were ill?

**Yes**  **No**  **Unknown**

**If Yes:** What dates? \_\_\_\_\_

Did you vomit while at work?  **Yes**  **No**  **Unknown**

Did you have diarrhea while at work?  **Yes**  **No**  **Unknown**

Did you notify your employer of your illness?  **Yes**  **No**  **Unknown**

**If Yes:** Did your employer modify your job?  **Yes**  **No**  **Unknown**

**If Yes:** How did your employer modify your job? \_\_\_\_\_

4. If you did not work when you were ill, when did you return to work after being ill? \_\_\_\_\_

5. Was anyone in your household ill in the two weeks before/after your illness?  **Yes**  **No**  **Unknown**

**If Yes:** Who in your household was ill (*list names, ages, and relationships*)? \_\_\_\_\_

What symptoms did the person(s) experience? Nausea Vomiting Diarrhea Fever Other: \_\_\_\_\_

When did the symptoms begin? Date and time: \_\_\_\_\_

When did the symptoms end? Date and time: \_\_\_\_\_

Did any of these persons see a doctor or go to the hospital?  **Yes**  **No**  **Unknown**

**If Yes:** Diagnosis: \_\_\_\_\_

Was a stool specimen taken?  **Yes**  **No**  **Unknown**

Test result? \_\_\_\_\_

If household member was/is ill, what is their occupation? \_\_\_\_\_

Does anyone in your household attend/work in childcare or work in a food service establishment?

**Yes**  **No**  **Unknown**

**If Yes**, who and location: \_\_\_\_\_

## **Recommended Norovirus Prevention Measures for Food Service Areas**

- Go to a 10% bleach sanitizer or other EPA approved sanitizer for norovirus and food contact surfaces.
  - Clean entire kitchen with procedure listed in Norovirus disinfecting handout, or use EPA approved sanitizer for norovirus and food contact surfaces. Then continue using 200ppm bleach solution or approved EPA sanitizer for daily sanitizing.
  - Increase frequency of cleaning kitchen and common touch areas such as chairs, door knobs, light switches, equipment handles etc.
  - Wash and sanitize wiping cloths or go to disposable wiping cloths
- Use only disposable plates, cups, utensils and other individually packaged disposable self-serve condiment packets.
- Remove any self-serve areas from service or have food handler stationed to serve from area. Advance pre-packaging or pre-fill of drinks and salads would also be an option. Do not allow self-service. (ie. Salad bar, salt/pepper shakers, drink area)
- Do not allow employees that work in the ill patient areas back into kitchen.
- If food carts are necessary, spray down carts used to transport food to ill patient areas with bleach solution after every use.
- Ill employees cannot return to work until 2 days or 48 hours after symptoms have resolved.
- Reinforce hand washing, glove use and employee health policy.
- If on private well collect water sample and disinfect well.
- Document any discussion with facility, ill employees with date of onset.

## Food Handler's Food Preparation History

Food Handler's Name: \_\_\_\_\_

## Environmental Health Assessment Checklist

If raw oysters are involved, obtain tag(s) from suspect lot(s). If possible, collect 10-12 oysters from suspect lot(s) and contact your regional enteric disease epidemiologist

- Obtain a copy of the menu of the foods served including daily specials that may not be on the menu
- Obtain a list of food employees with contact numbers
- Obtain food employee work schedules
- Determine food employee duties
- Exclude/restrict ill food employees
- Observe general food preparation practices
- Interview food employees about food preparation practices

Develop a flow chart or food flow diagram for the implicated food item or ingredient to capture detailed information about each step in the food handling process

Interview food employees for evidence of illness

Interview ill food employees to determine common exposures

Initiate and document corrective actions

- Identify the source of suspect foods

Obtain the suppliers' receipts/invoices for the suspect foods

Collect leftover food samples and send to state lab for testing, if available. Obtain original packaging, if possible,

- Conduct a trace back of suspect foods, if warranted

C] Summarize and determine contributing factors (see below)

— Recommend actions to prevent future outbreaks

## Facility Information

Establishment Name:

Address: City/Zip:

Date Complaint Received:

Date of Suspected Meal:

Investigator(s): Date(s) Investigated:

Implicated/Suspected Pathogen: Number of Persons ill:

Implicated/Suspected Food(s):

Quantity of Suspected Food Sold/Served:

Were any similar complaints received? If yes, collect information if available.	YES	NO
Were any food employees ill in the two weeks prior to the suspected event?	YES	NO
Did any food employee(s) become ill in the two weeks after the suspect event?	YES	NO
Does the facility have a sick leave policy?	YES	NO
Were any clinical specimens collected from food workers?	YES	NO
Were any food/water samples taken?	CI YES	NO

Does the facility routinely track and document temperatures or have a HACCP program?	YES	NO
Does the facility have a bare-hand contact with ready to eat (RTE) food policy?	YES	C] NO
Does the facility have a glove-hand contact with ready to eat (RTE) food policy?	CI YES	C] NO
<b>Hazard</b>	<b>Related Contributing Factors to <u>Investigate</u> During Field Visit</b>	
Spore-Formers and Preformed Toxins (i.e. C. perfringens, B cereus, Staph)	Cooling, Re-Heating, Hot Holding, Hand Contact, Room Temp Storage, Cold Holding, Time/Temperature Abuse	
Viral Infections (i.e. Norovirus)	III Food Worker, Hand Contact, Handwashing, Contaminated Raw Product, Ready to Eat (RTE) Foods	
Bacterial Infections	III Food Worker, Hand Contact, Handwashing, Contaminated Raw Product, Cross Contamination, Cooking, Cooling, Hot Holding, Re-Heating, Time/Temp. Abuse	
Parasitic Infections	III Food Worker, Hand Contact, Cross Contamination, Contaminated Raw Product, Contaminated Source	

## 11.1.7 NMDOH Enteric Illness Investigation Report

**NMDOH Outbreak #**  
**NORS #**  
**LOCATION**  
**INVESTIGATION INITIATED: (date and time)**

Prepared by: Name, title(s)  
Report Completed: (date)

**Context/Background-** information that helps characterize the incident, including:

- Initiation of Investigation- Information regarding receipt of notification and initiation of the investigation, including:
  - Date and time initial notification was *received* by agency
  - Date and time investigation was *initiated* by agency
- Population effected (e.g., estimated number of persons exposed and ill)
- Location (e.g., setting or venue) of outbreak
- Geographical area(s) involved
- Suspected or known etiology

**Methods-** Epidemiological or other investigative methods employed, including:

- Any initial investigative activity (e.g., verified laboratory results)
- Data collection and analysis methods (e.g., case finding cohort/case control studies, environmental investigation or testing, etc.)
- Tools relevant to the investigation (e.g., epidemic curves, questionnaires, etc.)
- Case definitions (as applicable)
- Exposure assessments and classifications (as applicable)
- Reviewing reports developed by first responders, lab testing, environmental media, reviews of environmental testing records, industrial hygiene assessments, questionnaires

**Findings/Results-** All pertinent Investigation results, including:

- Epidemiological Results (e.g., Epi curve, attack rates, etc.)
- Lab results (as applicable) (number of lab confirmed and number of probable cases)
- Clinical findings (as applicable) (number of hospitalized, number of deaths, number with symptoms, etc.) (see tables in NORS template)
- Other analytic findings (as applicable)

**Discussion/Conclusions-** Analysis and interpretation of the investigation results, and/or any conclusions drawn as a result of performing the investigation. In certain instances, a conclusion section without a discussion may be sufficient.

**Recommendations-** Specific control measures or other interventions recommended for controlling the spread of disease and/or preventing future outbreaks and/or for preventing/mitigating the efforts of an acute environmental exposure.

**Key investigators and/or report authors-** names and titles are critical to ensure that lines of communication with partners, clinicians, and other stakeholders can be established.

### **National Outbreak Reporting System (NORS) Template**

Complete this form for all gastrointestinal illness outbreaks and save in the appropriate outbreak folder on the R: drive along with a copy of the final report. Data from this form and from the final report will be entered into the National Outbreak Reporting System (NORS) maintained by CDC.

### **National Outbreak Reporting System (NORS) Summary Statistics Template**

Complete this form for all gastrointestinal illness outbreaks and save in the appropriate outbreak folder on the R: drive along with a copy of the final report. Data from this form and from the final report will be entered into the National Outbreak Reporting System (NORS) maintained by CDC.

**NORS # NM** (to be determined by NORS at time of data entry there)

**Outbreak #:** 2017- 0xx-

**Completed by:**

**Investigation Method:**

**Primary mode of transmission:**

Date first case became ill	
Date last case became ill	
Date of first known exposure (if known)	
Date of last known exposure (if known)	

**City:**

**County:**

#### **Determine primary and secondary cases:**

**Primary Cases** (symptomatic on the same date or within one incubation period of the first case)

**Secondary Cases** (became symptomatic at least one incubation period after the earliest onset date)

#### **For primary cases only**

**# of lab confirmed cases:**

**# of probable cases:**

**Total primary cases:**

Feature	Number of cases	Total number of cases for whom information was available
Deaths		
Hospitalizations		
Emergency Department visits		
Healthcare provider visits (not ED)		

Sex	Number of cases	Percent of cases
Male		
Female		
Unknown		

Age Group	Number of cases	Percent of cases
Less than 1 year		
1 to 4 years		
5 to 9 years		
10 to 19 year		
20 to 49 years		
50 to 74 years		
75 years and older		
Unknown		

For boxes below: enter the number where # sign is and check box for measurement type

Incubation period			
Shortest	(# of)	<input type="checkbox"/> Minutes	<input type="checkbox"/> Hours
Median	(# of)	<input type="checkbox"/> Minutes	<input type="checkbox"/> Hours
Longest	(# of)	<input type="checkbox"/> Minutes	<input type="checkbox"/> Hours

Incubation period unknown:

Duration of illness (among those who recovered,)				
Shortest	(# of)	<input type="checkbox"/> Minutes	<input type="checkbox"/> Hours	<input type="checkbox"/> Days
Median	(# of)	<input type="checkbox"/> Minutes	<input type="checkbox"/> Hours	<input type="checkbox"/> Days
Longest	(# of)	<input type="checkbox"/> Minutes	<input type="checkbox"/> Hours	<input type="checkbox"/> Days

Duration of illness unknown:

Feature	Number of cases	Total number of cases for whom information was available
Vomiting		
Diarrhea		
Bloody stool		
Fever		
Abdominal cramps		
HUS or TTP		
Asymptomatic		
Other symptom (specify):		
Other symptom (specify):		

#### For secondary cases only

Mode of transmission to secondary cases (e.g. food, person-to-person, environmental, water, unknown):

# of lab confirmed secondary cases:

# of probable cases:

Total secondary cases:

#### For all cases

SLD numbers or PFGE patterns:

Traceback or Recalls (skip if none):

Sample types, quantity & result (e.g. human(5+), animal(1-), food(1+/1-), water, environmental):

**What were samples tested for?** (e.g. bacteria, virus, etc.):

**Organism detected & method** (ex: Salmonella/Culture):

**What is the etiology of the outbreak?**

**Setting of exposure:**

**# exposed excluding staff** (e.g. attendees, residents, patients):

**# ill excluding staff:**

**# of staff exposed:**

**# ill staff:**

### **11.1.8 NMED Food Establishment Inspection Reports**

- Food Establishment Inspection Report: The most current NMED form is located at the OneDrive portal within the NM FBI Investigations Manual Folder.
- Manufactured Food Inspection Report: The most current NMED form is located at the OneDrive portal within the NM FBI Investigations Manual Folder.

### **11.1.9 NM FBI Investigation Manual Effective Date**

This agreement shall be effective upon approval of both parties. A review of the agreement can be made as needed for any changes of authority described in this manual.

#### **New Mexico Department of Health**

By: \_\_\_\_\_  
[Insert Official Name]

#### **New Mexico Environment Department**

By: \_\_\_\_\_  
[Insert Official Name]