New Mexico Foodborne Illness Investigation Manual







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

New Mexico Environment Department
Environmental Health Bureau

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1Introduction

1.1Purpose

The purpose of this manual is to provide guidance for prompt detection of and response to foodborne illness outbreaks in New Mexico (NM), recognizing that a successful foodborne illness outbreak investigation requires collaboration between partners from the disciplines of epidemiology, environmental health, food science, and microbiology. The most important reason to investigate foodborne 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 foodborne illness investigation partner roles and responsibilities, describes investigation procedures, and addresses public education, and corrective measures.

1.2List of partners

Depending on the nature and scope, foodborne 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
- 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 a foodborne 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 state or local public health officials and should not be delegated. When data collection instruments are distributed to persons involved in an investigation via a third party, the completed original instruments should be returned directly to the state or local public health officials without copies being made and without passing through

the third party, except when the third party is obligated by law to maintain patient confidentiality.

Participants sharing their health information are protected by the Health Insurance Portability and Accountability Act of 1996 (HIPPA). Throughout the investigation the security of protected health information included in investigation documents (e.g., line lists, questionnaires) should be ensured by all investigative parties. Questionnaires should be completed privately and, if it is necessary to provide patient specific information in a written report, patients should be identified using a pseudonym.

2 Background

2.1 Acronyms

CSTE	Council for State and Territorial Epidemiologists
CIFOR	Council to Improve Foodborne 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 Division
STEC	Shiga-toxin Producing Escherichia coli
USDA	United States Department of Agriculture

2.2 Epidemiology of foodborne disease

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

2.2.1 Etiologic agents

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

The most commonly recognized foodborne infections are those caused by the bacteria *Campylobacter*, *Salmonella*, and *Escherichia coli* O157:H7, and by a group of viruses called calicivirus, with the most frequent being norovirus. Some common infections are occasionally foodborne, even though they are usually transmitted by other routes. These include infections caused by *Shigella*, hepatitis A, and the parasites *Giardia lamblia* and *Cryptosporidium parvum*.

In addition to illness caused by direct infection, some foodborne illnesses are caused by the presence of a microbe-produced toxin in food. For example, *Staphylococcus aureus* can grow in some foods and produce 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 foodborne 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 foodborne illnesses and their associated characteristics.

2.2.2 Reservoirs

Reservoirs for some common foodborne 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, Listeria monocytogenes*, *Salmonella* species, *Trichinella spiralis*, *Yersinia enterocolitica*, *Vibrio parahaemolyticus*, and *Vibrio vulnificus*.

Environment: *Bacillus cereus*, *Clostridium* species, heavy metals, marine toxins, and mushroom toxins.

2.2.3 Modes of transmission

Foodborne illness agents may be transmitted in more than one way, such as person-to-person or animal-to-person. Foodborne 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. Foodborne 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 foodborne illnesses. Refer to Section 10.2 for more information on a specific agent.

2.2.5 Diagnosis and treatment

Foodborne 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 there are other rapid tests available. Parasites like *Giardia lamblia* and *Cryptosporidium* are identified by testing stool with specific enzyme immunoassay (EIA) tests. Viruses (e.g., norovirus) are more difficult to detect and are usually identified by testing stool samples by polymerase chain reaction (PCR) that identifies the specific virus is present. Foodborne illnesses caused by toxins or poisonous chemicals are usually diagnosed by the presence of specific signs and symptoms in the ill person.

Foodborne 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 foodborne 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 insure 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 foodborne 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 foodborne pathogens.

When conducting an environmental inspection as part of a foodborne illness investigation, the investigator should apply HACCP principles to focus on those food handling procedures and processes that pose the greatest potential for foodborne 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 foodborne illness. Through the New Mexico Administrative Code (NMAC) (http://www.nmcpr.state.nm.us/nmac/parts/title07/07.004.0003.htm), the Epidemiology and Response Division (ERD) maintains the New Mexico notifiable conditions list, which defines conditions that must be reported to NMDOH, including foodborne illness and suspected foodborne 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 foodborne illness investigation activities:

- Investigate reports of notifiable foodborne illness in collaboration with the Infectious Disease Epidemiology Bureau (IDEB).
- Serve as liaisons between NMDOH foodborne 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 ERD has primary responsibility for the following foodborne illness investigation activities:

- Investigate reports of notifiable foodborne illness in collaboration with PHD.
- Determine nature and extent of epidemiologic investigation required for reports of potential foodborne illness.
- Coordinate foodborne 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 PHD 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.
- 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 Division

The NMDOH Scientific Laboratory Division (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, and molecular subtyping. 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 foodborne illness outbreaks. SLD has primary responsibility for the following foodborne 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

The New Mexico Environment Department (NMED) has legal jurisdiction over regulated food facilities and related activities. Facility (as used in this manual) can mean 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 Quality 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 foodborne illness investigation activities:

- Investigate reports of foodborne 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 foodborne illness investigation.
- Administer food handler questionnaires in collaboration with PHD and IDEB.
- 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 a Foodborne Illness Outbreak

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

4.1 Routine surveillance for notifiable conditions

Routine surveillance for foodborne illness in New Mexico consists of the systematic collection, analysis, interpretation, and dissemination of data on persons with confirmed or suspected notifiable foodborne 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 foodborne or waterborne illness in two or more unrelated persons
- Other conditions of public health significance

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 foodborne 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 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 DNA fingerprinting using pulsed-field gel electrophoresis (PFGE).

IDEB epidemiologists review serotype and PFGE results to identify clusters of potentially related organisms.

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

4.2 Individual foodborne illness complaints

Individual potential foodborne illness complaints can lead to the detection of foodborne illness outbreaks. Potential foodborne illness complaints may be received by a number of state and local government agencies. All potential foodborne illness complaints without laboratory confirmation received by NMDOH or NMED personnel should be documented using the Foodborne 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 by phone and fax completed worksheet to:
    - ERD on-call* Epidemiologist (24/7 Telephone: 505-827-0006, Fax: 505-827-0013)
    - Environmental health regulatory agency with jurisdiction over implicated food facility:
        - NMED EHB Field Office
        - City of Albuquerque Environmental Health Department
        - Bernalillo County Environmental Health Office
        - IHS Environmental Health

*The ERD Epidemiologist On-Call 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):
    - Fax completed worksheet within one working day to:
    - Environmental health regulatory agency with jurisdiction over implicated food facility:
        - NMED EHB Field Office
        - City of Albuquerque Environmental Health Department
        - Bernalillo County Environmental Health Office
        - IHS Environmental Health
    - Foodborne Disease Epidemiologist at IDEB (Fax: 505-827-0013)
    - Regional or local public health office (only if prior arrangement has been made with IDEB)

5 Conducting the Epidemiologic Investigation

This chapter outlines the basic steps that should be followed when conducting an epidemiologic investigation of a potential foodborne 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 foodborne illness outbreak. For individual complaints of possible foodborne illness, use the Foodborne Illness Complaint Worksheet (see Section 4.2 and Template 11.1.2). For clusters of possible foodborne illness associated with a common exposure, use the Foodborne 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.
- Contact information for any other persons who might be involved in the outbreak (including both ill and non-ill persons).

5.2 Determine if a foodborne illness outbreak exists

Based on the information collected in Step 5.1 determine whether or not a foodborne 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 foodborne 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 foodborne pathogen(s). (Use Section 10.2 and Section 10.7 to compare signs, symptoms, duration of illness and potential incubation period to known foodborne 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 Foodborne Illness Line List Template (Template 11.1.5).
- 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 Foodborne 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 (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 10.9.1 and Section 10.9.2 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) 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 Epi Info7 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 and traceback and activities with NMED and other partners. See Section 10.9 for general recall and traceback procedures.

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 the Environmental Investigation

6.1 Preparation

An environmental investigation is not a routine inspection. It is an investigation triggered by an outbreak of foodborne 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.
- 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. Insure 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 foodborne illness outbreak.

6.2 Inspector knowledge and investigation focus

- Understand how microorganisms that can cause foodborne 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 using the Food Handler Questionnaire (Template 11.1.6). 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 procedures in Section 10.10.3.
- 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 foodborne illness. The flow chart may be revised repeatedly as new information is gathered.

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 many 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 foodborne illnesses.

6.5 Recalls

If the epidemiologic and environmental investigation findings indicate that a recall or traceback is necessary, coordinate with NMED, NMDOH, and other partners to complete these activities. Refer to Section 10.9 for a NMED Recall Notice template.

Steps for Notification from Other Sources

If an NMED Field Office receives a recall announcement from a source other than FDA, USDA or a manufacturer, the NMED Food Program Manager should be informed immediately so that all offices and appropriate persons can be notified as quickly as possible.

6.6 Tracebacks

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.

Traceback 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 of food products processed within New Mexico will be coordinated by the regulatory agency that has jurisdiction over the food processor.

7 Reporting the Investigation

7.1 NMDOH final written report

7.1.1 Preparation

The NMDOH lead epidemiologist 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 periodic joint meeting 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

- Epidemiology and Response Division
  - Division Director
  - Bureau Chief, IDEB
  - Foodborne Disease Epidemiologist, 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
  - 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 foodborne outbreak investigations to CDC. These data are released by CDC in a public access database often used to evaluate state programs. NMDOH Foodborne Disease Epidemiologist has the primary responsibility for entering completed NORS reports into the CDC database.

A NORS report should be filed for each foodborne or waterborne outbreak investigation within 1-2 weeks of the completion of the investigation. Once the final outbreak report is completed, the Foodborne Disease Epidemiologist should be notified for 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 foodborne 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, 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 report should be included in the outbreak archive folder.

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, extensive environmental cleaning, etc.).
- Partner organizations (FDA, NMED, facility infection preventionist) may determine and implement prevention measures based on their jurisdiction.
- Consider sending letter 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 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 foodborne pathogens).
- Final narrative report should be written and saved in outbreak folder.
- FoodNet Outbreak Summary should be completed and provided to the NMDOH foodborne epidemiologist.

9 Regional and local procedures

This section has been intentionally left blank as a placeholder for regional or local investigation procedures.

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	(505) 827-0006 24/7/365	(505) 827-0013
Metro Region Nurse Epidemiologist	Albuquerque	(505) 841-4176	(505) 841-4147
Northwest Public Health Nurse	Gallup	(505) 722-4391	(505) 722-3034
Northeast Nurse Epidemiologist	Santa Fe	(505) 476-2660	(505) 476-2694
Southeast Nurse Epidemiologist	Roswell	(575) 347-2409 x 6246	(575) 347-2546
Southwest Nurse Epidemiologist	Las Cruces	(575) 528-5107	(575) 528-6060
Scientific Laboratory Division	Albuquerque	(505) 383-9000	(505) 383-9011
General Microbiology	Albuquerque	(505) 383-9128	(505) 383-2509
Environmental Microbiology	Albuquerque	(505) 383-9129	(505) 383-2543
Virology and Serology	Albuquerque	(505) 383-9124	(505) 383-2543

NMDOH Public Health Offices by County				
Office	**County**	**City**	**Phone**	**Fax**
Mid-town	Bernalillo	Albuquerque	(505) 841-4100	(505) 841-4104
Catron County	Catron	Reserve	(575) 533-6432	(575) 533-6469
Chaves County	Chaves	Roswell	(575) 624-6050	(575) 624-6170
Cibola	Cibola	Grants	(505) 285-4601	(505) 287-9367
Colfax County	Colfax	Raton	(575) 445-3601	(575) 445-2848
Curry County	Curry	Clovis	(575) 763-5584	(575) 763-1842
De Baca County	De Baca	Ft. Sumner	(575) 355-2362	(575) 355-7942
Dona Ana County	Dona Ana	Las Cruces	(575) 528-5001	(575) 528-6024
Artesia	Eddy	Artesia	(575) 746-9819	(575) 748-9755
Carlsbad	Eddy	Carlsbad	(575) 885-4191	(575) 885-4194
Grant County	Grant	Silver City	(575) 538-5318	(575) 388-4847
Santa Rosa	Guadalupe	Santa Rosa	(575) 472-3211	(575) 472-3143
Harding County	Harding	Roy	(575) 485-2484	(575) 485-2261
Hidalgo County	Hidalgo	Lordsburg	(575) 542-9391	(575) 542-3544
Hobbs	Lea	Hobbs	(575) 397-2463	(575) 393-1330
Lovington	Lea	Lovington	(575) 396-2853	(575) 396-6270
Lincoln County	Lincoln	Ruidoso	(575) 258-3252	(575) 258-5743
Los Alamos	Los Alamos	Los Alamos	(505) 662-4038	(505) 662-3899
Luna County	Luna	Deming	(575) 546-2771	(575) 546-9427
McKinley County	McKinley	Gallup	(505) 722-4391	(505) 722-3034
Mora County	Mora	Mora	(575) 387-2748	(575) 387-9016

NMDOH Public Health Offices by County				
Office	**County**	**City**	**Phone**	**Fax**
Otero County	Otero	Alamogordo	(575) 437-9340	(575) 434-6629
Quay County	Quay	Tucumcari	(575) 461-2610	(575) 461-4862
Northern Rio Arriba	Rio Arriba	Tierra Amarilla	(575) 588-7215	(575) 588-7097
Espanola	Rio Arriba	Espanola	(505) 753-2794	(505) 753-5522
Roosevelt County	Roosevelt	Portales	(575) 356-4453	(575) 359-2926
Bloomfield	San Juan	Bloomfield	(505) 634-0229	(505) 634-0849
San Juan County	San Juan	Farmington	(505) 327-4461	(505) 326-1762
San Miguel County	San Miguel	Las Vegas	(505) 425-9368	(505) 454-0042
Cuba	Sandoval	Cuba	(575) 289-3718	(575) 289-3437
Sandoval County	Sandoval	Bernalillo	(505) 867-2291	(505) 867-0107
Santa Fe County	Santa Fe	Santa Fe	(505) 476-2600	(505) 476-2692
Sierra County	Sierra	Truth or Consequences	(575) 894-2716	(575) 894-3478
Socorro County	Socorro	Socorro	(575) 835-0971	(575) 835-3119
Taos	Taos	Taos	(575) 758-4719	(575) 751-3031
Estancia	Torrance	Estancia	(505) 384-2351	(505) 384-2626
Moriarty	Torrance	Moriarty	(505) 832-6782	(505) 832-1507
Clayton	Union	Clayton	(575) 374-8393	(575) 374-9486
Belen	Valencia	Belen	(505) 864-7743	(505) 864-7605
Los Lunas	Valencia	Los Lunas	(505) 222-0904	(505) 222-0988

10.1.2 New Mexico Environment Department Contacts

Office	**City**	**Phone**	**Fax**
Food Program Manager	Santa Fe	(505) 222-9500	(505) 827-1839
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) 524-6300	(575) 526-3891

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	Cibola	Grants	(505) 287-1346	(505) 287-1345
Raton	Colfax	Raton	(575) 445-3621	(575) 445-3376
Clovis	Curry	Clovis	(575) 762-3728	(575) 769-2527
Las Cruces	Dona Ana	Las Cruces	(575) 524-6300	(575) 526-3891
Carlsbad	Eddy	Carlsbad	(575) 885-9023	(575) 887-9283
Silver City	Grant	Silver City	(575) 388-1934	(575) 388-3258

NMED Field Offices by County				
Office	**County**	**City**	**Phone**	**Fax**
Hobbs	Lea	Hobbs	(575) 391-0464	(575) 393-4302
Ruidoso	Lincoln	Ruidoso	(575) 258-3272	(575) 258-4891
Deming	Luna	Deming	(575) 546-1464	(575) 546-9075
Gallup	McKinley	Gallup	(505) 722-4160	(505) 863-2664
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) 454-2800	(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
Socorro	Socorro	Socorro	(575) 835-1287	(575) 835-1287
Taos	Taos	Taos	(575) 758-8808	(575) 758-9851
Los Lunas	Valencia	Los Lunas	(505) 841-5280	(505) 841-5284

10.1.3 Other Jurisdictional Contacts

Office	**City**	**Phone**	**Fax**
City of Albuquerque Environmental Health Department	Albuquerque	(505) 768-2738	(505) 768-8217
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

10.2 Tables of foodborne illnesses and associated characteristics

10.2.1 Foodborne Illnesses and Associated Characteristics: Bacterial Agents[1]

Agent	Usual Incubation Period (Range)[2,3,4]	Signs and Symptoms[2,3,4]	Duration[2,3]	Associated foods[2]	Period of Communicability[2,3]	CDC criteria for outbreak confirmation[5] / SLD Test Kit
Bacillus cereus (diarrheal form)	10-16 hours	Abdominal cramps, watery diarrhea, nausea.	24-48 hours	Meats, stews, gravies, vanilla sauce.	Not communicable (enterotoxin formed in vivo).	Isolation of 10^5 organisms per gram from stool of two or more ill persons and not from stool of control patients or isolation of 10^5 organisms per gram from epidemiologically implicated food (provided specimen is properly handled). Enteric Transport Kit. Refrigerate not frozen, place in container without preservative.
Bacillus cereus (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 10^5 organisms per gram from stool of two or more ill persons and not from stool of control patients or isolation of 10^5 organisms per gram 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.)
Brucellosis (*Brucella abortus, B. melitensis, B. suis*)	7-21 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.	Isolation of organism in culture of blood or bone marrow from two or more ill persons or greater than fourfold increase in standard agglutination titer (SAT) over several weeks or single SAT greater than or equal to 1:160 in two or more ill persons who have 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.
Campylobacter	2-5 days (1-10 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. Enteric Transport Kit. Refrigerate, must be in preservative.
Clostridium botulinum (Foodborne botulism)	12-72 hours	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.

Foodborne Illnesses and Associated Characteristics: Bacterial Agents (continued)[1]

Agent	Usual Incubation Period (Range)[2,3,4]	Signs and Symptoms[2,3,4]	Duration[2,3]	Associated foods[2]	Period of Communicability[2,3]	CDC criteria for outbreak confirmation[5]
						SLD Test Kit
Clostridium botulinum (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.
Clostridium perfringens	8-16 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 per gram 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 per gram from epidemiologically implicated food, provided specimen is properly handled.
						Stool cultures are the only option. Enteric Transport Kit (with or without preservative, must be refrigerated.)
Enterohemorrhagic *E. coli* (EHEC) including *E. coli* O157:H7 and other Shiga toxin-producing *E. coli* (STEC)	3-4 days (2-8 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 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).
Enterotoxigenic E. coli (ETEC)	1-3 days (6 hours to 3 days)	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 and/or heat-labile enterotoxin, from stool of two or more ill persons.
						Enteric Transport Kit. Requires special laboratory techniques. Contact General Microbiology (505-383-9127).
						Enteric Transport Kit. (SLD prefers blood or CSF cultures; call General Microbiology (505-383-9127) for collection and transport details.)

Foodborne Illnesses and Associated Characteristics: Bacterial Agents (Continued)[1]

Agent	Usual Incubation Period (Range)[2,3,4]	Signs and Symptoms[2,3,4]	Duration[2,3]	Associated foods[2]	Period of Communicability[2,3]	CDC criteria for outbreak confirmation[5]
						SLD Test Kit
Listeria monocytogenes	9-48 hours for gastrointestinal symptoms, 2-6 weeks for invasive disease	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. CSF or blood serum collected and cultured at SLD. Call General Microbiology (505-383-9127) for more details.
Salmonella species (non-Typhi)	12-36 hours (6-72 hours)	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 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)
Salmonella Typhi	8-14 days (3-30 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)
Shigella species	1-3 days (1-7 days)	Diarrhea, fever, and cramps; stool may contain blood or mucus.	4-7 days	Food or water contaminated by feces of infected persons. (Majority of cases are person-to person spread).	During acute phase of illness, and usually less than 4 weeks.	Isolation of organism of same 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.)

Foodborne Illnesses and Associated Characteristics: Bacterial Agents (Continued)[1]

Agent	Usual Incubation Period (Range)[2,3,4]	Signs and Symptoms[2,3,4]	Duration[2,3]	Associated foods[2]	Period of Communicability[2,3]	CDC criteria for outbreak confirmation[5]
						SLD Test Kit
Staphylococcus aureus	1-6 hours	Sudden onset of severe nausea and vomiting. Abdominal cramps. Diarrhea and fever may be present.	24-48 hours	Unrefrigerated or improperly refrigerated foods.	Not communicable (preformed enterotoxin)	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 10^5 organisms per gram from epidemiologically implicated food, provided specimen is properly handled.
Vibrio cholerae, O1 or O139	1-3 days (few hours to 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.
Vibrio parahaemolyticus	2-48 hours	Watery diarrhea, abdominal cramps, nausea, vomiting.	2-5 days	Undercooked or raw fish or shellfish.	Not normally communicable from person to person.	Isolation of Kanagawa-positive organism from stool of two or more ill persons or Isolation of 10^5 Kanagawa-positive organisms per gram 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.)
Yersinia enterocolitica and *Yersinia pseudotuberculosis*	24-48 hours	Appendicitis-like symptoms (diarrhea and vomiting, fever, and abdominal pain) occur primarily in older children and young adults. May have a scarlitiniform rash with *Y. pseudotuberculosis*.	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 Foodborne Illnesses and Associated Characteristics: Viral Agents[1]

Agent	Usual Incubation Period (Range)[2,3,4]	Signs and Symptoms[2,3,4]	Duration[2,3]	Associated foods[2]	Period of Communicability[2,3]	CDC criteria for outbreak confirmation[5]
						SLD Test Kit
Norovirus (and other caliciviruses)	12-48 hours (10-72 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 not longer contagious is unknown. Shown to be shed in stool and vomitus; viral shedding averages 4 weeks after infection and peaks 2-5 days.	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).
						Stool and/or vomitus collected in clean container (no preservative); refrigerated; can be delivered to SLD up to 1 week after collection.
Rotavirus (Retroviridae family-Group A most common)	24-72 hours	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.	Demonstration of organism in stool of two or more ill persons.
						No testing done at SLD
Hepatitis A	28 days (15-50 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.	Detection of immunoglobulin M antibody to hepatitis A virus (IgM anti-HAV) in serum from two or more persons who consumed epidemiologically implicated food.
						Serologic testing available at SLD. Contact Virology/Serology (505-383-9124). Blood sample with serum separated off. Can be frozen before delivery to SLD.

10.2.3 Foodborne Illnesses and Associated Characteristics: Parasitic Agents[1]

Agent	Usual Incubation Period (Range)[2,3,4]	Signs and Symptoms[2,3,4]	Duration[2,3]	Associated foods[2]	Period of Communicability[2,3]	CDC criteria for outbreak confirmation[5]
						SLD Test Kit
Cryptosporidium	7 days (2-28 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 2 weeks after recovery, but shedding can continue for up to 2 months.	Demonstration of organism or antigen 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
Cyclospora cayetanensis	7 days (1-14 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 organism in stool of two or more ill persons.
						No testing done at SLD
Giardia lamblia	7-10 days (3-25 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.

10.2.4 Foodborne Illnesses and Associated Characteristics: Non-infectious Agents[1]

Agent	Usual Incubation Period (Range)[2,3,4]	Signs and Symptoms[2,3,4]	Duration[2,3]	Associated foods[2]	Period of Communicability[2,3]	CDC criteria for outbreak confirmation[5]
						SLD Test Kit
Ciguatoxin	2-8 hours (1-48 hours)	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)	Within 6 hours (1 minute to 3 hours)	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 Scombroidei).
						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 parasthesias 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)	10-45 minutes (10 minutes to 3 hours)	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).
Heavy metals (antimony, cadmium, copper, iron, tin, zinc)	5 minutes to 8 hours, usually < 1 hour	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).

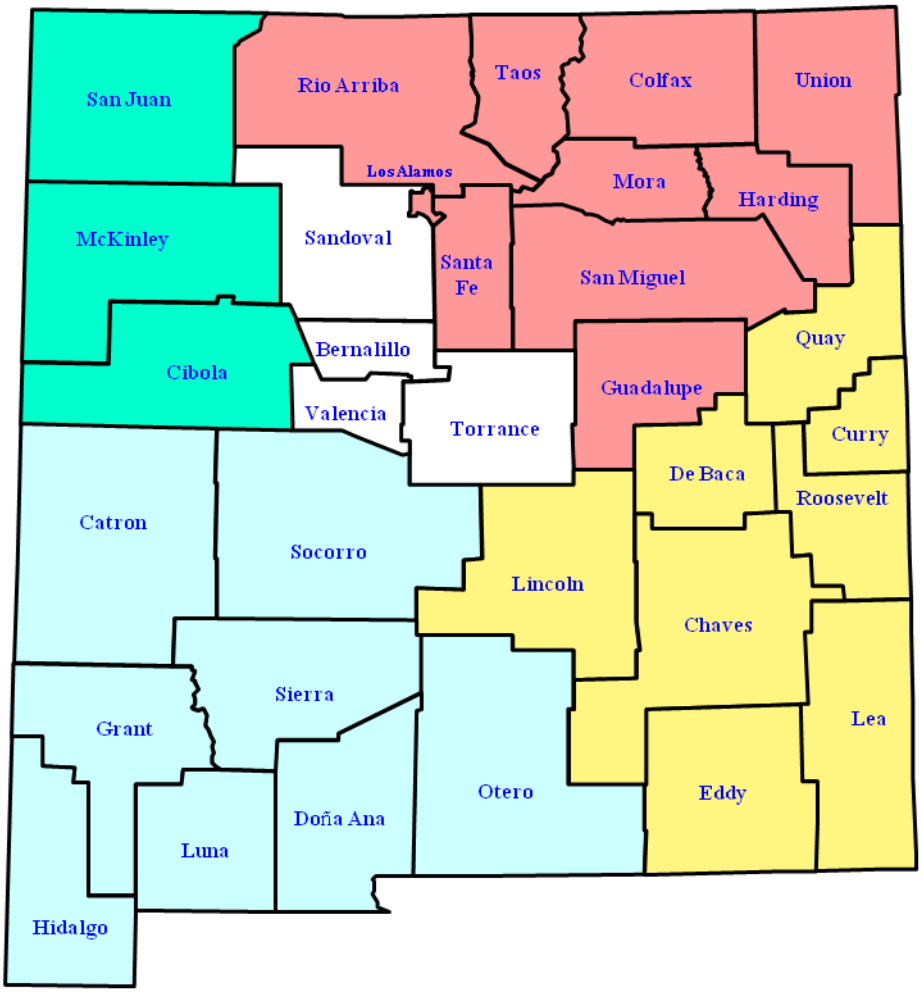
Foodborne Illnesses and Associated Characteristics: Non-infectious Agents (Continued)[1]

Agent	Usual Incubation Period (Range)[2,3,4]	Signs and Symptoms[2,3,4]	Duration[2,3]	Associated foods[2]	Period of Communicability[2,3]	CDC criteria for outbreak confirmation[5]
						SLD Test Kit
Mushroom toxins, shorter-acting (muscimol, muscarine, psilocybin, coprinus artrementaris, 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)	4-8 hours diarrhea; 24-48 hours liver failure	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) .

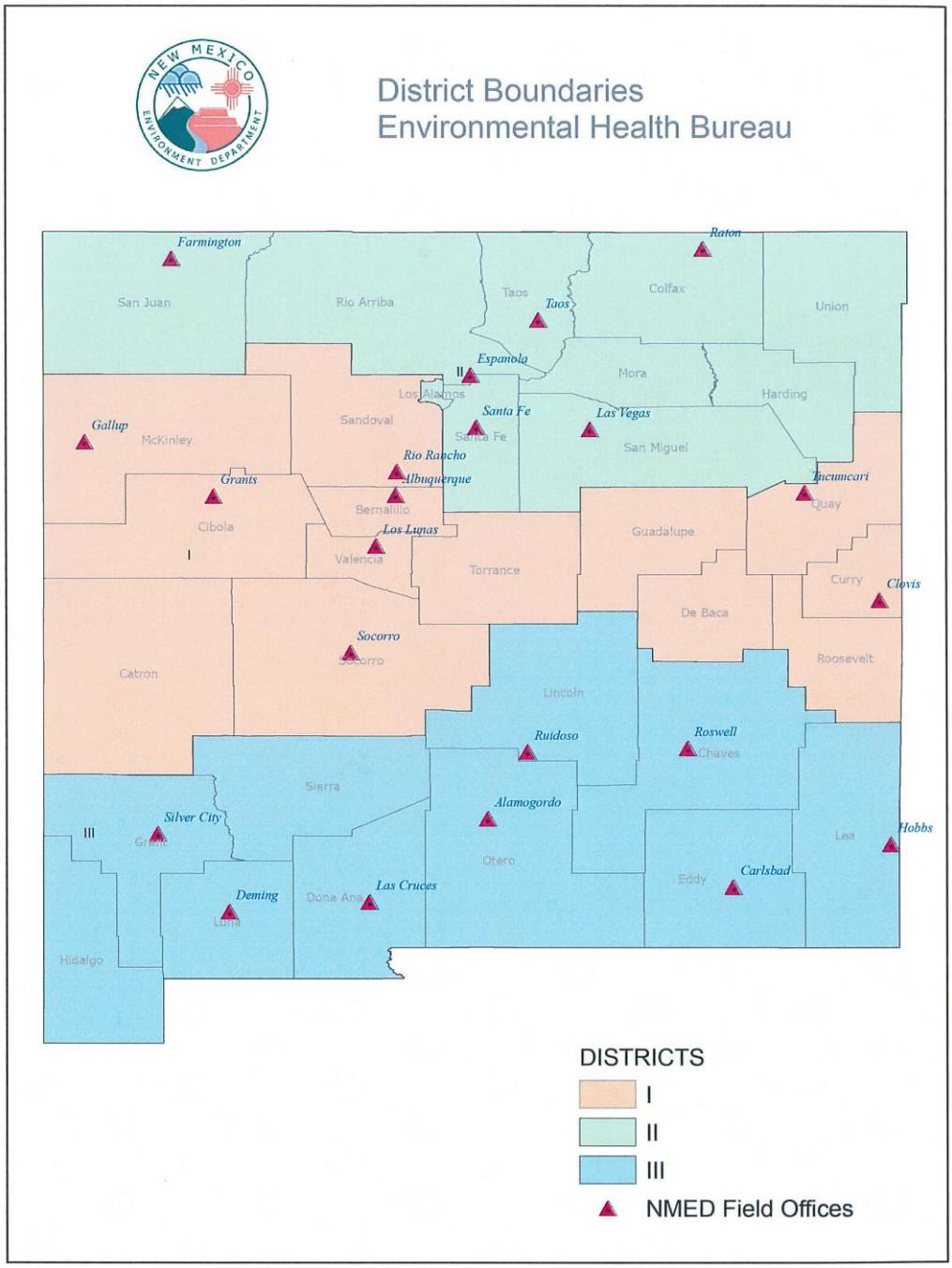
- This table is based on a similar table developed by the Acute and Communicable Disease Prevention Program of the Oregon Department of Human Services. Available at http://public.health.oregon.gov/diseasesconditions/communicabledisease/reportingcommunicabledisease/reportingguidelines/documents/compend.pdf. Accessed November 23, 2012.
- CDC. Diagnosis and management of foodborne 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/rr5304a1.htm. Accessed November 23, 2012.
- Heymann DL, ed. Control of Communicable Diseases Manual, 19th ed. Washington, DC: American Public Health Association; 2008.
- Pickering LK, ed. Red Book: 2003 Report of the Committee on Infectious Diseases, 29th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2012.
- CDC. Guide to confirming a diagnosis in foodborne disease. Available at http://www.cdc.gov/outbreaknet/investigations/investigating.html . Accessed November 23, 2012.
- CDC. "Updated Norovirus Outbreak Management and Disease Prevention Guidelines". Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6003a1.htm?s_cid=rr6003a1_w Accessed December 3, 2012.
- SLD Directory of Services available at http://sld.state.nm.us/documents/SLD-BSB-DirectoryOfServices-2012.pdf Accessed December 3, 2012.

10.3 NMDOH Public Health Division Regional Map

New Mexico Health Regions 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

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 505-827-0006. If no answer, call 1-866-885-6485.

Infectious Diseases

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

Other Conditions

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

Infectious Diseases in Animals

- Anthrax
- Plague
- Rabies
- Tularemia

ROUTINE REPORTING OF DISEASES OR CONDITIONS

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

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

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* or Other Nontuberculous Mycobacterial Infections (including *Mycobacterium avium* complex or leprosy)

Report suspect or confirmed cases within 24 hours to Tuberculosis Program, NM Department of Health, P.O. Box 26110, Santa Fe, NM 87502-6110; or call 505-827-2473.

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 HIV genotype tests	Opportunistic infections, cancers, and any other test or condition indicative of HIV or AIDS
All confirmed positive HIV antibody tests	All positive HIV cultures	
(screening test plus confirmatory test)	All tests for HIV RNA or HIV cDNA (viral load 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.

Asbestosis	Occupational asthma	Silicosis
Coal worker's pneumoconiosis	Occupational burn hospitalization	
Hypersensitivity pneumonitis	Occupational injury death	Other illnesses or injuries related to occupational exposures
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	Lead (all blood levels)	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 urine greater than 3 micrograms/liter	
Carbon monoxide poisoning	or	Other suspected environmentally-Induced health conditions
Infant methemoglobinemia	Mercury in blood greater than 5 micrograms/liter	

Injuries

Drug overdose	Firearm injuries	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.0. Box 26110, Santa Fe, NM 87502-6110; fax 505-827-1741.

Healthcare-associated infections

Central line-associated bloodstream infections (CLABSI) events
Clostridium difficile infections

Cancer

Report to NMDOH 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 NMDOH 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
Defects diagnosed on fetal deaths	and products of conception for Trisomy 13, Trisomy 18 and Trisomy 21

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

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 February 29, 2012.

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, 2011 Revision

Red Book: 2012 Report of the Committee on Infectious Diseases, 29th Edition
American Academy of Pediatrics
aapredbook.aappublications.org

Control of Communicable Diseases Manual, 19th Edition
American Public Health Association
https://secure.apha.org/scriptcontent/BeWeb/Orders/ProductDetail.cfm?pc=978-08755-31892

Procedures to Investigate Foodborne Illness, 6th Edition
International Association for Food Protection
http://www.foodprotection.org/publications/other-publications/

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

FDA Bad Bug Book 2nd Edition
http://www.fda.gov/downloads/Food/FoodSafety/FoodborneIllness/FoodborneIllnessFoodbornePathogensNaturalToxins/BadBugBook/UCM297627.pdf

Council to Improve Foodborne Outbreak Response (CIFOR). Guidelines for Foodborne Disease Outbreak Response. Atlanta: Council of State and Territorial Epidemiologists, 2009.

10.6.2 Websites

CDC Food Safety Information
www.cdc.gov/foodsafety

US Government Food Safety Information Gateway
www.foodsafety.gov

Fight BAC!™ Education Campaign
www.fightbac.org

CDC listing of foodborne diseases, pathogens and toxins
www.cdc.gov/foodsafety/diseases/index.html

CDC listing of foodborne disease outbreaks by year
http://www.cdc.gov/outbreaknet/outbreaks.html

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

FDA Food Related Emergency Exercise Bundle (FREE-B)
http://www.ift.org/knowledge-center/read-ift-publications/science-reports/contract-reports/freeb-workshops.aspx

10.7 Table of Clinical Syndromes Associated with Foodborne Illnesses[1]

Nausea and vomiting, *without fever*

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

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

Usual incubation period	Agent	Table
8-16 hours	*Clostridium perfringens*	Bacterial
10-16 hours	*Bacillus cereus*, diarrheal form	Bacterial
10-72 hours	Norovirus, including other caliciviruses	Viral
1-3 days	*Vibrio cholerae*	Bacterial
1-3 days	Enterotoxigenic *E. coli* (ETEC)	Bacterial
7 days	*Cyclospora*	Parasitic
7 days	*Cryptosporidium*	Parasitic
7-10 days	*Giardia lamblia*	Parasitic

Abdominal cramps, bloody diarrhea, *with fever*

Usual incubation period	Agent	Table
2-48 hours	*Vibrio parahaemolyticus*	Bacterial
6-72 hours	*Salmonella* species (non-Typhi)	Bacterial
1-2 days	*Yersinia enterocolitica*	Bacterial
1-3 days	*Shigella* species	Bacterial
2-5 days	*Campylobacter* species	Bacterial

Abdominal cramps, bloody diarrhea, *without fever*

Usual incubation period	Agent	Table
3-4 days	Enterohemorrhagic *E. coli* (*E. coli* 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
< 6 hours	Scombroid (histamine)	Non-infectious
4-8 hours GI symptoms, 1-2 days liver failure	Mushroom toxins, longer-acting	Non-infectious
12-72 hours (adults); 3-30 days (infants)	*Clostridium botulinum* (foodborne botulism)	Bacterial

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

Usual incubation period	Agent	Table
9-48 hours (GI symptoms, 2-6 weeks invasive disease)	*Listeria monocytogenes*	Bacterial
7-21 days	Brucellosis	Bacterial
8-14 days	*Salmonella* Typhi	Bacterial
28 days	Hepatitis A	Viral

[1] American Academy of Pediatrics. Section X. Clinical Syndromes Associated with Foodborne Diseases. In Pickering LK, Baker CJ, Kimberlain DW, Long SS, eds. *Red Book: 2012 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

10.8.1 Daycare attendees and staff

The following exclusion criteria apply to daycare attendees and daycare staff members.

- **Campylobacteriosis**
  - Exclude symptomatic persons until diarrhea has stopped and proper hygiene measures can be maintained (as assessed by a food sanitarian, trained environmentalist, or infection control practitioner).
- **Cryptosporidosis**
  - Exclude symptomatic persons until diarrhea has stopped.
- **Shiga toxin-producing *E. coli* infections (STEC) (includes *E. coli* O157:H7)**
  - Exclude symptomatic persons until diarrhea has stopped and two stool cultures obtained at least 24 hours apart and at least 48 hours after completion of antibiotic therapy (if given) have tested negative for STEC.
- **Giardiasis**
  - Exclude symptomatic persons until diarrhea has stopped and proper hygiene measures can be maintained (as assessed by a food sanitarian, trained environmentalist, or infection control practitioner).
- **Hepatitis A**
  - Exclude persons for one week after onset of illness.
- **Norovirus**
  - Exclude symptomatic persons until 72 hours after symptoms have resolved.
- **Salmonellosis**
  - Exclude symptomatic persons until diarrhea has stopped and two stool cultures obtained at least 24 hours apart and at least 48 hours after completion of antibiotic therapy (if given) have tested negative and proper hygiene measures can be maintained (as assessed by a food sanitarian, trained environmentalist, or infection control practitioner).
  - Child should be excluded until s/he is asymptomatic and the stools are formed. Since children (and adults) may shed Salmonella for weeks to months after an acute infection, and because outbreaks of Salmonella in child care settings are extremely rare, it is reasonable to allow asymptomatic children to return to the child care center without follow-up stool cultures.
  - When a case of *Salmonella* occurs among a child care center staff member, that person should be excluded from their work duties until they are asymptomatic as defined above.
- ***Salmonella typhi* infection (Typhoid fever)**
  - Exclude symptomatic persons and asymptomatic chronic carriers until diarrhea has stopped and three consecutive stool or urine cultures taken at least one month apart and 48 hours after completion of antibiotic therapy (if given) have tested negative for *S. typhi*. The first stool culture should be taken no earlier than one month after symptom onset. If any culture is positive, repeat cultures at intervals of one month during the 12 months following symptom onset until at least three consecutive negative cultures are obtained.
- **Shigellosis**

- Exclude symptomatic persons until diarrhea has stopped and two consecutive stool cultures obtained at least 24 hours apart and at least 48 hours after completion of antibiotic therapy (if given) have tested negative for *Shigella*.

- **Other infectious diarrheal illness**
  - Exclude symptomatic children and staff until diarrhea has stopped.

10.8.2 Health care workers

The following work exclusion criteria apply to persons providing direct care for infants, elderly, immunocompromised, hospitalized, or institutionalized persons.

- **Campylobacteriosis**
  - Exclude symptomatic persons from direct care duties until diarrhea has stopped.
  - May exclude asymptomatic infected persons from direct care duties if personal hygiene habits (as assessed by environmentalist or infections control practitioner) are inadequate.
- **Cryptosporidiosis**
  - Exclude symptomatic persons from direct care duties until diarrhea has stopped.
- **Shiga toxin-producing *E. coli* infections (STEC) (includes *E. coli* O157:H7)**
  - Exclude symptomatic persons from direct care duties until diarrhea has stopped and two stool cultures obtained at least 24 hours apart and at least 48 hours after completion of antibiotic therapy (if given) have tested negative for STEC.
- **Giardiasis**
  - Exclude symptomatic persons from direct care duties until diarrhea has stopped.
- **Hepatitis A**
  - Exclude persons from direct care duties for one week after onset of illness.
- **Norovirus**
  - Exclude symptomatic persons until 72 hours after symptoms have resolved.
- **Salmonellosis**
  - Exclude symptomatic persons from direct care duties until diarrhea has stopped and proper hygiene measures can be maintained (as assessed by a trained environmentalist or food sanitarian) and two stool cultures taken at 24 hours apart and at least 48 hours after completion of antibiotic therapy (if given) has tested negative for *Salmonella*. If a stool culture is positive, it should be repeated until negative.
  - May exclude asymptomatic infected persons from direct care duties if personal hygiene habits (as assessed by trained environmentalist or infections control practitioner) are inadequate to prevent transmission to patrons.
- ***Salmonella typhi* infection (Typhoid fever)**
  - Exclude symptomatic persons and asymptomatic chronic carriers from direct care until diarrhea has stopped and three consecutive stool or urine cultures taken at least one month apart and 48 hours after completion of antibiotic therapy (if given) have tested negative. The first stool culture should be taken no earlier than one month after symptom onset. If any culture is positive, repeat cultures at intervals of one month during the 12 months following symptom onset until at least three consecutive negative cultures are obtained.
  - Health care workers who are household or close contacts of laboratory-confirmed cases should be excluded from direct care duties until at least 2 negative stool or urine cultures, taken at least 24 hours apart, are obtained.
- **Shigellosis**
  - Exclude symptomatic persons from direct care duties until diarrhea has stopped and two consecutive stool cultures obtained at least 24 hours apart and at least 48 hours after completion of antibiotic therapy (if given) have tested negative.
- **Other infectious diarrheal illness**
  - Exclude symptomatic persons from direct care duties until diarrhea has stopped.

10.8.3 Food Handlers

The following work exclusion criteria apply to persons with food handling responsibilities.

- **Campylobacteriosis**
  - Exclude symptomatic persons from food handling until diarrhea has stopped.
  - May exclude asymptomatic infected persons from food handling if personal hygiene habits (as assessed by trained environmentalist or food sanitarian) are inadequate to prevent transmission to patrons.
- **Cryptosporidiosis**
  - Exclude symptomatic persons from food handling until diarrhea has stopped.
- **Shiga toxin-producing *E. coli* infections (STEC) (includes *E. coli* O157:H7)**
  - Exclude symptomatic persons from food handling until diarrhea has stopped and two stool cultures obtained at least 24 hours apart and at least 48 hours after completion of antibiotic therapy (if given) have tested negative for STEC.
- **Giardiasis**
  - Exclude symptomatic persons from food handling until diarrhea has stopped.
- **Hepatitis A**
  - Exclude persons from food handling for one week after onset of illness.
- **Norovirus**
  - Exclude persons from food handling for 72 hours after symptoms have stopped.
- **Salmonellosis**
  - Exclude symptomatic persons from food handling until diarrhea has stopped and proper hygiene measures can be maintained (as assessed by a trained environmentalist or food sanitarian) and two stool cultures taken 24 hours apart and at least 48 hours after completion of antibiotic therapy (if given) has tested negative for *Salmonella*. If a stool culture is positive, it should be repeated until negative.
  - May exclude asymptomatic infected persons if personal hygiene habits (as assessed by trained environmentalist or food sanitarian) are inadequate to prevent transmission to patrons.
- ***Salmonella typhi* infection (Typhoid fever)**
  - Exclude symptomatic persons and asymptomatic chronic carriers from food handling until diarrhea has stopped and three consecutive stool or urine cultures taken at least one month apart and 48 hours after completion of antibiotic therapy (if given) have tested negative for *S.* Typhi. The first stool culture should be taken no earlier than one month after symptom onset. If any culture is positive, repeat cultures at intervals of one month during the 12 months following symptom onset until at least three consecutive negative cultures are obtained.
  - Food handlers who are household or close contacts of laboratory-confirmed cases should be excluded from food handling until at least 2 negative stool or urine cultures, taken at least 24 hours apart, are obtained.
- **Shigellosis**
  - Exclude symptomatic persons from food handling until diarrhea has stopped and two consecutive stool cultures obtained at least 24 hours apart and at least 48 hours after completion of antibiotic therapy (if given) have tested negative for *Shigella*.
- **Other infectious diarrheal illness**
  - Exclude symptomatic persons from food handling until diarrhea has stopped.

10.9 Recall and Traceback 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.

Steps for Class I and Class II Recalls

- Recall announcements from FDA and USDA are checked daily by the assigned NMED recall coordinator. For each Class I and Class II recall that affects food products distributed in New Mexico, the recall coordinator prepares a recall notice on the NMED Recall Notice Template (Section 10.9.3 below) and prepares a list of distributors and vendors to which the manufacturer has distributed the product(s).

- The recall notice and distribution information should be distributed via the NMED Interagency Food Recall and Alerts listserv (http://nmenv-it.nmenv.state.nm.us/Listserv/Food/) to the following individuals and organizations:

    - All NMED Field Offices
    - NMED Food Program Manager
    - NMED Public Information Officer
    - NMED Environmental Health Bureau Chief
    - NMDOH Foodborne 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 field office staff should condemn or embargo the recalled product(s).

Steps for Class III Recalls

- Class III recall notices are distributed primarily as an "FYI" to enable NMED field office staff to answer any questions from the public. Recall announcements from FDA and USDA are checked daily by the assigned NMED recall coordinator. For each Class III recall that affects food products distributed in New Mexico, the recall coordinator prepares a recall notice on the NMED Recall Notice Template (Section 10.9.3 below).

- The recall information should be distributed via the NMED Interagency Food Recall and Alerts listserv (http://nmenv-it.nmenv.state.nm.us/Listserv/Food/) to the following individuals and organizations:

    - All NMED Field Offices
    - NMED Food Program Manager
    - NMED Public Information Officer
    - NMED Environmental Health Bureau Chief
    - Bernalillo County Environmental Health Office
    - City of Albuquerque Environmental Health Department
    - Indian Health Service Environmental Health Services

- There is rarely a need for press releases or further staff action for Class III recalls.

Steps for Notification from Other Sources

If an NMED Field Office receives a recall announcement from a source other than FDA, USDA or a manufacturer, the NMED Food Program Manager should be informed immediately so that all offices and appropriate persons can be notified as quickly as possible.

10.9.2 Tracebacks

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.

Traceback 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 of food products processed within New Mexico will be coordinated by the regulatory agency that has jurisdiction over the food processor.

10.9.3NMED Recall Notice Template

SUSANA MARTINEZ
Governor
JOHN A. SANCHEZ
Lieutenant Governor

NEW MEXICO
ENVIRONMENT DEPARTMENT
Environmental Health Bureau

Harold Runnels Building
1190 South Saint Francis Drive (87505)
PO Box 5469 Santa Fe, NM 87502-5469
Phone (505) 476-3060 Fax (505) 476-3232
www.nmenv.state.nm.us
Jack King, Bureau Chief

DAVE MARTIN
Cabinet Secretary
BUTCH TONGATE
Deputy Secretary

RECALL NOTICE

TO:ALL New Mexico Environment Department District and Field Offices
Albuquerque Environmental Health Department
Bernalillo County Office Environmental Health
New Mexico Department of Health, Epidemiology and Response Division
Indian Health Service, Division of Environmental Health Services
NMED Environmental Health Bureau Chief
NMED Public Information Officer

FROM:<Your Name>, NMED Food Specialist, District <x>

DATE: January 18, 2013

SUBJECT:[X]FOOD RECALL – CLASS I
[]FOOD RECALL – CLASS II
[]FOOD RECALL – CLASS III

PRODUCTS:<x>

MANUFACTURER:<x>

RECALLED BY:<x>

DISTRIBUTION:<x>

QUANTITY:<x>

REASON:<x>

ADDITIONAL INFO:<x>

NMED ACTION:<x>

Upon completion of required actions, report findings to <name and contact into here>

CONTACTS:

1. Johnathan Gerhardt, Food Program Manager, 505-222-9515
2. Andrew Wilson, District 1 Food Specialist, 505-870-4904 (cell)
3. Anita Roy, District 2 Food Specialist, 505-454-2805
4. Marci Nevarez, District 3 Food Specialist, 575-524-6300
5. Ronald Taylor, District 3 Food Specialist, 575-624-6046
6. NMDOH/ Epidemiology and Response Division, 505-827-0006
7. IHS/Environmental Health Services, 505-248-4263
8. Albuquerque Environmental Health Department, 505-768-2738
9. Bernalillo County Office of Environmental Health, 505-314-0310

10.10 Laboratory testing information and guidelines

10.10.1 Stool Specimen Collection Instructions for Bacterial Culture

Important things to remember:

1. DO NOT take antacids, laxatives or antidiarrheal medications (like Immodium) 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 at _.

10.10.2 Stool Sample Collection Specimen without preservative

Important things to remember:

1. DO NOT take antacids, laxatives or antidiarrheal medications (like Immodium) 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 _.

10.10.3 Collecting and Shipping Stool Specimens

Collection

The nature of the foodborne illness outbreak will determine what testing should be done at the Scientific Laboratory Division (SLD). Consult with the Infectious Disease Epidemiology Bureau (IDEB) at 505-827-0006 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 ouside 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.

10.10.4 Collecting, Handling, and Shipping Food Samples

The Environmental Microbiology Laboratory (EM) Section of the Scientific Laboratory Division (SLD) 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.

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: http://www.sld.state.nm.us/Documents/foodform.pdf . 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).

10.10.5 Clinical Sample Testing Request Form

NEW MEXICO DEPARTMENT OF HEALTH

GENERAL CLINICAL REQUEST FORM

Scientific Laboratory Division
1101 Camino de Salud N.E.
Albuquerque, NM 87102

SLD LAB NO. ONLY
ONE FORM PER SPECIMEN
PLEASE PRINT LEGIBLY

SLD Form 101 v1.1, 21Jun2012 | USER CODES -->>
SLD USE >>> ONLY | DATE <<<TIME STAMP

- 51000 (Epidemiology)
- 52000 (PHD: General)
- 52110 (PHD: Prenatal)
- 52120 (PHD: Family Plan)
- 52340 (PHD: Refugee)
- 52325 (PHD: Adult Hepatitis)
- 52330 (PHD: TB Program)
- 51006 (EIP)
- 70704 (OMI)
- Other: (Enter Number)

Please limit to one code per form

SUBMITTER INFORMATION

SUBMITTER CODE _____
SUBMITTER NAME _____
ADDRESS _____ (Street or PO)
_____ (City, State, Zip Code)
PHONE ( )
ATTENTION: _____

CLINICIAN NAME _____ (Last, First)
PHONE # ( )

PATIENT INFORMATION

PATIENT NAME _____ (Last, First)
GENDER ☐ MALE ☐ FEMALE ☐ TRANSGENDER
DATE OF BIRTH MM/ DD/ YYYY : ____/____/____
ADDRESS _____ (Street or PO)
_____ (City, State, Zip Code)
PATIENT ID (MRN#) _____
SOCIAL SECURITY # _____
OTHER ID (HIV#) _____

RACE: Check all that apply.
☐ American Indian/Alaskan Native ☐ Asian ☐ Black/African American
☐ Native Hawaiian/Pacific Islander ☐ White ☐ Other
ETHNICITY: ☐ Hispanic ☐ Non-Hispanic

SPECIMEN INFORMATION

SPECIMEN SOURCE

- ☐ Abscess
- ☐ Ascites fluid
- ☐ Blood, femoral
- ☐ Blood, heart
- ☐ Blood, plasma
- ☐ Blood, serum
- ☐ Blood, whole
- ☐ Bone
- ☐ Bone marrow
- ☐ Brain
- ☐ Bronchial Biopsy
- ☐ Bronchial Wash
- ☐ Bronchoalveolar lavage
- ☐ Cervix
- ☐ CSF
- ☐ Ear
- ☐ Endocervix
- ☐ Eye
- ☐ Feces/Stool
- ☐ Hair
- ☐ Fluid (site):_____
- ☐ Liver
- ☐ Lymph node
- ☐ Lung, left
- ☐ Lung, right
- ☐ Nail (site)_____
- ☐ Nasopharyngeal swab
- ☐ Nasopharyngeal wash
- ☐ Nasal swab
- ☐ Nasal wash
- ☐ Oral Fluid
- ☐ Pericardial fluid
- ☐ Peritoneal fluid
- ☐ Pleural fluid
- ☐ Pleural Biopsy
- ☐ Rectum
- ☐ Rectum/Vagina
- ☐ Skin (site)_____
- ☐ Spleen
- ☐ Sputum, natural
- ☐ Sputum, nebulized
- ☐ Throat swab
- ☐ Throat wash
- ☐ Tissue (site): _____
- ☐ Tracheal aspirate
- ☐ Urine
- ☐ Urethra
- ☐ Vagina
- ☐ Wound (site):_____
- ☐ Other: _____

SPECIMEN COLLECTION

Date/Time Collected ____/____/____ _____ (MM/ DD/ YYYY, Military Time)
End of Quantiferon (TB Only) Incubation ____/____/____ _____ (MM/ DD/ YYYY, Military Time)

SPECIMEN TYPE

☐ Clinical
☐ Reference

CLINICAL SYMPTOMS

☐ Asymptomatic
☐ Symptomatic: Date of onset: MM / DD / YYYY ____/____/____

ANALYSIS REQUESTED

For Details: http://www.sld.state.nm.us/documents/directory.pdf

GENERAL BACTERIOLOGY

- ☐ B. anthracis
- ☐ B. cereus/S. aureus
- ☐ CDC referral (attach form 50.34)
- ☐ Culture, OMI
- ☐ Culture, OMI anaerobic
- **Culture, Fecal (enteric)** (Check all that apply)
  - ☐ -Campylobacter species:_____
  - ☐ -E. coli 0157:H7
  - ☐ -Salmonella, serotype:_____
  - ☐ -Shigella, serotype:_____
  - ☐ -Shiga Toxin test/isolation
  - ☐ -Yersinia enterocolitica:_____
- ☐ Diphtheria
- ☐ EIP Isolate:_____
- ☐ GC culture
- ☐ H. influenzae typing
- **ID of Bacteria** (specify)
  - ☐ -Anaerobe_____
  - ☐ -Gram negative _____
  - ☐ -Gram positive _____
- ☐ Legionella culture
- ☐ Necrotizing fasciitis
- ☐ N. meningitidis typing
- ☐ Pertussis (Bordetella sp.)
- ☐ Plague FA
- ☐ Plague FA and culture
- ☐ Strep, Group B, Isolation
- ☐ Tularemia culture
- ☐ Vibrio
- ☐ Other_____

SEROLOGY

- ☐ Brucella antibody
- ☐ CDC referral (attach form 50.34)
- ☐ HIV-1 antibody
- ☐ HIV Rapid Test Confirmation
- ☐ Hepatitis A Diagnosis (IgM Only)
- ☐ Hepatitis A Immune Status
- ☐ Hepatitis B Pre-Vaccination
- ☐ Hepatitis B Prenatal Screen
- ☐ Hepatitis B Post-Vaccination
- ☐ Hepatitis B High Risk (Contact to HBV positive)
- ☐ Hepatitis B High Risk and HCV
- ☐ Hepatitis C Antibody (Anti-HCV)
- ☐ Hepatitis A,B and C Diagnostic Panel (Acute)
- ☐ Mumps Immune Status
- ☐ Plague/Tularemia antibody
- ☐ Rubella immune status
- ☐ Rubella diagnosis (call first)
- ☐ Rubeola immune status
- ☐ Rubeola diagnosis (call first)
- ☐ Syphilis Antibody
- ☐ TB Quantiferon
- ☐ VZV immune status
- ☐ Other:_____

☐ VIRUS ISOLATION
Agent(s) suspected:
_____Influenza
Rapid Test: Pos____Neg____
Not Performed_____
_____HSV
_____Other Specify:

MYCOLOGY
☐ Aerobic actinomycetes ☐ Yeast/Mold Culture
☐ Coccidioides

AFB/TUBERCULOSIS With Drug susceptibility, if TB
☐ Culture
☐ ID Isolate

Phone #'s: General Microbiology(505)383-9126/27/28 Molecular Biology(505)383-9130/32 Virology/Serology(505)383-9125/24/33 Switchboard (505)383-9000 Fax:(505)383-9121

10.10.6 Food Sample Test Request Form

NEW MEXICO
DEPARTMENT OF
HEALTH

FOOD ANALYSIS REQUEST FORM

LAB NO.

Scientific Laboratory Division
1101 Camino de Salud NE
Albuquerque, N. M. 87102
Phone # (505) 383-9129

Place Lab No. sticker in this area

DATE & TIME OF RECEIPT AT SLD

USER CODE:

☐ 51000 (Epidemiology) ☐ 55110 (NMED) ☐ 70101 (VDS)

☐ 70102 (NMDA) ☐ 91300 (FDA) ☐ Other: ☐☐☐☐☐

SUBMITTER CODE: ☐☐☐ Submitter Agency Name: _____

COLLECTED BY: _____ (Name last, First) DATE SAMPLE COLLECTED: ___/___/___ (MM DD YYYY)

Phone Number: _____ TIME SAMPLE COLLECTED: ___:___ Military Time

SAMPLE INFORMATION ~ to be filled out by the Sample Collector

SAMPLE TYPE: ☐ FOOD ☐ SWAB ☐ OTHER: _____

FIELD SAMPLE ID: _____

FOOD ESTABLISHMENT / SOURCE

Name: _____
Full Address: _____

_____

Food Establishment #: ☐☐☐ Phone # : _____

Reason for Collection

- ☐ Suspected Foodborne Illness
- ☐ Rountine Surveillance
- ☐ Consumer Complaint
- ☐ RMS NARMS
- ☐ Other

Product Information

Manufacturer/Brand: _____

_____

Code / Lot: _____

Temperature Control at Time of Packing

_____ °C / °F (Circle one)

Comments:

SLD Use Only

Temp Control at SLD: _____ °C Initials: _____

- ☐ Sample Not Intact
- ☐ Sample Intact

Mode of Arrival:
- ☐ DMC
- ☐ In Person
- ☐ Other

Comments:

Analysis Requested (Check the following that applies:)

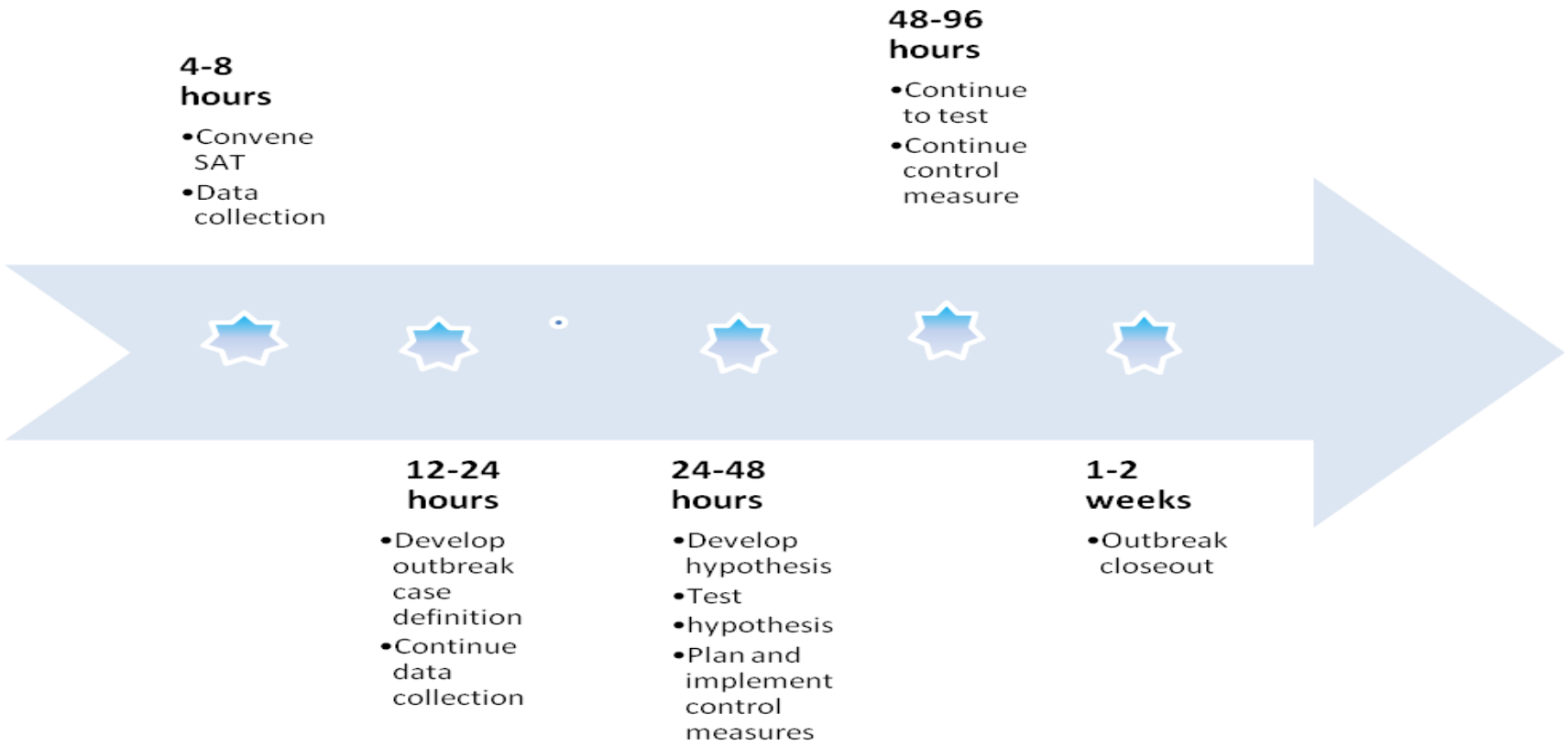
☐ Listeria	☐ S. aureus	☐ C. sakazakii
☐ Salmonella	☐ B. cereus	☐ Gram Stain
☐ E. coli O157:H7	☐ Shigella	☐ pH
☐ E. coli O157:H7 Robust Test (325-grams)	☐ Y. enterocolitica	☐ Foreign Matter ID
☐ Campylobacter	☐ C. perfringens	☐ Container Analysis
☐ Meat Carcass Swab Coliform/E.coli count	☐ C. difficile	☐ Coliform Count
☐ Standard Plate Count (food)	☐ Yeast / Mold	☐ E. coli Count
☐ Aerobic Plate Count (swab)	☐ Gram Negative Culture	☐ Vibrio species
☐ Beta Hemolytic Strep	☐ Gram Positive Culture	☐ 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

Food Analysis Request Form - Version: 1.0. Index: SLD Form 102. Printed: 25-Mar-2011 13:24

10.11 Outbreak Investigation Timeline


4-8 hours
•Convene SAT
•Data collection
12-24 hours
•Develop outbreak case definition
•Continue data collection
24-48 hours
•Develop hypothesis
•Test
•hypothesis
•Plan and implement control measures
48-96 hours
•Continue to test
•Continue control measure
1-2 weeks
•Outbreak closeout

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:		☐ YES	☐ NO	
Placed in the care of:	Print Name Of Carrier				
and	For SLD Use Only : Seal intact:		☐ YES	☐ NO	
Relinquished to:					
and	For Intermediary: Seal Intact:		☐ YES	☐ NO	
Relinquished to and Tested by:			SLD-EM		
	For SLD Analyst Use ONLY: Seal Intact		☐ YES	☐ NO	

10.13 Investigation Quality Assurance Checklist

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

11 Templates

11.1.1 Foodborne Surveillance Investigation Forms

Patient name:	**DOB: / /**

Foodborne Surveillance Investigation Form

NEW MEXICO DEPARTMENT OF HEALTH	Infectious Disease Epidemiology Bureau 1190 St. Francis Drive, N1350 P.O. Box 26110 Santa Fe, NM 87502-6110 Phone: (505) 827-0006 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 ☐ Female	Is 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		

EMERGENCY Reporting (IMMEDIATE reporting required, call ID EPI at 505-827-0006)	**ROUTINE Reporting (Report within 24 hours)**	
☐ Typhoid fever (*Salmonella* Typhi) (use both CDC form 52.5 and this foodborne surveillance form)	☐ Campylobacteriosis ☐ Shigellosis ☐ Yersiniosis	☐ Salmonellosis ☐ STEC

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 ☐ Yes
Is this patient a food handler? ☐ No ☐ Unknown ☐ Yes
Confirmation Method: ☐ Clinical diagnosis (non-lab confirmed) ☐ Epi linked ☐ Lab confirmed ☐ Unknown

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

Patient name:	**DOB:** / /

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

If yes, Did you have diarrhea? ☐ No ☐ Unknown ☐ Yes

Did you have bloody diarrhea? ☐ No ☐ Unknown ☐ Yes

Did 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: _____

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 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.]

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: / /**

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.

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: _____

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

Patient name:	**DOB:** / /

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 make 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 make outside of home at a business such as a restaurant, deli, fat 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	
Eat any fish or fish products that was raw or undercooked (e.g., sushi, sashimi)?		☐ No ☐ Unknown ☐ Yes
Eat any seafood (e.g., crab, shrimp, oysters, clams, etc.)?	☐ No ☐ Unknown ☐ Yes	
Eat any seafood that was raw or undercooked (e.g., raw oysters, clams, etc.)?		☐ No ☐ Unknown ☐ Yes
Did you or anyone in household handle raw fish or seafood?	☐ No ☐ Unknown ☐ Yes	
Eat shellfish?	☐ No ☐ Unknown ☐ Yes	
Eat Jerky?	☐ No ☐ Unknown ☐ 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: _____

Patient name: **DOB: / /**

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**.**

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

NEW MEXICO DEPARTMENT OF HEALTH

Infectious Disease Epidemiology Bureau
1190 St. Francis Drive, N1350
P.O. Box 26110
Santa Fe, NM 87502-6110
Phone: (505) 827-0006
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 ☐ Female	Is 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		
Routine Reporting (Report within 24 hours)	☐ Cryptosporidiosis	☐ Giardiasis	

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 ☐ Yes

Is this patient a food handler? ☐ No ☐ Unknown ☐ Yes

Confirmation 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 ☐ Yes

Did you have bloody diarrhea? ☐ No ☐ Unknown ☐ Yes

Did 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: _____

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): _____

Patient name: **DOB: / /**

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 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 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?

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

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: ____ / ____ / ____

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): _____

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: ____ / ____ / ____

[Investigator: If patient utilizes recreational water sources, 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 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.]

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 Yes If 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:

Grocery Stores and Restaurants (Condition Specific Custom Fields)

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

Did you eat in any restaurants during the 14 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 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	☐ No	☐ Unknown	☐ Yes	Eggs	☐ No	☐ Unknown	☐ Yes
Unpasteurized or raw cheese or	☐ No	☐ Unknown	☐ Yes	Poultry	☐ No	☐ Unknown	☐ Yes
Unpasteurized cider or juice	☐ No	☐ Unknown	☐ Yes	Ground beef	☐ No	☐ Unknown	☐ Yes
Fresh fruits or berries	☐ No	☐ Unknown	☐ Yes	Shellfish	☐ No	☐ Unknown	☐ Yes
Fresh vegetables or salads	☐ No	☐ Unknown	☐ Yes	Jerky	☐ No	☐ Unknown	☐ Yes

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.**

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:

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? ☐ No ☐ Yes ☐ Unknown

(**Refer to Incubation Period Table to determine ~~time period of interest~~**)

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: _____

[**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 *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?

General Comments:

11.1.2 Foodborne Illness Complaint Form

New Mexico Interagency Foodborne Illness Complaint Worksheet

Complaint date: _____/_____/_____ Time: _____ ☐ AM ☐ PM

Interviewer/Agency: _____ Interviewer phone: _____

Complainant information

Name: _____ DOB: ____/____/____ 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

☐ Establishment	Name and location:
☐ 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

Did complainant call establishment? ☐ Yes ☐ No

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

Number in party: _____ Number ill: _____

Name	Phone	Ill?
		☐ Yes ☐ No ☐ Unknown
		☐ Yes ☐ No ☐ Unknown
		☐ Yes ☐ No ☐ Unknown

Follow-Up Activities

Fax completed worksheet within one business day to NMED district office and call to verify receipt.

Comments:

11.1.3 Foodborne Illness Shotgun Questionnaire

Outbreak Number: _____ ***NMEDSS:*** _____

This shotgun questionnaire could be used to generate hypotheses about associations between persons with possible foodborne 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 tour 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		☐	☐		
Lunch		☐	☐		
Dinner		☐	☐		
Snacks		☐	☐		

2 days before illness onset, _____ /_____ /_____

Meal	Time of meal	Home	Out	Location (if not at home)	Foods eaten
Breakfast		☐	☐		
Lunch		☐	☐		
Dinner		☐	☐		
Snacks		☐	☐		

3 days before illness onset, _____ /_____ /_____

Meal	Time of meal	Home	Out	Location (if not at home)	Foods eaten
Breakfast		☐	☐		
Lunch		☐	☐		
Dinner		☐	☐		
Snacks		☐	☐		

4 days before illness onset, _____ /_____ /_____

Meal	Time of meal	Home	Out	Location (if not at home)	Foods eaten
Breakfast		☐	☐		
Lunch		☐	☐		
Dinner		☐	☐		
Snacks		☐	☐		

5 days before illness onset, _____ /_____ /_____

Meal	Time of meal	Home	Out	Location (if not at home)	Foods eaten
Breakfast		☐	☐		
Lunch		☐	☐		
Dinner		☐	☐		
Snacks		☐	☐		

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

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

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	☐	☐	☐					
cottage cheese	☐	☐	☐					
Ricotta cheese	☐	☐	☐					
“string” cheese	☐	☐	☐					

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

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	☐	☐	☐					
anything from a “whole” chicken	☐	☐	☐					
anything from pre-cut chicken parts	☐	☐	☐					
ground chicken	☐	☐	☐					
ground turkey	☐	☐	☐					
any other turkey (whole or parts)	☐	☐	☐					
duck or game hen	☐	☐	☐					
pre-frozen hamburger patties at home	☐	☐	☐					
pink on the inside when eaten?	☐	☐	☐					
fresh hamburger patties at home	☐	☐	☐					
pink on the inside when eaten?	☐	☐	☐					
any dish made with ground beef at home (e.g., casserole, tacos, pasta sauce)	☐	☐	☐					
other beef (steak, roasts, etc.)	☐	☐	☐					
veal	☐	☐	☐					
pork	☐	☐	☐					
lamb	☐	☐	☐					
any kind of game (deer/venison, elk, pheasant, etc.)	☐	☐	☐					
organ meats (liver, kidneys, brains…)	☐	☐	☐					
chitterlings, scrapple, cheek meat, “variety meats”	☐	☐	☐					
goat	☐	☐	☐					

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	☐	☐	☐					
pre-packaged sliced deli meats	☐	☐	☐					
other sliced deli meats (*not* pre-packaged)	☐	☐	☐					
corn dogs	☐	☐	☐					
hot dogs (all beef, chicken, turkey, pork, vegetarian, unknown)	☐	☐	☐					
Bologna, pastrami, corned beef, or other processed meat products	☐	☐	☐					
bacon (regular, turkey, etc.)	☐	☐	☐					
breakfast sausage (links, patties, ground)	☐	☐	☐					
any other sausage/bratwurst/kielbasa…	☐	☐	☐					
pepperoni, salami, prosciutto	☐	☐	☐					
store-bought/commercial dried meat products (jerky, strips, etc.)	☐	☐	☐					
homemade dried meats (jerky, strips, etc.)	☐	☐	☐					

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	☐	☐	☐					
smoked or dried fish (e.g., lox)	☐	☐	☐					
crab	☐	☐	☐					
shrimp, prawns, crawfish, lobster	☐	☐	☐					
oysters	☐	☐	☐					

Eaten raw?	☐	☐	☐					
other shellfish	☐	☐	☐					
Eaten raw?	☐	☐	☐					
sushi or sashimi	☐	☐	☐					
ceviche	☐	☐	☐					
any imitation crab meat (Krab or surimi) or similar product	☐	☐	☐					
Tuna (either canned or fresh)	☐	☐	☐					

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	☐	☐	☐	☐ raw ☐ cooked				
mini-carrots in sealed bag	☐	☐	☐	☐ raw ☐ cooked				
loose or bagged carrots (full size)	☐	☐	☐	☐ raw ☐ cooked				
cucumbers	☐	☐	☐	☐ raw ☐ cooked				
broccoli	☐	☐	☐	☐ raw ☐ cooked				
cauliflower	☐	☐	☐	☐ raw ☐ cooked				
bell peppers (green, red, yellow, orange)	☐	☐	☐	☐ raw ☐ cooked				
jalapeños chili peppers	☐	☐	☐	☐ raw ☐ cooked				
serrano chili peppers	☐	☐	☐	☐ raw ☐ cooked				
other fresh peppers (specify type)	☐	☐	☐	☐ raw ☐ cooked				
radishes	☐	☐	☐	☐ raw ☐ cooked				
asparagus	☐	☐	☐	☐ raw ☐ cooked				
corn on the cob	☐	☐	☐	☐ raw ☐ cooked				
peas or pea pods	☐	☐	☐	☐ raw ☐ cooked				

green beans	☐	☐	☐	☐ raw ☐ cooked				
brussel sprouts	☐	☐	☐	☐ raw ☐ cooked				
zucchini or other "soft" squash	☐	☐	☐	☐ raw ☐ cooked				
"hard" squash (pumpkin, acorn, etc.)	☐	☐	☐	☐ raw ☐ cooked				
onions (white, yellow or purple)	☐	☐	☐	☐ raw ☐ cooked				
green onions (scallions)	☐	☐	☐	☐ raw ☐ cooked				
leeks	☐	☐	☐	☐ raw ☐ cooked				

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**
avocado	☐	☐	☐	☐ raw ☐ cooked				
tomatoes	☐	☐	☐	☐ raw ☐ cooked	☐ cherry ☐ grape ☐ Roma ☐ on vine ☐ other (e.g. beefsteak)			
any tomatoes on sandwiches or burgers	☐	☐	☐	☐ raw ☐ cooked				
cabbage	☐	☐	☐	☐ raw ☐ cooked				
eggplant	☐	☐	☐	☐ raw ☐ cooked				
potatoes	☐	☐	☐	☐ raw ☐ cooked				
yams or sweet potatoes	☐	☐	☐	☐ raw ☐ cooked				
beets	☐	☐	☐	☐ raw ☐ cooked				
turnips	☐	☐	☐	☐ raw ☐ cooked				
jicama	☐	☐	☐	☐ raw ☐ cooked				
alfalfa sprouts	☐	☐	☐	☐ raw ☐ cooked				
bean sprouts	☐	☐	☐	☐ raw ☐ cooked				

other sprouts (clover, mixed, broccoli, etc)	☐	☐	☐	☐ raw ☐ cooked				
any stir fry meals that might have included bean sprouts?	☐	☐	☐	☐ raw ☐ cooked				
Did you handle sprouts even if you didn't eat them? ☐ Yes ☐ ? ☐ No								
lettuce, spinach or salad in a bag or box	☐	☐	☐	☐ raw ☐ cooked				
mesclun lettuce ("spring mix")	☐	☐	☐	☐ raw ☐ cooked				
iceberg lettuce	☐	☐	☐	☐ raw ☐ cooked				
romaine lettuce	☐	☐	☐	☐ raw ☐ cooked				
other lettuce or salad greens	☐	☐	☐	☐ raw ☐ cooked				
lettuce on sandwiches or burgers	☐	☐	☐	☐ raw ☐ cooked				
spinach	☐	☐	☐	☐ raw ☐ cooked				
other greens (collard, mustard, etc)	☐	☐	☐	☐ raw ☐ cooked				
basil or pesto	☐	☐	☐	☐ raw ☐ cooked				
parsley	☐	☐	☐	☐ raw ☐ cooked				
cilantro	☐	☐	☐	☐ raw ☐ cooked				
ginger	☐	☐	☐	☐ raw ☐ cooked				
other herbs	☐	☐	☐	☐ raw ☐ cooked				
garlic	☐	☐	☐	☐ raw ☐ cooked				
mushrooms	☐	☐	☐	☐ raw ☐ cooked				
okra	☐	☐	☐	☐ raw ☐ cooked				
rhubarb	☐	☐	☐	☐ raw ☐ cooked				
any "organic" vegetables	☐	☐	☐	☐ raw ☐ cooked				
any fresh vegetable juice	☐	☐	☐	☐ raw ☐ 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**
apples	☐	☐	☐					
pears	☐	☐	☐					
peaches	☐	☐	☐					
nectarines	☐	☐	☐					
plums	☐	☐	☐					
apricots	☐	☐	☐					
oranges	☐	☐	☐					
tangerines	☐	☐	☐					
grapefruit	☐	☐	☐					
lemon (including as a drink garnish)	☐	☐	☐					
lime	☐	☐	☐					
strawberries	☐	☐	☐					
raspberries	☐	☐	☐					
blueberries	☐	☐	☐					
blackberries	☐	☐	☐					
cranberries	☐	☐	☐					
cherries	☐	☐	☐					
green grapes	☐	☐	☐					
red grapes	☐	☐	☐					
bananas	☐	☐	☐					
plantains	☐	☐	☐					
cantaloupe	☐	☐	☐					

honeydew	☐	☐	☐					
watermelon	☐	☐	☐					
any pre-mixed cut melon or melon salad	☐	☐	☐					
kiwi	☐	☐	☐					
pineapple	☐	☐	☐					
mango	☐	☐	☐					
papaya	☐	☐	☐					
guava	☐	☐	☐					
pomegranate	☐	☐	☐					
any “organic” fruit	☐	☐	☐					
any other fruit not mentioned	☐	☐	☐					

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	☐	☐	☐					
store-bought pasta salad	☐	☐	☐					
store-bought potato salad	☐	☐	☐					
store-bought egg salad	☐	☐	☐					
store-bought seafood salad	☐	☐	☐					
store-bought tuna salad	☐	☐	☐					
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	☐	☐	☐					
dried buttermilk	☐	☐	☐					

other powdered milk (*not including baby formula*)	☐	☐	☐					
flavored milk powder (e.g., chocolate)	☐	☐	☐					
coconut (whole, shredded, canned coconut milk)	☐	☐	☐					
dried beans (e.g., red, pinto, navy) or lentils	☐	☐	☐					
peanuts (loose or in shell)	☐	☐	☐					
peanut butter	☐	☐	☐					
almonds (whole or pre-chopped/sliced almonds, almond-dusted pastries or candies)	☐	☐	☐					
walnuts	☐	☐	☐					
cashews	☐	☐	☐					
pistachios	☐	☐	☐					
hazelnuts (filberts)	☐	☐	☐					
any other whole nuts or mixed nuts	☐	☐	☐					
any other pre-chopped or sliced nuts	☐	☐	☐					
any ground nut paste or spread other than peanut butter (e.g. cashew butter)	☐	☐	☐					
sunflower seeds	☐	☐	☐					
seasame seeds	☐	☐	☐					
tahini, halva, other seasame products	☐	☐	☐					
raisins	☐	☐	☐					
other commercial dried fruit	☐	☐	☐					

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	☐	☐	☐	☐ Homemade ☐ Restaurant ☐ Commercially-prepared				
guacamole	☐	☐	☐	☐ Homemade ☐ Restaurant ☐ Commercially-prepared				
red chili sauce	☐	☐	☐	☐ Homemade ☐ Restaurant ☐ Commercially-prepared				
green chili sauce (clarify whether alone or part of a recipe)	☐	☐	☐	☐ Homemade ☐ Restaurant ☐ Commercially-prepared				
tortilla chips	☐	☐	☐					
taco shells	☐	☐	☐					
tortillas (corn, flour, other)	☐	☐	☐					
posole	☐	☐	☐					
tamales	☐	☐	☐					
Calcacitas (squash, corn, chile or other ingrediants)	☐	☐	☐	☐ Homemade ☐ Restaurant ☐ Commercially-prepared				
Any other New Mexican or Mexican foods Specify:	☐	☐	☐	☐ Homemade ☐ Restaurant ☐ 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	☐	☐	☐					
other packaged snack food and treats (e.g., Pirate's Booty)	☐	☐	☐					
commerical tomato sauce	☐	☐	☐					
store-bought, packages sauce or dip	☐	☐	☐					
hummus or baba ghanuj	☐	☐	☐					
bulk chocolate (not wrapped candy)	☐	☐	☐					
cake	☐	☐	☐					
pie	☐	☐	☐					
pastries	☐	☐	☐					
uncooked dough or batter	☐	☐	☐					
pre-made pudding or custard (not a mix)	☐	☐	☐					
applesauce	☐	☐	☐					
apple juice or cider	☐	☐	☐					
Freshly pressed and not pasteurized?	☐	☐	☐					
orange juice freshly squeezed? (not from a carton or concentrate)	☐	☐	☐					
orange juice from frozen concentrate	☐	☐	☐					
any juice from frozen concetrate	☐	☐	☐					
Any juice that is not pasteurized and not from a concentrate (often bought from farms or orchards, but may be sold commerically with a label saying it is unpasteurized and may contain bacteria)	☐	☐	☐					
fruit smoothie	☐	☐	☐					
cold breakfast cereals in boxes or bags (e.g., Cheerios, Raisin Bran)	☐	☐	☐					

hot breakfast cereals (oatmeal, etc.)	☐	☐	☐					
granola	☐	☐	☐					
granola bars, power bars (e.g., Clif bar, Luna bar)	☐	☐	☐					
trail mix, gorp, or similar product	☐	☐	☐					
commercially bottled water	☐	☐	☐					
baby formula bought as a liquid	☐	☐	☐					
baby formula bought as a powder	☐	☐	☐					
store-bought puréed baby food (e.g., Gerbers)	☐	☐	☐					
any other foods specifically marketed for babies or popular with babies	☐	☐	☐					
any spices bought in bulk or at a ethnic specialty market (e.g., from a bin or in a plastic pouch)	☐	☐	☐					
any spices at home first opened in the 2 weeks before illness onset	☐	☐	☐					

FROZEN FOODS								
Item	**Y**	**?**	**N**	**How prepared**	**Type, variety or brand**	**Date eaten**	**Date purchased**	**Store or restaurant where purchased or eaten**
frozen dinners/entrees	☐	☐	☐					
pot pies	☐	☐	☐					
frozen pre-mixed meals in bag(e.g., stir-fry mix, etc.)	☐	☐	☐					
frozen vegetables in a box	☐	☐	☐					
frozen vegetables in a bag	☐	☐	☐					
frozen snack foods (e.g., mozzarella sticks, jalapeño poppers, potato skins)	☐	☐	☐					
frozen berries or fruit	☐	☐	☐					
frozen vegetarian stuff	☐	☐	☐					

(e.g., Gardenburgers, tofu hot dogs)								
frozen fish or fish products	☐	☐	☐					
frozen chicken strips or nuggets	☐	☐	☐					
any other frozen chicken products (e.g., Chicken cordon bleu, Chicken Kiev)	☐	☐	☐					
frozen pizza	☐	☐	☐					
frozen Mexican-style items	☐	☐	☐					
frozen shrimp, lobster, crab, other seafood	☐	☐	☐					
frozen diet meals of any kind	☐	☐	☐					

SPECIFIC FOODS EATEN OUT ***These refer only to food eaten or prepared away from home.***								
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	☐	☐	☐					
other burger/ground beef away from home	☐	☐	☐					
other beef away from home	☐	☐	☐					
deli-type sandwich away from home	☐	☐	☐					
sandwich with sprouts away from home	☐	☐	☐					
sandwich or burger with lettuce away from home	☐	☐	☐					
sandwich or burger with tomato away from home	☐	☐	☐					
anything from a salad bar away from home If yes, were there sprouts on the salad bar? Yes ☐ ? ☐ No	☐	☐	☐					
any salad made with lettuce or greens away from home	☐	☐	☐					

anything with raw tomatoes away from home	☐	☐	☐					
pizza away from home	☐	☐	☐					
any kind of burrito or “wrap” away from home	☐	☐	☐					
”smoothies” (e.g., from a vendor or shop)	☐	☐	☐					
other food not yet mentioned:	☐	☐	☐					

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 ☐ NoDon'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 Foodborne 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?
☐	☐	☐	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
A	☐	☐	☐	item
B	☐	☐	☐	item
C	☐	☐	☐	xxxx
D	☐	☐	☐	xxxx
E	☐	☐	☐	xxxx
F	☐	☐	☐	xxxx
G	☐	☐	☐	xxxx
H	☐	☐	☐	xxxx
I	☐	☐	☐	xxxx
J	☐	☐	☐	xxxx
K	☐	☐	☐	xxxx
L	☐	☐	☐	xxxx
M	☐	☐	☐	xxxx
N	☐	☐	☐	xxxx
O	☐	☐	☐	xxxx
P	☐	☐	☐	xxxx
Q	☐	☐	☐	xxxx
R	☐	☐	☐	xxxx
S	☐	☐	☐	xxxx
T	☐	☐	☐	xxxx
U	☐	☐	☐	xxxx
V	☐	☐	☐	xxxx
W	☐	☐	☐	xxxx
X	☐	☐	☐	xxxx
Y	☐	☐	☐	xxxx
(number)___				How many drinks with ice?

	Y	?	N	MEAL 2
A	☐	☐	☐	item
B	☐	☐	☐	xxxx
C	☐	☐	☐	xxxx
D	☐	☐	☐	xxxx
E	☐	☐	☐	xxxx
F	☐	☐	☐	xxxx
G	☐	☐	☐	xxxx
H	☐	☐	☐	xxxx
I	☐	☐	☐	xxxx
J	☐	☐	☐	xxxx
K	☐	☐	☐	xxxx
L	☐	☐	☐	xxxx
M	☐	☐	☐	xxxx
N	☐	☐	☐	xxxx
O	☐	☐	☐	xxxx
P	☐	☐	☐	xxxx
Q	☐	☐	☐	xxxx
R	☐	☐	☐	xxxx
S	☐	☐	☐	xxxx
T	☐	☐	☐	xxxx
U	☐	☐	☐	xxxx
V	☐	☐	☐	xxxx
W	☐	☐	☐	xxxx
X	☐	☐	☐	xxxx
Y	☐	☐	☐	How many drinks with ice?
(number) ___				

	Y	?	N	MEAL 3
A	☐	☐	☐	item
B	☐	☐	☐	xxxx
C	☐	☐	☐	xxxx
D	☐	☐	☐	xxxx
E	☐	☐	☐	xxxx
F	☐	☐	☐	xxxx
G	☐	☐	☐	xxxx
H	☐	☐	☐	xxxx
I	☐	☐	☐	xxxx
J	☐	☐	☐	xxxx
K	☐	☐	☐	xxxx
L	☐	☐	☐	xxxx
M	☐	☐	☐	xxxx
N	☐	☐	☐	xxxx
O	☐	☐	☐	xxxx
P	☐	☐	☐	xxxx
Q	☐	☐	☐	xxxx
R	☐	☐	☐	xxxx
S	☐	☐	☐	xxxx
T	☐	☐	☐	xxxx
U	☐	☐	☐	xxxx
V	☐	☐	☐	xxxx
W	☐	☐	☐	xxxx
X	☐	☐	☐	xxxx
Y	☐	☐	☐	How many drinks with ice?
(number) ___				

	Y	?	N	MEAL 4
A	☐	☐	☐	item
B	☐	☐	☐	item
C	☐	☐	☐	xxxx
D	☐	☐	☐	xxxx
E	☐	☐	☐	xxxx
F	☐	☐	☐	xxxx
G	☐	☐	☐	xxxx
H	☐	☐	☐	xxxx
I	☐	☐	☐	xxxx
J	☐	☐	☐	xxxx
K	☐	☐	☐	xxxx
L	☐	☐	☐	xxxx
M	☐	☐	☐	xxxx
N	☐	☐	☐	xxxx
O	☐	☐	☐	xxxx
P	☐	☐	☐	xxxx
Q	☐	☐	☐	xxxx
R	☐	☐	☐	xxxx

	Y	?	N	MEAL 5
A	☐	☐	☐	item
B	☐	☐	☐	item
C	☐	☐	☐	xxxx
D	☐	☐	☐	xxxx
E	☐	☐	☐	xxxx
F	☐	☐	☐	xxxx
G	☐	☐	☐	xxxx
H	☐	☐	☐	xxxx
I	☐	☐	☐	xxxx
J	☐	☐	☐	xxxx
K	☐	☐	☐	xxxx
L	☐	☐	☐	xxxx
M	☐	☐	☐	xxxx
N	☐	☐	☐	xxxx
O	☐	☐	☐	xxxx
P	☐	☐	☐	xxxx
Q	☐	☐	☐	xxxx
R	☐	☐	☐	xxxx

	Y	?	N	MEAL 6
A	☐	☐	☐	item
B	☐	☐	☐	item
C	☐	☐	☐	xxxx
D	☐	☐	☐	xxxx
E	☐	☐	☐	xxxx
F	☐	☐	☐	xxxx
G	☐	☐	☐	xxxx
H	☐	☐	☐	xxxx
I	☐	☐	☐	xxxx
J	☐	☐	☐	xxxx
K	☐	☐	☐	xxxx
L	☐	☐	☐	xxxx
M	☐	☐	☐	xxxx
N	☐	☐	☐	xxxx
O	☐	☐	☐	xxxx
P	☐	☐	☐	xxxx
Q	☐	☐	☐	xxxx
R	☐	☐	☐	xxxx

S ☐ ☐ ☐ xxxx	*S* ☐ ☐ ☐ xxxx	*S* ☐ ☐ ☐ xxxx
T ☐ ☐ ☐ xxxx	*T* ☐ ☐ ☐ xxxx	*T* ☐ ☐ ☐ xxxx
U ☐ ☐ ☐ xxxx	*U* ☐ ☐ ☐ xxxx	*U* ☐ ☐ ☐ xxxx
V ☐ ☐ ☐ xxxx	*V* ☐ ☐ ☐ xxxx	*V* ☐ ☐ ☐ xxxx
W ☐ ☐ ☐ xxxx	*W* ☐ ☐ ☐ xxxx	*W* ☐ ☐ ☐ xxxx
X ☐ ☐ ☐ xxxx	*X* ☐ ☐ ☐ xxxx	*X* ☐ ☐ ☐ xxxx
Y ☐ ☐ ☐ xxxx	*Y* ☐ ☐ ☐ xxxx	*Y* ☐ ☐ ☐ xxxx
*(number)*___ How many drinks with ice?	(*number*) ___ How many drinks with ice?	*nnumber*) ___ How many drinks with ice?

Y	?	N	OTHER QUESTIONS FOR EVERYBODY ***(MODIFY AS APPROPRIATE FOR THE SITUATION)***
A ☐	☐	☐	Did you share a cabin with anyone?
B ☐	☐	☐	Did anyone else in your cabin become ill *before* you did?
C ☐	☐	☐	Did anyone else in your cabin become ill *after* you did?
D ☐	☐	☐	Did anyone in your household who did not go to the wedding later become ill?
Z ☐	☐	☐	**Have you yourself been sick at all with xxxxx since xxxxxxxxxx?**

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 Foodborne Illness Line List

Gastrointestinal illness Line List

Confirmed Case Definition:

Name	DOB	age	gender M/F/U	Onset date	Cx date	SLD #	Meets case definition?	Nausea	Vomiting	Diarrhea	Max stools in 24 hrs	Blood in stool	Fever	Chills	Headache	Muscle aches	Cramps	Fatigue	Duration	Other:	seek Med care	visit ER?	Hospitalized	Phone #	Comments

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:_____

Food Handler's Food Preparation History

Food Handler's Name:_____

Food Item	Date Prepared	Role in preparation

11.1.7 NMDOH Foodborne Illness Investigation Report

OUTBREAK NAME
NMDOH Outbreak #
NORS #
LOCATION
INVESTIGATION INITIATED: (date and time)

Prepared by: Name, title(s)
Report Completed: (date)

Context/Background- information the 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)
- 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.

NORS # NM (to be determined by NORS at time of data entry there)
Outbreak #:
Completed by:
Setting:
Transmission Mode:
City:
County:
# of lab confirmed cases:
# of probable cases:

Date first case became ill	
Date last case became ill	
Date of first known exposure (if known)	
Date of last known exposure (if known)	

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		

Sex	**Number of cases**	**Percent of cases**
Male		
Female		

Feature	**Number of cases**	**Total number of cases for whom information was available**
Healthcare provider visit		
Hospitalization		
Deaths		
Vomiting		
Diarrhea		
Bloody stools		

Fever		
Abdominal cramps		
HUS or TTP		
Asymptomatic		
Other symptom (specify):		
Other symptom (specify):		

For boxes below: enter the number where # sign is and check box for measurement type

Duration of illness (among those who recovered,)		
Shortest	(# of)	☐Minutes ☐ Hours ☐ Days
Longest	(# of)	☐Minutes ☐ Hours ☐Days
Median	(# of)	☐Minutes ☐ Hours ☐ Days

Duration of illness unknown: ☐

Incubation period		
Shortest	(# of)	☐Minutes ☐ Hours ☐ Days
Longest	(# of)	☐Minutes ☐ Hours ☐ Days
Median	(# of)	☐Minutes ☐ Hours ☐ Days

Incubation period unknown: ☐

11.1.8 Food Establishment Inspection/Risk Assessment Report

STATE OF NEW MEXICO
ENVIRONMENT DEPARTMENT
Food Establishment Inspection/Risk Assessment Report

Date:	Time:	Firm:	Permit:	Exp:	Type:

Status of Establishment:
- ☐ Approved
- ☐ Unsatisfactory
- ☐ Immediate Suspension
- ☐ Voluntary Closure
- ☐ Training Needed

Purpose of Inspection:
- ☐ Pre-Opening
- ☐ Opening
- ☐ Initial
- ☐ Regular
- ☐ Follow-up
- ☐ Complaint
- ☐ Investigation
- ☐ Closing
- ☐ Other

Follow-up Required: ☐ No ☐ Yes Date:

Establishment Location & Phone:

High Risk Total # Violations ☐

CDC Risk Factors:
- ☐ 1. Unsafe Sources: **8M**-1,2,4; **9A**-1,2,3,4,5,6,7,8,9; **9I**-1,2,3,4; **9J**
- ☐ 2. Inadequate Cooking/Cooling: **9B**-5,6,7,8
- ☐ 3. Improper Holding: **9A**-10; **9B**-1,3,4,9,11; **9C**-4,9
- ☐ 4. Contaminated Equipment: **9C**-5,14; **9D**-3,6,13,14,16,17; **9K**-4,12
- ☐ 5. Poor Personal Hygiene: 8H-2,3,4; 9G-1,4,5,6; **9H**-1,2,5;**10B**-1,6

Miscellaneous:
- ☐ 6. Administration: **8I**-2,3
- ☐ 7. Plumbing/Waste Disposal: **9F**-1,2,3,4,5
- ☐ 8. Storage: **9C**-3,11,12,17
- ☐ Other:

Comments:

Moderate Risk Total # Violations ☐

CDC Risk Factors:
- ☐ 3. Improper Holding: **9B**-2,10,12,13
- ☐ 4. Contaminated Equipment: **9C**- 13; **9D**- 1,2,4,5,7,8,9,10, 11,12,15,18; **9K**- 13,14,15; **10A**-1,2,4,8,9,10
- ☐ 5. Poor Personal Hygiene: **9G**-2,3,7; **9H**-6

Miscellaneous:
- ☐ 6. Administration: **8A**-2; **8B**-1,2; **8G**-3
- ☐ 9. Animals/Vermin/Openings: **9K**-5,6; **10E**-1,2,3,4,5
- ☐ 7. Plumbing/Waste Disposal: **9F**-7,10,11,12
- ☐ 8. Storage: **9C**-2,6,8,10,15,16
- ☐ Other:

Comments:

Low Risk Total # Violations ☐

CDC Risk Factors:
- ☐ 4. Contaminated Equipment: **9K**-8,9,10; **10A**-3,5,6,7; **10B**-9
- ☐ 5. Poor Personal Hygiene: **9H**-3,4

Miscellaneous:
- ☐ 6. Administration: **8A**-1; **8B**-3,10,11,13,14,15,16,17,18; **8G**-1,2; **8K**-4,5
- ☐ 9. Animals/Vermin/Openings: **10D**-3
- ☐ 10. Floors/Walls/Ceilings: **10B**-2,3,4; **10C**-1,3,4,5; **10D**-1,2
- ☐ 7. Plumbing/Waste Disposal: **9F**-6,8,9; **9K**-1; **10B**-7; **10C**-2
- ☐ 8. Storage: **9C**-1; **9E**-1,2; **9K**-2,3,7,11; **10B**-8
- ☐ 11. Ventilation/Lighting: **10B**-5; **10F**-1,2,3; **10G**-1,2,3,4
- ☐ Other:

Comments:

Received by:	NMED Representative:

Note: Any regulation number may be moved to a different risk level if the immediate situation warrants the change.

CSB/FSP-105A; JUL 00