

LOS BURRITOS MEXICANOS  
FINAL REPORT

**Los Burritos Mexicanos E. coli Outbreak  
1015 E. St. Charles Rd  
Lombard, IL DuPage County  
Dates of Exposure: 5/20/13 - 6/14/13.  
Outbreak #: IL2013-245  
Prepared by  
DuPage County Health Department**

---

**September 2013**

On 6/13/2013, the DuPage County Health Department (DCHD) Communicable Disease and Epidemiology program (CDE) received reports that five individuals had tested positive for *E. coli*.

On 6/14/2013, Los Burrito's Mexicanos was closed indefinitely after multiple persons interviewed reported eating food from that facility. CDE e-mailed a memo regarding the identified cluster and *E. coli* prevention and control recommendations to local healthcare professionals. Illinois Department of Public Health forwarded the memo to other northern Illinois local health departments.

On 6/17/ 2013, DCHD issued a press release about the illness cluster. A hotline was established to accept calls from those who had eaten at the Los Burritos Mexicanos in Lombard before the restaurant closed 6/14/2013. Additional case histories were obtained after the press release.

Environmental Health staff conducted an environmental assessment of the restaurant the morning of 6/17/2013. DCHD Sanitarians observed the preparation of various menu items that had been identified during the interview process in order to assess and critique their procedures. Sixteen employee health histories were obtained; 18 environmental surface swabs were collected; and an in-service training covering the risk factors related to food-borne illnesses and stool sample collection instructions was given to the owner, management and restaurant staff. Stool sample test kits with explanation for collection of two samples per employee were distributed to employees, including the owner. Food prepared prior to 6/10/2013, the last known onset date at the time, was not available for testing.

The environmental assessment of the facility found that there was a general lack of proper hand washing; food handlers were handling ready-to-eat food with their bare hands; a lack of proper utensil washing – utensils just rinsed under running water; a large clean in place cutting board was not being cleaned and sanitized properly; and vegetables were not rinsed before they were processed. General facility cleanliness was also an issue.

The restaurant owner was provided a list of requirements that needed to be completed before consideration was made to re-open the facility. Requirements included the requirement that all employees must submit two negative stool samples prior to working in any food service operation, facility was to be thoroughly cleaned and sanitized, repairs were to be made on all equipment in need of repair, repair of all plumbing leaks and discard all produce and prepared food items.

None of the restaurant employees reported diarrheal illness during their health history interviews. All employee samples came back negative except for one employee, a cook, who tested positive for *E. coli* O157:H7 on the first of his two stool specimens. This employee's second and third stool specimens tested negative.

A case-control study was conducted among patrons who ate at the restaurant. All persons who self-reported as being ill were encouraged to see healthcare providers for appropriate evaluation and stool testing. If patients did not have the means or the access to a provider for testing, DCHD offered stool testing at no charge. Some of the respondents stated that he/she often ate at Los Burritos Mexicanos and would give the date best recalled. Incubation periods for these individuals were not included in the CDC NORS report summary.

#### *Outbreak Case Definition*

A confirmed case associated with the outbreak is defined as:

- a) a laboratory confirmed case with isolation of Shiga toxin-producing *E. coli* O157:H7 from a clinical specimen of a person with a history of exposure (e.g., having eaten food purchased and/or prepared) from the Los Burritos Mexicanos restaurant located at 1015 E. St. Charles Road in Lombard, Illinois between 5/20/13 and 6/14/13.  
or
- b) a laboratory confirmed case with isolation of Shiga toxin-producing *E. coli* O157:H7 from a clinical specimen of a person with a history of exposure (e.g., having eaten food purchased and/or prepared) from the Los Burritos Mexicanos restaurant located at 1015 E. St. Charles Road in Lombard, Illinois within unknown timeframe and developed diarrheal illness and/or post-diarrheal hemolytic uremic syndrome (HUS) with symptom onset 5/21/13-6/24/13.

A probable case is defined as:

- a) a person with a history of exposure (e.g., having eaten food purchased and/or prepared) from the Los Burritos Mexicanos restaurant located at 1015 E. St. Charles Road in Lombard, Illinois between 5/20/13 and 6/14/13 and developed diarrheal illness and/or post-diarrheal hemolytic uremic syndrome (HUS) with symptom onset 5/21/13-6/24/13 and evaluated by a healthcare provider, with or without laboratory testing performed to confirm diagnosis of *E. coli* O157:H7,  
or
- b) a person with a history of exposure (e.g., having eaten food purchased and/or prepared) from the Los Burritos Mexicanos restaurant located at 1015 E. St. Charles Road in Lombard, Illinois between 5/20/13 and 6/14/13 and developed diarrheal illness and/or post-diarrheal hemolytic uremic syndrome (HUS) with symptom onset 5/21/13-6/24/13 with confirmatory laboratory testing performed by IDPH;  
or
- c) a person with a history of exposure (e.g., having eaten food purchased and/or prepared) from the Los Burritos Mexicanos restaurant located at 1015 E. St. Charles Road in Lombard, Illinois between 5/20/13 and 6/14/13 and developed diarrheal illness and/or post-diarrheal hemolytic uremic syndrome (HUS) with symptom onset 5/21/13-6/24/13 and confirmatory testing for *E. coli* O157:H7 was negative,  
or

- d) a person with a history of exposure (e.g., having eaten food purchased and/or prepared) from the Los Burritos Mexicanos restaurant located at 1015 E. St. Charles Road in Lombard, Illinois between 5/20/13 and 6/14/13 and developed diarrheal illness and/or post-diarrheal hemolytic uremic syndrome (HUS) with symptom onset 5/21/13-6/24/13 with identification of an elevated antibody titer to a known Shiga toxin-producing *E. coli* serotype;  
or
- e) a person with a history of exposure (e.g., having eaten food purchased and/or prepared) from the Los Burritos Mexicanos restaurant located at 1015 E. St. Charles Road in Lombard, Illinois between 5/20/13 and 6/14/13 and developed diarrheal illness and/or post-diarrheal hemolytic uremic syndrome (HUS) with symptom onset 5/21/13-6/24/13 who is a household contact/family member of a confirmed or probable case, with or without laboratory testing performed to confirm diagnosis of *E. coli* O157:H7 or evaluation by a healthcare provider.

A secondary confirmed case is defined as:

a laboratory confirmed case with isolation of Shiga toxin-producing *E. coli* O157:H7 from a clinical specimen of a person who is epidemiologically-linked to a confirmed or probable case, but he himself did not eat at the Los Burritos restaurant located at 1015 E. St. Charles Road in Lombard, Illinois, and diarrheal illness onset is after onset of the index case who ate at the Los Burritos restaurant located at 1015 E. St. Charles Road in Lombard, Illinois.

A secondary probable case is defined as:

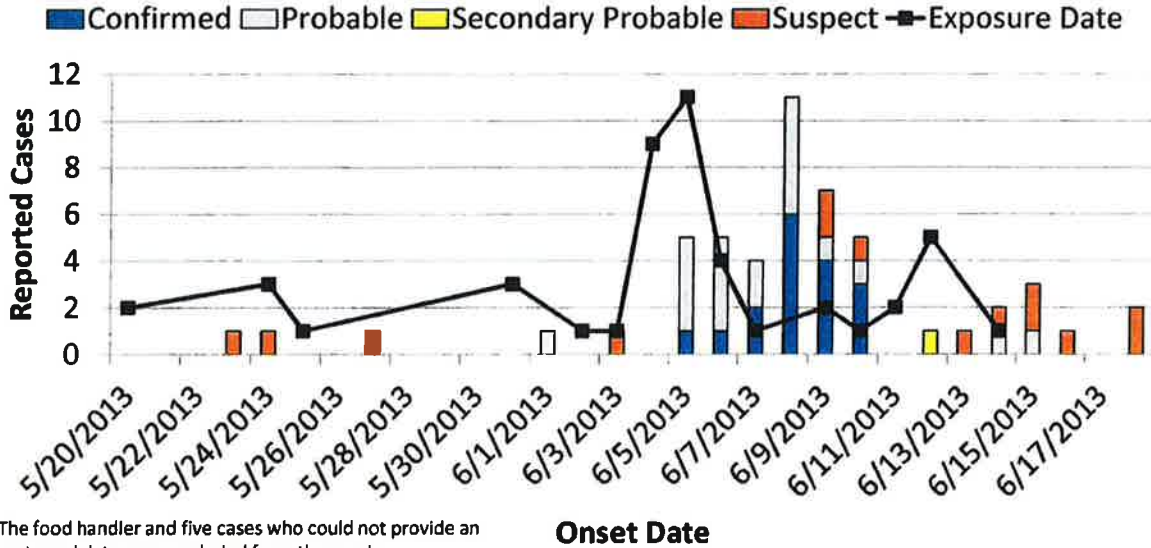
a person who developed diarrheal illness and/or post-diarrheal hemolytic uremic syndrome (HUS) with or without laboratory testing performed to confirm diagnosis of *E. coli* O157:H7, who is epidemiologically-linked to a laboratory confirmed or probable case with a history of exposure (e.g., having eaten food purchased and/or prepared ) from the Los Burritos Mexicanos restaurant between 5/20/13 and 6/14/13, but he himself did not eat at the Los Burritos restaurant located at 1015 E. St. Charles Road in Lombard, Illinois, and diarrheal illness onset is after onset of the index case who ate at the Los Burritos restaurant located at 1015 E. St. Charles Road in Lombard, Illinois.

A suspect case is defined as:

a person with a reported history of exposure (e.g., having eaten food purchased and/or prepared) from the Los Burritos Mexicanos restaurant located at 1015 E. St. Charles Road in Lombard, Illinois between 5/20/13 and 6/14/13 and developed diarrheal illness with symptom onset 5/21/13-6/24/13 who is not a household contact/family member of a confirmed or probable case, without laboratory testing performed to confirm diagnosis of *E. coli* O157:H7 or evaluation by a healthcare provider.

*Epidemic Curve*

***E. coli* O157:H7 Outbreak, IL2013-245\***



**Results**

*Surveillance*

Seventy-seven (77) non-food handler case histories were obtained (52 ill and 25 controls). Ills included 17 confirmed cases, 20 probable cases, one secondary probable case, and 14 suspect cases (see definitions above). The secondary probable case is included in the chart above with an exposure on June 5 and an onset of June 12. Probable and suspect cases (34) were combined as "probable" primary cases in the CDC NORS report. Controls included 25 individuals who ate at the restaurant during the time period studied but did not develop symptoms of illness. Thirty-two (62%) ill were male; 20 (38%) were female. Ill individuals ranged in age from 1 year-80 years with a median of 31.5 years. Thirty-six (69%) ill were between 20 and 74 years old; 20 (38%) were aged 20-49 years and 16 (31%) were aged 50-74 years old.

The median incubation period for the 46 ill cases reporting a single exposure date to the restaurant, was 60 hours (2.5 days); shortest: 4 hours (.2 days); and longest: 312 hours (13 days). Data on the duration of illness was collected from 11 (21%) ill exposed to the restaurant and ranged from 2 to 15 days with a median of 9.5 days. Sixteen ill (31%) reported vomiting, 52 (100%) reported diarrhea, 30 (58%) reported bloody diarrhea, 41 (79%) reported abdominal cramping, and 16 (31%) reported fever. Ten ill (19%) were hospitalized (one developed HUS); 11 (21%) were seen in the emergency room; 10 (19%) were seen by an outpatient healthcare provider.

*E. coli Testing of Patron Stool Specimens*

Twenty-seven (52%) patrons provided stool samples. The IDPH Laboratory in Springfield, IL, identified PFGE patterns for 17 specimens that tested positive for *E. coli*.

PFGE Patterns		
# Cases	Percent	PFGE Pattern **
4	24%	EXHX01.0060
13	76%	EXHX01.5232
17	100%	EXHA26.3318
Note: Employee matched EXHA26.3318 and EXHX01.5232		

\*\* Per e-mail communication with IDPH lab: "Patterns EXHX01.5232 and EXHX01.0060 appear to be identical, except that 5232 has a doublet at the second thick band on the left."

*Environmental Testing*

Eighteen surface swab samples were obtained from various surfaces in the restaurant. The IDPH Laboratory in Springfield, IL, completed the analysis of the surface samples for presence of shiga-toxin *E. coli*. All surface swabs tested were negative for *E. coli*.

*Employee Health Histories*

Sixteen employee health histories were obtained. Health histories included owner, management and staff. None of the employees stated that they had been ill in the month prior to the closure date.

*E. coli Testing of Employee Stool Specimens*

Sixteen employees were tested for shiga-toxin *E. coli* from a stool sample. Each employee provided two samples. The IDPH Laboratory in Springfield, IL, completed the analysis of the stool samples. One employee (a cook) of the 16 tested was positive for *E. coli* O157:H7 with a PFGE pattern matching the patron samples on the first of two specimens originally submitted. This employee submitted two consecutive negative results prior to being released to work.

*Menu Analysis*

All menu items were analyzed for food specific attack rates. None of the food items identified displayed a statistically significant association between having been eaten and illness. Several food items displayed odds ratios of three or higher but they did not return a significant p-value less than .05. One menu item, "steak" did return an odds ratio of 2.9 and a p-value of .0455 but the lower confidence limit was 0.91.

### *Facility Re-Opening*

On 6/27/2013, the facility was allowed to re-open after they demonstrated that the facility had been thoroughly cleaned and sanitized and all issues identified from previous visits had been addressed. Employees attended a second in-service training provided by DCHD staff covering personal hygiene, cross contamination, and temperature control.

### *Concluding Remarks*

The outbreak associated with Los Burritos Mexicanos ended after the restaurant was closed on 6/14/2013. A total of 52 ill non-food handlers were identified during this investigation. Of these 52 cases, 17 were lab-confirmed with *E. coli* O157:H7, 20 were probable cases, one was a secondary probable case, and 14 were suspect cases. One individual became ill as a result of secondary transmission of the organism from a family member who was a patron associated with the outbreak. Ten of these cases were hospitalized (one developed HUS); 11 made an emergency room visit; and another 10 visited their healthcare provider.

None of the menu items analyzed for food specific attack rates displayed a statistically significant association between having been eaten and illness. Lack of proper hand washing, handling ready-to-eat food with bare hands, improperly washing and sanitizing food contact surfaces, failure to wash fruit and vegetables prior to processing and poor facility sanitation were all noted during the Environmental Assessment of the facility. One food handler, a cook, was found to be positive for *E. coli* O157:H7 with a PFGE pattern matching the patron samples. Since this food handler reported not having any symptoms of illness at any time a month prior to or after the investigation began, it is difficult to ascertain when this individual became infected and whether this individual contributed to the outbreak or was simply a victim, since he reported eating food made at the facility in his interview. All other employees were found to be lab-negative for *E. coli*. Food prepared prior to the initial onset dates was not available for testing. DCHD Environmental Health staff continued to monitor food preparation processes and provide additional training after the facility reopened. No other complaints of illness associated with Los Burritos Mexicanos in Lombard, IL have been received since the facility re-opened.

**DUPAGE COUNTY HEALTH DEPARTMENT  
ENVIRONMENTAL HEALTH DIVISION  
COMPLAINT FORM**

Date Received 06 /14 /13

Complaint Number 57281

Bernadeta Madrzyk,  
Carrie Rannaaja,  
Dorisanne Williams,  
Emma Taylor, Harvey  
Mull, Lindsay Stahl,  
Maria Ruiz, Mary Jo  
Kienzle, Renzo  
Manfredini, Roland  
Lankah, Colette Petit,

Sanitarian's Id. 565

Sanitarian Elizabeth Barajas

Name Los Burritos Mexicanos  
Last Name / Business

First Name / Contact Person

Address 1015 E ST. CHARLES RD  
Number Street Apt. / Suite

City LOMBARD Zip 60148

Home Phone \_\_\_\_\_ Business Phone (630) 235-8826

Alternate Address / Phone \_\_\_\_\_

Complaint E. coli 0157:H7 outbreak

Type Codes (1) 401 (2) \_\_\_\_\_ Parcel Number \_\_\_\_\_ Geo Code 67

Source of Complaint: Public \_\_\_\_\_ DPCHD \_\_\_\_\_ Other Agency \_\_\_\_\_ Anonymous \_\_\_\_\_

Complainant \_\_\_\_\_

Address 111 N County Farm RD City WHEATON Zip 60187

Home Phone \_\_\_\_\_ Business Phone \_\_\_\_\_

1<sup>st</sup> Contact 06 /14 /13 Total Contacts \_\_\_\_\_ Validity \_\_\_\_\_ Court \_\_\_\_\_

Violation Closed 09 /17 /13 32 Valid

Entry Date	Narrative
6/14/2013	Meeting with CD established that there was a link between the several confirmed cases of E. coli 0157:H7 and Los Buritto's Mexicanos at 1015 E. St. Charles Rd in Lombard. Common food item was buritto, lettuce, tomatos, beans.
6/14/2013	Went to facility with Matt Fullam and requested that the facility be closed until further notice.
6/14/2013	Stopped at the Lombard Police station to inform them that we closed Los Burittos and requested observation whether they remain closed over the weekend. They agreed to do so and will call me if they find otherwise.
6/17/2013	Collected surface samples from restaurant kitchen and service area. Shipped to IDPH, 825 N Rutledge, Springfield laboratory. FedEx tracking number 8029 1979 2730. HMull
6/17/2013	Meeting to determine scope of action to be taken today held. Determined that employee health histories, Consultative HACCP inspection, Trace back information and an in-service would be completed on Monday morning at the facility.
6/16/2013	Spoke with the owner of Los Burrito's and explained that we would like all of his employees to be present if possible on Monday morning at 9:30am for a health histories and in-service training.
6/17/2013	Completed 13 employee health histories. No one stated that they were sick anytime between Memorial Day weekend and today's date (6/17). Completed a Consultative HaCCP inspection and obtained trace back information on food implicated in the outbreak to date. A in-service was performed covering the reason why the



	<p>facility was closed, how to take a stool sample, risk factors associated with food borne illnesses, problems found on the previous inspection and issues found during the Consultative HACCP today. Instructions were left with the owner and employees on stool sample collection. Pick up times are scheduled for 9:30 am at Los Burrito's on Tuesday, Wednesday, and Thursday this week.</p>
6/18/2013	<p>Picked up 15 stool samples from Los Buritto employees this morning. Gave owners instructions to clean and sanitize the facility while closed as a condition to re-open. All equipment needing repair is to be repaired at this time as well as any plumbing leaks are to be fixed. Recommended discarding all open food items due to the amount of time they will remain unused. Un opened items may be retained, used by their sister store or frozen until needed. Second pic up scheduled for 9:30 am Wednesday morning at Los Buritto's. 12:15 pm: CD requested a sample kit drop off at a case that lives on the east side of the county.</p>
6/18/2013	<p>Email from Rashmi Chugh Medical Officer-DCHD: Given the increased awareness anticipated from recent media reports and increased call volume/case reporting, here's our current E. coli O157:H7 outbreak case count as of 12pm today: 9 confirmed: 6 of whom had been hospitalized, all have been discharged to home 14 probable (not lab-confirmed but meet clinical and restaurant exposure criteria; counted as cases): 6 of whom had been hospitalized; one remains hospitalized, five have been discharged to home Total: 23 cases (case count which may be provided publicly) Pending: 1 suspect case who is lab-positive but interview hasn't been completed yet to determine restaurant exposure Per email from Elizabeth Murphy (Dupage CD) to question from Connie Austin (IDPH-CD)"Are there any patients how have said "no" to this restaurant?" Liz states that "All cases to date have reported restaurant exposure."</p>
6/18/2013	<p>15 first round stool samples from Los Buritto employees shipped via Fed Ex overnight. Second round of samples due for pick up on Wednesday morning.</p>
6/18/2013	<p>Case definition defined by DCHD CD staff (email sent by Elizabeth Murphy): A confirmed case associated with the outbreak is defined as: a) a laboratory confirmed case with isolation of Shiga toxin-producing E. coli O157:H7 from a clinical specimen of a person with a history of exposure (e.g., having eaten food purchased and/or prepared) from the Los Burritos Mexicanos restaurant located at 1015 E. St. Charles Road in Lombard, Illinois between 5/24/13 and 6/14/13. or b) a laboratory confirmed case with isolation of Shiga toxin-producing E. coli O157:H7 from a clinical specimen of a person with a history of exposure (e.g., having eaten food purchased and/or prepared) from the Los Burritos Mexicanos restaurant located at 1015 E. St. Charles Road in Lombard, Illinois within unknown timeframe and developed diarrheal illness and/or postdiarrheal hemolytic uremic syndrome (HUS) with symptom onset 5/26/13-6/24/13. A probable case is defined as: a person with a history of exposure (e.g., having eaten food purchased and/or prepared) from the Los Burritos Mexicanos restaurant located at 1015 E. St. Charles Road in Lombard, Illinois between 5/24/13 and 6/14/13 and developed diarrheal illness and/or postdiarrheal hemolytic uremic syndrome (HUS) with symptom onset 5/26/13-6/24/13 and evaluated by a healthcare provider, with or without laboratory testing performed to confirm diagnosis of E. coli O157:H7, or a person with a history of exposure (e.g., having eaten food purchased and/or prepared) from the Los Burritos Mexicanos restaurant located at 1015 E. St. Charles Road in Lombard, Illinois between 5/24/13 and 6/14/13 and developed diarrheal illness and/or postdiarrheal hemolytic uremic syndrome (HUS) with symptom onset 5/26/13-6/24/13 with confirmatory laboratory testing performed by IDPH; or a person with a history of exposure (e.g., having eaten food purchased and/or prepared) from the Los Burritos Mexicanos restaurant located at 1015 E. St. Charles Road in Lombard, Illinois between 5/24/13 and 6/14/13 and developed diarrheal illness and/or postdiarrheal hemolytic uremic syndrome (HUS) with symptom onset 5/26/13-6/24/13 and confirmatory testing for E. coli O157:H7 was negative, or a person with a history of exposure (e.g., having eaten food purchased and/or prepared) from the Los Burritos Mexicanos restaurant located at 1015 E. St. Charles Road in Lombard, Illinois between 5/24/13 and 6/14/13 and developed diarrheal illness and/or postdiarrheal hemolytic uremic syndrome (HUS) with symptom onset 5/26/13-6/24/13 with identification of an elevated antibody titer to a known Shiga toxin-producing E. coli serotype.</p>
6/18/2013	<p>From Elizabeth Murphy - DCHD CD: Given our outbreak case definitions, we want to make sure the following information is obtained from interviews and recorded in the line list: • Ill persons should be referred to their healthcare provider for appropriate evaluation and stool testing if they have not already visited one. • If the ill person says they have already visited their provider, get the provider's contact name and phone number. • If the ill person says they are going to see their provider, let them know to have the provider call us after the visit and get the provider's contact name and phone number. • If the ill person says they do not have a provider, they can't afford a provider, or they are a family member to a confirmed case, let them know that we can offer them stool testing for free through IDPH. Let CDE staff know if this is the case so test kits can be mailed to the ill person.</p>
6/19/2013	<p>IL2013-245 Invoices for food items implicated at Los Burritos Mexicanos are on SharePoint.</p>
6/19/2013	<p>Second round of employee samples were picked up and packed for shipping by Roland Lankah today. Fifteen employee samples were sent off to the IDPH Lab in Springfield via Fed Ex overnight.</p>
6/20/2013	<p>Front Desk managers at the EPHC and COPHC were notified to watch out for ill case stool samples today and to notify Tom Stolt or Harvey Mull if they received any. Anne Williams was notified to have someone from her office be ready to pack up the samples for shipping this afternoon.</p>

6/21/2013	Per clarification from Carrie R, Los Burrito's get's their ground chuck from IBP Beef Products which is owned by Tyson Foods. At this point there does not appear to be an association between the beef recall (National beef) due to E coli 0157:H7 and this company. IDPH is looking into the PFGE pattern for a match between the Los Burrito outbreak and the National Beef recall.
6/21/2013	Scanned and faxed the following reports to Pat Wech, IDPH Springfield: Order to Close; Consultative HACCP; Trace Back and Invoices; and Instructions to Re-Open.
6/21/2013	Received results of the 1st employees samples. All but one employee tested negative. The positive employee is a cook who is involved in all aspects of the prep process. ██████ tested positive for Shiga toxin 1 and Shiga toxin 2 E. coli. ██████ has been notified of his status by Collette of DCHD-CD. Two stool sample kits are being mailed to him today. ██████ shared some details regarding questions we had of food items included in menu items at the time of his notification. We asked him again whether he had any symptoms of illness, if anyone in his household was sick or if he traveled anywhere recently. He answered no to the three questions. Owner/Manager Marco Arteaga has been notified of the results and the restricted status of this employee after ██████ was notified. ██████ reports that he does not work at any other food service facility other than Los Burritos.
6/24/2013	Results of the second set of employee samples came in today. All samples including the employee with a positive sample the first round came back negative. Results placed on the line list in Share Point. Current line list info: 40 ill cases 20 not ill cases. CD currently working through the ill cases to see which ones meet the case definitions and which ones should be excluded. CD is also working on reviewing the meal items reported for accuracy based on menu analysis that was completed last week. As a condition to re-open Los Burrito's staff will need to be present for another in-service specifically focusing on issues that came up during the inspection performed 17th of June. All open food and produce must be discarded and the entire facility cleaned and sanitized prior to gaining approval to open. ██████ needs to submit one more negative sample to gain clearance to work.
6/24/2013	Called Marco to discuss re-opening conditions. He stated that he has had his staff sit thru a 3 hour in-service with the company that provides the training to their Kane County (St. Charles) facility last week. Requested verification of this training for our records. Also discussed possible dates and times he can get all of his employees together for another in-service prior to opening. Marco stated that they have already thrown out all of their open food and produce and will start with fresh product. They are still in process of cleaning.
6/25/2013	Los burrito's to re-open protocol: We have an in-service scheduled for Wednesday morning to go over issues we came across during our inspection on June 17th. All but one employee is cleared to work. Expect the positive employee (serotyped: 0157:H7 PFGE pending) to have submitted to negative samples soon. We already have one negative sample from this employee. Facility will have been completely cleaned and sanitized by Wednesday morning and all open and/or prepared food as well as all produce has been discarded. Employees have already had two in-services since they were closed, one that we did on the 17th and another the other day. The owner utilized the trainer (Serv-Safe) that provided their employees at the St. Charles (Kane County) location the 3 hours of food service worker training that Kane County HD requires of all food service workers in their county to have. The facility will have had three in-service trainings prior to opening. The closure did stop the outbreak in its tracks. Last exposure date was the day we closed them, with the meal occurring in the afternoon prior to closure. (Exposure range: 6/5-6/14). The positive food service worker stated he did not have any symptoms of illness at any time in the last month.
6/25/2013	Positive employee was serotyped- E. coli 0157:H7. Awaiting PFGE pattern on Shiga toxin 1 and 2.
6/26/2013	In-service completed. HD participants: Ann Williams, maria Ruiz, Lindsay Stahl, Emma Taylor and Tom Stolt. Pre-test given to staff present to complete prior to in-service. Employees broken into three groups: Servers, Cooks/Bus Buoys/Dishwashers, and Owner and Managers. Topics covered were related to risk factors that commonly contribute to food borne illnesses as well as those issues that were discovered during the 6/17 inspection completed by Mary-Jo Kienzle and Lindsay Stahl. Restaurants Insurance Claims agent was present at the facility during the training. Ann and I took the owner and managers in the kitchen and discovered that they had not yet completed cleaning the facility up and several food items were still in the facility that were ordered to be destroyed earlier. All these food items which included ready-to eat food, produce and open previously prepared food were thrown into the dumpster and destroyed by denaturing with a bottle of bleach. Total poundage was around 250 pounds. Owner stated he plans to have the facility ready to open by Friday. Anne and I further explained that we wanted them to discontinue using the large cutting board that sits on top of the stainless steel table and use color coded cutting boards that are sized so that they can be at least submerged half way in their 3 compartment sink. They agreed to provide these prior to opening. Also we requested an additional hand sink in the server area next to the soda station so the servers could wash their hands without having to go through a door into the kitchen to do so. Owner agreed to provide. This does not have to be provided prior to re-opening but is expected shortly afterwards.
6/27/2013	Case count update from DCHD CD group: As of 4:30pm 6/26/2013, here's our current E. coli O157:H7 outbreak case count: 15 confirmed: 7 of whom had been hospitalized, all have been discharged to home 11 probable (not lab-confirmed but meet clinical and restaurant exposure criteria and have had an outpatient/ER provider visit or hospitalization; counted as cases): 3 of whom had been hospitalized, all have been discharged

	to home Total: 26 cases (case count which may be provided publicly) Pending: 23 suspect cases under investigation Have received the PFGE results for 10 of our confirmed ill cases. Matching PFGE patterns for each shiga toxin group (cases E. coli had both Shiga toxin 1 and 2) within the cases E. coli strain are the same for all 10 cases.
6/27/2013	Colette from DCHD CD group informed me that the positive employee now has three consecutive negative samples so he is now cleared to work. Waiting for the PFGE pattern for his positive sample.
6/25/2013	Hot Line number for this outbreak has been closed. Total calls received at this number was 33. Hot line was open between 6/17 and 6/25 for persons that developed an illness due to eating at Los Burrito's.
6/27/2013	Per email from Anne Williams: The facility has been reinspected they provided pest control service, temp logs, repaired walk in, has fssmc registration for employee, gloves for ready to eat foods, color cutting boards to prevent cross contamination, thoroughly cleaned food service & non food service areas. Facility has been approved to open. Ill employee cleared to return to work .
6/28/2013	Cd has completed their review of the meal items reported by cases (ill and well). While the steak and lettuce have odds ratios of 2.9 and 2.3 respectively none of the food items shows statistical relationship between exposure and illness(lacks good p-values).
9/9/2013	Finished reviewing the workbook data and editing the draft report created by Sanitairans Lindsey Stahl and Mary-Jo Kienzle and Colette Petit of CDE. Passed the report along for review to members of the leadership team in EHS and CDE.
9/17/2013	Compiled the notes from the leadership team members and applied them to the revised draft copy of the report. Completed the CDC NORS reports based on this draft. Send the revised draft copy out for a final review to the same members of leadership that reviewed the previous draft.
9/17/2013	Compiled the final notes into the final report and the CDC NORS report. Both reports are now considered final and ready to be sent to IDPH and any requesting parties. Complaint closed.
7/17/2013	All documents including test results that we were waiting for appear to be available at this time. Turned the task of writing the draft over to Lindsey Stahl, mary-Jo Kienzle and Colette Petit.



General

# National Outbreak Reporting System



## Foodborne Disease Transmission, Person-to-Person Disease Transmission, Animal Contact

This form is used to report enteric foodborne, person-to-person, and animal contact-related disease outbreak investigations. This form has 5 sections, General, Laboratory, Person to Person, Animal contact, and Food, as indicated by tabs at the top of each page. Complete the General and Laboratory tabs for all modes of transmission and complete additional sections as indicated by the mode of transmission. Please complete as much of all sections as possible.

CDC USE ONLY

CDC Report ID

State Report ID

IL2013-245

Form Approved  
OMB No. 0920-0004

### General Section

#### Primary Mode of Transmission (check one)

- Food (Complete General, Lab, and Food tabs)
- Water (Complete CDC 62.12)
- Animal contact (Complete General, Lab, and Animal Contact tabs)
- Person-to-person (Complete General, Lab, and Person-to-Person tabs)
- Environmental contamination other than food/water (Complete General and Lab tabs)
- Indeterminate/Other/Unknown (Complete General and Lab tabs)

#### Investigation Methods (check all that apply)

- Interviews only of ill persons
- Case-control study
- Cohort study
- Food preparation review
- Water system assessment: Drinking water
- Water system assessment: Nonpotable water
- Treated or untreated recreational water venue assessment
- Investigation at factory/production/treatment plant
- Investigation at original source (e.g., farm, water source, etc.)
- Food product or bottled water traceback
- Environment/food/water sample testing
- Other

#### Comments

#### Dates (mm/dd/yyyy)

Date first case became ill (required) 05/23/2013 Date last case became ill 06/18/2013  
 Date of initial exposure 05/20/2013 Date of last exposure 06/14/2013  
 Date of report to CDC (other than this form) \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
 Date of notification to State/Territory or Local/Tribal Health Authorities 06/14/2013

#### Geographic Location

Reporting state: IL  
 Exposure occurred in multiple states  
 Exposure occurred in a single state, but cases resided in multiple states  
 Other states: \_\_\_\_\_  
 Reporting county: DuPage  
 Exposure occurred in multiple counties in reporting state  
 Exposure occurred in a single county, but cases resided in multiple counties in reporting state  
 Other counties: Cook, Kane, Will  
 City/Town/Place of exposure: Lombard, IL  
*Do not include proprietary or private facility names*

#### Primary Cases

Number of Primary Cases		Sex (estimated percent of the primary cases)	
# Lab-confirmed cases	17 (A)	Male	63 %
# Probable cases	34 (B)	Female	37 %
# Estimated total primary ill	51		
	# Cases	Total # of cases for whom info is available	Approximate percent of primary cases in each age group
# Died	0	51	<1 year 0 %    20-49 years 38 %
# Hospitalized	10	51	1-4 years 8 %    50-74 years 31 %
# Visited Emergency Room	11	51	5-9 years 2 %    ≥ 75 years 2 %
# Visited health care provider (excluding ER visits)	10	51	10-19 years 19 %    Unknown 0 %



General

**Incubation Period, Duration of Illness, Signs or Symptoms for Primary Cases only**

Incubation Period (circle appropriate units)			Duration of illness (among recovered cases-circle appropriate units)		
Shortest	4 hrs	Min, Hours, Days	Shortest	4 d	Min, Hours, Days
Median	2.5 d	Min, Hours, Days	Median	9.5 d	Min, Hours, Days
Longest	13 d	Min, Hours, Days	Longest	15 d	Min, Hours, Days
Total # of cases for whom info is available	46		Total # of cases for whom info is available	11	

Unknown incubation period       Unknown duration of illness

**Signs or Symptoms (refer to terms from appendix, if appropriate, to describe other common characteristics of cases)**

Feature	# Cases with signs or symptoms	Total # cases for whom info available
Vomiting	16	51
Diarrhea	51	51
Bloody stools	30	51
Fever	16	51
Abdominal cramps	40	51
HUS	1	51
Asymptomatic		
*		
*		
*		

**Secondary Cases**

Mode of Secondary Transmission (check one)	Number of Secondary Cases	
<input type="checkbox"/> Food <input type="checkbox"/> Water <input type="checkbox"/> Animal contact <input checked="" type="checkbox"/> Person-to-person <input type="checkbox"/> Environmental contamination other than food/water <input type="checkbox"/> Indeterminate/Other/Unknown	# Lab-confirmed secondary cases	(A) 0
	# Probable secondary cases	(B) 1
	Total # of secondary cases	1
	Total # of cases (Primary + Secondary)	52

**Environmental Health Specialists Network (if applicable)**

EHS-Net Evaluation ID: 1.) \_\_\_\_\_ 2.) \_\_\_\_\_ 3.) \_\_\_\_\_

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

Please check if traceback conducted

Source name (if publicly available)	Source type (e.g. poultry farm, tomato processing plant, bottled water factory)	Location of source		Comments
		State	Country	

**Recall**

Please check if any food or bottled water product was recalled

Type of item recalled: \_\_\_\_\_

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

**Reporting Agency**

Agency name: DuPage County Health Department      E-mail: tstolt@dupagehealth.org

Contact name: Tom Stolt      Contact title: Site Supervisor

Phone no.: 630-221-6111      Fax no.: 630-510-5476

**Remarks** Briefly describe important aspects of the outbreak not covered above. Please indicate if any adverse outcomes occurred in special populations (e.g., pregnant women, immunocompromised persons)

# probable cases include cases that met both the "probable" and "suspected" case definitions. Six of the 52 ill cases reported multiple exposure dates at the same food facility. Food handler (cook) found positive for E. coli O157:H7 was asymptomatic (exposure date unknown).

**Laboratory Section**Etiology known?  Yes  NoIf etiology is *unknown*, were patient specimens collected?  Yes  No  Unknown

If yes, how many specimens collected? (provide numeric value) \_\_\_\_\_

What were they tested for? (check all that apply)  Bacteria  Chemicals/Toxins  Viruses  Parasites**Etiology**(Name the bacterium, chemical/toxin, virus, or parasite. If available, include the serotype and other characteristics such as phage type, virulence factors, and metabolic profile. Confirmation criteria available at [http://www.cdc.gov/foodborneoutbreaks/guide\\_fd.htm](http://www.cdc.gov/foodborneoutbreaks/guide_fd.htm) or [http://www.cdc.gov/mmwr/2000/Vol\\_49/SS-11App\\_B](http://www.cdc.gov/mmwr/2000/Vol_49/SS-11App_B))

Genus	Species	Serotype	Confirmed outbreak etiology	Other Characteristics	Detected in*	# Lab-confirmed cases
Escherichia	coll	O157:H7	<input checked="" type="checkbox"/> yes		1	17
Escherichia	coll	O157:H7	<input checked="" type="checkbox"/> yes		4	1
			<input type="checkbox"/> yes			
			<input type="checkbox"/> yes			

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

**Isolates**

(For bacterial pathogens, provide a representative for each distinct pattern; provide lab ID for all specimens submitted for viral sequencing)

State Lab ID	PulseNet Outbreak Code	CDC PulseNet Pattern Designation for Enzyme 1	CDC PulseNet Pattern Designation for Enzyme 2	Other Molecular Designation	Other Molecular Designation
		EXHX01.0060			
		EXHX01.5232			
		EXHX01.9318			

**Person to Person**

Major setting of exposure (choose one)

- |   |   |   |                                    |
|---|---|---|------------------------------------|
| <input type="checkbox"/> Camp           | <input type="checkbox"/> Hotel                        | <input type="checkbox"/> Private setting (residential home) | <input type="checkbox"/> School    |
| <input type="checkbox"/> Child day care | <input type="checkbox"/> Nursing home                 | <input type="checkbox"/> Religious facility                 | <input type="checkbox"/> Ship      |
| <input type="checkbox"/> Community-wide | <input type="checkbox"/> Prison or detention facility | <input type="checkbox"/> Restaurant                         | <input type="checkbox"/> Workplace |
| <input type="checkbox"/> Hospital       | <input type="checkbox"/> Other, please specify: _____ |   |                                    |

Attack rates for major settings of exposure

Group (based on setting)	Estimated exposed in major setting*	Estimated ill in major setting	Crude attack rate ((estimated ill / estimated exposed) x 100)
residents, guests, passengers, patients, etc.			
staff, crew, etc.			

\*e.g., number of persons on ship, number of residents in nursing home or affected ward

Other settings of exposure (choose all that apply)

- |   |   |   |                                    |
|---|---|---|------------------------------------|
| <input type="checkbox"/> Camp           | <input type="checkbox"/> Hotel                        | <input type="checkbox"/> Private setting (residential home) | <input type="checkbox"/> School    |
| <input type="checkbox"/> Child day care | <input type="checkbox"/> Nursing home                 | <input type="checkbox"/> Religious facility                 | <input type="checkbox"/> Ship      |
| <input type="checkbox"/> Community-wide | <input type="checkbox"/> Prison or detention facility | <input type="checkbox"/> Restaurant                         | <input type="checkbox"/> Workplace |
| <input type="checkbox"/> Hospital       | <input type="checkbox"/> Other, please specify: _____ |   |                                    |

**Animals and their environment**

Setting of exposure	Type of animal	Remarks



**Food-specific data**
 Food vehicle undetermined      Total # of cases exposed to implicated food \_\_\_\_\_

Food	1	2	3
Name of food (excluding any preparation)			
Ingredient(s) (enter all that apply)			
Contaminated ingredients (enter all that apply)			
Reason(s) suspected (enter all that apply from list in appendix)			
Method of processing (enter all that apply from list in appendix)			
Method of preparation (select one from list in appendix)			
Level of preparation (select one from list in appendix)			
Contaminated food imported to US?	<input type="checkbox"/> Yes, Country _____ <input type="checkbox"/> Yes, Unknown <input type="checkbox"/> No	<input type="checkbox"/> Yes, Country _____ <input type="checkbox"/> Yes, Unknown <input type="checkbox"/> No	<input type="checkbox"/> Yes, Country _____ <input type="checkbox"/> Yes, Unknown <input type="checkbox"/> No
Was product <i>both</i> produced under domestic regulatory oversight <i>and</i> sold?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown

**Location where food was prepared** (Check all that apply)**Location of exposure (where food was eaten)**  
(Check all that apply)

<input type="checkbox"/> Restaurant – 'Fast-food' (drive up service or pay at counter)	<input type="checkbox"/> Nursing home, assisted living facility, home care	<input type="checkbox"/> Restaurant – 'Fast-food' (drive up service or pay at counter)	<input type="checkbox"/> Nursing home, assisted living facility, home care
<input checked="" type="checkbox"/> Restaurant – Sit-down dining	<input type="checkbox"/> Hospital	<input checked="" type="checkbox"/> Restaurant – Sit-down dining	<input type="checkbox"/> Hospital
<input type="checkbox"/> Restaurant – Other or unknown type	<input type="checkbox"/> Child day care center	<input type="checkbox"/> Restaurant – Other or unknown type	<input type="checkbox"/> Child day care center
<input type="checkbox"/> Private home	<input type="checkbox"/> School	<input type="checkbox"/> Private home	<input type="checkbox"/> School
<input type="checkbox"/> Banquet Facility (food prepared and served on-site)	<input type="checkbox"/> Prison, jail	<input type="checkbox"/> Banquet Facility (food prepared and served on-site)	<input type="checkbox"/> Prison, jail
<input type="checkbox"/> Caterer (food prepared off-site from where served)	<input type="checkbox"/> Church, temple, religious location	<input type="checkbox"/> Caterer (food prepared off-site from where served)	<input type="checkbox"/> Church, temple, religious location
<input type="checkbox"/> Fair, festival, other temporary or mobile services	<input type="checkbox"/> Camp	<input type="checkbox"/> Fair, festival, other temporary or mobile services	<input type="checkbox"/> Camp
<input type="checkbox"/> Grocery store	<input type="checkbox"/> Picnic	<input type="checkbox"/> Grocery store	<input type="checkbox"/> Picnic
<input type="checkbox"/> Workplace, not cafeteria	<input type="checkbox"/> Other (describe in Prepared/Remarks)	<input type="checkbox"/> Workplace, not cafeteria	<input type="checkbox"/> Other (describe in Eaten/Remarks)
<input type="checkbox"/> Workplace cafeteria	<input type="checkbox"/> Unknown	<input type="checkbox"/> Workplace cafeteria	<input type="checkbox"/> Unknown

Remarks:

Remarks:

**Contributing Factors** (Check all that contributed to this outbreak) Contributing factors unknown**Contamination Factor** C1  C2  C3  C4  C5  C6  C7  C8  C9  C10  C11  C12  C13  C14  C15  C-N/A**Proliferation/Amplification Factor** (bacterial outbreaks only) P1  P2  P3  P4  P5  P6  P7  P8  P9  P10  P11  P12  P-N/A**Survival Factor** S1  S2  S3  S4  S5  S-N/A**The confirmed or suspected point of contamination** (Check one) Before preparation  PreparationIf 'before preparation':  Pre-Harvest  Processing  Unknown**Reason suspected** (Check all that apply) Environmental evidence Laboratory evidence Epidemiologic evidence Prior experience makes this a likely sourceWas food-worker implicated as the source of contamination?  Yes  No

If yes, please check only one of the following

- Laboratory *and* epidemiologic evidence  
 Epidemiologic evidence  
 Laboratory evidence  
 Prior experience makes this a likely source

**School Questions**

(Complete this section only if school is checked in either sections "Location where food was prepared" or "Location of exposure (where food eaten)")

**1. Did the outbreak involve a single or multiple schools?**

- Single  
 Multiple (If yes, number of schools \_\_\_\_\_)

**2. School characteristics** (for all involved students in all involved schools)a. Total approximate enrollment  
\_\_\_\_\_ (number of students) Unknown or undetermined

b. Grade level(s)

 Preschool Grade school (grades K-12)Please check all grades affected:  K  1st  2nd  3rd  4th  5th  6th  7th  8th  9th  10th  11th  12th College/university/technical school Unknown or Undetermined

c. Primary funding of involved schools

 Public Private Unknown**3. Describe the preparation of the implicated item:** (check all that apply)

- Heat and serve (item mostly prepared or cooked off site, reheated on-site)  
 Served a-la-carte  
 Serve only (preheated or served cold)  
 Cooked on-site using primary ingredients  
 Provided by a food service management company  
 Provided by a fast-food vendor  
 Provided by a pre-plate company  
 Part of a club or fundraising event  
 Made in the classroom  
 Brought by a student/teacher/parent  
 Other (describe in General/Remarks)  
 Unknown or Undetermined

**4. How many times has the state, county or local health department inspected this school cafeteria or kitchen in the 12 months before the outbreak?\***

- Once  
 Twice  
 More than two times  
 Not inspected  
 Unknown or Undetermined

**5. Does the school have a HACCP plan in place for the school feeding program?\***

- Yes  
 No  
 Unknown or Undetermined

\*If multiple schools are involved, please answer according to the most affected school



6. Was Implicated food item provided to the school through the National School Lunch/Breakfast Program?

- Yes  
 No  
 Unknown or Undetermined

If yes, was the Implicated food item donated/purchased by:

- USDA through the Commodity Distribution Program  
 The state/school authority  
 Other (describe in General/Remarks)  
 Unknown or Undetermined

### Ground Beef

1. What percentage of Ill persons (for whom information is available) ate ground beef raw or undercooked? \_\_\_\_\_ %

2. Was ground beef case-ready?  Yes  No  Unknown

(Case-ready ground beef is meat that comes from a manufacturer packaged for sale that is not altered or repackaged by the retailer)

3. Was the beef ground or reground by the retailer?

Yes  No  Unknown

If yes, was anything added to the beef during grinding (such as shop trim or any product to alter the fat content)? \_\_\_\_\_

### Additional Salmonella Questions

(Complete this section for Salmonella outbreaks)

1. Phage type(s) of patient isolates:

\_\_\_\_\_ if RDNC\* then include # \_\_\_\_\_

\_\_\_\_\_ if RDNC\* then include # \_\_\_\_\_

\_\_\_\_\_ if RDNC\* then include # \_\_\_\_\_

\_\_\_\_\_ if RDNC\* then include # \_\_\_\_\_

\* Reacts, Does Not Conform

### Eggs

1. Were eggs (check all that apply)

- in shell, unpasteurized?  
 in shell, pasteurized?  
 packaged liquid or dry?  
 stored with inadequate refrigeration during or after sale?  
 consumed raw?  
 consumed undercooked?  
 pooled?

2. Was Salmonella enteritidis found on the farm?  Yes  No  Unknown

Comment (e.g., eggs and patients isolates matched by phage type): \_\_\_\_\_

## National Outbreak Reporting System (NORS) Appendix

**Signs and Symptoms: Choose all that apply.** NORS users may enter new signs and symptoms if it is not listed below.

Abdominal Cramps	Facial weakness	Paresthesia
Alopecia (absence of hair)	Faintness	Periorbital edema
Anaphylaxis	Fasciculations (bundling nerve/muscle fibers)	Pharyngitis
Anorexia	Fatigue	Photophobia
Appendicitis	Fever	Prostration
Arthralgia	Flushing	Ptosis
Asymptomatic	Gas	Quadriplegia
Ataxia	Hallucinations	Rapid pulse
Backache	Headache	Rash
Bedridden	Heartburn	Redness
Bloating	Hemorrhage	Respiratory arrest
Blood pressure flux	Histamine reaction	Rhinitis
Bloody Stools	Hives	Seizures
Bloody vomitus	Hoarse	Septicemia
Blurred vision	Hot flash/flush	Shakes
Body ache	HUS (Hemolytic Uremic Syndrome)	Shock
Bradycardia	Hypotension	Shortness of breath
Bullous skin lesions	Insomnia	Sore throat
Burning	Itching	Speech difficulty
Burns in mouth	Jaundice	Stiff neck
Chest pain	Joint pain	Stiffness
Chills	Lethargy	Stomach ache
Coma	Light-headed	Sweating
Congestion	Liver necrosis	Swelling
Cough	Loss of appetite	Swollen glands
Dark Urine	Loss of consciousness	Swollen tongue
Dehydration	Lymphadenopathy	Tachycardia
Descending paralysis	Malaise	Taste Disturbance
Diarrhea	Memory loss	Temperature reversal
Difficulty breathing	Meningitis	Temperature variant
Difficulty swallowing	Mucus	Thick tongue
Dilated pupils	Mucus in stool	Thirst
Diplopia (double vision)	Muscle breakdown	Thrombocytopenia
Disoriented	Muscle fatigue	Tingling
Dizziness	Muscle spasm	Trembling
Dry mouth	Myalgia	TTP (Thrombotic thrombocytopenic purpura)
Dysconjugate gaze	Nausea	Urinary problems
Dysesthesia (impairment of a sense, esp. touch)	Neurological symptoms	Urticaria
Ear ache	Nightmares	Vomiting
Ears ringing	Numbness	Weak pulse
Edema	Oral Swelling	Weakness
Eosinophil	Pain	Weight loss
Erythema	Palpitations	Wheezing
Excess saliva	Paralysis	
Eye problems		

**Reason(s) suspected: Choose all that apply.**

- 1 – Statistical evidence from epidemiological investigation
- 2 – Laboratory evidence (e.g., identification of agent in food)
- 3 – Compelling supportive information
- 4 – Other data (e.g., same phage type found on farm that supplied eggs)
- 5 – Specific evidence lacking but prior experience makes it likely source

**Method of processing (Prior to point-of-service: Processor): Choose all that apply.**

- P1 – Pasteurized (e.g., liquid milk, cheese, and juice etc)
- P2 – Unpasteurized (e.g., liquid milk, cheese, and juice etc)
- P3 – Shredded or diced produce
- P4 – Pre-packaged (e.g., bagged lettuce or other produce)
- P5 – Irradiation
- P6 – Pre-washed
- P7 – Frozen
- P8 – Canned
- P9 – Acid treatment (e.g., commercial potato salad with vinegar, etc)
- P10 – Pressure treated (e.g., oysters, etc)
- P11 – None or Unknown

**Method of Preparation (At point-of-service: Retail: restaurant, food store): Select only one**

- R1 – Prepared in the home
- R2 – Ready to eat food- No manual preparation, No cook step. (e.g., sliced cheese, pre-packaged deli meats; whole raw fruits; raw oysters, etc)
- R3 – Ready to eat food – Manual preparation, No cook step. (e.g., fresh vegetables, cut fresh fruits, chicken salad made from canned chicken, ect)
- R4 – Cook and Serve Foods: Immediate service. (e.g., soft-cooked eggs, hamburgers, etc)
- R5 – Cook and hot hold prior to service. (e.g., fried chicken, soups, hot vegetables, hot dogs, mashed potatoes, etc)
- R6 – Advance preparation: Cook, cool, serve (e.g., sliced roast beef from a whole cooked roast, etc)
- R7 – Advance preparation: Cook, cool, reheat, serve (e.g., lasagna, casseroles, soups, gravies, sauces, chilli, etc)
- R8 – Advance preparation: Cook, cool, reheat, hot hold, serve (e.g., chilli, refried beans, etc)
- R9 – Advance preparation: Cook-chill and Reduced Oxygen Packaging (ROP) (e.g., sauces, gravies, cheeses, etc packaged under ROP)
- R10 – None/ Unknown

**Level of preparation: Select only one**

- 1 – Foods eaten raw with minimal or no processing. (e.g., washing, cooling)
- 2 – Foods eaten raw with some processing. (e.g., no cooking, fresh cut and/or packaged raw)
- 3 – Foods eaten heat processed. (e.g., cooked: a microbiological kill step was involved in processing)

**Contributing Factors: Choose all that apply.**

**Contamination Factors:**

- C1** – Toxic substance part of the tissue
- C2** – Poisonous substance intentionally/deliberately added
- C3** – Poisonous substance accidentally/inadvertently added
- C4** – Addition of excessive quantities of ingredients that are toxic in large amounts
- C5** – Toxic container
- C6** – Contaminated raw product – food was intended to be consumed after a kill step
- C7** – Contaminated raw product – food was intended to be consumed raw or undercooked/under-processed
- C8** – Foods originating from sources shown to be contaminated or polluted (such as a growing field or harvest area)
- C9** – Cross-contamination of ingredients (cross-contamination does not include ill food workers)
- C10** – Bare-hand contact by a food handler/worker/preparer who is suspected to be infectious
- C11** – Glove-hand contact by a food handler/worker/preparer who is suspected to be infectious
- C12** – Other mode of contamination (excluding cross-contamination) by a food handler/worker/preparer who is suspected to be infectious
- C13** – Foods contaminated by non-food handler/worker/preparer who is suspected to be infectious
- C14** – Storage in contaminated environment
- C15** – Other source of contamination
- C-N/A** – Contamination Factors - Not Applicable

**Proliferation/Amplification Factors:**

- P1** – Food preparation practices that support proliferation of pathogens (during food preparation)
- P2** – No attempt was made to control the temperature of implicated food or the length of time food was out of temperature control (during food service or display of food)
- P3** – Improper adherence of approved plan to use Time as a Public Health Control
- P4** – Improper cold holding due to malfunctioning refrigeration equipment
- P5** – Improper cold holding due to an improper procedure or protocol
- P6** – Improper hot holding due to malfunctioning equipment
- P7** – Improper hot holding due to improper procedure or protocol
- P8** – Improper/slow cooling
- P9** – Prolonged cold storage
- P10** – Inadequate modified atmosphere packaging
- P11** – Inadequate processing (acidification, water activity, fermentation)
- P12** – Other situations that promoted or allowed microbial growth or toxic production
- P-N/A** – Proliferation/Amplification Factors - Not Applicable

**Survival Factors:**

- S1** – Insufficient time and/or temperature control during initial cooking/heat processing
- S2** – Insufficient time and/or temperature during reheating
- S3** – Insufficient time and/or temperature control during freezing
- S4** – Insufficient or improper use of chemical processes designed for pathogen destruction
- S5** – Other process failures that permit pathogen survival
- S-N/A** – Survival Factors - Not Applicable