



**Butte-Silver Bow Health Department  
Foodborne Illness Outbreak Investigation  
Operating Procedures**

**Objective:** To protect the health of Butte-Silver Bow residents against the adverse effects of foodborne illness.

**Description:** Conducting foodborne illness and outbreak investigations is one of the core components of a local health department. This operating procedure addresses several of the key issues involved with conducting a foodborne illness or outbreak investigation.

**Legal Basis:** Montana Code Annotated 50-2-116(g)

**POLICY:**

Foodborne illness and outbreak investigations will be conducted in accordance with the document titled “Procedures to Investigate Foodborne Illness,” developed by the International Association for Food Protection (IAFP). The director of the Butte-Silver Bow Health Department’s Environmental Health Division will make copies of this available to other team members when the investigation team is activated. The most recent version of this document will be used.

An investigation will be initiated within 24 hours of receiving each complaint involving suspected foodborne illness. When epidemiological analysis supports the decision and it is documented in the investigation report, the complaint investigation may be closed after an interview with the complainant and inspection of the establishment. The results of the investigation and how it was handled will be documented and maintained on file.

All confirmed and/or epidemiological-linked foodborne illness associated with a food service establishment within Butte-Silver Bow will be reported promptly to the Montana Department of Public Health and Human Services (DPHHS).

An investigation report for each foodborne illness outbreak will be submitted to DPHHS. Foodborne outbreak means the occurrence of two or more cases of similar illness resulting from the ingestion of a common food, or when there is a single case of suspected botulism, mushroom poisoning, paralytic shellfish poisoning or other rare disease.

## **Team Members**

The foodborne outbreak investigation team consists of the:

- Health Officer
- Environmental Health Division Director
- Population Health Division Director
- Food/Consumer Safety Program Manager

If the Population Health Division director is unavailable, the health officer will designate one of the department's public health nurses (nurses) to serve in his/her place. If the Environmental Health Division director and/or the Food/Consumer Safety Program manager are unavailable, the health officer will designate one of the environmental health specialists/sanitarions (sanitarions) to serve in his/her place.

Additional nurses, sanitarians and support staff will be assigned to the team as needed, based on demands. When work volume necessitates, team members may assume the duties typically assigned to another team member. An example would be a nurse assisting in the duties of a sanitarian (i.e., duties that don't require specialized training/certification), or vice versa.

## **Roles and Responsibilities**

The health officer will stay abreast of the investigation and ensure that resources are available for the prompt and effective conduct of the investigation and communication of the results. He/she will assist in communications within and outside of the department, as necessary.

The Population Health Division director will guide and assist department employees in the conduct of their duties, and collaborate with team members for the coordinated conduct of the investigation, obtaining background medical information relevant to the investigation, obtaining clinical specimens, evaluating the cause of the outbreak, and assisting with hypothesis generation and the subsequent hypothesis evaluation.

The Environmental Health Division director will guide and assist department employees in the conduct of their duties, collaborate with team members for the coordinated conduct of the investigation, evaluate the cause of the outbreak, and assist with hypothesis generation and the subsequent hypothesis evaluation.

The Food/Consumer Safety Program manager will assist with the inspection of food service facilities and process and evaluate possible causes of the foodborne illness outbreak, obtain relevant specimens for testing, determine appropriate interventions, monitor results of those interventions, and compile epidemiological information on the outbreak.

## **Communications**

During a foodborne illness outbreak investigation, the investigation team will meet frequently, either formally or informally, to keep collectively updated on the progress of the investigation.

The Population Health Division director will update the nursing staff about the progress of the investigation. The Environmental Health Division director will update the Environmental Health Division staff about the progress of the investigation. The investigation team will designate one of its own members to update other employees of the Health Department about the investigation's progress.

If the investigation indicates foodborne illness or poisoning developed from a food establishment (not licensed as a retail food establishment), the state or federal agency governing the establishment will be notified by the health officer.

The health officer will contact appropriate representatives from DPHHS regarding the progress of the investigation. Other team members will assist with this communication, as needed.

The health officer will communicate with the general public and the media regarding the progress of the investigation. Other team members will assist with this communication, as needed.

## **Equipment**

1. Referral slip from patient, friend, physician, food service establishment, hospital or school.
2. Forms.
  - a. Food-Related Alert/Complaint Form – DPHHS form.
  - b. Foodborne Illness Worksheet Form – BSB form.
  - c. Communicable Disease Case Report – DPHHS form.
  - d. Summary of Case Histories – IAFP Forms D1 and D2.
  - e. Food Preparation Review – IAFP Form H.
  - f. Attack Rate and Exposure Tables – IAFP Forms K1 and K2.
  - g. Outbreak Report Form – DPHHS form.
3. Lab Slips
  - a. Public Health Laboratory Form – DPHHS form.

4. Clinical Specimen Containers.
  - a. The foodborne illness outbreak kit has six stool specimen containers, lab request forms, refrigerant, five sterile plastic containers, two BBL culture swabs, and six packs of sterile gloves.
  - b. Lab slips and specimen containers appropriate for the type of specimen will be used.
5. Food Outbreak Log (Complaint).

## **PROCEDURE**

1. Initial investigation.
  - a. The referral may be received verbally or in writing from almost anyone, including a call from a patient, friend, physician, food service establishment, hospital or school. The individual making the referral will be put in contact with a Butte-Silver Bow Health Department sanitarian, or in their absence, a department nurse. This person will document the referral using the Food-Related Alert/Complaint Form, which is on the Butte-Silver Bow Health Department's communicable disease software program. If the form is completed by someone other than a sanitarian, that person will also leave a message for the sanitarian so that they know to follow through with the next step.
  - b. The sanitarian will make inquiry after each complaint to determine whether there appears to be any substance to the issue. The sanitarian will determine whether to trigger a foodborne illness outbreak investigation. The sanitarian will do so if: (a) there is a single case of suspected botulism, mushroom poisoning, paralytic shellfish poisoning, or a case of a disease that can be definitely related to ingestion of a food, or a very rare disease with strong suspicion of being related to food ingestion, or (b) two or more people who have ingested a common food and have similar disease, similar symptoms or excrete the same pathogens, and there is a time, place or person associated among these people. In the absence of a sanitarian, a department nurse or any other member of the team may decide whether to trigger an investigation.
  - c. If an outbreak does not appear to have manifested, based upon the investigation and information provided, the complaint will be considered isolated and closed. However, a case history will be completed in the event the information becomes relevant in the future.
  - d. When the decision is made to trigger a foodborne illness outbreak investigation, the initiating team member will advise the Population Health Division director and the Environmental Health Division director of the referral. The Population Health Division director will assign one or more department nurses to the investigation. The Environmental Health Division director will assign one or more sanitarians to the investigation. One of the above will notify the health

officer. The health officer, Population Health Division director and Environmental Health Division director will collaborate throughout the investigation, and determine when formal and informal meetings of the investigation team are necessary.

2. Environmental Health Division Team.

- a. The lead sanitarian will:
  - i. Contact the initial suspect and complete the Food-Related Alert/Complaint Form and Foodborne Illness Worksheet.
  - ii. Obtain an itemized list of people and phone numbers exposed to the suspect meal, ill and well contacts alike. This may include an attendance list, credit card receipts, or roster of clientele. These individuals, also, will be contacted and interviewed in order to complete case histories.
  - iii. Obtain a complete menu, including side dishes, desserts and beverages of the suspect meal to assist in more accurate interviewing of people exposed. The sanitarian will complete the Food Preparation Review Form (Form H), including a review of each step of the preparation process (i.e., thawing, cooking, cooling, re-heating, cross-contamination of foods, etc.).
  - iv. Findings as the investigation progresses will be reported to the Population Health Division director and the Environmental Health Division director.
- b. Information will be summarized from the Case History/Clinical Data Sheet for both ill and well individuals to facilitate comparisons.
- c. All food from the suspect meal(s) will be entered into the Food Attack rate table (Form K1) and data will be compiled for each food regarding the number of ill and well people who ate the food, as well as the numbers of ill and well people who did not eat the food (Form K2). Using these tables, calculations will be made to indicate the specific attack rates and exposures.
- d. From above, (a and b), the hypotheses for a possible pathogen and the implicated food will be formed.
- e. A sanitarian will conduct a thorough inspection of the establishment and interview all food service personnel regarding food sources, food preparation techniques, storage and display, and transportation procedures used at the time of the suspect meal.

- f. The Environmental Health Division team will decide which collected food samples will be forwarded to the Montana Public Health Laboratory for testing (All samples must be submitted to the Montana Public Health Laboratory. The laboratory will then determine if other laboratory support is required).
    - i. Use the correct kit for specimen collection and delivery.
    - ii. Follow procedures for food collection and handling, and human sample collection handling. The procedures are in the foodborne illness outbreak kit.
    - iii. Contact the Montana Public Health Laboratory (DPHHS) for proper procedures regarding transportation of specimens to the lab (phone number 406-444-3444).
    - iv. Reporting of results: telephone, fax, mail – provide contact name and number for results.
  - g. The Environmental Health Division team will conduct supportive tests for the outbreak (i.e., chi-square and Fishers exact tests) and handle computer printouts, attack rates, and symptom summaries of ill and well.
  - h. The Environmental Health Division team is responsible for creating a final report of the foodborne illness outbreak investigation for submission to DPHHS. The team will complete CDC Form 52.13 to summarize the foodborne illness outbreak investigation results. Team members will compile a cover letter describing any components of the investigation that were not adequately summarized in CDC Form 52.12. This cover letter, along with CDC Form 52.13, will be submitted to DPHHS as a final report of the investigation.
3. Public Health Nursing Team.
- a. The nurse(s) will:
    - i. Contact hospitals, clinics, local physicians, etc., to notify the medical community of a possible foodborne illness outbreak and to request assistance in obtaining fecal, vomitus, blood, and other related samples prior to administration of antibiotics.
    - ii. Obtain appropriate clinical specimens from food handlers and preparers (whether ill or not), and individuals exposed to the suspected food(s). These specimens will be submitted as soon as possible to the appropriate laboratory, typically the Montana Public Health Laboratory.
      - 1. Use the correct kit for specimen collection and delivery.
      - 2. Follow procedures for food collection and handling, and human sample collection handling. The procedures are in the foodborne illness outbreak kit.

3. Contact the Montana Public Health Laboratory for proper procedures regarding transporting specimens to the lab (phone number 406-444-3444).
      4. Reporting of results: telephone, fax, mail – provide contact name and number for results.
    - iii. Members of the nursing team will assist members of the environmental health team with completing their duties when work demands make it more reasonable to reallocate responsibilities. This could include, for example, engaging contacts and completing the Food-Related Alert/Complaint Form and Foodborne Illness Worksheet, or compiling data and assisting in data interpretation.
4. Control measures for the Environmental Health Division Team and Public Health Nursing Team.
  - a. The sanitarian(s) and/or nurse(s) need to educate all clients about the disease process, emphasizing hygiene, particularly proper hand-washing techniques.