



KEY POINTS

for Successful Foodborne Outbreak Detection and Investigation

CREATING A SUCCESSFUL FOODBORNE ILLNESS COMPLAINT SYSTEM

Foodborne illness complaint systems can be important tools to detect outbreaks that would not otherwise have been recognized. Here are some key points to make complaint systems work, based on the Minnesota Department of Health's (MDH) experience with the system it began in 1998.

1. Get stakeholder buy in

- Clearly describe how the system will work – engage stakeholders to define roles for state and local health departments, and epidemiology and environmental health components of each.
- Ensure that complaint information is made available to everybody that needs it. In Minnesota, MDH epidemiology staff collect complaint information for the whole state and then send it to the environmental health jurisdiction (state or local, public health or agriculture) for each food establishment mentioned in a complaint, independent of whether we initiate an outbreak investigation at a particular establishment (see #3 below).
 - This can free environmental health staff from taking complaint calls while still giving them access to the information,

2. Collect appropriate information from complainants

- **A frequent critical limitation of complaint systems is that information is collected only about the restaurant that the complainant suspects.**
 - Only 1 in 5 complaints with a known etiology was caused by an agent with an incubation period <24 hours, and people often identify an incorrect exposure as the cause of their illness (e.g., last thing they ate).
- Get **details** about symptoms, onset date and time, and recovery date and time.
 - These are needed to determine the likely etiology and determine which establishment (if any) was the most likely source of illness.
- If only one person was ill or all ill persons live in the same household, collect multiple days of food history (MDH collects 4 days, CIFOR recommends 5 days).
 - Outbreaks are frequently detected at restaurants named farther back in the food history, and not at the restaurant that the complainant suspects.
- If a complaint reports ill persons from multiple households, collect info only on common meals.
- Collect names and contact information for other ill people reported by the complainant; if they are reluctant to provide this information, ask them to give your telephone # to the ill people to call (and stress the importance of them doing so).
 - Illness information from other ill people is critical in determining if an outbreak actually occurred, the likely etiology, and on which restaurant(s) an investigation should be focused.

- Enter complaint information into an electronic database.

3. Review and respond systematically to complaints

- Individual jurisdictions have the freedom to respond to complaints as they wish if the complaint doesn't clearly signal a potential outbreak; responses can vary from no action to a call to the establishment to an inspection.
- If a complaint warrants the initiation of an outbreak investigation, the appropriate epidemiology and environmental health jurisdictions should be notified, and a conversation between appropriate agencies should take place to plan and initiate the investigation.
- The clinical profile of reported illnesses (distribution of incubation periods, symptoms, and durations) is often suggestive of a particular etiology and should guide the EH assessment.
 - E.g., short incubation, little or no fever - suggestive of foodborne intoxication → focus on time-temperature abuse.
 - E.g., norovirus profile → focus on food worker illness, handwashing, and bare-hand contact with ready-to-eat foods.
- **A frequent critical limitation of complaint systems is that environmental health resources are automatically used to inspect restaurants named in a complaint before the complaint is evaluated to determine whether that restaurant is a plausible source of the illness.**

4. Centralize the complaint system or develop a system for sharing complaint information

- There is one agency where **all** illness complaints are received and evaluated, even if the complaint was initially received elsewhere.
 - Allows all complaints to be reviewed by the same epidemiology staff to determine the need for further investigation and facilitate a consistent response for the same types of complaints.
 - Allows complaints to be cross-referenced to identify multiple independent complaints about a restaurant or event.
 - City- or county-specific complaint systems are more likely to fail to recognize independent complaints that name the same restaurant, if the complaints are made to different city/county health departments.
 - Centralization allows consistent data collection, review, and response to complaints by the same staff.
 - Experience gained by staff that process complaints on a routine basis facilitates efficient, effective outbreak detection and investigation.

5. Cross-reference restaurants named on complaints with those mentioned on pathogen-specific surveillance interviews

- Allows detection of more *Salmonella*, and STEC outbreaks.
- Allows detection of *Salmonella*, and STEC outbreaks more quickly than is possible by pathogen-specific surveillance alone.
 - This is much easier to accomplish if complaint systems are centralized at the same level as pathogen-specific disease surveillance.

Additional Resources:

<http://mnfoodsafetycoe.umn.edu/foodborne-illness-complaint-system/>

MN Systems: Foodborne and Waterborne Illness Complaint System

<https://cifor.us/uploads/images/Chapter-4.pdf>

CIFOR, Third Edition of the CIFOR Guidelines for Foodborne Disease Outbreak Response, Chapter 4.2 Complaint Systems