

Appendix C. Communication and Collaboration Strategies used by FoodCORE Centers

Colorado

- Electronic laboratory data are imported daily into the state electronic disease reporting system.
- Laboratory staff email epidemiologists of clusters as soon as they are identified.
- Data are primarily shared via email but also in shared drives as needed for clusters and outbreaks.
- Data are stored in a variety of databases and/or online systems; access to different systems is determined based on role and need.
- Epidemiology and laboratory staff meet weekly via Google Hangouts to discuss current clusters, outbreaks, and other projects.
- Epidemiology, laboratory, and environmental staff have quarterly meetings to discuss outbreaks, current projects, and successes/challenges.

Connecticut

- Epidemiology (including FoodCORE students), laboratory, and environmental staff all have access to CT Electronic Disease Surveillance System (CTEDSS), which contains illness, laboratory, and exposure data for reportable enteric disease cases.
- Laboratorians enter all molecular typing results directly into CTEDSS and notify epidemiologists of clusters on a daily basis.
- Epidemiology, laboratory, and environmental health all utilize CTEDSS as a management and communication tool during active outbreak investigations (e.g., share case line lists, share results of food worker/food/environmental testing).
- Epidemiology, laboratory, and environmental health have scheduled monthly conference calls; ad hoc phone and email communication occurs as needed in between scheduled calls.

Minnesota

- Laboratorians promptly email new molecular typing matches to all foodborne epidemiologists.
- All laboratory results (including molecular typing matches) are emailed to the foodborne epidemiologists at the end of each day using an automated report allowing the epidemiologists to double check for clusters.
- Cluster data are tracked in excel spreadsheets on a shared network drive.
- Every morning there is a short meeting that includes epidemiology and laboratory staff to discuss new infectious disease outbreaks and situations.
- Each Monday there is a longer, more in-depth meeting between zoonotic epidemiologists, foodborne epidemiologists, an environmental health liaison, and laboratory staff to discuss each cluster and outbreak investigation.
- State Epidemiology, Environmental Health, Public Health Laboratory, and Department of Agriculture Rapid Response Team staff are all co-located allowing for both formal and informal in-person meetings and discussions (e.g., during a new outbreak investigation, epidemiology staff will speak in-person with state environmental health staff and/or members of the Department of Agriculture's Rapid Response Team in addition to email communication).

New York City

- Laboratory staff notify epidemiologists of shiga toxin-producing Escherichia coli (STEC) and Listeria clusters in real time and generate a weekly cluster report for Salmonella.
- Data are shared on a network drive and staff are in constant communication via email and phone.
- Laboratory, epidemiology, and environmental staff use various data systems to house their bureau-specific surveillance/investigation data such as Maven, StarLIMS, and NYCETRACK (which holds consumer complaint data); some staff have access to databases that are used by other groups.
- All staff have access to SEDRIC and a cluster/outbreak access database housed on a shared network drive.
- Laboratory, epidemiology, and environmental staff attend quarterly in-person meetings.
- Laboratory, epidemiology, and environmental staff attend biweekly cluster phone meetings.

Ohio

- Laboratorians email outbreak epidemiologists about isolate matches as soon as molecular testing yields results.
- Data are available on a network drive that is accessible by laboratory and epidemiology staff.
- Laboratorians enter molecular typing data into a spreadsheet; epidemiologists enter these data into the outbreak module of the electronic Ohio Disease Reporting System as needed.
- In-person meetings are held 1-2 times per year; the meeting includes Ohio Department of Health staff (outbreak epidemiologists, FoodCORE interviewers, environmental health sanitarians, and laboratory scientists) and Ohio Department of Agriculture participants from the consumer protection, food safety, and veterinary diagnostic laboratories.
- Ohio has a weekly State Partners' Call to discuss updates of public health importance; the meeting includes Ohio Department of Health staff (outbreak epidemiologists, FoodCORE interviewers, EIS officer, environmental health sanitarians, laboratory scientists, and CSTE Fellow) and Ohio Department of Agriculture participants from the consumer protection, food safety, and veterinary diagnostic laboratories.

Oregon

- Laboratory staff email epidemiologists when molecular typing results are ready, usually once or twice a week; efforts are in place to automate this process so that results automatically populate into reportable diseases database and notify epidemiologists.
- Oregon public health epidemiologists' user system (Orpheus) is an integrated electronic disease surveillance system for local and state epidemiologists and investigators to efficiently manage disease reports.
- Quarterly video conference meeting is attended by epidemiologists and laboratory managers.
- Quarterly in-person meeting is attended by foodborne disease epidemiologists and laboratory personnel.
- Public Health Division works closely with the Department of Agriculture during outbreak investigations; an interagency agreement is in place that describes the responsibilities of both agencies in investigations of foodborne illnesses and broader cooperative efforts between the two agencies.

South Carolina

- Laboratory staff email epidemiologists with clusters of interest and if a South Carolina case matches a national cluster/outbreak investigation.
- Epidemiologists have read-only access to a cluster spreadsheet that is maintained by the lab.
- Epidemiologists run a SAS program against the cluster spreadsheet to find and investigate additional clusters.
- Epidemiologists call the laboratorians as questions and issues arise (e.g., when two patterns are expected to match but don not, epidemiologists will call to ask how close they were).
- Epidemiologists share exposure data with laboratory staff when requested.
- FoodCORE epidemiologists have access to the online food complaint system allowing them to easily check if an establishment has complaints.
- Quarterly meetings are held with epidemiologists and laboratory staff; these are not specific to laboratory cluster testing results or clusters.
- Environmental staff are included on the distribution list for outbreak situation reports, attend monthly epidemiology meetings, and are invited to annual epidemiology conference.

Tennessee

- An epidemiologist (epi-lab liaison) serves as the liaison to the state public health laboratory and serves as the point person for addressing concerns between epidemiology and the laboratory.
- The epi-lab liaison analyzes BioNumerics, creates a weekly cluster report, and identifies and assigns new clusters for further investigation.
- The epi-lab liaison visits the laboratory every Wednesday; a representative from the laboratory team attends the foodborne epidemiology staff meeting about once per month.
- Large data files are shared with the laboratory via shared network drives; smaller data sharing occurs through an encrypted email system.
- The epi-lab liaison is identifying creative strategies for sharing sequencing data between laboratory and epidemiology staff (i.e., cloud-based, flash drives).
- Laboratory staff have access to outbreak data on a REDCap-based database that stores enteric outbreak information; this allows laboratory staff to retrieve information needed for outbreak specimen testing and CaliciNet reporting; the outbreak database has also been shared with epidemiologists and public health nurses in the field to share critical outbreak information in real time.

Utah

- Epidemiology, laboratory, and environmental health staff all have access Utah's Electronic Disease Surveillance System (Trisano), which contains illness, laboratory, and exposure data for reportable enteric disease cases.
- Laboratory staff email epidemiologists about isolates linked to clusters as soon as they are identified.
- UDOH enteric disease epidemiologists and UPHL laboratorians have a bi-weekly meeting to check-in about on-going investigations, discuss any concerns or challenges, and generally touch base.
- Laboratorians and epidemiologists from across the state meet quarterly (CUEL meeting).

Wisconsin

- Enteric epidemiologists and laboratorians have a conference call on Monday mornings to touch base, check-in about on-going investigations, and discuss any concerns or challenges.
- Enteric disease epidemiologists and food safety/waterborne environmental health staff meet on a quarterly basis to discuss recent investigations and work on protocol development and process improvement; these meetings are primarily in-person.
- Laboratorians email enteric disease epidemiologist in real-time when molecular typing is completed and analyzed and notify them if any isolates match other local isolates or national clusters.
- Epidemiologist have Bionumerics software so a molecular typing data is shared in real-time by the laboratory via a secure file share so it can be maintained in a local database.
- Epidemiologists run weekly surveillance reports of Salmonella and STEC cases that are shared with the laboratory via secure file share; report is reviewed to identify any reported cases without specimens forwarded to the laboratory and to identify cases with outstanding confirmation or molecular typing.
- Environmental staff have access to SEDRIC and receive OutbreakNet listserv and CDC cluster emails.
- Environmental-Epidemiology workgroup developed the Wisconsin NEARS Outbreak Onsite Assessment Guidelines (WNOOAG) for environmental health staff involved in foodborne outbreaks to have on hand a consistent methodology for conducting a NEARS assessment.
- A data-sharing tool was developed to coordinate NORS/NEARS reporting so data elements align and are reported consistently.
- Epidemiologist send initial outbreak notification (ION) reports for all suspected enteric disease outbreaks in the state. This is sent when an investigation is initiated and notifies relevant investigation partners of the investigation and provides a brief overview of what is known related to setting, number ill, testing requested and next steps. The ION typically is sent to the following partners:
 - » Local health department(s) that are or may be involved
 - » State epidemiology staff and supervisors
 - » State laboratory staff – this ensures any specimens submitted have the correct testing ordered
 - » State environmental staff are notified any time food or water may be a vehicle or if the location of exposure is a licensed facility (restaurant, pool, camps, caterer, etc.)

Explanation of Identifying Team Members Diagram on Page 2

Epidemiologists support laboratorians by determining if signs and symptoms seem more viral, bacterial, parasitic, or toxic to inform testing.

Laboratorians support epidemiologists by suggesting follow-up testing.

Epidemiologists support environmental health specialists by determining food sources and locations that need further investigation. Environmental health specialists support epidemiologists by accessing facilities and collecting traceback documents to determine likely sources of contamination.

Environmental health specialists support laboratorians by collecting environmental, food, and food worker specimens for testing.

Laboratorians support environmental health specialists by advising on collection, handling, and transport of specimens.