



**Alaska Division of Public Health**  
*Prevention Promotion Protection*

**Enteric Illness Investigation Policies and Procedures**  
**Foodborne, Waterborne, and Person-to-Person Enteric Illness**

This policies and procedures (P&P) document is intended to provide an overview of the investigation policies and procedures of the Infectious Disease Program, Alaska Section of Epidemiology when responding to reports of enteric illness. This P&P document is focused on general guiding principles; additional specific information for individual pathogens may be available elsewhere.

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## Purpose

To ensure all reports of gastrointestinal (GI) illness received from laboratories, health care providers, and the public are investigated to find the possible source(s) of illness, investigate clusters or outbreaks, and reduce secondary transmission.

## Roles

AHD	Anchorage Health Department
ASPHL	Alaska State Public Health Laboratory (Anchorage)
ASVL	Alaska State Virology Laboratory (Fairbanks)
DEC	Alaska Department of Environmental Conservation
EHO	Environmental Health Officer/Sanitarian
Epi Team	Epidemiology Infectious Disease Program
IP	Infection Preventionist (hospital)
NOW	Epi or AHD Nurse of the Week
PHN	Public Health Nurse
RNM	Regional Public Nurse Manager
SOE	Section of Epidemiology

## Responsibilities

The primary agencies/persons responsible for conducting enteric illness investigations are the Section of Epidemiology Infectious Disease team (Epi Team) and local Public Health Nurses (PHN). The Epi Team designates an Epi Nurse of the Week (NOW) each week to assign and follow up on lab reports received that week.

## Procedures

### Receiving Reports of Enteric Illness

- Reportable pathogen-specific foodborne, waterborne, and person to person (P2P) enteric illnesses are reported by laboratories, health care providers and individuals through:
  - Electronic Laboratory Reporting (ELR) into the National Electronic Disease Surveillance System (NEDSS) Base System (NBS)
  - Confidential fax 907-561-4239
  - Section of Epidemiology phone 907-269-8000 or 800-478-0084 (after hours)

- How to Report a Suspected Foodborne Illness' link  
<https://dhss.alaska.gov/dph/Epi/id/SiteAssets/Pages/FoodWater/HowToReportSuspectedFoodborneIllness.pdf>
- Reports received automatically via ELR into NBS are managed by the NOW each weekday.
- Faxes are placed in 'The Box' and managed by the NOW.
- Routine disease reports that are called to SOE are recorded on Confidential Infectious Disease Report Forms. The report is investigated by the Epi Team Nurse who took the call or placed in 'The Box' for follow up by the NOW. A list of enteric pathogen reports entered into NBS is sent monthly from the NBS database manager to the ASPHL microbiologist to reconcile isolate submission.
- A list of pathogen reports for clients living in the Municipality of Anchorage (MOA) AHD jurisdiction is available for export by AHD PHNS from the NBS database in a custom report.
- A list of reportable conditions is available at  
<https://dhss.alaska.gov/dph/Epi/Documents/pubs/conditions/ConditionsReportable.pdf>
- Alaska follows the CSTE/CDC case definitions, available at:  
<http://www.cdc.gov/nndss/conditions/search/>

### Distributing Reports of Enteric Illness to Local Public Health Centers

- All laboratory reports of GI illness are faxed to the Public Health Center (PHC) in the jurisdiction of the reported case for interview.
- Faxes are sent as reports are received; not batched. If there is a suspected cluster, the NOW and Epi Team work with the local PHN and EHO to interview and further investigate.

### Interviewing Cases

- All cases are outreached for interview within one business day of receipt of report using the disease- specific questionnaire found on the Foodborne and Waterborne Disease Information webpage: <https://dhss.alaska.gov/dph/Epi/id/Pages/dod/foodwater/default.aspx>
- Three attempts should be made by PHN to reach the client for interview through telephone calls (2) and letter (1) to client.
- The 'GI Illness' questionnaire is used if no pathogen has yet been identified or the fillable food complaint questionnaire.
- CDC developed multistate outbreak questionnaires are used to interview Alaska cases involved in multistate outbreak/clusters. The questionnaires are delivered as needed to SOE via email and will be forwarded on to PHC/PHN.
- PHNs begin the investigation within one business day and complete within one week (5 business days) of receiving the report at the public health center.
  - Completion of investigation includes making the necessary outreach attempts and returning the interview form with either all answers marked or with the outreach section completed noting that the client was not reachable.
- As able, PHNs will first ensure that the health care provider has informed the patient of lab results and diagnosis, prior to contacting the client.
- If it appears that the case is part of a cluster or outbreak, PHNs notify the Epi Team for assignment to a team leader.

### Single GI Illness Reports

- Single GI illnesses are reported to SOE by phone or email from health care providers, Department of Environmental Conservation Food Safety and Sanitation (DEC), Municipality of Anchorage Health Department (MOA), and the public.
- Single GI illness reports are investigated using the 'GI Illness' questionnaire on the Foodborne and Waterborne Disease webpage.

- Single GI illness reports are also investigated by DEC and the Anchorage Health Department Food Safety and Sanitation Program using a combination of telephone calls, text messaging, and online survey.  
<https://dhss.alaska.gov/dph/Epi/id/SiteAssets/Pages/FoodWater/HowToReportSuspectedFoodborneIllness.pdf>
- Reports are collated on the GI illness complaints spreadsheet tab located in the Excel workbook available at: P:\Infectious\ file titled 'Current outbreaks and investigations spreadsheet'
- Specimens for single GI illnesses are not requested unless more widespread illness is suspected.
- DEC or AHD food safety programs are notified of all GI illness complaints associated with a food or venue for follow up at their discretion.

### Cluster/Outbreak Investigations

- Cluster/outbreak investigations inside of the AHD jurisdiction are led by the AHD team with assistance from SOE as requested.
- Cluster/outbreak investigations outside of the AHD jurisdiction are led by the SOE team with assistance from the local PHNs, DEC, and EHO.
- All clients reporting illness from a common source or event are interviewed using the generic questionnaire or an outbreak-specific questionnaire developed by SOE.
- 'Go teams' will travel to site of outbreak per direction from a SOE leadership.
- GI/ BOT 'Go kit' supplies:
  - o stored in SOE
  - o stocked for immediate use
  - o restocked at the completion of onsite investigation
  - o reviewed for completeness and expired supplies every 6 months by foodborne program coordinator
  - o Supply list is found at P:\Infectious\Disease-Specific\Enteric Illness\Outbreak Resources [file name "GI and BOT Go Kit"]
- Outbreaks (2 or more illnesses from a known common exposure) are recorded on the Outbreaks and Investigations spreadsheet P:\Infectious\ file titled 'Current outbreaks and investigations spreadsheet'
- The Foodborne Program Manager attends and contributes to CDC-facilitated outbreak teleconferences when Alaska has cases associated with multi-state outbreaks/clusters.

### Collecting Stool Specimens for Surveillance Testing

- Stool specimens are requested of all complaints of possible foodborne illness where two or more ill people from separate households are ill from a common exposure.
- One stool specimen per client is collected in Enteric Transport Media (ETM) for enterics testing; 2-5 bulk raw stool or vomitus specimens for norovirus testing per outbreak are collected in clean specimen cups. Kits are available through the PHCs and ASPHL.
- Collection, shipping, and supply request information can be found at the State laboratories Test Directory and Publications Page: <https://dhss.alaska.gov/dph/Labs/Pages/publications/default.aspx>
- No single individuals' stool or vomitus specimens are tested for norovirus at ASVL. Individuals can work with their primary care provider to have single specimens submitted to commercial laboratories for norovirus and/or enteric illness testing.
- Specimens are shipped to ASPHL or ASVL for processing or forwarding to the 'sister' lab as needed.
- 'Patient Instruction Sheet for Stool Collection' is located on the Foodborne and Waterborne Disease Information webpage:  
<https://dhss.alaska.gov/dph/Epi/id/SiteAssets/Pages/FoodWater/PatientInstructionsStoolCollection.pdf>

## Requesting Food Specimens for Surveillance Testing

- Food suspected to have caused botulism is collected per instructions and sent to ASPHL for testing: <https://dhss.alaska.gov/dph/Epi/id/SiteAssets/Pages/Botulism/BotulismChecklistPHN.pdf>  
<https://dhss.alaska.gov/dph/Labs/Documents/LaboratoryTests.pdf>
- Food suspected to have caused Paralytic Shellfish Poisoning (PSP) is shipped to the DEC laboratory for testing  
[https://dhss.alaska.gov/dph/Epi/Documents/pubs/mmm/MMM\\_Chapter\\_PSP.pdf](https://dhss.alaska.gov/dph/Epi/Documents/pubs/mmm/MMM_Chapter_PSP.pdf)
- The decision to test food specimens is made in collaboration with the DEC. Food may be collected before the final decision to test is made. If testing is available and pursued, it will be forwarded to appropriate testing laboratories.
- Food implicated in other illnesses or outbreaks is collected at the discretion of SOE and EHOs.

## Reviewing Completed Questionnaires

### Pathogen Specific Illness Questionnaires

- All questionnaires are reviewed by the Epi Nurse for completeness, high-risk occupations, common exposures, and other linked cases indicating a possible cluster or outbreak.
- Upon receipt of client's questionnaire or clinic note at SOE, the client's NBS record is updated to reflect:
  - completion by changing the status field to 'completed'
  - outbreak name
  - serogroup / serotype
  - WGS information as applicable
- Questionnaires are matched to lab reports and filed alphabetically in the Infectious Disease files in the rolly bins by the Administrative or Office Assistant or NOW.
- Individual records are retained for 2 years plus current year. Outbreak records are retained for 7 years plus current year. All records are shredded after the required retention time.

### Single Complaint Suspected Foodborne Illness

- All public complaints of GI illness are interviewed by DEC, Epi Nurse or local PHN using the GI Illness questionnaire.
- GI Illness questionnaires are placed in 'The Box' pending file if specimen results are anticipated.
- GI illness complaints are forwarded to AHD or DEC for venue / food inspection or follow-up.
- GI illness complaints are entered onto the spreadsheet at: P:\Infectious\ file titled 'Current outbreaks and investigations spreadsheet' in the sheet titled 'GI illness complaints'
- GI Illness questionnaires with no specimens are filed by year in the 'GI Illness Reports' file, in the Foodborne Program Coordinator's office.

### Multi State Outbreak/Cluster Questionnaires

- CDC will typically coordinate investigations of outbreaks that involve multiple states.
- CDC developed outbreak specific questionnaires for multistate outbreaks and clusters are provided to SOE via email when Alaska cases are determined to be part of the outbreak/cluster.
- Once multistate outbreak questionnaires are returned, the SOE Foodborne Illness coordinator will enter/upload the data into SEDRIC.

## Communications

### Notifying Sanitarians/Environmental Health Officers (EHOs)

- AHD or DEC Food Safety EHOs (outside of Anchorage jurisdiction) are notified of foodborne illness complaints that involve a restaurant or food in commerce.
- Anchorage EHOs  
<http://www.muni.org/Departments/health/Admin/environment/FSS/Pages/default.aspx>
- Non-Anchorage EHOs <https://dec.alaska.gov/eh/fss.aspx>
- Regional ANTHC EHOs <https://anthc.org/what-we-do/community-environment-and-health/environmental-health-field-services/>
- Food or drug issues are communicated to FDA/USDA through DEC as needed.
- Designated Epi Team/ DEC Food Safety and Sanitation members are FDA Commissioned Officers as appointed by FDA.
- The State Veterinarian is notified of issues associated with raw milk or local meat consumption.

### Notification/Communications to Media and External Partners

- Section of Epidemiology is notified of GI illness calls to Public Health Centers and DEC.
- Reports of clusters are reported to Epi, AHD/DEC, and RNM for further investigation.
- Reports of public complaints of regulated food products or venues are forwarded to the Lead EHO in that jurisdiction:
  - AHD for Anchorage jurisdiction including communities from Girdwood to Eklutna.
  - DEC offices for all other regions of the state.
- Reports of unusual or clusters of illness are reported to local jurisdictions.
- Communication is conducted through confidential and HIPAA compliant email systems i.e., DSM or faxing records between jurisdictions.
- Quarterly meetings with SOE/DEC/AHD/Labs are conducted to review recent activities, collaborations, and needed improvements. SOE and DEC lead and facilitate meetings on a rotating basis.
- The Foodborne Program Coordinator is a member of the Alaska Food Safety Advisory Committee (AFSAC) and attends quarterly DEC-facilitated meetings.
- All team members from all agencies share information during an outbreak response by email and/or teleconference.
- As appropriate, Division Emergency Preparedness staff are informed if an outbreak or incident involves large numbers of ill persons; there's a need for additional resources or logistics assistance; or when there are other aspects of the pathogen or incident for which they should be aware. Similarly, law enforcement would be contacted if there was an indication that an intentional poisoning event occurred.
- Coordination and communication with tribal partners, including but not limited to the regional health corporation and tribal EHOs, is performed by SOE when those entities are involved in response efforts or for their situational awareness.
- Publications including press releases, Public Health Alerts (PHAN) and Epi Bulletins regarding foodborne illness are published and distributed at the discretion of the SOE team.
- Media teams are notified of outbreaks; Sit-reps for outbreaks or other situations affecting residents community-wide are developed per the Epi Team discretion.
- Confidentiality standards are adhered to regarding naming specific venues, individuals and other PHI.



## Control Measures

- Control measures are implemented as soon as sufficient information is available.
- Controlling an outbreak by removing the infected food worker or vehicle of consumption, cleaning the environment, modifying food preparation, or closing a venue are under the jurisdiction of MOA and DEC EHOs with consultation from SOE.
- Food workers may be excluded or restricted from working with symptoms including vomiting, diarrhea, jaundice, sore throat with fever, and infected wound or pustular boil per DEC Food Code 18 AAC 31.300 <https://dec.alaska.gov/media/1034/18-aac-31.pdf>
- SOE may exclude ill food workers and require negative stool cultures before returning to work in some situations. Guidance is provided through the American Public Health Association Control of Communicable Diseases Manual per Alaska Regulations 7 AAC 27.010.
  - SOE Exclusion criteria are accessible here:  
<https://dhss.alaska.gov/dph/Epi/id/SiteAssets/Pages/dod/foodwater/default/Enteric%20Illness%20Exclusion%20Criteria.pdf>
- Diseases for which there are specific control measures including follow-up client testing for high-risk occupations include:
  - Hepatitis A
  - Typhoid
  - Shigellosis
  - Salmonellosis
  - STEC infections

## Educating Patients

- Clients are educated about potential source and transmission of enteric pathogens and control measure to prevent transmission.
- Fact sheets for the enteric pathogens are found at:  
<https://dhss.alaska.gov/dph/Epi/id/Pages/dod/foodwater/default.aspx>

## Whole Genome Sequencing (WGS)

- WGS is performed by Microbiologists at ASPHL on enteric pathogens including Campylobacter, E. coli O157:H7, Listeria, Salmonella, Shigella, and Vibrio.
- Results are compared to entries in the Alaska database for matches.
- Results are entered into the CDC PulseNet database to determine matches to multi-state and national cases involved in outbreaks. Reports are sent from ASPHL to the Foodborne Program Coordinator using confidential shared network drives.
- WGS files are posted at F:\Foodborne-PulseNet\BioNumericsExports-Routine
- WGS information is entered into the client record in NBS if relevant to a multistate or local outbreak

## Linking Cases through WGS Data

- The Centers for Disease Control and PulseNet developed an internal user guide to indicate the criteria to consider for when specimens represent a potential cluster. Once this criterion is met, it flags Microbiologists at ASPHL to inform SOE and SOE can assess for common exposures.
  - Criteria is pathogen specific for those pathogens that have WGS performed and is based on timeline, number of cases, and relatedness (number of alleles different).
- Outbreaks including all single cases of Botulism, PSP, and Trichinellosis are recorded on the Foodborne and Enterics Outbreaks linelist located at P:\Infectious\TDrive\INF\_Apps\Outbreaks and Investigations Spreadsheet [file name "outbreak and investigations spreadsheet"]; list by onset date of first illness.

## Culture Independent Diagnostic Testing (CIDT)

- Does not give serogroup, serotype, or WGS information.
- ASPHL requires pure culture for identification and WGS.
- Isolate submission of certain reportable pathogens or aliquots of original specimen material must be submitted to ASPHL per Alaska Regulations 7 AAC 27.007. See also: <https://dhss.alaska.gov/dph/Epi/Documents/pubs/conditions/ConditionsReportable.pdf#page=13>
- Pathogen-specific interviews by PHNs are conducted following positive CIDT results.

## System for Enteric Disease Response, Investigation, and Coordination (SEDRIC)

- SEDRIC is the CDC *System for Enteric Disease Response, Investigation, and Coordination*
- A secure, web-based platform that combines epidemiologic, laboratory, and traceback data in real time.
- WGS data uploaded through PulseNet
- EPI data is entered into SEDRIC by the Foodborne Illness Coordinator to aid in real time outbreak investigation for multistate outbreaks and clusters.
- The Foodborne Illness Coordinator is responsible for maintaining Alaska data in this system and keeping current on trainings related to the use of SEDRIC to engage with CDC during multistate outbreaks.

## Reporting to the National Outbreak Reporting System (NORS)

- State NORS Administrators are allowed access to NORS data entry.
- Outbreaks are reported to NORS by the designated state NORS Administrator. Outbreaks are  $\geq 2$  cases from a confirmed common source
- Alaska outbreaks are numbered by **year** and **sequential number**, i.e., **2021001** etc.
- Outbreaks from food, water, environment, and P2P exposures are reported to NORS.
- Outbreaks/Clusters consisting of two or more cases from a confirmed common source are reported to the National Outbreak Reporting System (NORS) by the designated state NORS Administrator.
  - NORS reports are initiated within 5 days of outbreak/cluster detection and finalized within 60 days unless pending laboratory results take longer.
- Guidance documents are located through CDC at <https://www.cdc.gov/nors/downloads/guidance.pdf>

## Reporting requirements

### All Reportable Conditions

- NBS
  - Enter all lab-confirmed cases and epi-linked cases.
  - Assign an outbreak name and number; link cases to the outbreak name/number per NBS guidelines.
- Outbreaks are recorded on the Foodborne and Enterics Outbreak Linelist P:\Infectious\ file titled 'Current outbreaks and investigations spreadsheet'
- Summarize investigations of outbreaks in collaboration with AHD PHNs and AHD/DEC EHOs even if no pathogen is identified. Use existing templates for certain outbreaks, e.g., PSP, botulism.

### Instructions for Specific Pathogens

(Note: information about specific forms is also available in Epidemiology Procedure Manual chapters, available at: <https://dhss.alaska.gov/dph/Epi/Pages/pubs/mmm/toc.aspx>).



No protected personal identifiers (PPI) are faxed to CDC; all case surveillance forms are redacted before emailing or faxing to CDC. If CDC is serving as a diagnostic laboratory and evaluating specimens, PPI may be included along with the specimen test request forms.

#### *Botulism*

- All cases of Botulism are reported to CDC Botulism Surveillance Team. Initial notifications are performed via email or telephone.
- Botulism Case Report forms and Botulism Outcome Forms are completed and forwarded to CDC via fax 404-639-2205 or email [botsurveillance@cdc.gov](mailto:botsurveillance@cdc.gov)
  - <https://dhss.alaska.gov/dph/Epi/id/SiteAssets/Pages/Botulism/BotulismCaseReportForm.pdf>
  - <https://dhss.alaska.gov/dph/Epi/id/SiteAssets/Pages/Botulism/ClinicalOutcomeReportForm.pdf>
- Botulism case data are reviewed and reconciled with SOE yearly by the CDC Botulism Team.

#### *Brucellosis*

- All cases of brucellosis are reported to CDC using the Brucellosis Case Report Form found here <https://www.cdc.gov/brucellosis/pdf/case-report-form.pdf>

#### *Cholera and Other Vibrio Illness Surveillance Report (COVIS)*

- All cases of vibriosis are reported to CDC COVIS Surveillance
- Complete the COVIS form including investigation information from DEC Shellfish Program <https://www.cdc.gov/nationalsurveillance/pdfs/cdc5279-covis-vibriosis-508c.pdf>
- Fax form to CDC at 404-235-1735 or email to [covisresponse@cdc.gov](mailto:covisresponse@cdc.gov)
- Cholera and Vibrio illness case data are reviewed and reconciled with SOE yearly by the CDC COVIS team.

#### *Listeriosis*

- All cases of listeriosis are reported to CDC using the Listeria Initiative Case Report Form found here <https://www.cdc.gov/listeria/pdf/listeria-case-report-form.pdf>

#### *Trichinellosis*

- All cases of trichinellosis are reported to CDC using the Trichinellosis Surveillance Report Form found here <https://www.cdc.gov/parasites/trichinellosis/resources/pdf/547.pdf>

#### *Typhoid/Paratyphoid*

- All cases of Typhi and Paratyphi are reported to CDC Typhoid/Paratyphoid Surveillance
- Complete the Typhoid and Paratyphoid Fever Surveillance Report found here <http://www.cdc.gov/nationalsurveillance/PDFs/typhi-surveillance-form.pdf>
- Fax form to CDC at 404-639-2205 or email to [entericfever@cdc.gov](mailto:entericfever@cdc.gov)
- Typhoid/Paratyphoid case data are reviewed and reconciled with SOE yearly by the CDC enteric illness team.

#### *After Action/Lessons learned*

- Agencies routinely collaborate to debrief following each outbreak response and refine response protocols based on lessons learned.
- Document tools to facilitate after action meetings are saved P:\Infectious\Disease-Specific\Enteric Illness\Outbreak Resources

## References

American Public Health Association. Control of Communicable Diseases Manual, 20th Edition 2015.

Council to Improve Foodborne Outbreak Response (CIFOR). Guidelines for Foodborne Disease Outbreak Response. Atlanta: Council of State and Territorial Epidemiologists, 2020 3rd edition.