Food Safety Surveillance and Testing Practices

Email Support

Default Question Block

Introduction:

The purpose of this survey is to gather information from local and state public health and agriculture laboratories on their current food safety testing practices. Obtaining this information offers APHL's Foodborne Diseases and Human and Animal Food committees the ability to assess practices, processes, available support and future plans for food safety testing in member laboratories. We estimate that it should take members approximately 30 minutes to complete the survey. We thank you for your time and effort in responding to this data request and your enthusiasm for improving foodborne disease surveillance.

2024 Food Safety Surveillance and Testing Practices Survey PDF.pdf

Please note:
For the purpose of this survey, we define a primary specimen as a raw stool, rectal swab, CSF, blood or any other specimen that came directly from a patient.

Demographics

Please classify your laboratory

Please check all that apply.

☐ State Public Health Laboratory

- [ ] Local Public Health Laboratory
- [ ] State Agriculture Laboratory
- [ ] State Chemist Laboratory

PulseNet

1. PulseNet has recommended performing mixed pathogen WGS runs to improve median turnaround* times. With a mixed run option, what is your median turnaround time in days for WGS analysis for Salmonella, Listeria, and STEC?

**Turnaround: within 7 working days from receipt of a culture/the day an isolate is recovered in the public health laboratory to upload to the PulseNet national database.*

- ○ <=7 business days (Go to Question 2)
- ○ > 7 business days (Go to 1a and 1b)
- ○ We are not a PulseNet laboratory (Go to Question 2, skip questions 3 - 4)

1a. What factors are responsible for this estimate?

Please check all that apply.

- [ ] Low specimen volume (low incidence)
- [ ] High specimen volume (high incidence)
- [ ] Intermittent specimen volume due to seasonality
- [ ] Batching due to cartridge size
- [ ] Staffing
- [ ] Funding
- [ ] IT constraints
- [ ] Limited number of instruments
- [ ] Other (please specify)

1b. How do you plan to address these factors to bring down your TAT?

Please check all that apply.

- [ ] Seek additional funding
- [ ] Adjust test schedule/ workflow
- [ ] Seek additional training for existing staff
- [ ] Change or increase in sequencing platforms
- [ ] Prioritize enteric WGS testing
- [ ] Adjust analysis schedule
- [ ] Increase staff
- [ ] Establish an efficient in-house pipeline
- [ ] Use a regional PulseNet laboratory as an external resource
- [ ] Use a reference laboratory as an external resource
- [ ] Not sure/can't decrease TAT
- [ ] Other

2. What percentage of enteric isolates sequenced in your laboratory must be re-sequenced?

- ○ 0-2%
- ○ 2-5%
- ○ 5-10%
- ○ >=10%
- ○ We do not sequence enterics (Go to Question 6a.)

2a. In your laboratory's experience, what are the key reason(s) why your isolates fail and need to be re-sequenced?

Please check all that apply.

- [ ] Contamination
- [ ] Insufficient coverage

- [ ] Insufficient quality
- [ ] Insert size too small
- [ ] Failed instrument run
- [ ] Failed sequencing controls
- [ ] Isolate mix up
- [ ] Reagent issues
- [ ] Other

3. Does your laboratory have enough staff to conduct WGS in re l time on all P lseNet organisms?

- ○ Yes
- ○ No

4. Does your laboratory have enough microbiology staff to handle processing of all PulseNet organisms in a timely manner?

- ○ Yes
- ○ No

Bioinformatics for Enterics

5. Outside of BioNumerics and/or GalaxyTrakr, do you have the ability to perform analysis of your WGS data internally?

- ○ Yes (Go to 5a)
- ○ No (Go to 5f)

5a. What resources do you have with regards to staff, equipment, and software to perform WGS data analysis internally?

Please check all that apply.

- [ ] Staff skills/ bench analyst
- [ ] In house bioinformatician
- [ ] Operating systems
- [ ] Data storage
- [ ] Available software
- [ ] Other (please specify)

5b. What bioinformatics software/workflows do you use, e.g., TheiaProk, Grandeur, Bactopia, BioNumerics, etc.?

5c. What computational resources are you using, e.g., On-premises computers, High-performance computing cluster (HPC), Cloud computing, etc.?

5d. What cloud computing platform do you use, e.g., Google Cloud, Amazon Web Services, Microsoft Azure, etc.?

5e. How is the data generated through internal analysis being used?

Please check all that apply.

- [ ] Monitor surveillance trends
- [ ] Detect clusters and outbreaks
- [ ] Provided to epidemiologists to assist with investigations
- [ ] Special studies
- [ ] Other

5f. Where are you receiving bioinformatics support to an l ze o WGS d ta?

Please select all that apply.

- [ ] We exclusively use BioNumerics and/or GalaxyTrakr
- [ ] We receive peer support from other states
- [ ] We receive support from a federal agency
- [ ] We receive support from academic partners
- [ ] Other

6. What WGS pathogen-based applications have you or do you plan to CLIA validate for reporting? (e.g., identification, subtyping, virulence gene characterization)?

	Currently validated	Planning for validation in the future	We do not plan to validate
Salmonella Identification (ANI)	○	○	○
Salmonella Serotyping (SeqSero2)	○	○	○
STEC Serotyping	○	○	○
AR (ResFinder)	○	○	○
Other (please specify)	○	○	○

6a. Does your laboratory perform traditional serotyping for Salmonella?

- ○ Yes (Go to question 6b)
- ○ No (Go to question 7)

6b. For which Salmonella serotypes does your laboratory perform traditional serotyping?

Please check all that apply.

- ☐ S. Typhi
- ☐ S. Paratyphi A
- ☐ S. Paratyphi B
- ☐ Non-typhoidal Salmonella

CIFOR

CIFOR

The Council to Improve Foodborne Outbreak Response (CIFOR) is a multidisciplinary collaboration of local, state and federal agencies representing epidemiologists, environmental health practitioners and public health laboratorians. CIFOR works to improve methods to detect, investigate, control and prevent foodborne disease outbreaks.

CIFOR has published several tools and resources since its inception in 2006. The most notable tool, the CIFOR Guidelines for Foodborne Disease Outbreak Response is a comprehensive source of information on foodborne disease investigation and control for local, state and federal health agencies.

7. Has your laboratory used any CIFOR tools or resources specifically for the purpose of improving processes or procedures in your laboratory?

- ○ Yes (Go to 7a)
- ○ No (Go to 7b)

7a. Which CIFOR tools or resources have you used in your laboratory?

Please check all that apply.

- [ ] CIFOR Guidelines (open the tool in a new window)
- [ ] CIFOR Toolkit (either on your own, with a group, or as part of a Toolkit Implementation Workshop) (open the tool in a new window)
- [ ] CIFOR Guidelines Learning Modules (open the Modules in a new window)
- [ ] Food Safety Programs Reference Guide (open the tool in a new window)
- [ ] CIFOR Complaints Systems(open the tool in a new window)
- [ ] CIFOR Industry Guidelines - A tool accessed via the CIFOR Food Safety (open the tool in a new window)
- [ ] Clearinghouse (open the tool in a new window)

7b. Why not?

Please check all that apply.

- [ ] Not familiar with CIFOR
- [ ] Not sure where to find CIFOR tools and resources
- [ ] Not applicable to us
- [ ] No resources to implement needed changes
- [ ] We're already in line with CIFOR recommendations
- [ ] Other (please specify)

8. The Third Edition CIFOR Toolkit is intended to assess a jurisdiction's current foodborne disease outbreak response capabilities and potential areas for improvement, especially with respect to cross-agency and cross-discipline activities.

CIFOR recommends that jurisdictions bring together an interdisciplinary team specifically for the task of using the Third Edition CIFOR Toolkit. Does your jurisdiction have the resources to organize and bring together an interdisciplinary team for this purpose?

- Yes
- No
- Unsure
- My laboratory would not be responsible for organizing a Toolkit workshop.

9. Has your laboratory established routine procedures for communicating with outbreak response team members before an outbreak occurs?

- Yes (If Yes, Go to 9a)
- No

9a. How often are these routine communication procedures implemented?

- At least weekly Monthly
- Quarterly
- Yearly
- Less than yearly

10. Has your laboratory ever participated in joint outbreak response team exercises to ensure that each team member understands and can perform his/her role?

- Yes
- No

10a. What year was your most recent joint exercise?

11. After a foodborne investigation has concluded, does your laboratory participate in debriefings with members of your jurisdiction's outbreak response team to identify lessons learned and compare notes on ultimate findings?

- ○ Often (Got to 11a and 11b)
- ○ Sometimes (Go to 11a and 11b)
- ○ Rarely (Go to 11a and 11b)
- ○ Never (Go to 11b)

11a. What changes has your jurisdiction made based on those debrief meetings?

Please check all that apply.

- ☐ Identified operational factors that compromised the investigation
- ☐ Identified communications gaps
- ☐ Clarified changes to procedures
- ☐ Identified needed resources
- ☐ Identified training needs
- ☐ Offered needed training
- ☐ Adjusted agency or response team structure to optimize future investigations
- ☐ Other (please specify)

11b. What are the barriers, if any, to debriefing your jurisdiction's outbreak response?

Please check all that apply.

- ☐ Time
- ☐ Staffing
- ☐ Workload
- ☐ Training on how to debrief
- ☐ Not always invited to participate
- ☐ No barriers
- ☐ Other

12. Do you have any current foodborne outbreak response training needs?

13. Would you be interested in having a representative from your laboratory participate on the CIFOR Council or on a CIFOR work group?

- ○ Yes
- ○ No
- ○ Unsure, but I would be interested in more information

Food Safety Testing

Food Safety Testing

14. For which of the following organisms or their toxins does your laboratory **provide** or **assure** testing for **clinical specimens** to assist with foodborne disease outbreak investigations?

	Provide Testing	Assure Testing	Neither Provide nor Assure Testing
Bacillus cereus	○	○	○
Brucella spp.	○	○	○
Campylobacter spp.	○	○	○
Clostridium botulinum	○	○	○
Clostridium perfringens	○	○	○

	Provide Testing	Assure Testing	Neither Provide nor Assure Testing
Cronobacter sakazakii	○	○	○
Cryptosporidium spp.	○	○	○
Cyclospora cayetanensis	○	○	○
Listeria monocytogenes	○	○	○
Norovirus	○	○	○
Salmonella spp. (non-Typhi)	○	○	○
Salmonella Typhi	○	○	○
Shigella spp.	○	○	○
Staphylococcus aureus (from stool)	○	○	○
O157 STEC	○	○	○
Non O157 STEC	○	○	○
Vibrio cholera	○	○	○
Vibrio spp. (non-cholera)	○	○	○
Yersinia enterocolitica	○	○	○

FOR 14A-E ONLY REQUIRE ANSWERS IF THE RESPONSE TO 14 WAS "PROVIDE" FOR THE RESPECTIVE ORGANISM.

14a. For which PulseNet organisms does your laboratory routinely characterize by traditional methods (such as molecular subtype or perform AST) and/or further characterize by sequencing when received for routine clinical testing?

Please check all that apply.

	Routinely Characterize by traditional methods	Routinely Characterize by sequencing (Sanger or WGS)
Campylobacter spp.	☐	☐
Listeria monocytogenes	☐	☐
Salmonella spp. (non-Typhi)	☐	☐
Salmonella Typhi	☐	☐
Shigella spp.	☐	☐
O157 STEC	☐	☐
Non O157 STEC	☐	☐
Vibrio cholera	☐	☐
Vibrio spp. (non-cholera)	☐	☐
Yersinia enterocolitica	☐	☐

14b. What method(s) do you use in your laboratory to detect and/or identify Shiga-toxin producing E. coli?

Please check all that apply.

☐ EIA (please specify manufacturer)

☐ PCR **(Answer 14d if checked)**

☐ IMS

☐ Other (please specify)

14c. What is the average age of the method(s) you are currently running to detect Shiga-toxin producing E. coli in your laboratory

- ○ 1 year
- ○ 2-5 years
- ○ 6-10 years
- ○ 10+ years

14d. For laboratories performing PCR assays for Shiga-toxin producing E. coli, please provide the name and version of your assay (ex. CDC published, 20xx)

14e. Which NON-PulseNet organisms does your laboratory routinely characterize by traditional methods (such as molecular subtype or perform AST) and/or further characterize by sequencing when received for routine clinical testing?

Please check all that apply.

	Routinely Characterize by traditional methods	Routinely Characterize by sequencing (Sanger or WGS)
Bacillus cereus	☐	☐
Brucella spp.	☐	☐
Clostridium botulinum	☐	☐
Clostridium perfringens	☐	☐
Cryptosporidium spp.	☐	☐
Cyclospora cayetanensis	☐	☐
Norovirus	☐	☐
Staphylococcus aureus (from stool)	☐	☐

15. For which of the following organisms or their toxins does your laboratory **provide** or **assure** testing for **food and or water samples** to assist with foodborne disease outbreak investigations?

	Provide Testing	Assure Testing	Neither Provide nor Assure Testing
Bacillus cereus	○	○	○
Brucella spp.	○	○	○
Campylobacter spp.	○	○	○
Clostridium botulinum	○	○	○
Clostridium perfringens	○	○	○
Cronobacter sakazakii	○	○	○
Cryptosporidium spp.	○	○	○
Cyclospora cayetanensis	○	○	○
Listeria monocytogenes	○	○	○
Norovirus	○	○	○
Salmonella spp. (non-Typhi)	○	○	○
Salmonella Typhi	○	○	○
Shigella spp.	○	○	○
Staphylococcus aureus	○	○	○
O157 STEC	○	○	○

	Provide Testing	Assure Testing	Neither Provide nor Assure Testing
Non O157 STEC	○	○	○
Vibrio cholera	○	○	○
Vibrio spp. (non-cholera)	○	○	○
Yersinia enterocolitica	○	○	○

16. Does your laboratory provide or assure for the following tests in **food samples**?

	Provide Testing	Assure Testing	Neither Provide nor Assure Testing
Allergens	○	○	○
Biotoxins	○	○	○
Crude oil dispersants	○	○	○
Cyanide	○	○	○
Filth	○	○	○
Histamines	○	○	○
Marine toxins	○	○	○
Mycotoxins	○	○	○
Nutritional Analysis	○	○	○
Pesticides/Residues	○	○	○
PFAS	○	○	○
Pharmaceuticals/Drugs of Abuse	○	○	○
Polyaromatic Hydrocarbons	○	○	○

	Provide Testing	Assure Testing	Neither Provide nor Assure Testing
Radionuclides	○	○	○
Sulfites/sulfates/nitrites	○	○	○
Toxic Alkaloids	○	○	○
Toxic Elements- Arsenic	○	○	○
Toxic Elements- Cadmium	○	○	○
Toxic Elements- Lead	○	○	○
Toxic Elements- Mercury	○	○	○
Undeclared\unapproved colors	○	○	○
Undeclared preservatives	○	○	○
Volatile and semi-volatile organic compounds	○	○	○

Specimen Acceptance

Specimen Acceptance

17. For the organisms listed below, which CIDT-positive specimen type(s) does your laboratory accept for testing

Please check all that apply.

	Stool Specimen in Transport Media	Rectal or Stool Swab in Transport Media	Enrichment Broth	Only Isolates Accepted
Salmonella spp.	☐	☐	☐	☐
STEC	☐	☐	☐	☐

	Stool Specimen in Transport Media	Rectal or Stool Swab in Transport Media	Enrichment Broth	Only Isolates Accepted
Shigella spp.	☐	☐	☐	☐
Campylobacter spp.	☐	☐	☐	☐
Vibrio spp.	☐	☐	☐	☐
Yersinia spp.	☐	☐	☐	☐

18. Please briefly describe your laboratory's specimen acceptance criteria for the organisms listed below, e.g., within a certain number of days of specimen collection, within a given temperature range, etc. **(Only respond to the options selected in Q17)**

Salmonella spp.

STEC

Shigella spp.

Campylobacter spp.

Vibrio spp.

Yersinia spp.

19. What resources were used by your laboratory to establish the specimen acceptance criteria for the organisms listed below?

Please check all that apply.

	Analysis of specimen type-specific in-house recovery rates	In-house stability studies	Published guidance materials (please provide source in Q19a)	Other (please specify in Q19b.)	Criteria have not been established for this organism
Salmonella sp.	☐	☐	☐	☐	☐
STEC	☐	☐	☐	☐	☐
Shigella sp.	☐	☐	☐	☐	☐
Campylobacter sp.	☐	☐	☐	☐	☐

	Analysis of specimen type-specific in-house recovery rates	In-house stability studies	Published guidance materials (please provide source in Q19a)	Other (please specify in Q19b.)	Criteria have not been established for this organism
Vibrio sp.	☐	☐	☐	☐	☐
Yersinia sp.	☐	☐	☐	☐	☐

19a. Please provide source for published guidance materials.
(Only respond to the options selected in Q19)

Salmonella sp.

STEC

Shigella sp.

Campylobacter sp.

Vibrio sp.

Yersinia sp.

19b. Please specify the other resources your lab used to establish specimen acceptance criteria. **(Only respond to the options selected in Q19)**

Salmonella sp.

STEC

Shigella sp.

Campylobacter sp.

Vibrio sp.

Yersinia sp.