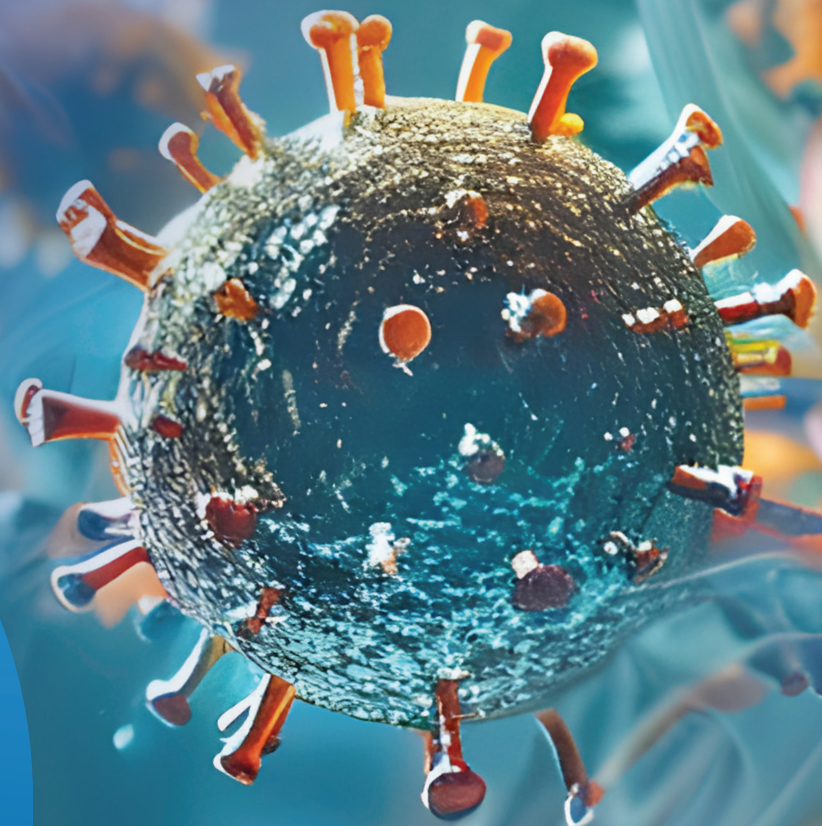




NATIONAL
**FOOD
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MONTH

What Happens When Foodborne Illnesses **Become Outbreaks**

*Behind the
Scenes of Managing
an Outbreak*





Have you ever wondered what goes on behind the scenes of a suspected foodborne illness outbreak? Within a matter of days, public health officials and food industry leaders can work together to identify pathogens and stop their spread before they infect more people. In this two part series, we break down the science of foodborne illnesses and outbreaks to help restaurant leaders better understand, manage, and prevent the spread of foodborne pathogens.



In **“The Science of Foodborne Illnesses and Outbreaks: The Most Common Foodborne Illnesses,”** we discussed the most common pathogens that cause foodborne illness and how they make people sick.



In this guide, we'll dive into the topic of foodborne illness outbreaks by explaining **how to respond to outbreak claims, what the investigation process looks like, the top 10 pathogens known to cause outbreaks, and simple ways you can prevent outbreaks in your operation.**

What constitutes an outbreak?

AS DEFINED BY THE FOOD AND DRUG ADMINISTRATION (FDA), **A FOODBORNE ILLNESS OUTBREAK OCCURS WHEN TWO OR MORE PEOPLE GET THE SAME ILLNESS** FROM THE SAME CONTAMINATED FOOD OR DRINK.¹

If the outbreak is widespread and spans multiple states, it will be investigated by the Centers for Disease Control (CDC) and, in most cases, the FDA's Coordinated Outbreak Response and Evaluation (CORE) Network.

Whether they're connected to a larger outbreak or not, foodborne illnesses continue to pose a threat to public health.

THE CDC ESTIMATES THAT IN THE U.S. NEARLY EACH YEAR...

48
MILLION
people get sick²

128
THOUSAND
are hospitalized²

3
THOUSAND
die from foodborne pathogens²

¹ FDA. (2022, October 6). Outbreaks of Foodborne Illness.

² FCDC. (2018, November 5). Estimates of Foodborne Illness in the United States.


Top 10 Pathogens that Commonly Cause Outbreaks

A handful of pathogens (viruses, bacteria, and parasites) cause the majority of foodborne illness outbreaks in the U.S. each year. Knowing how they make people sick can help reduce the risk of spreading them.

ORGANISM	COMMON NAME	ONSET TIME (POST-INGESTION)	SYMPTOMS		DURATION	FOOD SOURCES
Salmonella	Salmonellosis	6-48 hours	<ul style="list-style-type: none"> • Diarrhea • Fever 	<ul style="list-style-type: none"> • Abdominal cramps • Vomiting 	4-7 days	Eggs, poultry, meat, unpasteurized milk or juice, cheese, contaminated raw fruits and vegetables
Noroviruses	Viral gastroenteritis, acute non-bacterial gastroenteritis, winter diarrhea	12-48 hours	<ul style="list-style-type: none"> • Nausea • Vomiting (more common in children) • Abdominal cramping 	<ul style="list-style-type: none"> • Diarrhea (more common in adults) • Fever • Headache 	12-60 hours	Raw produce, contaminated drinking water, uncooked foods, cooked foods that are not reheated after contact with an infected food handler, shellfish from contaminated waters
E. coli	E. coli infection, traveler's diarrhea	4 hours-9 days	<ul style="list-style-type: none"> • Watery diarrhea • Vomiting (sometimes) 	<ul style="list-style-type: none"> • Abdominal cramps 	3-7 days or longer	Water or food contaminated with human feces
E. coli O157:H7	Hemorrhagic colitis (HC)	1-9 days	<ul style="list-style-type: none"> • Severe, often bloody diarrhea • Abdominal pain • Vomiting • Usually little or no fever is present 	<ul style="list-style-type: none"> • Note: more common in children four years or younger • In severe cases, may lead to kidney failure 	5-10 days	Undercooked beef (especially hamburger), unpasteurized milk and juice, raw fruits and vegetables, and contaminated water
Shigella	Shigellosis or bacillary dysentery	8 hours-7 days	<ul style="list-style-type: none"> • Abdominal cramps • Fever 	<ul style="list-style-type: none"> • Diarrhea that may contain blood and mucus 	24-48 hours	Raw produce, contaminated water, uncooked foods, and cooked foods not reheated after contact with an infected handler

Top 10 Pathogens that Commonly Cause Outbreaks Cont.

ORGANISM	COMMON NAME	ONSET TIME (POST-INGESTION)	SYMPTOMS		DURATION	FOOD SOURCES
Hepatitis A	Hepatitis	28 days average (15-50 days)	<ul style="list-style-type: none"> • Diarrhea • Dark urine • Jaundice 	<ul style="list-style-type: none"> • Flu-like symptoms (fever, headache, nausea, abdominal pain) 	variable, 2 weeks - 3 months	Raw produce, contaminated water, uncooked foods, and cooked foods not reheated after contact with an infected handler
Clostridium botulinum	Botulism	4 hours-8 days	<ul style="list-style-type: none"> • Vomiting • Diarrhea • Blurred vision/ double vision • Difficulty swallowing 	<ul style="list-style-type: none"> • Muscle weakness • In severe cases, may result in respiratory failure and death 	Variable	Improperly canned foods, especially home-canned vegetables, fermented fish, baked potatoes in aluminum foil
Listeria monocytogenes	Listeriosis	9-48 hours for gastrointestinal symptoms; 2-6 weeks for invasive disease	<ul style="list-style-type: none"> • Fever • Muscle aches • Pregnant people may have mild flu-like illness, and infection may lead to premature delivery or stillbirth 	<ul style="list-style-type: none"> • Nausea or diarrhea • Elderly or immunocompromise patients may develop bacteremia or meningitis 	Variable	Unpasteurized milk, soft cheeses made with unpasteurized milk, ready-to-eat deli meats
Cyclospora cayentanensis (single-celled protozoan parasite)	Cyclosporiasis	1-14 days, usually at least one week	<ul style="list-style-type: none"> • Diarrhea, usually watery • Loss of appetite • Substantial weight loss • Stomach cramps 	<ul style="list-style-type: none"> • Nausea • Vomiting • Fatigue 	May be remitting and relapse over weeks to months	Various types of fresh produce (imported berries, lettuce, basil)
Staphylococcus aureus	Staphylococcal food poisoning	1-7 hours	<ul style="list-style-type: none"> • Sudden onset severe nausea and vomiting • Abdominal cramps 	<ul style="list-style-type: none"> • Diarrhea and fever may be present 	24-48 hours	Unrefrigerated or improperly refrigerated meats, potato and egg salads, cream pastries



How to Respond to Foodborne Illness Outbreak Claims

Discovering your restaurant may be involved in a potential outbreak can be devastating but remember that you have the power to act quickly and make a difference. Don't wait until a problem arises to create a plan for handling foodborne illness claims. The faster you intervene, the more likely you are to take control of the situation.

Imagine this: it's a few hours after closing, and a guest calls to inform a manager that they got sick shortly after eating at your establishment. Or perhaps you've received a call from the local health department inquiring about reports of illness linked to your restaurant.

As tricky as it may be, try to keep calm. A claim is just that – a claim. It's an indication that it's time to do some digging.

SO, WHAT STEPS SHOULD YOU TAKE NEXT?

Gather Information About the Illness

As a restaurant leader, you must first gather all available information about the situation in order to take corrective action, prevent further spread, and assess the business impact.

AFTER RECEIVING A CUSTOMER COMPLAINT

If you've been contacted by a guest about food poisoning from your establishment, your first instinct may be to apologize. While it's okay to be empathetic, because it is often difficult to ascertain the source of foodborne illness, avoid apologizing or accepting responsibility for the incident. Apologizing for causing the illness may be deemed to admit guilt in the eyes of the court, and we don't know where the illness came from yet.

INSTEAD, BE PROFESSIONAL AND COURTEOUS, BUT KEEP YOUR DISTANCE FROM THE CLAIM. YOU MIGHT SAY SOMETHING LIKE, **"I AM SORRY TO HEAR YOU AREN'T FEELING WELL,"** BUT DO NOT SAY, **"I AM SORRY OUR FOOD MADE YOU SICK."**

RATHER THAN TRYING TO FIX THE SITUATION, YOUR JOB IS TO COLLECT INFORMATION. DOCUMENT EVERYTHING YOU CAN AND SUBMIT ALL DETAILS TO YOUR LOCAL HEALTH DEPARTMENT.



QUESTIONS TO ASK

1

When did the customer dine at the restaurant? What dish(es) did they order? Did they make any substitutions or modifications?

2

Did the customer dine alone or in a group? If they dined with others, did anyone else consume the same food and experience the same symptoms?

3

What symptoms is the customer experiencing?

4

When did those symptoms begin, and how long did they last?

5

Did the customer seek medical advice? (If they haven't yet sought medical care, encourage them to do so).

After Being Contacted By Health Officials

Sometimes, your local health department or another official body may be the first to notify you about a potential foodborne illness outbreak. If that's the case, it's likely that an investigation has already begun. Follow all instructions given to you by health officials to address the situation promptly.

Notify the Proper Authorities

WHETHER YOU BELIEVE YOU, ONE OF YOUR CUSTOMERS, OR ONE OF YOUR EMPLOYEES MAY BE SICK OR HAVE HANDLED A POTENTIALLY CONTAMINATED FOOD ITEM, **CONTACT THE LOCAL HEALTH DEPARTMENT AS SOON AS POSSIBLE.**

If you're not sure which local office to contact, **your state's health department is a good place to start.**

When you call, make sure you provide any information you already have gathered. Your health department may instruct you to contact the FDA, USDA, or other federal offices to report the complaint. Otherwise, take the next steps given to you by your health inspector or other health offices.



As you comply with the investigation, ensure that **both management and senior management professionals** (if applicable) at your restaurant stay up-to-date on what's happening.

Investigate & Clean Your Kitchen

Once you have contacted officials and handled a claim, you should turn your attention to your kitchen. Do some investigating of your own to identify the potential cause of the illnesses and evaluate your food safety practices.

Interview staff members to gain insight into what went wrong or any shortcuts taken during food preparation. Identify areas where contamination may have occurred to get a better idea of what you may need to do to fully eradicate the risk of spreading pathogens.

SANITIZING THE AREA



With room temperature, soapy water, thoroughly wash all cutting boards, countertops, shelves, display cases, and utensils that may have come into contact with contaminated foods.



Wipe down the shelves and walls inside your refrigerator, too.



After washing all surfaces and supplies, sanitize them with a solution of one tablespoon of chlorine bleach to one gallon of room temperature water.



Leave all surfaces and supplies to air dry.



Thoroughly wash your hands with warm water and soap once you've finished.

Take Action as Recommended by Health Officials



Based on the findings of their investigation, public health officials may request that your restaurant address certain food safety violations, provide more information about suppliers, or disregard the claim entirely.

If your restaurant is identified as a source of contamination, you may be asked to voluntarily close for cleaning, for inspection, or to allow more time to confirm the outbreak.

Voluntary closures are not enforced, but following them can help you protect your reputation from any further damage. It also gives you a chance to thoroughly clean your establishment and review important safety protocols with your staff.

Some restaurants that do not willingly close may be subject to forced closures. In certain areas, restaurants will be forced to close based on the number of health code violations sustained, while other jurisdictions can force closure during an outbreak regardless of the number of violations. Reach out to your local public health department for more information on restaurant closure protocols.

Manage the Aftermath: Follow Up Independently

By this point, you will hopefully have a clear answer for what went wrong and what could have been done better to avoid foodborne illness. Even if officials are not able to successfully identify the source of contamination, **navigating an outbreak claim can still damage your restaurant's bond with its community.**

Follow up with your employees and affected customers, if appropriate, to show that you care about making things right and avoiding a similar situation in the future.

Consider what changes you can implement to ensure that the same issue never happens again. For instance, could you modify the hiring process or onboarding procedures? Could you include more posters or information in your kitchen about foodborne illness? Could you offer food safety refresher courses?

How Do Foodborne Illness Outbreaks Get Investigated?

So, you know the steps to take in your business, but what goes on behind the scenes? The FDA and the CDC have a thorough, effective process in place for investigating the cause of a pathogen.

When a potential outbreak begins to develop, public health officials at the FDA and CDC quickly take notice. If multiple people get sick around the same time with the same pathogen, that's a sign to the FDA that a possible outbreak may be occurring. The FDA gets to work with its investigation, **which we can break into the following basic steps:**

1 CONDUCT TESTING TO IDENTIFY THE PATHOGEN CAUSING THE OUTBREAK

2 INTERVIEW SICK PEOPLE ABOUT THEIR HABITS TO FIND COMMON LINKS

3 PERFORM TRACEBACK INVESTIGATIONS TO LOCATE THE ORIGINAL SOURCE OF CONTAMINATION

4 SPREAD THE WORD ABOUT THE OUTBREAK AND HOW TO AVOID IT TO THE PUBLIC

How Do Foodborne Illness Outbreaks Get Investigated? Cont.

1

Step 1: Identify the Problem

Once the need for an investigation is clear, the first step is to identify or confirm the pathogens involved. Healthcare professionals or officials may collect samples from affected patients and use required laboratory testing to pinpoint what exactly is causing the illness. When testing is complete, the pathogen's status gets reported back to the doctor and to the local public health department.

The clinical lab that conducted the testing may also ship the pathogen isolates to the state's public health laboratory for more testing and DNA fingerprinting. At this point in the process, the CDC uses a process called whole genome sequencing to compare the genetic information to millions of DNA fingerprints on file and find a match.

2

Step 2: Conduct Interviews

Health authorities will call and interview sick people about the foods they ate before they got sick and where they got those foods. For instance, local health authorities may call and interview sick people about the foods they ate before they got sick and where they got those foods.

Throughout the interviews, investigators look for common links, like shopping at the same grocery store or eating at the same restaurant. The goal is to narrow down where and how those affected got sick so that investigators can pinpoint a common food.

How Do Foodborne Illness Outbreaks Get Investigated? Cont.

3

Step 3: Backward Tracing

If the suspected contaminant is a food regulated by the FDA—like a vegetable or fruit—the CDC contacts the FDA. If the source of the outbreak is beef, chicken, or another USDA-regulated product, the CDC will contact the USDA. If the CDC can't pinpoint a specific food at this stage, it will notify both.

Regardless, the government bodies work together to engage in what are known as traceback investigations.

4

Step 4: Spread the Word

With enough evidence to support their findings, the FDA (or USDA) and CDC warn consumers about the food in question.

A public health advisory is issued for any investigation that has resulted in specific and actionable steps for consumers to take to protect themselves. In addition, officials spread the news through social media, emails, and posts on their official websites.

TRACEBACK INVESTIGATIONS INVOLVE ACTIONS SUCH AS:



Visiting and contacting local grocery stores to inquire about the food(s), their suppliers, etc.



Inspecting facilities that handle and process food or ingredients that could be the source of contamination



Investigating farms to perform sample tests on soil, animal droppings, etc., to test for the presence of pathogens.

Your Role in Preventing the Spread of Pathogens

Protect your business and your community by doing as much as you can to reduce the risk of foodborne illness outbreaks in your operation.



Stay Home When Sick

Don't come into work sick and create a clear sick policy for employees.



Handwashing

Post signage about when, where, and how to wash hands above all handwashing sinks and enforce hygiene policies.



Separate Raw Items

Keep all raw food items separate from cooked items; use different utensils, storage equipment, etc.



Cook Foods Thoroughly

Cook all foods, especially meat, seafood, and animal products, to a safe minimum internal temperature.



Store Foods Properly

Ensure all food items are stored at the correct temperature, properly labeled, and securely sealed.



Train Your Staff

Regularly perform food safety training, assessments, etc., for your staff to ensure everyone implements best practices.

Lead by Example to Prevent Contamination & Outbreaks

We've explored some of the most common causes of foodborne illness, how they affect people, and what you can do to prevent them. Now, you have the tools you need to respond to a potential outbreak quickly and professionally.

Above all else, remember that you and your staff have a collaborative role to play in preventing foodborne illness outbreaks. You have the power to limit the spread of foodborne pathogens and take action should an outbreak occur.

Strengthen Foodborne Illness Prevention with ServSafe

One of the most important things you can do to prevent the spread of foodborne illnesses is to ensure your restaurant leadership and food handler employees have comprehensive food safety training.

The ServSafe Manager, ServSafe Food Handler, and ServSafe Allergen training courses were developed by the nation's leading experts in food safety and education. All ServSafe courses are designed to mitigate risk, empower staff, and promote a culture of food safety.

ServSafe training and certification is offered either online or in-person and is recognized by more federal, state, and local jurisdictions than any other food safety certification.

VISIT [SERVSAFE.COM](https://www.servsafe.com) TO EXPLORE OUR COURSES AND GET SMART ABOUT FOOD SAFETY IN YOUR OPERATION.



Sources: CDC. (2024, March 11). Restaurant Food Safety – Improving Investigations; FDA. (2012). Bad Bug Book, Foodborne Pathogenic Microorganisms and Natural Toxins. Second Edition.

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