

# Foodborne Illness Investigation for Industry



Food product investigation  
takes place during or after  
a foodborne illness outbreak  
or contamination event



**TEXAS**  
Health and Human  
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**Victims can be people, pets, or animals.**

## **The Basics of Foodborne Illness Investigation**

Each foodborne illness investigation is unique, however, there are common factors to consider.

### **Who?**

A representative from one or more of the following agencies investigates the first known point-of-service. Each of these agencies works together as a food safety team to solve the outbreak.

- Local Health Department
- Texas Department of State Health Services (DSHS)
- Centers for Disease Control and Prevention (CDC)
- U.S. Food and Drug Administration (FDA).

A point-of-service is typically a restaurant, grocery store, or special event that has sold or provided a food consumed by victims of foodborne illness. Victims can be people, pets, or animals that have eaten contaminated human food, pet food, or animal feed.

### **What?**

What food or animal feed product is causing the illness? To find the answer, we must find the original point of contamination. The food safety team looks for the source of the contaminated or adulterated food or animal feed.



## **When?**

Investigation takes place during or after a foodborne illness outbreak or contamination event. Epidemiologists, people that study the patterns of diseases, notify public health agencies whenever there have been multiple cases of illnesses caused by food or animal feed. The team continually investigates the cause of illness until the outbreak is over.

## **Where?**

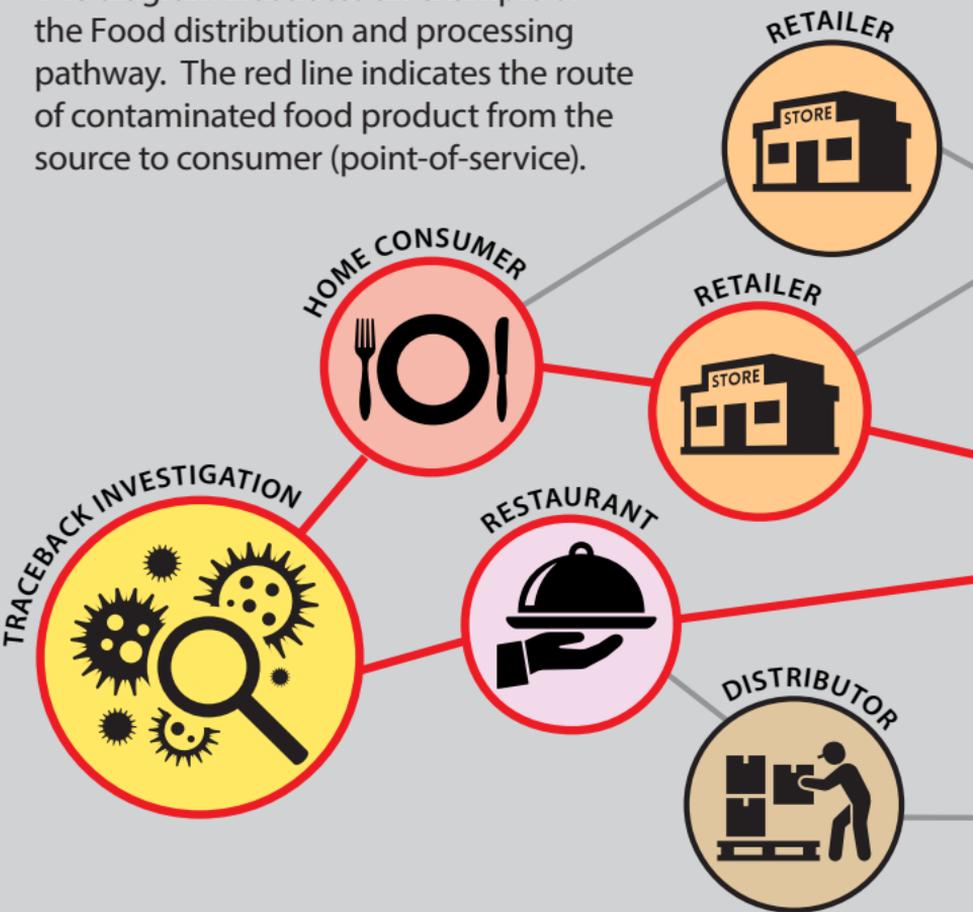
The food safety team investigates each stage in the manufacturing process to determine the point at which the food or animal feed may have been contaminated or adulterated. Food products travel through many businesses from source to point-of-service. Every location along the food distribution path is considered.

## Why?

In order to protect public health, the team must identify the contaminated food product, so that it can be removed from the food distribution and processing pathway. This is also known as a food recall. The goal is to stop the foodborne illness outbreak and to prevent future outbreaks. Most businesses visited are simply part of the food distribution path, but are important to the investigation. Without the assistance of these businesses, the cause of contamination often is not found. When outbreaks cannot be solved, they generally happen again in the future.

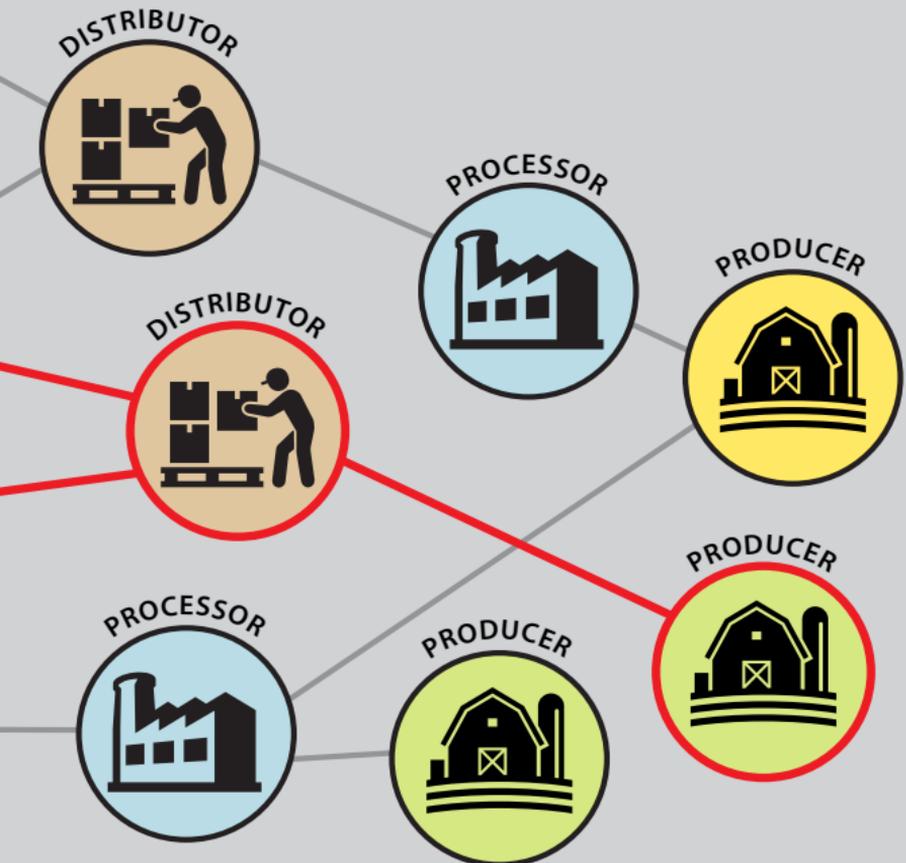
## Distribution of Contaminated Food Product

The diagram illustrates an example of the Food distribution and processing pathway. The red line indicates the route of contaminated food product from the source to consumer (point-of-service).



# Traceback Investigation

**Traceback** is an investigation conducted to determine the source of the contaminated food. The investigation starts with the point-of-service, where the consumer purchased or ate the food, and tracks the contaminated food product back to its source. Supplier records, such as invoices and receipts, are used to determine where the contaminated food came from. Because food processing has many steps, investigative activities may appear as a web instead of a straight line.



## Product Tracing

Product tracing involves collecting and reviewing records.

**Records collection** – Compiling records that indicate from where a specific product was supplied.

**Records review** – Reviewing collected records to accurately determine the source of a specific food item.

The food safety team tracks, or follows, the contaminated food product through the distribution pathway. The team will gather evidence, such as supplier records, to properly document the unsafe product, which ensures that the public will no longer consume the adulterated food or animal feed.

### Tips

- Working together with the food safety team is important and will speed up completion of the investigation.
- Make sure records are accurate and readable.
- Be prepared to explain abbreviations, handwritten notes, and identifiers on the documents collected.



## How is the investigation performed?

General steps of a foodborne illness investigation include:

### **1. Initial contact by phone, email, or in person.**

Depending on the situation and location, you will be contacted by your local health department, Texas DSHS, CDC, and/or FDA.

### **2. Interview(s) to obtain the following information:**

- Recipes and Formulas
- Menus
- Product identifying information, such as:
  - Labels
  - Container size and material
  - Lot codes
  - Production dates
  - Product source
- Shipping and Receiving Practices
  - Determine dates
  - Determine how deliveries from supplier are documented

- Stock Rotation Practices
  - Daily (or otherwise) stock inventory
  - Date tracking systems
  - First in, first out (FIFO)
- Ordering and purchasing practices
  - Routine supplier information
  - Emergency/Alternate suppliers
- Product Handling and Storage Practices
  - Temperature storage
  - Cross contamination
  - Employee hygiene
  - Facility sanitation

### **3. Records are collected and copies are obtained.**

Types of records may include:

- Invoices
- Purchase orders
- Shipping and receiving records
- Bills of lading
- Inventory records
- Identifying information for implicated products
- Label information
- Container type and size
- Color
- Grade
- Lot codes
- Production or pull dates
- Product origin
- Processing records



#### **4. Environmental Assessment/Sampling**

If the contamination may have occurred in the processing environment, an environmental assessment takes place. An environmental assessment determines how a food product was contaminated by microorganisms and viruses. It takes place at businesses or farms, where the food may have been exposed to harmful germs.

The purpose of the assessment is to look at the surrounding environment for possible causes of the foodborne illness or contamination. Some of the activities conducted during the assessment are reviewing records, observing practices, and sampling. Environmental assessments may happen at a different time or date than the records collection, and may be performed by a different person.

Sampling may include food products as well as the processing environment, such as floors, drains, equipment, utensils, and cutting boards. Assessments and sampling do not occur at every location involved in an investigation.

# What happens when the cause of the contamination is verified?

## Recall

Once a specific product has been identified as contributing to the outbreak, the product is removed from restaurants, grocery stores, and food processing locations to prevent additional illness.

## Corrective Actions

Corrective actions, performed by business and farms, are designed to eliminate the cause of the outbreaks, by removing the conditions and practices that contributed to the contamination of food products.

Examples of corrective actions include:

- Deep cleaning
- Changing practices
- Facilities renovation
- Training programs
- Destruction of product

Once corrective actions have been completed, the businesses or farms will again be able to provide products safe for consumers. The actions will also prevent the outbreak from happening again.



## Key Terms

**Adulterated food** – a food that is not safe to eat.

**Consumer** – A person, pet, or animal that ate a food product from a point-of-service.

**Contaminated food** – a food that contains harmful germs or chemicals.

**Environmental Assessment** – an investigation to find out how a food became unsafe or contaminated.

**Epidemiologists** - people that study the patterns of diseases.

**Foodborne illness** – a sickness that is the result of eating contaminated or unsafe food.

**Point-of-service** – location where a food was eaten, purchased, or received by a consumer. A point-of-service is usually a restaurant, grocery store, or special event, such as a wedding or party.

**Recall** – removal of food items that may be contaminated from the general market.

**Traceback** - an investigation conducted in order to find out the source of a contaminated food product.

**Victim** – a person, pet, or animal that ate a contaminated food and became sick.

**Food distribution and processing pathway** – a food product's chronological route that occurs from its source to point-of-service.

**Product tracing** – collecting and reviewing records to determine the distribution and processing pathway of a food product.



If you have any questions prior to re-opening, contact your local health department or Texas Department of State Health Services.

[www.dshs.texas.gov/consumerprotection/  
safeourplates](http://www.dshs.texas.gov/consumerprotection/safeourplates)  
(512) 834-6770