



| FOOD FOR THOUGHT 2024

**More than 300 food products were recalled in 2023
as outbreaks sickened 1,100 and killed 6**

U.S. PIRG
Education Fund

Food for Thought 2024

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as outbreaks sickened 1,100 and killed 6**

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**CONSUMER WATCHDOG
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I EXECUTIVE SUMMARY

On Oct. 15, 2023, two people in the United States became sick enough, likely with digestive problems, to seek medical care. Within a week, seven more people were ill. By the end of the month, about [70 more people](#) got sick.

More than three weeks after the initial illnesses, [they were traced to Salmonella](#) in fresh cantaloupe. [Salmonella bacteria](#) generally live in human and animal intestines; we can get sick when germs from contaminated feces get into water and food.

A [cantaloupe recall](#) was issued Nov. 8 but it took [until Nov. 17](#) before the Centers for Disease Control and Prevention (CDC) announced the cases were all related and, ultimately, part of a [massive outbreak](#) careening across the country. As of mid-November, Salmonella infected 43 people in 15 states. From mid-November through early December, [11 more cantaloupe recalls](#) were issued by various companies, some of which used them in fruit cups and medleys.

By Christmas, at least [407 people in 44 states](#) had become ill. Of those, at least [158 were hospitalized and six people died](#). The products were sold from September through early December. The CDC announced the outbreak was over on Jan. 19, 2024.

Another major recall that also started in October is not over. And people who are affected may not realize it for years. We're talking about the cinnamon and cadmium poisoning outbreak linked to pouches of

cinnamon applesauce. On Oct. 28, 2023, the North Carolina Department of Health and Human Services [contacted the](#) U.S. Food and Drug Administration (FDA) about four children whose blood showed possible acute lead poisoning. North Carolina pointed to WanaBana Apple Cinnamon Fruit Purée pouches. While testing various applesauce pouches, the state found “extremely high concentrations of lead,” at levels 2,000 times greater than what is regarded as safe, the FDA. [The cause:](#) cinnamon processor in Ecuador.

WanaBana LLC [announced the initial recall](#) Oct. 30 and expanded it Nov. 9 to include various cinnamon applesauce pouches under the [Wanabana, Schnucks and Weis](#) brands.

As of March 22, the FDA reports [519 lead poisoning cases from 44 states](#), Washington and Puerto Rico. Among confirmed cases, the median age is 1 year. Children are more vulnerable to lead poisoning. It's scary because most exhibit no immediate symptoms, but [long term](#), affected children can exhibit learning difficulties and issues with behavior, low IQ, growth, speech and hearing.

The recalls associated with the contaminated cantaloupe and lead-tainted applesauce were among **313 food recall announcements issued in 2023** by the FDA and the U.S. Department of Agriculture (USDA.)

Contaminated cantaloupe, onions and peaches killed people last year and a wide variety of foods made more than 1,100 people sick – that we know of. Officials often say the numbers

of illnesses they tally are likely only a fraction of the true toll. Many people recover from food poisoning without medical attention or, even if they go to the doctor or urgent care, they're not tested for a specific illness or the illness isn't reportable.

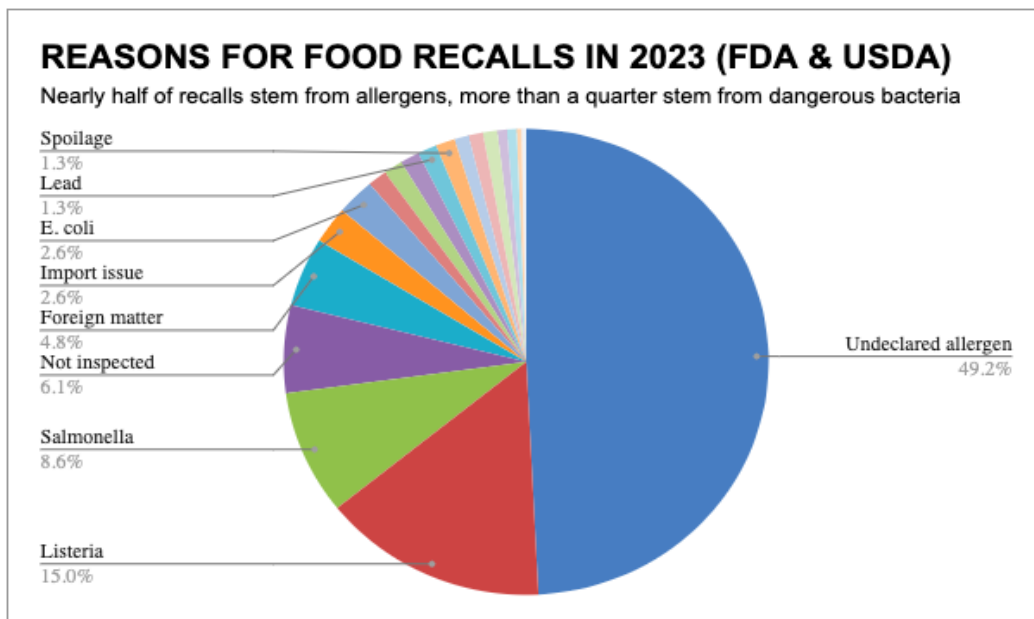
All 12 of the cantaloupe recalls and both of the applesauce recalls were issued by the companies – not regulators, even though regulators uncovered the dangers in these foods. In fact, while the FDA, which [regulates about 78%](#) of the food we eat, technically *has* the authority to issue mandatory recalls for food, it almost never happens. The USDA has no mandatory recall authority.

In the 13 years since the Food Safety Modernization Act became law, the FDA has issued mandatory food recalls only [three times](#); in [2013](#), [2014](#) and [2018](#).

All of this points to three big problems with food safety:

- Tracking down the source of food poisoning takes weeks, months or sometimes years.
- Once a problem food is identified, recalls often take too long to issue because regulators can't mandate them.
- When recalls are announced, consumers often don't find out about them in a timely fashion, if ever.

U.S. PIRG Education Fund analyzed all 313 recall announcements issued in 2023 to examine why foods were recalled, what went wrong and what can be done to fix it. This report looks at what we found.



I KEY FINDINGS

It's all in the packaging. The number of food recalls and alerts in the United States increased again in 2023, but the total soared primarily because more products failed to disclose allergens.

Overall, 313 recalls and alerts were announced last year by the U.S. Food and Drug Administration (FDA) and the U.S. Department of Agriculture (USDA.) Recalls and alerts are essentially the same because they both involve food that may be unsafe. Regulators announce *recalls* for products still for sale; they announce *alerts* for products that are no longer available for purchase but may be in consumers' or restaurants' pantries, freezers or refrigerators. The overwhelming majority of announcements are recalls.

The [FDA regulates about 78%](#) of the nation's food supply, from produce to pet food, from sandwiches to snacks. The FDA's oversight includes all food except for meat, poultry, and some fish and egg products. Those are regulated by the USDA. Recalls generally occur after companies discover problems, after consumers complain or after regulators conduct testing or inspections.

- The number of recalls breaks down like this: 224 from the FDA and 89 from the USDA.
- That represents an increase of 8% compared with 2022. But the year-to-year change isn't as important as

the trendline, and we'll come back to that.

- Most interesting: the number of items recalled because of undeclared allergens soared, increasing by 27% in 2023.
- Nearly all recalls occur because there's something in there that's not allowed, such as Salmonella bacteria or metal pieces or rodent droppings or an allergen that wasn't on the label. Foods aren't prohibited from containing any of the nine major allergens such as milk or wheat or eggs – if they disclose it on the package.
- Undeclared allergens comprised 49% of all food recalls in 2023, up from 42% in 2022 and up from 38% in 2019. Some of that increase stemmed from the addition of one new allergen that must be disclosed on food packaged on or after [Jan. 1, 2023](#): sesame.

Other highlights of our analysis:

- Total recalls under the FDA have been virtually unchanged for several years. But recalls under the USDA increased significantly in 2023 – by 31% compared with 2022. The total is still far below the totals during the five years before the pandemic. Last year's 89 USDA recalls was the highest level since 2019.
- Recalls because food contained metal, plastic or some other potential

hazard dropped by 40% in 2023, from 25 to 15.

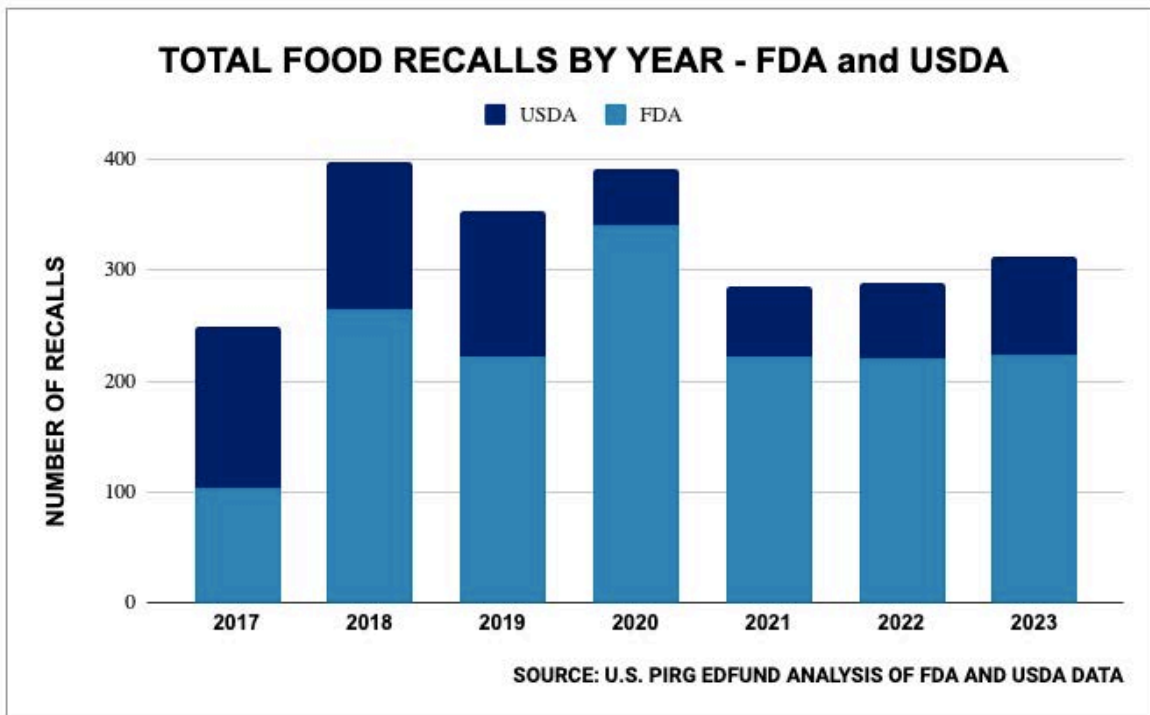
- Recalls because of potential Salmonella contamination dropped by 31%, from 39 to 27.
- Recalls because of potential Listeria contamination increased by 9%, from 43 to 47.
- Recalls of pet food increased, from four to seven. Six of those involved Salmonella or other bacteria. Pet food is regulated by the FDA. We care about our pets, but also important: humans can get sick from handling contaminated pet food. In one outbreak, six of the seven sick people were babies 1 or younger.

The possibility of buying contaminated food in stores or restaurants isn't an inconsequential concern. The [Centers for Disease Control and Prevention](#) (CDC)

estimates that nearly 50 million Americans – one in six – become ill every year from contaminated food or beverages. Among those people, 128,000 end up in the hospital and 3,000 die every year.

There's a decent chance that you or someone close to you has become ill from food poisoning the last few years but didn't realize it unless you got sick enough to see a doctor. That doesn't mean you don't need to be concerned about unsafe food in the future.

You can take steps to minimize your risk by reducing the chance of bacteria multiplying in your food, by handling food safely and by staying up on recalls that might affect you or your family, especially if someone in your home has a food allergy or is elderly, very young, pregnant or immunize-compromised.



SO MANY ALLERGENS

The biggest development in 2023: A significant increase in foods recalled because of undeclared allergens. Allergies to one or more foods are a growing problem, according to the Centers for Disease Control and Prevention, affecting [6% of adults and 8% of children nationwide](#).

An allergy to food causes an [immune system response](#) that can range from mild, such as hives, to severe, such as a fatal inability to breathe. Food allergies send [3.4 million people](#) to the hospital each year. Allergies are different than food intolerances, such as gluten or lactose.

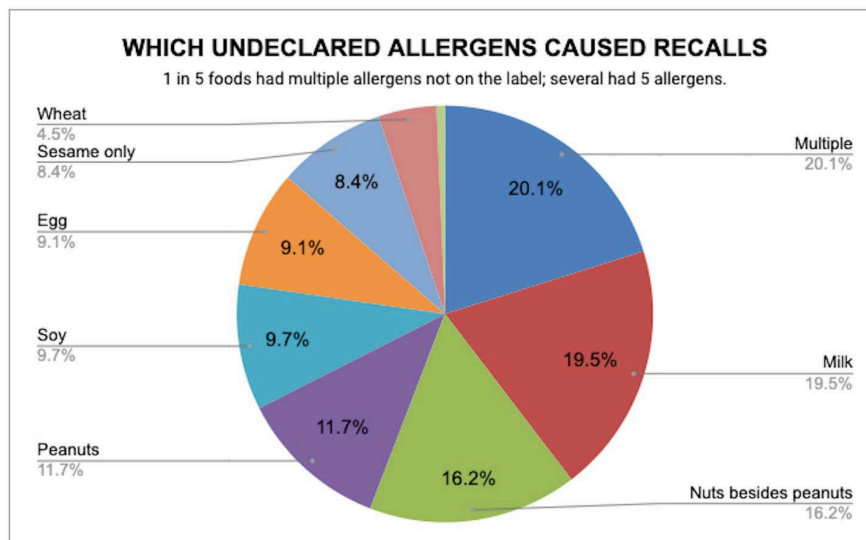
Nearly half of all recalls in 2023 – 154 foods – were recalled because a known allergen was not disclosed on the label. That’s up from 121 undeclared allergens in 2022.

About 39% of that increase stemmed from undeclared sesame, which is new to the list of allergens that must be disclosed on foods packaged on or after Jan. 1, 2023. Of the 13 recalls only because of sesame in 2023, 11 were under FDA and two were under USDA.

With the newest addition, the allergens that require disclosure are:

- Crustacean shellfish
 - Eggs
 - Fish
 - Milk
 - Peanuts
 - Sesame
 - Soy
 - Tree nuts
 - Wheat
-

Congress in 2021 passed the [Food Allergy Safety, Treatment, Education, and Research Act](#), known as FASTER. This added sesame to the [list of eight other major allergens that have required disclosure on food](#) ingredients labels or on a separate “contains xxx” label located next to the list of ingredients since [August 2004](#). The eight previous allergens account for about 90% of serious reactions.



SOURCE: US PIRG EDFUND ANALYSIS OF FDA/USDA DATA

These announcements are representative of the reasons provided with some recalls:

With a January 2023 recall of [Avery's Savory Gourmet Popcorn](#), there were five undeclared allergens: milk, soy, peanuts, tree nuts, and sulfites. How did this happen? The recall notice said: "Subsequent investigation indicates the problem was caused by a temporary breakdown in the company's production and packaging processes."

Also in January 2023, [Sovos Brands Intermediate, Inc.](#) recalled jars of Rao's Made for Home Slow Simmered Soup, Chicken & Gnocchi, because the product may contain undeclared egg. The jars were labeled as Chicken & Gnocchi, but contain vegetable minestrone, which is dark red.

In July 2023, [Van's International Foods](#) recalled packages of Van's Gluten Free Original Waffles because they may contain undeclared wheat. The recall occurred after a consumer notified the company the product contained wheat even though it wasn't disclosed. "Subsequent investigation

indicates that the problem was caused by the inclusion of a limited number of cartons for Van's Gluten Free Original Waffles with a pallet of cartons intended for wheat containing products."

Also in July, [ONO LLC](#) of San Diego, Cal., recalled packages of ONO Vegan Blueberry Muffin Protein Overnight Oats because they may contain undeclared milk. The company investigated and found "the problem was caused by an accidental ingredient mix up by our co-packing facility."

In October, [Paradise Flavors LLC](#) of Florida recalled Paradise Flavors ice cream bars because they could contain undeclared allergens including peanuts, tree nuts (chestnuts, walnuts, hazelnuts, pecans, pine nuts, cashews), wheat, soy, milk, and color additives (FD&C blue #1, blue #2, red #3, red #5, red #6, red #40, yellow #5 yellow #6, yellow #8). The Florida Department of Agriculture and Consumers Services conducted an inspection and found the product labels didn't disclose allergens including peanuts, tree nuts, wheat, soy, milk and color additives.

A FOOD ALLERGY VS. AN INTOLERANCE OR SENSITIVITY

Food allergies

Cause an immune system response to particular proteins in the food. Allergies can cause hives or lip swelling or numbness on the less serious side, or life-threatening, anaphylaxis reactions such as a swollen airway, the total inability to breathe or shock. There's no known cure for food allergies.

Food intolerances

Usually cause only digestive issues and aren't considered life-threatening. Also, people can often do something to avoid a reaction, such as taking lactase enzyme pills to help digest something such as regular milk or ice cream. Other triggers for intolerance: gluten or sulfites to preserve some foods.

I **FOODBORNE PATHOGENS**

After undeclared allergens, the most common reasons for recalls are Listeria, Salmonella, lack of inspection and foreign matter in the food.

Listeria

Listeria led to 47 of the recalls, or 15% of recalls in 2023. There were 43 in 2022, and 56 in 2019. Consuming food contaminated by Listeria monocytogenes bacteria can cause Listeriosis, which can be a serious infection. The CDC estimates that about 1,600 people get Listeriosis every year. About 260 die.

Foods most susceptible to Listeria, per the [FDA](#) and [CDC](#):

- Unpasteurized milk, yogurt and soft cheeses.
- Ice cream.
- Raw or processed vegetables.
- Raw or processed fruits.
- Raw or undercooked poultry.
- Unheated cheeses sliced at a deli.
- Unheated deli meat, hot dogs and fermented or dry sausage.
- Premade deli salads, such as coleslaw and potato, tuna, or chicken salad.
- Refrigerated pâté or meat spreads.
- Raw or refrigerated smoked fish
- Cut melon left out for more than 2 hours (1 hour if outdoors in temperatures hotter than 90°F).
- Cut melon in the refrigerator for more than a week.

Salmonella

Salmonella caused 27 recalls, or 8.6% of recalls in 2023. There were 39 salmonella recalls and alerts in 2022 and 21 in 2019.

Adding all of the bacterial contamination and foodborne pathogens together, they led to 94 recalls, or about 30% of the total.

Salmonella can be quite serious. Each year Salmonella causes an estimated:

- 1.35 million infections.
- 26,500 hospitalizations.
- 420 deaths in the United States.

Consuming or touching food or objects contaminated with Salmonella bacteria can cause infection and illness. That's why experts urge frequent hand-washing before eating or working in the kitchen or even before putting on makeup or otherwise touching your eyes, nose or mouth.

Illnesses caused by Salmonella occur more often in the summer because the bacteria love warm temperatures and unrefrigerated foods at outdoor gatherings.

Foods most susceptible to Salmonella, per the [FDA](#) and [CDC](#):

- Raw or undercooked meat and poultry products.
- Raw or undercooked eggs, egg products and dough.
- Raw or unpasteurized milk and other dairy products.

- Raw fruits and leafy green vegetables.
- Flour.
- Onions.
- Pet food.
- Prepackaged salads.
- Processed foods, such as frozen pot pies and stuffed chicken entrees.

Norovirus

The CDC says Norovirus is [No. 1 cause of contaminated food outbreaks](#) in this country, responsible for about [58% of food-related illness outbreaks](#). It's estimated that foodborne norovirus costs about \$2 billion every year in the United States, primarily because of medical bills and lost productivity.

Each year [norovirus causes](#) an estimated:

- 900 deaths, mostly among people age 65 and older
- 109,000 hospitalizations
- 465,000 emergency department visits, mostly by young children
- 2,270,000 outpatient clinic visits annually, mostly by young children
- 19 million to 21 million illnesses.

Foods most susceptible to norovirus, per the [CDC](#) and [medical professionals](#):

- Fresh fruits or vegetables such as leafy greens sprayed with contaminated water while being grown.
- Food handled by restaurant workers or food service workers in schools or health care facilities who are ill.

- Oysters that come from contaminated water or other shellfish that are undercooked.

Most [norovirus outbreaks happen](#) in places such as restaurants. One recent example: A norovirus outbreak during the week of Thanksgiving 2022 was blamed on [one sick worker](#) at an Illinois restaurant. More than 317 people around Peoria, Ill., who got sick ate at the same restaurant, the CDC [report](#) said.

None of the recalls in 2023 were blamed on norovirus. Often, authorities can't trace it to a particular food because people may not go to the doctor if their symptoms are mild and, even if they did, most hospitals and doctor's offices do not test for norovirus as a policy, [the CDC says](#).

In addition, even when medical facilities do test for norovirus, then state, local and territorial health departments are not *required* to report individual cases of norovirus illness to a national surveillance system, although [it's encouraged](#). Each year, there are about [2,500 reported norovirus outbreaks](#) in the United States. So far, we're [on pace](#) for more cases this year.

There are four norovirus alerts in 2024 as of April 18, all involving oysters:

- [FDA Advises Restaurants and Retailers of a Recall of Certain Oysters from Westport, Connecticut](#)
- [FDA Advises Restaurants and Retailers Not to Serve or Sell and Consumers Not to Eat Certain](#)

[Oysters from Baja California, Mexico](#)

- [FDA Advises Restaurants and Retailers Not to Serve or Sell and Consumers Not to Eat Certain Oysters from Bahia Salina in Sonora, Mexico](#)
- [FDA Advises Restaurants and Retailers Not to Serve or Sell and Consumers Not to Eat Certain Frozen, Raw, Half-shell Oysters from Republic of Korea](#)

In 2022 and into 2023, the CDC investigated [two major outbreaks](#) of norovirus linked to raw oysters that were distributed to multiple states. At least 400 illnesses were reported in 19 states. The raw oysters were from Galveston Bay, Texas, and British Columbia.

E. coli

E. coli is another potentially dangerous issue. Eight of the 2023 recalls occurred because of E. coli, down from 10 in 2022. E. coli bacteria are typically in the intestines of people and animals. Most types of E. coli aren't a threat. But some strains, such as E. coli O157:H7, can cause serious gastrointestinal issues.

Foods most susceptible to E. coli, according to the [FDA](#) and [CDC](#):

- Raw and undercooked beef and poultry
- Leafy greens
- Sprouts
- Raw milk
- Raw cheese

WHAT MAKES US SICKEST

Every year, germs in food cause about 48 million people to get sick, 128,000 people to be hospitalized and 3,000 people to die in the United States. Here are the top 5 causes in each category:

ILLNESSES

[Norovirus](#)
[Salmonella](#)
[Clostridium perfringens](#)
[Campylobacter](#)
[Staphylococcus aureus](#)

HOSPITALIZATIONS

[Salmonella](#)
[Norovirus](#)
[Campylobacter](#)
[Toxoplasma gondii](#)
[E. coli 0157](#)

DEATHS

[Salmonella](#)
[Toxoplasma gondii](#)
[Listeria](#)
[Norovirus](#)
[Campylobacter](#)

Source: [CDC](#)

I TYPES OF FOOD RECALLED MOST OFTEN

Snacks were the most commonly recalled type of food in 2023. Roughly one in five foods flagged were snacks such as cookies, granola bars, candy and popcorn. And virtually all of the snack recalls stemmed

from undeclared allergens, which makes sense: The more ingredients you put into the production process, the more likely it could be that one of the nine big allergens isn't disclosed on the label.

The other most frequently recalled types of food in 2023:

Cantaloupe	All because of Salmonella.
Fruit besides cantaloupe	All but one because of Listeria or Hepatitis A.
Beef	Usually because of E. coli or foreign matter
Soup	Virtually all because of undeclared allergens.
Salad/greens/	Usually because of Listeria or undeclared allergens.
Poultry	Usually because of undeclared allergens or undercooked ready-to-eat items.
Cheese	Most because of Listeria.
Vegetables	Most because of Listeria.
Supplements	Nearly all because of undeclared allergens.
Pet food	Nearly all because of Salmonella.

I RECALL TRENDS OVER THE YEARS

Food sold in grocery stores or restaurants or other outlets usually gets recalled or flagged in one of four ways:

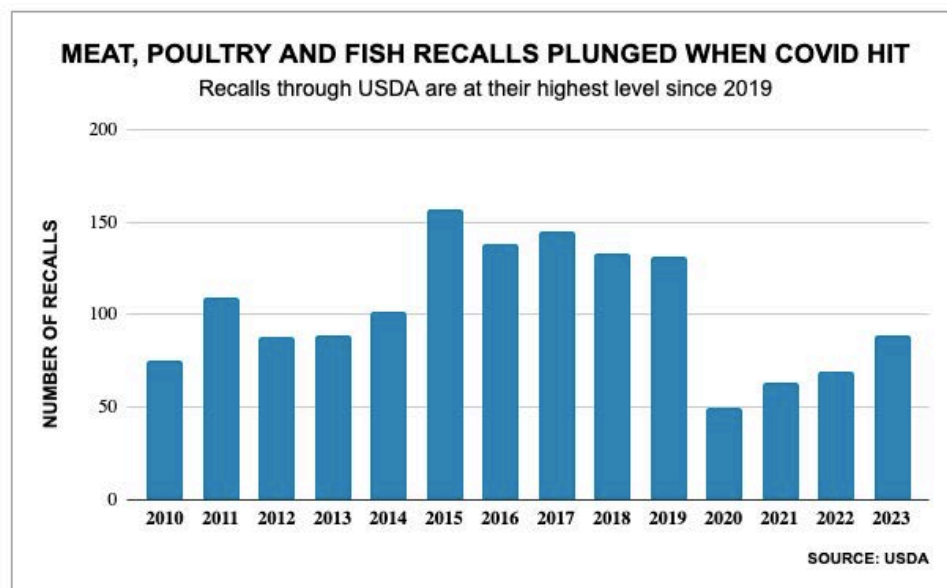
1. People get sick and seek medical care, and then local health officials and the Centers for Disease Control and Prevention test fluids and determine the same product caused the exact same illness in at least two people. This is an [outbreak](#).
2. Consumers file a complaint with regulators or companies. This often occurs with issues such as spoilage or foreign materials found in food.
3. The company self-reports a problem after testing or other discoveries.
4. Local, state or federal regulators discover an issue through routine surveillance or specific investigations.

While FDA recalls have been at roughly the same level for five of the last six years, 2023 marks the fourth year in a row that recalls

through the USDA didn't reach 100. In fact, recalls through the USDA hadn't been below 100 since 2013, until 2020.

We know recalls and alerts for meat, poultry and fish through the USDA fell dramatically when COVID hit. The USDA announced 131 recalls in 2019; that dropped to 50 in 2020 – a decline of 62%. The number has been climbing every year since. It's notable that the USDA announced 20 recalls and alerts in the first three months of 2024, putting it on pace to tally 80 this year, which would not be a significant change.

It's unclear whether this is the new normal, whether meat and poultry are safer today or whether the industry is still recovering from the massive disruptions during the pandemic, such as ongoing shortages of government and corporate food inspectors and some people's reluctance to go to a doctor or urgent care unless absolutely necessary.



I WHEN JUNK IS IN OUR FOOD

Foreign matter – objects that don't belong in food – spurred 15 of last year's recalls. What kinds of things were found? Wood fragments, metal, hard plastic, wire and one food item contained pieces of a hairnet. The total recalled for foreign matter is down from 25 in 2022 and 49 in 2019. They were found in products ranging from cookie dough to protein bars to beef rolls.

The USDA does a good job of disclosing who found a particular problem. Seven of the USDA's 11 recalls because of foreign materials were discovered by consumers.

The items recalled for foreign matter were:

Under the FDA:

[Almondy chocolate cake](#): Metal object
[Nestle USA - Toll House chocolate chip cookie dough](#): Wood fragments
[Jay Robb vanilla flavored egg white protein](#): hard plastic
[Burn Boot Camp Afterburn Grass-Fed Whey Protein Bars](#): hairnet, shrink wrap and parchment paper

Under the USDA:

[Hoyo SBC beef rolls](#): Thin, wire-like metal
[Weinstein beef burgers](#): Rubber pieces
[J.T.M. Provisions beef soup](#): White plastic
[Johnsonville sausage links](#): Plastic fibers
[Conagra beef shepherd's pie](#): Clear plastic
[USDA choice black angus beef from ALDI](#): Soft, clear plastic
[Hillshire smoked sausage](#): Bone fragments
[Conagra Brands frozen chicken strips](#): Plastic
[Tyson chicken strips](#): Metal pieces
[Skyline ground beef](#): Undisclosed object
[Simmons Prepared Foods boneless chicken bites](#): Pieces of clear, hard plastic

Details on a few items:

[Doctors Scientific Organica](#) in November recalled three batches of Burn Boot Camp Triple Chocolate Almond flavor protein bars because of possible foreign material, including a disposable hairnet, shrink wrap and parchment paper. The bars were sold nationwide. The foreign materials could have caused choking or internal injuries; but no injuries were reported.

[Nestlé USA](#) in August recalled an undisclosed amount of Nestlé Toll House Chocolate Chip Cookie Dough “break and bake” bars because it could contain wood fragments. The cookie dough was sold nationwide. No injuries were reported.

[Hillshire Brands Co.](#) in September recalled nearly 15,900 pounds of smoked sausage because it could contain bone fragments. The sausage was sold in California, Maryland, New Mexico, New York, North Carolina, Pennsylvania and Virginia. Hillshire said one mouth injury was reported in connection with the sausage.

[Tyson Foods, Inc.](#) in November recalled nearly 30,000 pounds of fully cooked chicken nuggets because they could contain metal. Tyson told the USDA it received complaints from customers about small metal pieces in the chicken. One minor mouth injury was reported. The chicken nuggets were sold in Alabama, California, Illinois, Kentucky, Michigan, Ohio, Tennessee, Virginia and Wisconsin.

| WHY WE SHOULD CARE ABOUT FOOD SAFETY

Any contaminated food can be dangerous, depending on the person and the circumstance.

For someone with food allergies, exposure to [allergens such as peanuts or shellfish](#) can make it difficult to breathe or cause a dangerous drop in blood pressure.

Undeclared allergens comprised 49% of all food recalls last year. That meant 154 foods, from cookies to soup, were sold without proper labeling or a warning of one of the nine allergens which require mandatory disclosure. If you're someone who suffers from a food allergy, it's reasonable to be concerned about the ones that aren't caught.

Besides allergens, the biggest concerns are pathogens – primarily Salmonella, Listeria and E. coli. High enough concentrations in a food such as deli salad or peanut butter can cause illness among healthy people and can lead to hospitalization or even death among those more vulnerable: senior citizens, young children, pregnant women, people with compromised immune systems or anyone with another serious health issue.

But those aren't the only people who should be conscious of the food we put in our mouths or feed to others. Put simply: A little bit of bacteria in a food may not affect most of us but a lot can. And a little can turn into a lot if food isn't handled, cooked, stored or served properly.

The USDA calls temperatures between 40 degrees and 140 degrees the “danger zone.”

Food meant to be refrigerated should be stored at below 40 degrees. Meat and poultry should be cooked to the appropriate temperature (140 to 165 degrees, depending on the food) and served promptly.

Here's the scary part: “Bacteria grow most rapidly in the range of temperatures between 40 degrees and 140 degrees, doubling in number in as little as 20 minutes,” [the USDA says](#). This means that foods that are meant to be refrigerated (either before or after cooking) shouldn't be left out of the refrigerator or at room temperature or an outdoor serving table for more than two hours. If air temperatures exceed 90 degrees, food shouldn't be left out for more than one hour because the bacteria can multiply quickly.

HOW TO FILE A COMPLAINT ABOUT POSSIBLE FOOD CONTAMINATION

Meat, poultry, fish and egg products are regulated by the USDA. File a [complaint online here](#). Or call the USDA's Meat and Poultry Hotline at 1-888-MPHotline (1-888-674-6854.)

All other food and beverage items, including pet food are regulated by the FDA. File a [complaint online here](#). Or call the FDA's main emergency number at 1-866-300-4374.

For issues with restaurant food, call the health department in your city, county or state. You can find [contact information for your state here](#).

I PET FOOD RECALLS

We care about our dogs, cats and other pets. But you may not realize that humans can also get sick from handling contaminated pet food or the pet's food dishes if they don't wash their hands afterward.

Seven pet foods were recalled in 2023, up from four in 2022. Six were caused by Salmonella; one was for elevated Vitamin D.

[One company's pet food recalls](#) led to at least seven illnesses. Six of those sickened were babies age 1 or younger. This likely occurred when the babies came in contact with the contaminated dog food or bowls.

There were two related recalls: Mid America Pet Food of Texas [on Oct. 30](#) recalled three lots of Victor Super Premium Dog Food, Select Beef Meal and Brown Rice Formula. This occurred after a third-party tested random samples. Then [on Nov. 9](#), Mid America recalled all brands of dog and cat food made at the Mount Pleasant, Texas, plant, including Victor Super Premium Dog Foods, Wayne Feeds Dog Food, Eagle Mountain Pet Food, and some Member's Mark varieties.

Many of these pet food products had best-by dates into later this year. So officials are concerned these contaminated products may still be in people's homes.

[Blue Ridge Beef](#) Oct. 27, 2023, recalled Breeders Choice dog food after the FDA told the company its dog food tested positive for Salmonella.

[Nestlé Purina PetCare Co.](#) on Feb. 8, 2023 recalled 8-pound and 20-pound bags of Purina Pro Plan Veterinary Diets EL Elemental prescription dry dog food because of potentially elevated levels of vitamin D.

[TFP Nutrition](#) on Nov. 16, 2023, expanded its [October recall](#) from one type of dry dog food to include all dry dog, dry cat and catfish formulas manufactured in its Nacogdoches, Texas, plant because of possible Salmonella contamination.

[Inmar Supply Chain Solutions, LLC](#) on Aug. 23, 2023 recalled numerous human food, animal (pet) food, medical devices and drug products because they were stored at its facility in Texas that had a "pest control problem." And because of unusually hot weather, the items may have been in temperatures in excess of the storage condition instructions on the product labeling.

I WHO FOUND THE PROBLEM

The USDA meticulously documents how a problem was discovered. Often it's USDA or a state Department of Health either as part of a routine inspection or testing, or based on a tip or observing something because they're at the right place at the right time.

Sometimes it's from consumer complaints, frequently after an illness from an undeclared allergen. Other times, the company itself finds the problem. Occasionally the problem is flagged by a retailer or another third party.

Of the USDA's 89 recalls in 2023:

- 33 were discovered by the USDA
- 23 were discovered by the company
- 21 were discovered by consumers
- 6 were discovered by a state authority

A few specific narratives:

[Greenland Food Co.](#) recalled fish in January 2023 following USDA/FSIS surveillance of an online retailer and found products regulated by FSIS that didn't have an inspection mark. These items were sold at retail locations in California and through online sales.

[Conagra Brands](#) recalled 841,149 pounds of canned meat and poultry in January after the company discovered spoiled and/or leaking cans at its warehouse. That means foodborne pathogens could have contaminated the food. The product was shipped to retailers

nationwide.

[Kelley Foods](#) recalled 50,151 pounds of smoked sausage in March after a grocery store manager flagged that the sausage seemed to contain cheddar cheese, but it wasn't listed on the label.

[Mulan Dumpling, LLC](#) recalled 22,874 pounds of frozen meat and poultry dumpling products in July after the Maryland Department of Health observed that the products were produced and sold by an establishment that was not inspected by the USDA/FSIS.

[Hoyo, SBC](#) recalled 1,046 pounds of ready-to-eat beef rolls in March after a school complained that food handlers found thin, wire-like metal on the outside of the rolls.

The FDA doesn't do nearly as thorough of a job requiring public notices to disclose who found the problem, although some announcements do provide this information. Here are a couple of examples of narratives from the FDA:

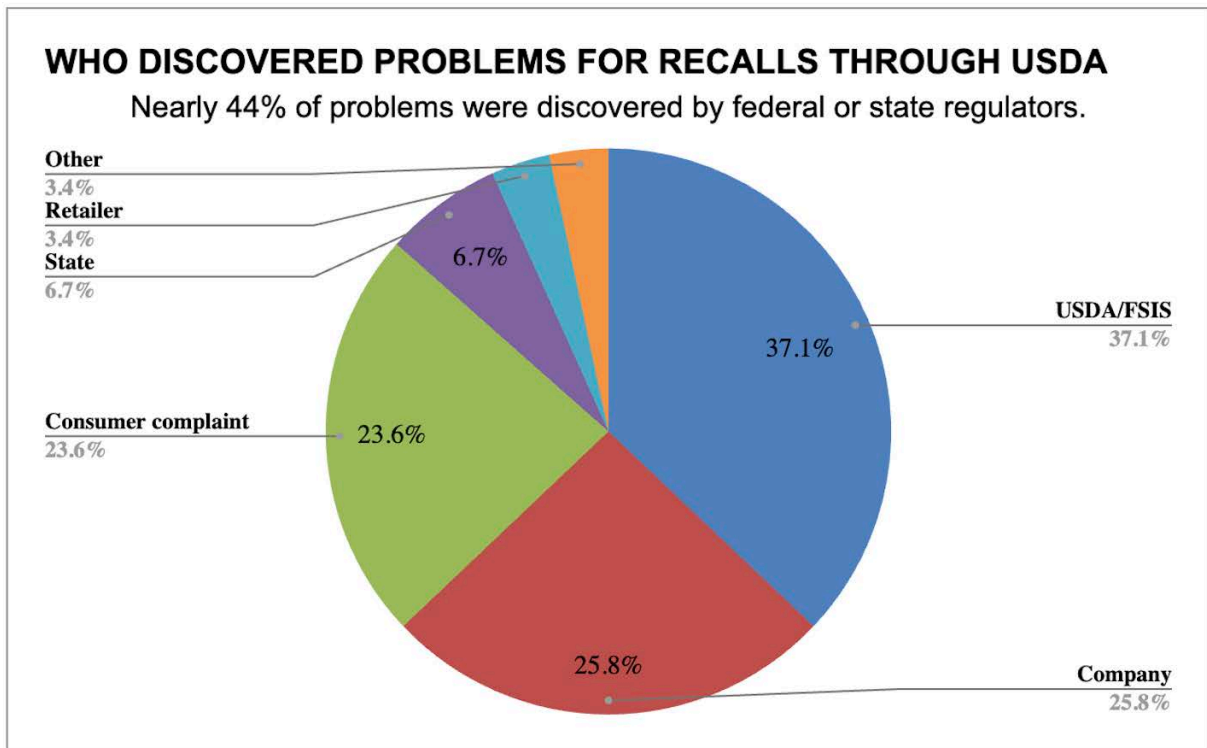
[Joy Joy's Bakery](#) in January 2023 recalled various bread and roll products after the Oregon Department of Agriculture found that the labels disclosed flour, but did not indicate it was wheat flour. The products were sold in Oregon and Washington.

[Revolution Farms, LLC](#) in April 2023 expanded a recall of lettuce after the Michigan Department of Agriculture and

Rural Development (MDARD) conducted random sampling and found *Listeria monocytogenes* in a package of Revolution Farms Green Sweet Crisp 5 oz. The recalled product was epidemiologically linked with an existing outbreak of Listeriosis across multiple states. The lettuce was sold in Michigan, Ohio, Indiana, Illinois, Kentucky, and Wisconsin.

[Mondelēz Global LLC](#) in July 2023 recalled two types of belVita breakfast sandwiches distributed nationwide after an internal inspection indicated “the potential presence of peanut protein residue on the line used to make these products.” The company noted three unconfirmed reports of possible allergic reactions stemming from these sandwiches.

[Bindle Bottle LLC](#) in February 2023 recalled an unknown number of 32-ounce, 24-ounce, 20-ounce, and 13-ounce Bindle bottles and a 24-ounce bottle that is part of its Puppy Pack in February. It discovered that a soldering dot in the bottom storage compartment contained lead. The company investigated after testing by [Consumer Reports](#) and a tip from Lead-Free Mama found the drinkware contained high levels of lead.



SOURCE: U.S. PIRG EDFUND ANALYSIS OF USDA DATA

POTENTIALLY DANGEROUS ADDITIVES

Everyone knows the health risks of excess sugar and sodium. But public awareness of the numerous hazardous additives and chemicals in modern American food is almost nonexistent. Likely unknown to millions of consumers, our grocery shelves are stocked with products containing ingredients often banned or restricted elsewhere in the developed world.

As a result, even the most conscientious consumers face an uphill battle to protect their health. Encouragingly however, digital tools – namely mobile apps – have emerged in recent years that empower consumers to take back control of their diets.

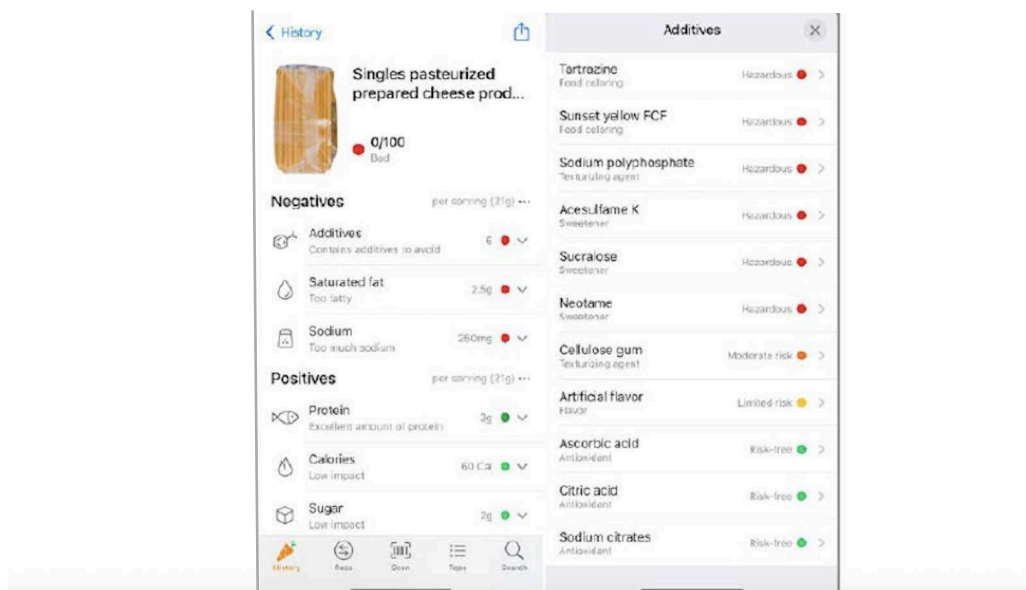
‘GENERALLY RECOGNIZED AS SAFE’

The [regulatory process](#) employed by the Food and Drug Administration (FDA) is in large part responsible for our [compromised](#) food supply.

Many of the artificial additives in foods allowed by American regulators often fail to meet the more [rigorous](#) safety standards of the European Union (EU). Furthermore, the commonly-used “GRAS” (generally recognized as safe) loophole in existing FDA regulations effectively [outsources](#) food safety certification to the food corporations themselves.

Created by Congress to expedite approval of common ingredients such as flour or salt, the loophole has been used instead to [bypass](#) rigorous FDA evaluation. It allows new additives in food as long as food manufacturers affirm that they are GRAS.

Many do so by hiring their own food consultants to certify the safety of the additives in their food by claiming that the body of evidence of the additives’ harmful health effects are not sufficiently significant to warrant restrictions.

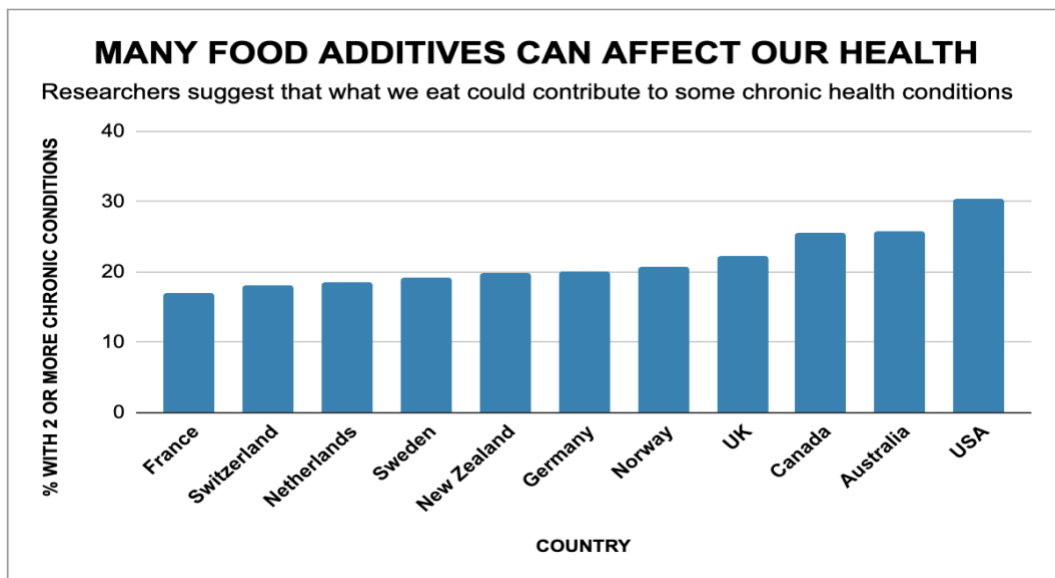


These [one-sided](#) determinations frequently go unchallenged by an FDA that defers to food companies' claims. Meanwhile, the very same additive will often fail to meet the European Union's higher evidentiary [standards](#), which in many cases require ingredients to be affirmatively proven as safe for human consumption.

Once these additives make their way into the food supply, consumers face the nearly impossible task of deciphering their obscure and difficult-to-pronounce names on nutrition labels and often have no idea what

they are reading. As a result, consumers routinely purchase seemingly healthy and wholesome foods such as bread, cheese and vegetable dip that are in reality packed with potentially [hazardous](#) sweeteners, preservatives or food colorings. These ingredients enhance products' appearance or taste, possibly at the expense of the buyer's long-term health.

Unsurprisingly, a growing [body of evidence](#) shows the U.S. food system to be in part responsible for [poor](#) health outcomes relative to other developed countries.



SOURCE: [THE COMMONWEALTH FUND](#)

The good news is, public education can go a long way to empower consumers to make informed decisions for their families.

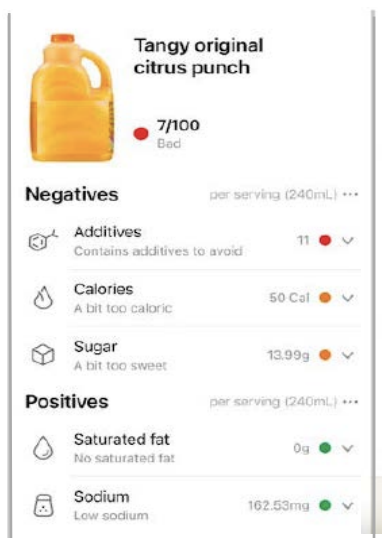
Products such as the [free Yuka app](#) have emerged as useful tools for shoppers to learn what is actually in their food. Other useful

apps include [FoodIQ](#) and the subscription-based [Fig](#) app.

By scanning an item's barcode, the Yuka app provides a health and safety score, backed by conventional indicators including sugar, calorie and sodium content as well as

a list of additives, ranked from most to least hazardous. The profile also explains the harmful health effects of each additive.

However, this is not to say the app is perfect. Its calorie intake recommendations do not fit every person's individual calorie needs, nor does the app screen for every harmful ingredient such as inflammatory seed oils. Nonetheless, tools like the Yuka app can help bring much needed transparency to Americans' trip to the grocery store.



Common additives to avoid

With the help of the Yuka app and various consumer advocacy groups, we have compiled a list of potentially carcinogenic and harmful additives commonly found in the typical American grocery cart. If any of items you buy have made the list, consider using the Yuka app to find alternatives with less artificial ingredients.

Potassium bromate

[Potassium bromate](#) is often [added](#) to dough and can often be found in products such as

sliced bread and bagels, as well as tortillas, cookies, and frozen pizzas.

It has been banned in Canada, the EU and the state of California (starting in 2027), due to its role in [increasing](#) the risk of cancer in the thyroid, kidneys and [other organs](#). It also has been flagged by the [National Institutes of Health](#). The FDA in November 2023 [proposed](#) banning a closely related additive used in oil. “Based on these data and remaining unresolved safety questions, the FDA can no longer conclude that the use of BVO in food is safe,” the FDA said.

Sodium and calcium phosphates

Used in numerous products, these are commonly used as emulsifiers in cheese, especially processed sliced cheese. Excess consumption of sodium and calcium phosphates have been [flagged](#) by the European Food Safety authority as exceeding the “safe level” of intake for part of the population. The twin additives have been found to contribute to increased risk of breast cancer, [cardiovascular disease](#) and [poor](#) kidney function.

Titanium dioxide

Titanium dioxide is used to [add](#) shine and brightness to products' colors and is [commonly found](#) in products such as ice cream, candy, salad dressings and frozen pizzas. It was recently [classified](#) as toxic for human consumption by the EU and banned by the EU in 2021. The [NIH says](#): “Although TiO₂ is permitted as an additive (E171) in food and pharmaceutical products, we do not have reliable data on its absorption, distribution, excretion and toxicity on oral exposure.” It is an

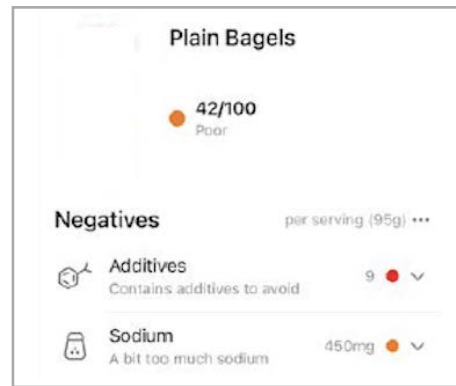
[immunotoxin](#) and [neurotoxin](#) responsible for breaking down DNA strands and causing chromosomal damage. It can also cause inflammation, which itself is a precursor to many diseases.

Parabens

Parabens are used in cosmetics and a wide range of food products as preservatives, including snack foods, tortillas and pastries. Banned by EU regulators, parabens are a group of chemicals that can elevate risk for a number of health conditions. In addition to increasing the risk of certain cancers, parabens are endocrine disruptors that can disrupt hormone regulation responsible for metabolism, fertility and even puberty. The FDA allows parabens in food or packaging to prevent spoilage.

Colored food dyes

Colored food dyes can be found in many brightly colored products, such as candy, fruit juices, sodas, yogurt and pastries. Banned in the United Kingdom, synthetic food coloring such as Red 40, Red 3, Blue 1, Blue 2, Green 3, Yellow 5, and Yellow 6 are ubiquitous in American packaged foods. The FDA does have some restrictions on color dyes. They have been primarily used to brighten the appearance of certain colors in snack foods and have been linked to serious behavioral problems, hyperactivity, and attention deficit disorders in children. Some have also been known to trigger allergic reactions such as eczema and hives. You can use the Yuka app to find alternatives containing the numerous naturally-sourced food colorings used abroad.



Sodium benzoate

Sodium benzoate is often added to sodas, sauces, tomato paste and fruit preserves. It is a restricted preservative in the EU due to evidence of harmful neurological effects in children. Moderate levels are considered safe in the United States currently. But there is evidence that when combined with food dyes, sodium benzoate can worsen their hyperactivity and attention deficit effects. Therefore, if consuming foods with food coloring or sodium benzoate is unavoidable, consumers should consider checking labels to see whether both are present in the same product.

Mono- and diglycerides of fatty acids

Mono- and diglycerides of fatty acids are used as emulsifiers to enhance the texture of certain foods. They are often used in desserts and baked products such as bagels. A recent study by the French National Institute of Health and Medical Research found that consumption of the additive can increase overall cancer risk by 15% and breast cancer and prostate cancer risk by 24% and 46% respectively. It has also been shown to harm intestinal bacterial balance and increase the risk of certain auto-immune disorders and inflammatory diseases.

I WHO NOTIFIES WHOM

Under the FDA, only two notifications of a recall are [currently required](#):

1. Posting on the [FDA's recall website](#).
2. A news release from the company that's voluntarily initiating the recall.

No one has to contact grocery stores.

No one has to notify consumers.

However, many grocers and retailers have clauses in their contracts with suppliers that they must be notified in a timely manner by the supplier if a recall is initiated. In fact, grocers often learn of a recall from their supplier before the FDA even posts a public notice online or sends out emails to those who've signed up for real-time alerts.

Because of that, retailers often remove affected items from store shelves, halt sales within two hours and hold products already in stores or warehouses. Many grocers also start trying to notify customers if they have their contact information. (The author has received automated calls from her grocery store about a specific recalled product before the FDA posts the notice online.)

The nonprofit Center for Science in the Public Interest (CSPI) is among those calling on the FDA to do more. "The Food and Drug Administration has unduly delayed issuing guidance to implement a recall notification system beyond the statutory deadlines in [Section 211](#) of the

Food Safety Modernization Act (FSMA)," the [CSPI wrote to the FDA](#) in 2015.

"Further delay harms consumers, leaving them exposed to recalled products because of inadequate notification," the CPSI said. The nonprofit Association of Food and Drug Officials (AFDO) released a [22-page advocacy paper](#) in 2022 that made the same point. The association is made up of professionals representing government, industry, public health, university research departments and consumer advocacy organizations.

"Consumers continue to become ill from recalled products that are consumed after the issuance of a recall announcement," AFDO wrote, "and the issuance of a recall and communication around it is typically done too late in the outbreak investigation to prevent additional illnesses."

The solution is a bit complicated, however, because no single method of notifying the public will address the problem. Notices posted in stores only help if a shopper goes to that store and shops in that department in a timely fashion. Some grocers suggest customers should regularly monitor their corporate websites or social media accounts, but that's just not reasonable. An increasing number of stores do try to notify consumers who purchased a specific recalled product, but they can do that only if a shopper has provided contact information.

I CONCLUSIONS AND RECOMMENDATIONS

Contaminated cantaloupe, onions and peaches killed people last year and a wide variety of foods made more than 1,100 people sick. Those are just the ones we know about. We know the actual total of illnesses is much higher because many people recover from food poisoning without medical attention.

When we have thousands of people getting sick every year from a particular contaminated food item, we should think hard about what else can be done. We need to stop contaminated food from being sold, identify it more quickly when something does slip through and warn consumers when contaminated food makes it to store shelves.

The last one – warning consumers – should be the easiest part. The CDC says many illnesses occur long after recalls have been announced – sometimes weeks or months later – because people just didn’t know about the danger. There’s no single method of reaching everyone who may have purchased a particular product. Multiple methods of outreach would be better.

Here are some steps that would help:

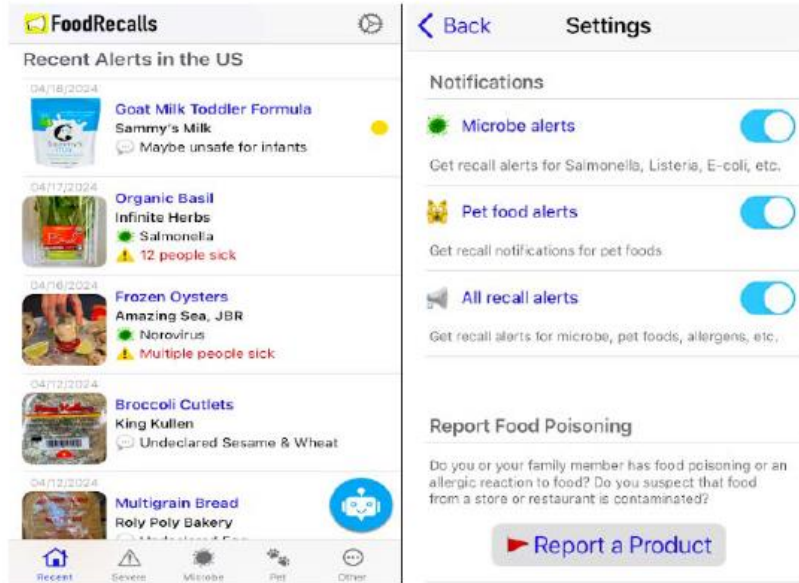
1. The FDA and USDA should develop a way for consumers and businesses to receive direct email, text or phone alerts of all Class I recalls and any allergens of concern. Products with undeclared allergens such as milk, peanuts or wheat comprised nearly half of all recalls in 2023. Allergies to one or

more foods affect [6% of adults and 8% of children nationwide](#).

2. The FDA and USDA together post an average of a half-dozen recalls a week. Many aren’t a huge risk to most people. Yes, you can sign up for email alerts – for every food recall. If someone were to get email or text alerts about every single recall – one almost every day on average – they’d suffer from what experts call “recall fatigue.” Many consumers would become numb and stop noticing or would get annoyed by all of the alerts and stop reading them.

The FDA and USDA should revamp their alert process so people could opt to be notified about specific categories of recalls and alerts, instead of all of them. Maybe someone wants to be alerted only to foods recalled because of undeclared nuts or wheat or soy. Maybe someone wants to be notified only about issues with pet food.

An even better idea: It’d be great if the two regulators created an app that works like the Food Recalls app by SmartAddress Inc. Users can choose to get real-time alerts for microbes including Salmonella and Listeria, or just for pet food, or for all food and beverage recalls through both the FDA and USDA. If you don’t want real-time notifications on your phone, you can just check the app once a day or once a week or whenever you’d like.



Food Recalls app for iPhones and Androids

3. A separate idea that we probably will see at some point in the future: Food producers could leverage technology so consumers can easily learn whether an item they have has been recalled. Currently, consumers can use an app such as [FoodSwitch](#) or [Yuka](#) to scan the barcodes for many food items and find out what's in it and the nutritional value.

What if every food product contained a QR code, for example, so you could scan it with your phone and find out about any recalls in real time. This would also help address the issue of recalled foods at food pantries and soup kitchens. They don't have the computer systems a grocery store has, so volunteers have to go through products by hand to find recalled items.

4. Companies need to do more. Currently, government regulators require only two notifications when there's a food recall: a

posting on the FDA's recall website, and a news release issued by the company that's conducting the recall.

5. Companies conducting a recall should be required to try to reach out to consumers directly. Many food manufacturers sure spend a lot of money to market their products to us. How about if they spend the same amount that was spent to sell us the product to inform us that it's been recalled?

6. In addition, retailers should offer shoppers a way to be contacted by phone, text or email in case of recalls involving items they bought, whether that's through a loyalty card or some other system. Retailers are inconsistent here. In a survey we conducted in 2022, we found that only half of the 50 largest U.S. grocery and convenience chains we talked with offered a way for customers to be contacted directly about recalls. Some retailers post recall notices in their stores. It

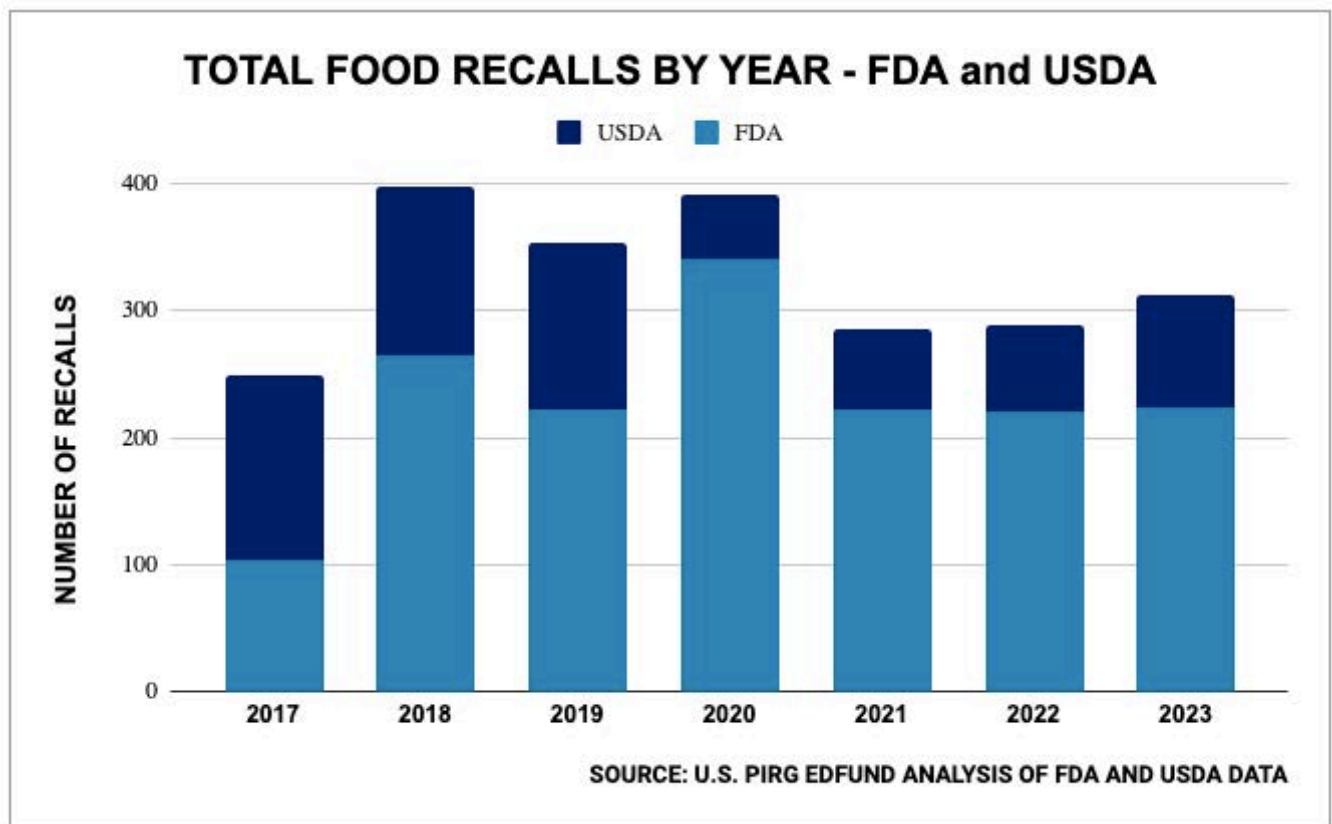
might be in the section where the item was sold or it could be at the customer service counter. For big recalls, some post a notice at the front entrance.

But those don't help people who aren't regular shoppers, or don't visit that section of the store the next time they shop, or order their groceries online and pick them up curbside or get them delivered.

Grocers should ask themselves whether posting in-store notices of Class I recalls would reach some people who otherwise wouldn't find out. A multi-layered approach to communication can help: traditional media, social media, websites, loyalty cards, automated phone calls, emails and/or in-store notifications.

7. The FDA needs to implement the part of the [Food Safety Modernization Act](#) that requires retailers to post recall notices in a consistent manner.

8. Consumers should do more to be informed, particularly if their home includes people with severe food allergies, or young children, senior citizens, pregnant women or others who are medically more vulnerable to foodborne illness. Consumers should be proactive to make sure they have multiple ways to find out about recalls through their grocers, free apps, government alerts and news alerts.



I TIPS FOR CONSUMERS

Yes, the [notification system for food recalls needs to get better](#). Until that happens, you should consider what you can do to help protect yourself and your family. Some easy tips:

Stop by the customer service counter or call the grocery store you shop at most often and ask how they handle recall notifications. Do they put out automated calls, texts or emails based on your shopping history, if you have a loyalty card or provide contact information at the point of sale? ... Do they just put signs in stores about recalls? ... If the grocery store you shop at most doesn't notify anyone, or if their policy doesn't appeal to you, perhaps you should shop at a different store.

If your grocery stores do send out recall alerts, sign up. Chances are high the store will find out about a recall before government regulators will issue any announcements or it hits the news.

Consider shopping only at stores that have a good recall notification policy. This is especially important if you buy products that are frequently recalled such as produce, or if there are people in your home with severe allergies, or children, pregnant women, elderly people or anyone who is immunocompromised, who are most likely to get really sick from foodborne contamination.

Get a good phone app. The free Food Recalls & Alerts phone app ([Apple](#) and [Android](#)) will allow you to get recall notifications all in one place on your phone. It includes FDA, USDA and pet food recalls. It's by SmartAddress, Inc. You can request real-time push alerts to your phone, or just check the app recall list as often as you'd like. You can choose just serious microbe recalls such as Listeria, Salmonella, E. Coli or Norovirus, or just ones for pets, or all of them.

Another free app is [FoodKeeper](#). But it's not good at notifications. When you open the app, go to the little "i" in the circle on the bottom right side. The "recalls" tab lists all of the food recalls for the last year from the FDA and USDA. (You can also filter by date.)

Sign up for recall alerts through Twitter (X) from the FDA and USDA. The agencies' Twitter (X) accounts are @FDArecalls and @USDAFoodSafety.

If you don't want to sign up for all food recall notifications from the FDA and USDA, maybe you want only those involving Salmonella, E. coli or Listeria, or certain undeclared allergens, then set up news alerts with those keywords through Google or another search engine to be delivered to your email daily or in real time.

If you don't want to get phone or email alerts, the latest recalls are also listed on the [government's Food Safety website](#).

I METHODOLOGY

U.S. PIRG Education Fund accessed the public databases for food and beverage recalls and public health alerts for 2023 from the [U.S. Food & Drug Administration](#) and the [U.S. Department of Agriculture](#)'s Food Safety and Inspection Service in March. We also accessed the databases and annual compilations for 2017 through 2022.

We included all levels of recalls (Class I, II and III,) which are categorized according to their health threat, and all public health alerts provided by the regulators.

Recalls and alerts both are warnings that specific food shouldn't be consumed; alerts are issued instead of recalls when the product is no longer for sale but may be in people's freezers or cupboards, or in restaurants. The majority of food recalls are Class 1, the most serious and biggest health risk. The classes are [explained here](#).

For both FDA and USDA recalls, the regulators often cite more than one concern about the product. It could be that it wasn't inspected *and* testing showed possible harmful bacteria. Or it could be the food may contain undisclosed milk and also contain undisclosed wheat – each an allergen that must be declared on the label and cause the product to be recalled. For purposes of citing the reason for a recall or health alert, we tallied only one reason, so that the reasons would add up to the total. But we described all of the reasons to give a complete picture.

The FDA has multiple categories for recalls because it regulates drugs, medical devices and other products besides food. We considered all recalls categorized as “Food & Beverages.” Among them, we found two announcements that were canceled because of incorrect information. We also found five duplicate announcements that were provided in English and Spanish. We did not count the cancellations or duplicates.

The FDA list included seven pet foods as “Food & Beverages” for 2023. The FDA has a separate category it calls “Animal & Veterinary” which generally includes animal medications or food for livestock. We included those categorized as “Food & Beverage” but not those categorized as “Animal & Veterinary.” Pet food recalls can be significant for humans too when, for example, Salmonella is the concern. If someone [touches dog food](#) contaminated by Salmonella, and then puts their fingers in their mouth or eats something they touched without washing their hands, it's possible to contract Salmonella/Salmonellosis. This actually occurred with [one pet food recall](#) in 2023; it led to at least seven illnesses in humans. Six of those sickened were babies age 1 or younger. This likely occurred when the babies came in contact with the contaminated dog food or bowls.

APPENDIX

Foodborne illness outbreaks in 2023 through the CDC

PRODUCT	WHEN PEOPLE GOT SICK	RECALL	OUTBREAK ANNOUNCEMENT	DETAILS ON ILLNESS	RECALL ANNOUNCEMENT	CASES/ ILLNESSES	SERIOUS CASES	MORE ON CASES	NUMBER OF STATES	WHICH STATES
APPLESAUCE	October 17, 2023 – January 16, 2024. As of November 7, 2023, there were 22 cases.	Oct. 31, 2023. Expansion announcement: Nov. 9, 2023	Lead and Chromium Poisoning Outbreak Linked to Cinnamon Applesauce Pouches CDC	Health Effects of Lead Exposure - CDC	Investigation of Elevated Lead & Chromium Levels: Cinnamon Applesauce Pouches	519	Confirmed Cases: 136.	Probable Cases: 345. Suspect Cases: 38	States: 44	AL, AR, AZ, CA, CO, CT, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, (plus Washington D.C. and Puerto Rico)
CANTALOUPES	Oct. 15, 2023- Dec. 25, 2023	Nov. 9, 2023- Dec. 6, 2023	Salmonella Outbreak Linked to Cantaloupes CDC	Details on Salmonella - CDC	12 recalls detailed here	407	Hospitalizations: 158	Deaths: 6	States: 44	AK, AR, AZ, CA, CO, CT, FL, GA, IA, IL, IN, KS, KY, MA, MD, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY
FRESH DICED ONIONS	Aug. 2, 2023- Nov. 11, 2023	Oct. 23, 2023	Salmonella Outbreak Linked to Fresh Diced Onions CDC	Details on Salmonella - CDC	Gills Onions Voluntarily Recalls Select Lots of Fresh Diced Onion Products. Because of Possible Health Risk	80	Hospitalizations: 18	Deaths: 1	States: 23	AZ, CA, CO, GA, IA, ID, IL, IN, KY, MA, MI, MT, ND, NY, OH, OR, TN, TX, UT, VA, WA, WI, WY
PEACHES	April 2018- August 2023	Nov. 17, 2023	Listeria Outbreak Linked to Peaches, Nectarines, and Plums CDC	Details on Listeria - CDC	HMC Farms Voluntarily Recalls Whole Peaches, Plums and Nectarines	11	Hospitalizations: 10	Deaths: 1	States: 7	CA, FL, CO, IL, KS, MI
LEAFY GREENS	July 3, 2018- March 31, 2023	No recall	Listeria Outbreak Linked to Leafy Greens CDC	Details on Listeria - CDC	No recall	19	Hospitalizations: 18	Deaths: 0	States: 16	AR, CA, CO, IL, LA, MI, MO, NC, NE, NY, OK, PA, SD, TX, WA, WI
ENOKI MUSHROOMS	Oct 3, 2022- Feb. 3, 2023	Jan. 13, 2023	Listeria Outbreak Linked to Enoki Mushrooms CDC	Details on Listeria - CDC	Utopia Foods Expands Recall on "Enoki Mushrooms"	5	Hospitalizations: 5	Deaths: 0	States: 4	CA, MI, NV, NJ
FLOUR	Dec. 6, 2022- May 2, 2023	April 28, 2023	Salmonella Outbreak Linked to Flour CDC	Details on Salmonella - CDC	General Mills Recalls Four Gold Medal Unbleached and Bleached All Purpose Flour Varieties	14	Hospitalizations: 3	Deaths: 0	States: 13	CA, IL, IO, MN, MO, NE, NJ, NY, OH, OR, TN, VA, WA
RAW COOKIE DOUGH	Feb. 24, 2023- May 28, 2023	No recall; it was linked to a particular product, which sales were stopped for	Salmonella Outbreak Linked to Raw Cookie Dough CDC	Details on Salmonella - CDC	No recall	26	Hospitalizations: 4	Deaths: 0	States: 6	CA, ID, MO, OR, UT, WA
GROUND BEEF	April 27, 2023- July 6, 2023	No recall	Salmonella Outbreak Linked to Ground Beef CDC	Details on Salmonella - CDC	No recall	18	Hospitalizations: 7	Deaths: 0	States: 4	CT, MA, NJ, NY
DRY DOG FOOD	Jan. 14, 2023- Aug. 19, 2023	Nov. 9, 2023	Salmonella Outbreak Linked to Dry Dog Food CDC	Details on Salmonella - CDC	Mid America Pet Food Expands Voluntary Recall to Include Additional Dog and Cat Food Products Due to Possible Salmonella Health Risk	7	Hospitalizations: 1	Deaths: 0	States: 7	AL, CA, FL, HI, KY, MN, OK
ICE CREAM	May-June 2023	Aug. 30, 2023	Listeria Outbreak Linked to Ice Cream CDC	Details on Listeria - CDC	The Ice Cream House is Voluntarily Recalling All Dairy Ice Cream Products and Non-Dairy [Parve] Frozen Dessert Products	2	Hospitalizations: 2	Deaths: 0	States: 2	NJ, NY
FROZEN STRAWBERRIES	Nov. 24, 2022- May 27, 2023	Multiple recalls March to June 2023	Organic Strawberries Hepatitis A Outbreak CDC	Details on Hepatitis A	Multiple recall announcements including ones by Meijer, Wawona Frozen Foods and Willamette Valley Fruit Co.	10	Hospitalizations: 4	Deaths: 0	States: 4	CA, HI, OR, WA

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