

# **Food Irradiation as a Public Health Intervention: Consumer Knowledge and Behavior**

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# Romaine lettuce is not safe to eat, CDC warns U.S. consumers

By [Joel Achenbach](#) and [Lena H. Sun](#)  
November 20, 2018 at 2:51 p.m. EST

## FOOD SAFETY ALERT

*E. coli* Outbreak Linked to Ground Beef

Example of lot code. Throw away "L1 22 155" and "L5 22 155."



If USDA inspection mark has "EST. 46841" AND the lot codes match, throw away the ground beef.



[cdc.gov/foodsafety/outbreaks](https://cdc.gov/foodsafety/outbreaks)

## SALMONELLA OUTBREAK



### Salmonella Outbreak Linked to Raw Cookie Dough

- If you have Papa Murphy's chocolate chip cookie dough or S'mores bars dough in your refrigerator or freezer, throw it away.
- Always follow baking instructions for raw cookie dough.
- Call a healthcare provider if you have severe *Salmonella* symptoms.

[cdc.gov/foodsafety/outbreaks](https://cdc.gov/foodsafety/outbreaks)

CNN + Follow

### Salmonella outbreak linked to flour is over, CDC says, but consumers should still check for recalled bags

Yesterday 5:56 PM



Salmonella can contaminate foods in the field or sometimes in

# Each week, CDC typically coordinates **17-36** investigations of foodborne illness that involve multiple states



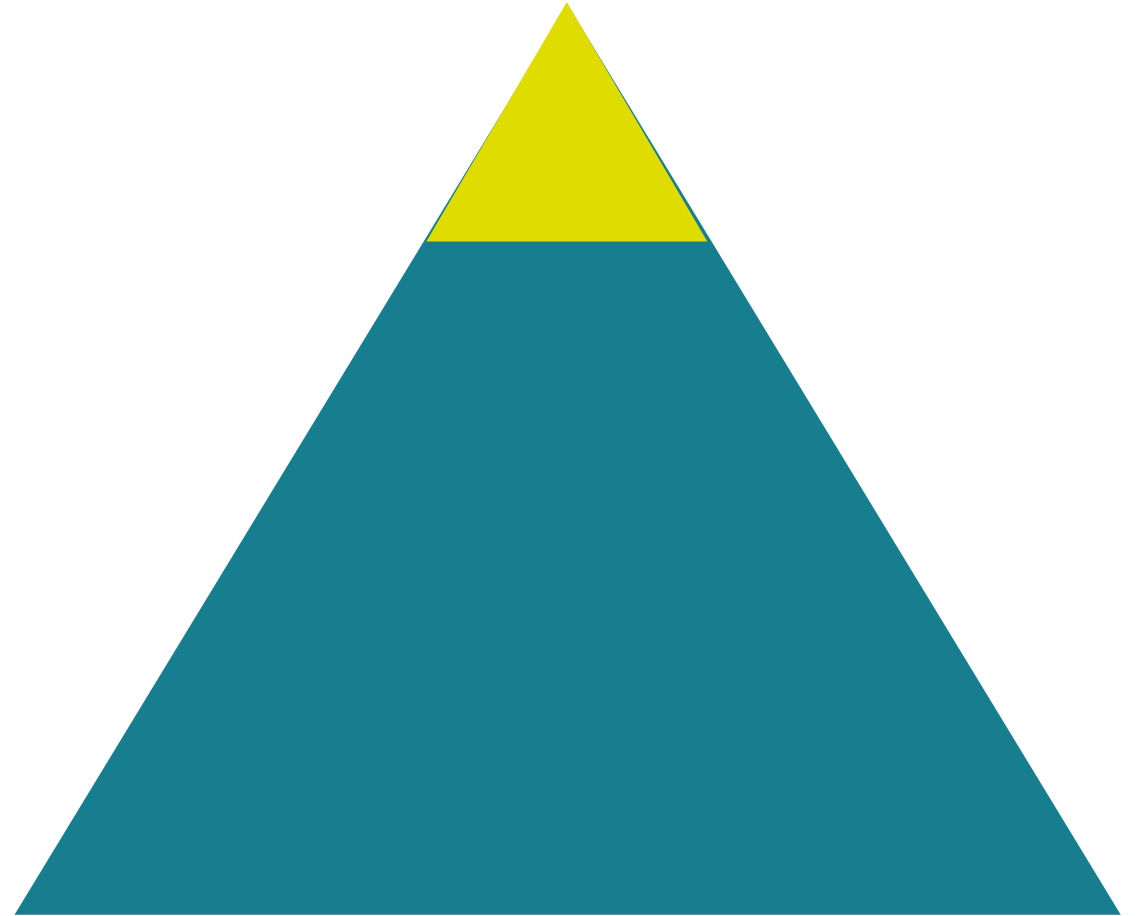
Active Investigations as of August 23, 2023

Germ	Number of Active Multistate Investigations	Current CDC Investigation Notices or Food Safety Alerts
<a href="#"><i>Campylobacter</i></a>	1	<ul style="list-style-type: none"><li>No active notices or alerts</li></ul>
<a href="#"><i>E. coli</i></a>	5	<ul style="list-style-type: none"><li>No active notices or alerts</li></ul>
<a href="#"><i>Listeria</i></a>	7	<ul style="list-style-type: none"><li>Food Safety Alert: <a href="#">Ice Cream</a></li></ul>
<a href="#"><i>Salmonella</i></a>	16	<ul style="list-style-type: none"><li>No active notices or alerts</li></ul>

# Recognized outbreaks are currently a small fraction, or “tip of the iceberg,” of all foodborne illnesses

Only about 12% of all *Salmonella*, Shiga toxin-producing *E. coli*, and *Listeria* illnesses reported are investigated as part of a potential outbreak

Most illnesses do not have a known or suspected cause

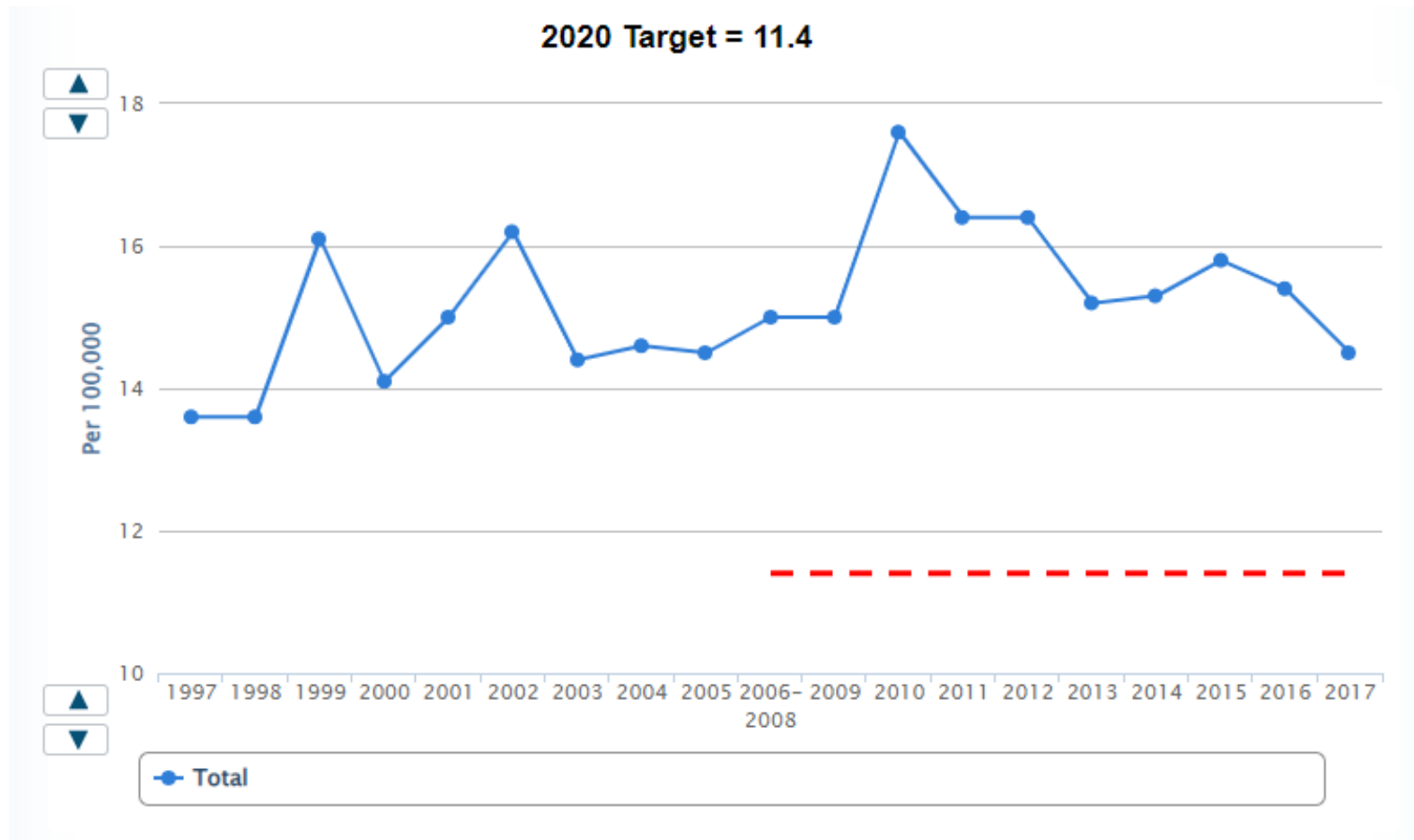




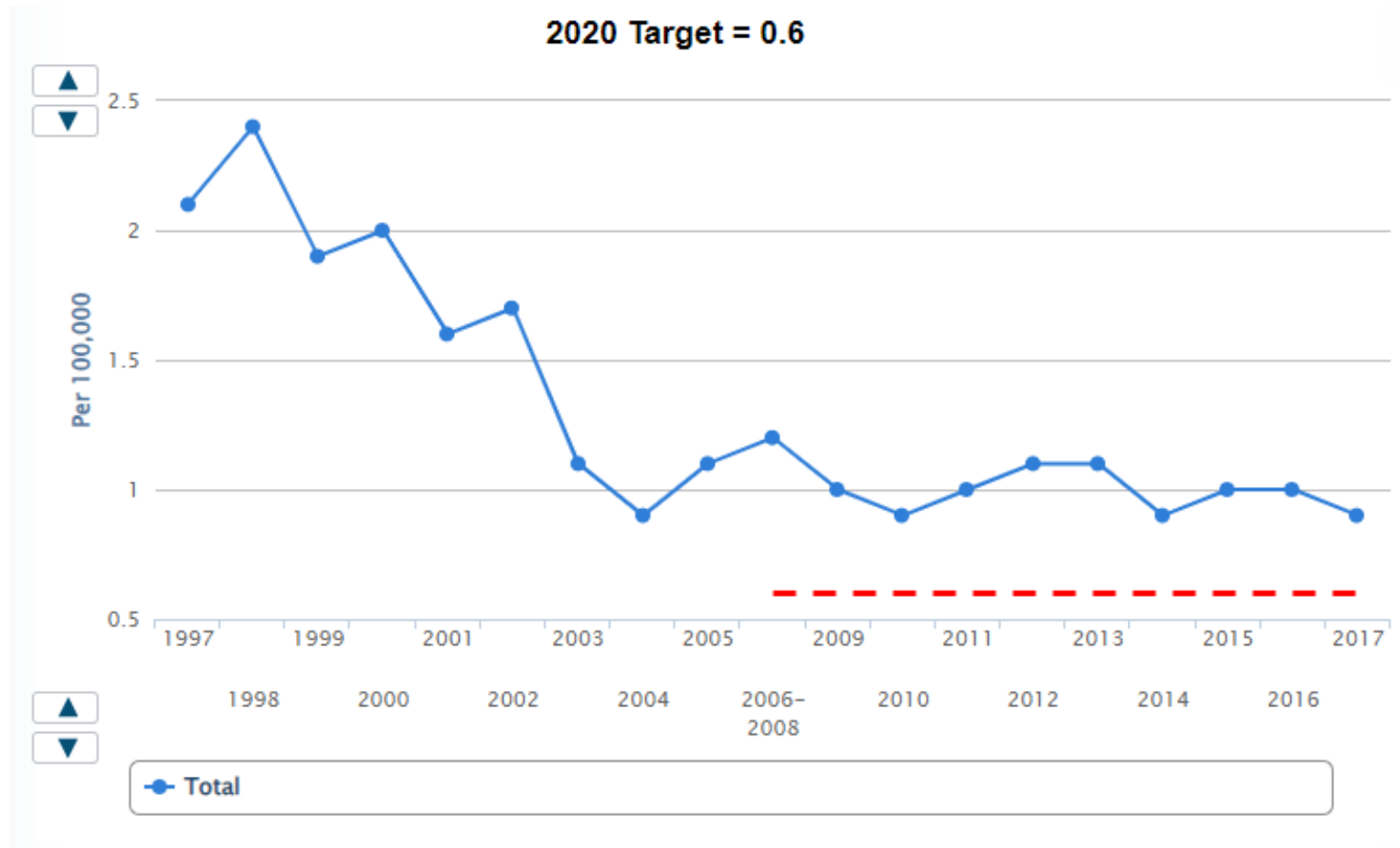
**CDC estimates that each year 48 million people get sick from a foodborne illness, 128,000 are hospitalized, and 3,000 die.**

**Foodborne infections are common, costly, and preventable.**

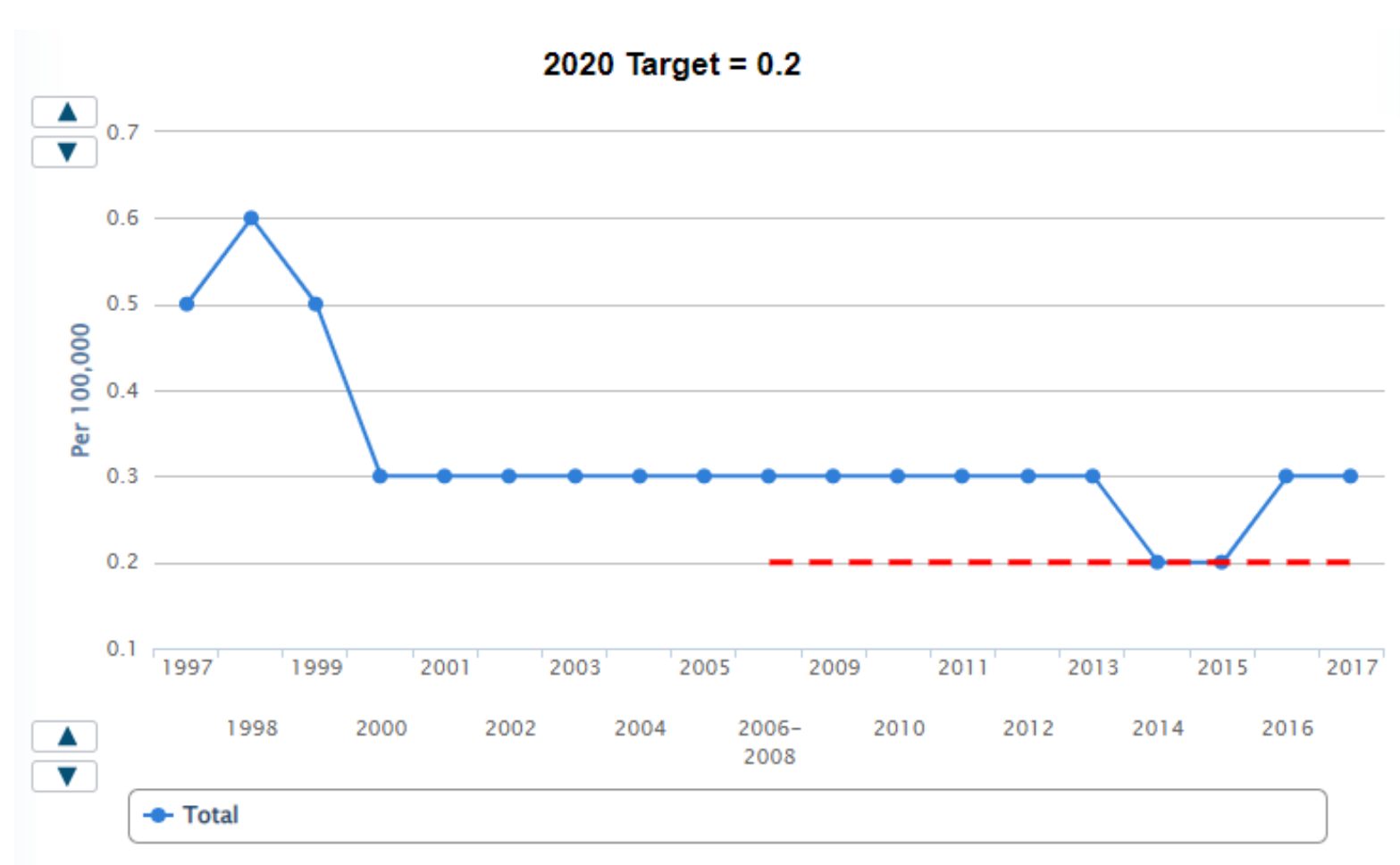
# No recent improvements in incidence of *Salmonella* infections from food



# Improvements in incidence of *E. coli* O157:H7 infections from food have plateaued



# Improvements in incidence of *Listeria monocytogenes* infections food have plateaued

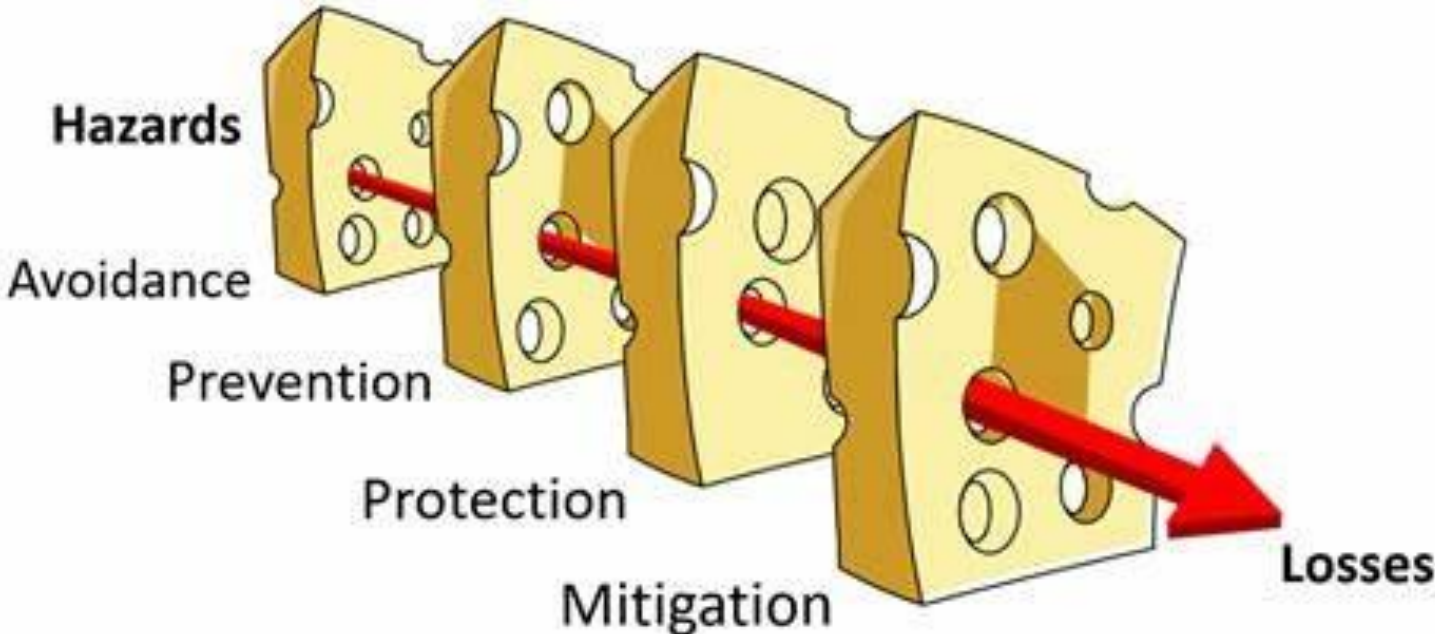




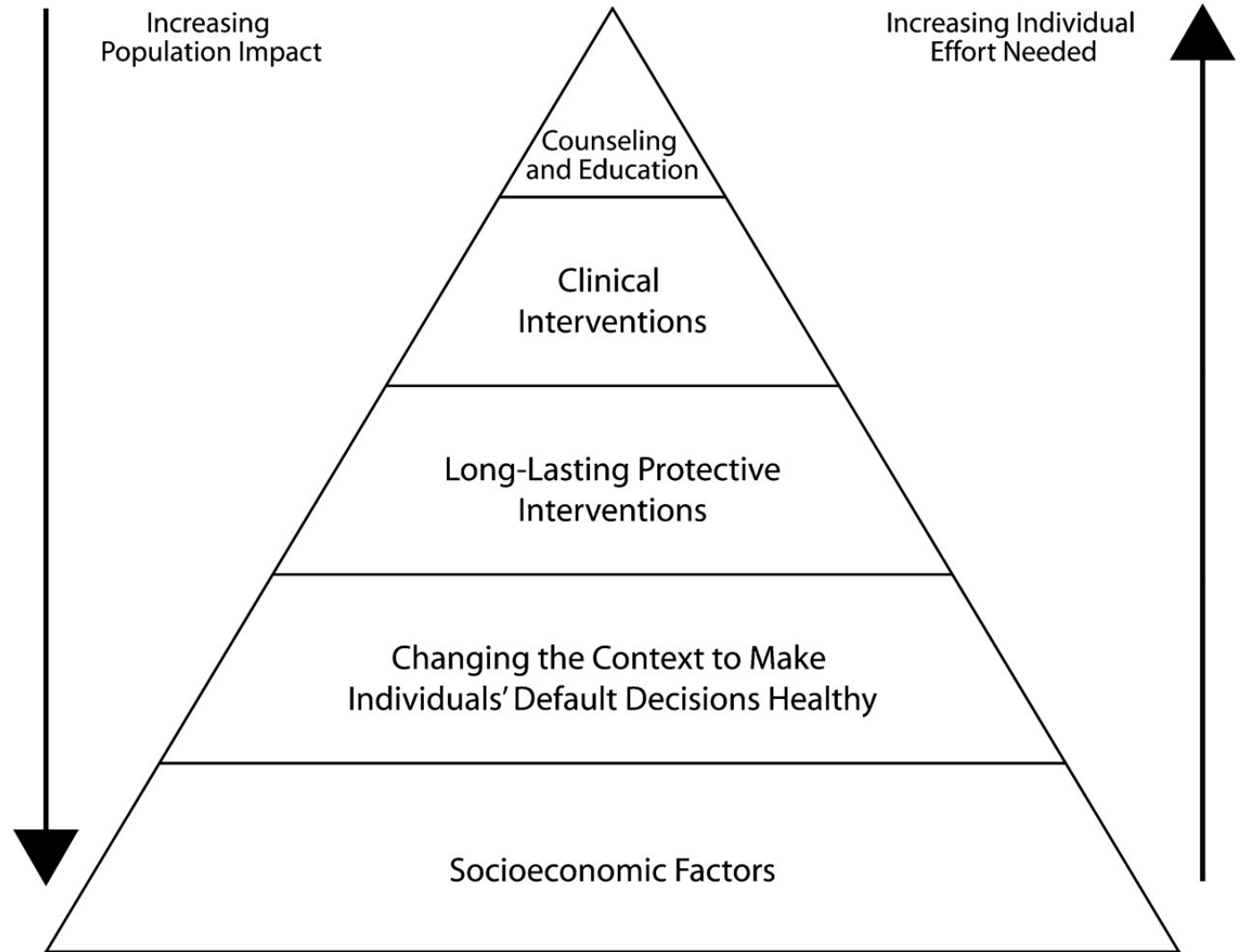
# Farm to fork approach to prevention



# Multiple layers of prevention



# Health Impact Pyramid



# Will consumers buy this product?

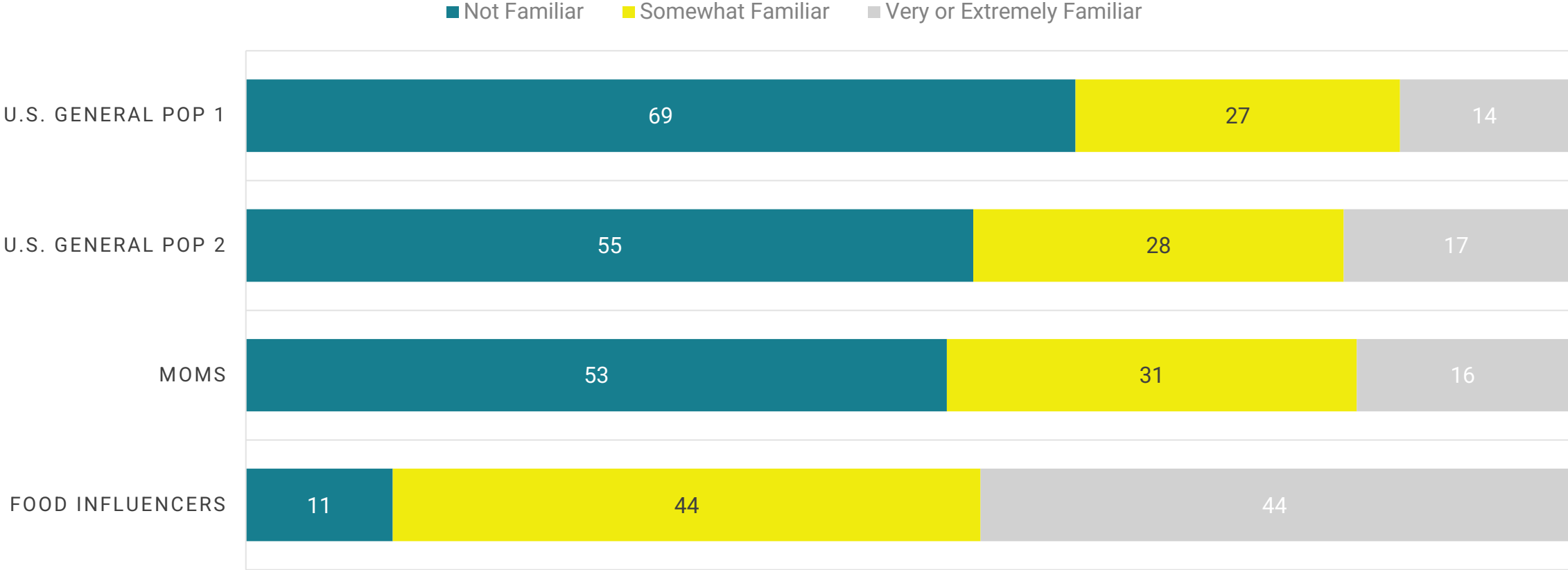
## 2021-2022 focus groups and surveys



- 10 Focus groups (79 participants)
  - Parents of children ages 0-4
  - Adults ages 18-64
  - Adults ages 65+
- 5 Surveys (2,508 participants)
  - “Food Influencers” (Dieticians and Nutritionists) (187 participants)
  - General U.S. Population (2,017 participants)
  - Moms w/ children <18 (304 participants)



# The majority of people surveyed were not familiar with food irradiation (except for food influencers).



# Lack of knowledge ≠ Lack of interest

67%

of people **didn't know** if irradiated foods are sold where they shop

57%

**didn't know** where to buy irradiated foods

50%

**didn't know** what to look for on food label to identify irradiated foods

58%

want to **know more** about irradiation



\*\*Results from single survey, N=1008

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## Focus group quotes:

### Parent 1

*Focus group participant*

“I’ve never, like, known about it, I would probably read into a little more. I’m not against it or anything. I would just want to do my own little research about it because I do that with everything anyways.”

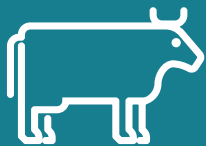
### Parent 2

*Focus group participant*

“I don’t know that, like, I would go out and buy something right now, but hearing more about it and the process, you know, to a certain extent, and, um, just how long they’ve been doing this, I guess, and researching it does make me a little more comfortable. Um, you know, and if it is something that the CDC is backing, um, again, I’m like okay, I’ll lean a – a little more that way. Um, I’m a little excited.”



# Perception that foods carry germs may influence **interest in buying** irradiated foods

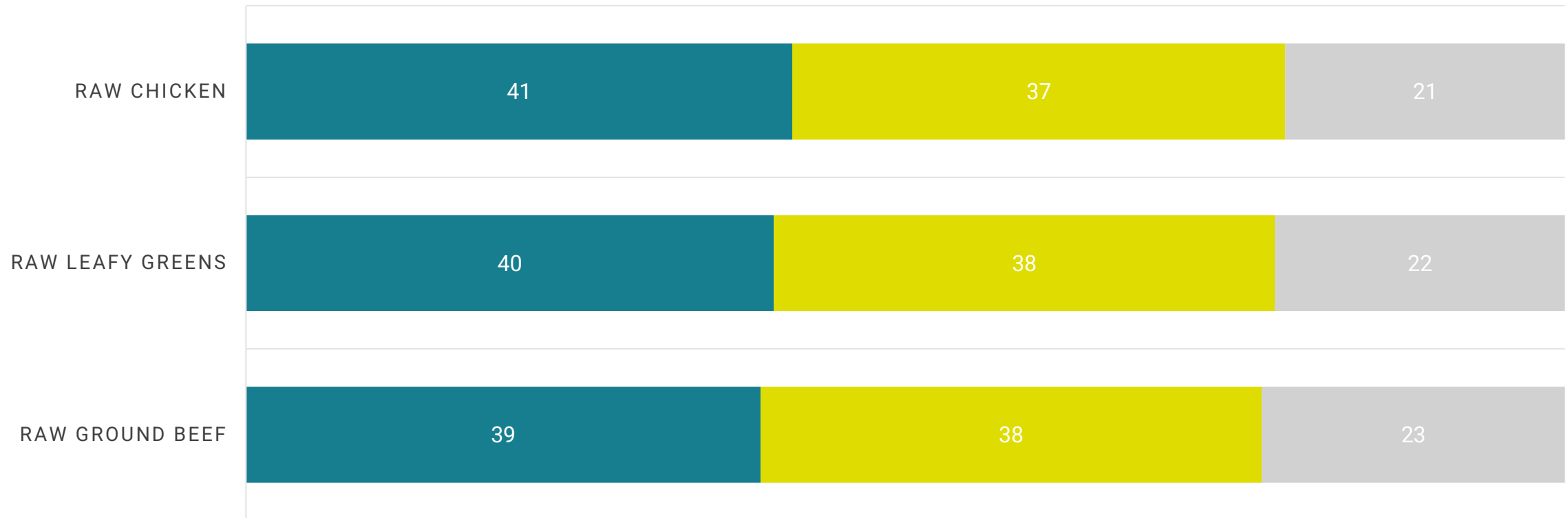


- “I don’t like to have to worry about foodborne illnesses when I’m trying to eat something good. So to know that there was an extra step to make sure that any kind of germ that could make the meat bad was irradiated out of it...that doesn’t scare me that much.” (Parent)
- “...especially for something like ground beef – that would really cut the risk.” (Adult aged 65+)
- “But beef...you can’t really wash it too-too well like some things. So...I think having that irradiated would be safer, in my opinion.” (Adult, 18-64)



# Even with limited knowledge, many people report being likely to buy irradiated versions of foods...

■ Likely ■ Neutral ■ Unlikely



# Food irradiation is a **public health intervention** that **can prevent illnesses and deaths**



- Analysis of foodborne outbreaks 2009-2020
  - No foodborne outbreaks have been linked to irradiated foods
  - 155 outbreaks were linked to irradiation-eligible foods and might have been prevented through irradiation
- Irradiating **50%** of the currently unirradiated **ground beef** supply could prevent **each year**:
  - ***E. coli* 0157**
    - 3,285 illnesses, 135 hospitalizations, 2 deaths, and \$2,972,656 in direct healthcare costs
  - ***Salmonella***
    - 20,308 *Salmonella* illnesses, 400 hospitalizations, 6 deaths, and \$7,318,632 in direct healthcare costs



## Scan here for more information from CDC on Food Irradiation

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.