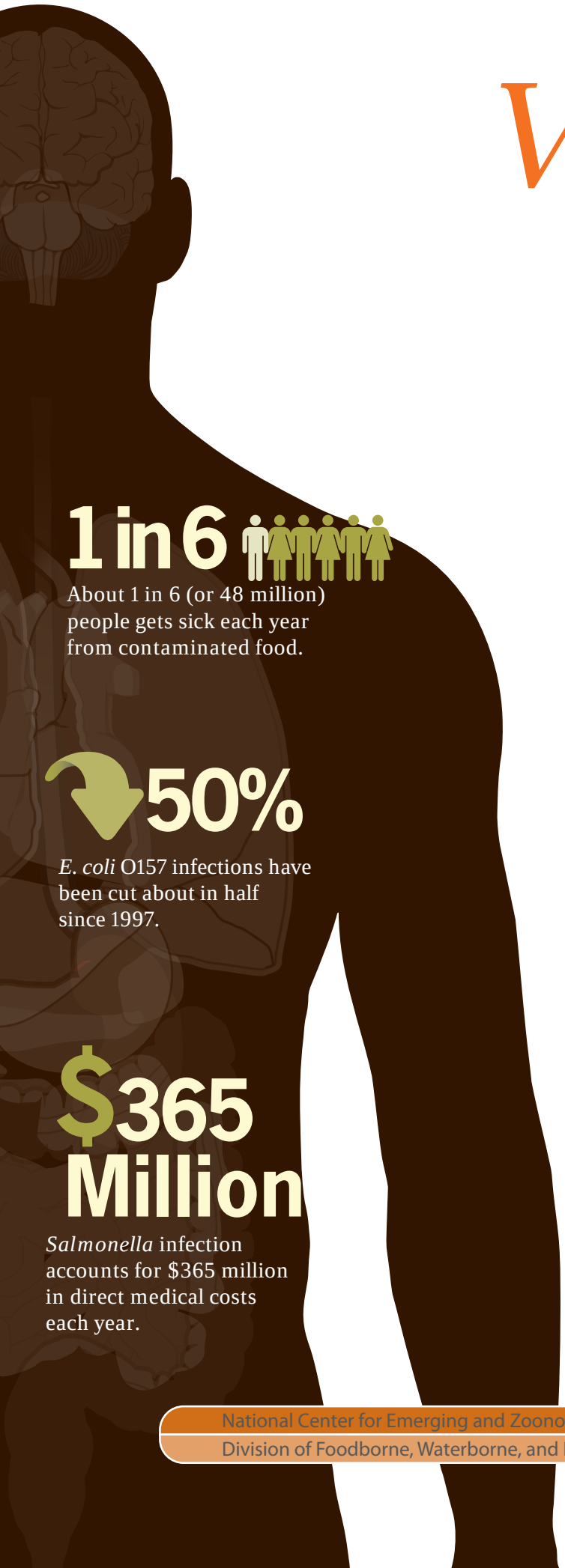
CDC Vitalsigns™
June 2011

Making Food Safer to Eat

Reducing contamination from the farm to the table



1 in 6

About 1 in 6 (or 48 million) people gets sick each year from contaminated food.

50%

E. coli O157 infections have been cut about in half since 1997.

$365 Million

Salmonella infection accounts for $365 million in direct medical costs each year.

Each year, roughly 1 in 6 people in the US gets sick from eating contaminated food. The 1,000 or more reported outbreaks that happen each year reveal familiar culprits—*Salmonella* and other common germs. We know that reducing contamination works. During the past 15 years, a dangerous type of *E. coli* infection, responsible for the recall of millions of pounds of ground beef, has been cut almost in half. Yet during that same time, *Salmonella* infection, which causes more hospitalizations and deaths than any other type of germ found in food and $365 million in direct medical costs annually, has not declined. Each year, 1 million people get sick from eating food contaminated with *Salmonella*. Applying lessons learned from reducing *E. coli* O157 infections could help reduce illness caused by *Salmonella*.

Learn what you can do to reduce contamination from the farm to the table.

→ **See page 4**

Want to learn more? Visit

www http://www.cdc.gov/vitalsigns

National Center for Emerging and Zoonotic Infectious Diseases
Division of Foodborne, Waterborne, and Environmental Diseases

Targeting *Salmonella*

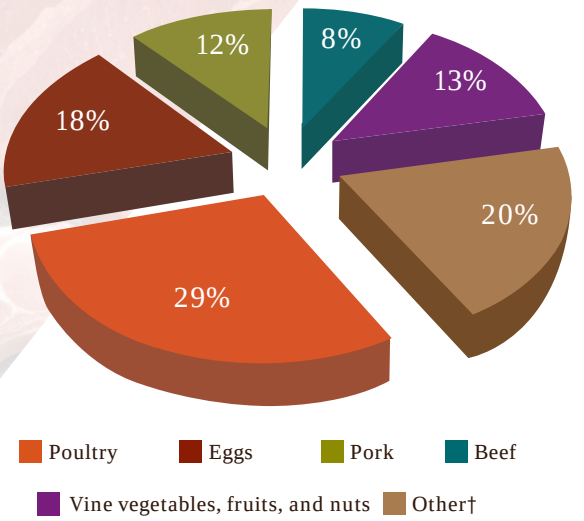
Problem

Salmonella infection has not declined in 15 years

1. Reducing *Salmonella* infection is difficult because

- ◇ It is found in many different types of foods: meats, eggs, fruits, vegetables, and even processed foods such as peanut butter.
- ◇ Contamination can occur anywhere: from fields where food is grown to cutting boards in kitchens.
- ◇ What we eat and how we eat have changed: foods coming from one central location are widely distributed, meaning that sickness can spread quickly; we eat more meals outside the home; and more foods and ingredients come from all over the world.
- ◇ Some policies and procedures that can make a difference in reducing contamination take years to put into place.

Foods associated with *Salmonella* outbreaks*



*These contaminated ingredients or single foods (belonging to one food category) were associated with 1/3 of the *Salmonella* outbreaks.

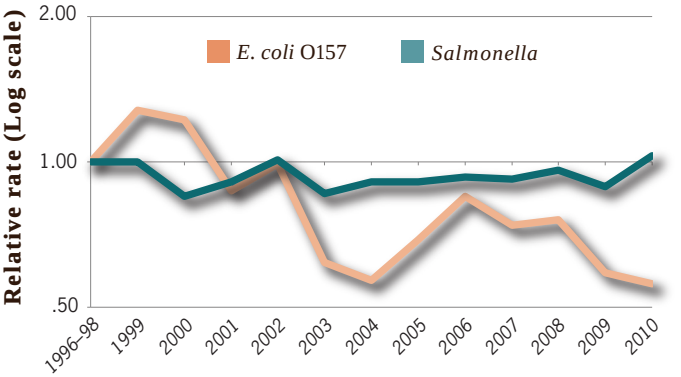
†Other includes: Sprouts, leafy greens, roots, fish, grains-beans, shellfish, oil-sugar, and dairy.

Source: CDC National Outbreak Reporting System, 2004–2008.

2. *Salmonella* infection can be reduced by

- ◇ Taking strong and specific action to identify and prevent contamination from the farm to the table—a primary lesson learned in successfully reducing *E. coli* O157 infection.
- ◇ Developing new prevention strategies for the riskiest foods before and after harvesting.
- ◇ Enhancing laboratory testing and disease reporting to more quickly identify outbreaks and their causes.
- ◇ Investigating outbreaks quickly and alerting consumers and industry of concerns to prevent more illness.
- ◇ Using prevention-focused safety systems like the Hazard Analysis and Critical Control Point management system and applying technologies (for example, use of high temperatures in pasteurization and cooking) to reduce contamination.
- ◇ Putting into action new policies that focus on preventing food safety problems and address new challenges.

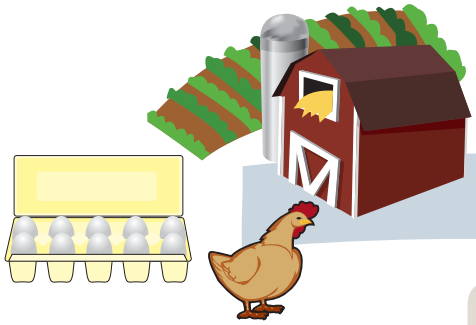
Change in *E. coli* O157 and *Salmonella* infection, 1996–2010



Source: Foodborne Diseases Active Surveillance Network, 2010.

Prevention from the Farm to the Table

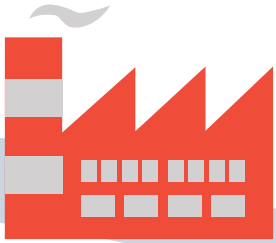
Lessons learned from *Salmonella* outbreaks



Production

Risky eggs, 2010:
Chicken and feed contamination results in 500M eggs recalled. Cause: *Salmonella* Enteritidis (SE).

Prevention
Require preventive controls for egg producers such as buying chicks from suppliers with SE control programs, testing poultry houses for SE, and setting temperature requirements for storing and transporting eggs.



Manufacturing

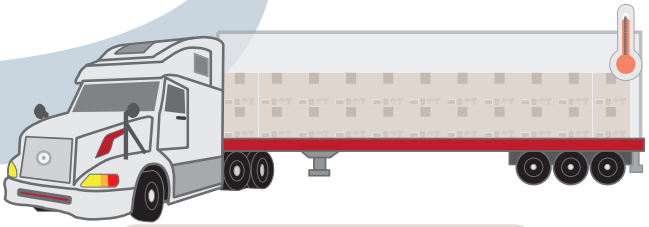
Peanut butter crackers to pet treats, 2009:
Processing plant contamination results in many foods causing sickness in 46 states. Cause: *Salmonella* Typhimurium.

Prevention
Keep factories clean, separate raw and processed foods, ensure that steps to reduce contamination work.

Manufacturing

Tainted turkey burgers, 2011: 50,000 lbs of ground turkey recalled following illness in 10 states. Cause: *Salmonella* Hadar.

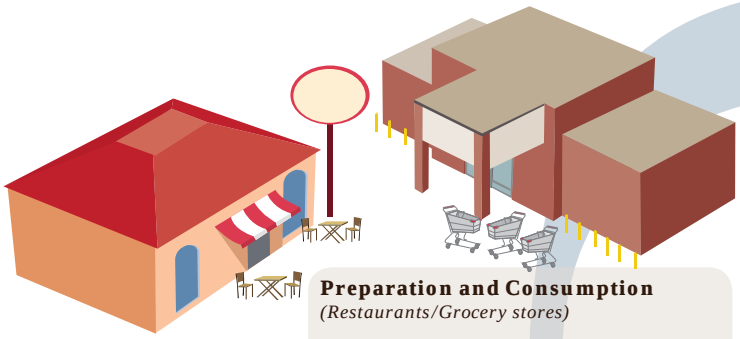
Prevention
Employ pre-harvest food safety strategies to reduce *Salmonella* in animals, prevent contamination at slaughter, reduce contamination of ground product from all sources, ensure that steps to reduce contamination work.



Distribution and Delivery

Contaminated ice cream, 1994: Trucks hauling raw eggs, then ice cream, sicken 200,000 nationwide. Cause: *Salmonella* Enteritidis (SE).

Prevention
Clean and disinfect trucks between loads, keep cold shipments at correct temperatures, track shipments and storage.



Preparation and Consumption
(Restaurants/Grocery stores)

Germs spread in restaurants, 2008: Poor kitchen practices cause food to be undercooked and cross-contaminated. Cause: *Salmonella* Montevideo.

Prevention
Cook chicken and meats thoroughly, separate raw chicken and meats from other foods, train and certify managers in food safety in all restaurants.

Preparation and Consumption
(Restaurants/Homes)

Frozen pot pies, microwaves, and cooking instructions, 2007: Undercooked pies sicken people in 35 states, Puerto Rico, and the Caribbean. Cause: *Salmonella* I,4,[5],12:i:-.

Prevention
Make sure cooking instructions are clear and correct, use a food thermometer, ensure that manufacturers indicate power levels on microwave ovens.

Source: CDC, 2010.

What Can Be Done

Work together to reduce *Salmonella* and other foodborne illnesses

Government can

Implement policies and regulations

- Ensure that food production and service facilities adopt proven preventive measures and enforce food safety laws and regulations, including requirements for eggs, meat, poultry, and processed and imported foods.
- Increase and improve inspections in the US and abroad.
- Develop and implement safety standards for fruits and vegetables.
- Use what is learned from outbreaks, inspections, and monitoring systems to develop new and improve existing prevention strategies.

Track and investigate illness

- Track trends, report progress, and make sure policies aimed at reducing infections work.
- Fund state and community efforts to identify and report sicknesses and catch outbreaks faster.
- Investigate outbreaks thoroughly to identify sources and improve control strategies.
- Develop new tools to find sources of contamination and characterize germs faster.

Farmers, grocery stores, and places that make, sell, or serve food can

- Use good management practices to reduce contamination when raising livestock or food animals.
- Adopt proven preventive measures for food safety plans in all food production and service facilities.
- Follow the US Food and Drug Administration Model Food Code in restaurants and other places that serve food.
- Keep good records of where foods and food ingredients come from.
- Train and certify managers in food safety in all restaurants.

Health care providers can

- Diagnose and treat infections by using best practices and report them rapidly.
- Talk to high-risk patients about food safety.
- Report suspected outbreaks to your local health department.

Everyone can

- **Clean.** Wash hands, cutting boards, utensils, and countertops.
- **Separate.** Keep raw meat, poultry, and seafood separate from ready-to-eat foods.
- **Cook.** Use a food thermometer to ensure that foods are cooked to a safe internal temperature: 145°F for whole meats (allowing the meat to rest for 3 minutes before carving or consuming), 160°F for ground meats, and 165°F for all poultry.
- **Chill.** Keep your refrigerator below 40°F and refrigerate food that will spoil.
- **Report** suspected illness from food to your local health department.
- **Don't prepare food for others** if you have diarrhea or vomiting.
- **Be especially careful** preparing food for children, pregnant women, those in poor health, and older adults.
- Visit *FoodSafety.gov* for the latest information on preventing food poisoning.

www http://www.cdc.gov/vitalsigns

www http://www.cdc.gov/mmwr

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