Making Food Safer to Eat

Reducing contamination from the farm to the table

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.

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Want to learn more? Visit

www http://www.cdc.gov/vitalsigns
Targeting *Salmonella*

*Salmonella* infection has not declined in 15 years

**Problem**

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.

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.

**Foods associated with *Salmonella* outbreaks***

- Poultry: 20%
- Eggs: 18%
- Pork: 13%
- Beef: 12%
- Vine vegetables, fruits, and nuts: 8%
- Other†: 12%

***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.


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

![Graph showing the change in *E. coli* O157 and *Salmonella* infection rates from 1996 to 2010.](source)

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.

**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.

Preparation and Consumption

**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.

**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)

**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.
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.

**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.

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For more information, please contact

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