

Risk Assessment:

What Is It and What Does It Have to Do with My Food?



Risk assessment uses new technology and science to identify the points of food contamination that are riskiest to the public's health. It also helps us make decisions about the best options for prevention.

You've seen news reports about FDA tracking down contaminated foods that cause outbreaks, to get those foods off the shelves and keep people from getting sick. But did you know that FDA also has major programs meant to keep food from getting contaminated and causing illness in the first place?

You might have heard of some of the ways FDA works to prevent foodborne illness; for example, we inspect food facilities and write food-safety regulations and guidance for the food industry to follow. Another way we help prevent contamination and illness, that you might not have heard of, is called "risk assessment."

In risk assessments, we figure out where the risks of contamination are, in the many steps it takes to get different kinds of foods from the farm to the table. Then we use scientific evidence and calculations to predict what the best ways are of preventing contamination by specific substances in specific foods.

How it Works

Our scientists begin by gathering information about a contaminant – a bacterium or virus, for example – and about what conditions it needs to survive or grow in a given food. The scientists collect information about how that food is grown, transported, received, processed, stored, shipped, and sold, and about where in the process it's likely to become contaminated. They also gather information about different ways of preventing the contamination.

The scientists enter the information they've gathered into mathematical models they've created, which "crunch the numbers." The results are estimates of how much contamination or illness from a given substance could be prevented if specific actions were taken at various points in the supply chain for a given food.

How It Can Be Used

Risk assessments can help the food industry answer questions like "Would decreasing the temperature in the warehouse be likely to reduce the growth of this kind of bacterium in this kind of food? Or would reducing the temperature in the display case at the store be more effective?"

Risk assessments aren't just useful to the food industry. They're also valuable tools for policy makers, who have to write and pass laws that keep the food supply safe, and for researchers and others with an interest in food safety.

Most people would agree with us: it's better to prevent food contamination and illness than it is to try to stop them after they've started. Risk assessments are one more way the FDA works toward that goal.