MAKING THE WORLD SAFE FROM SUPERBUGS

In this final installment of our 3-part series, we review the progress—and work yet to be done—to stop the antibiotic overuse in meat and poultry production that gives rise to dangerous bacteria. Plus, learn what protections consumers deserve and should demand.

ONE OF THE GREATEST medical discoveries of the 20th century happened by accident. In 1928 scientist Alexander Fleming found mold growing in one of his petri dishes—then noticed that the bacteria all around it had been destroyed. That bacteria-killing mold was the first form of penicillin—and we as a society embarked on a brave new world in medicine. Suddenly, deadly diseases such as tuberculosis, scarlet fever, bacterial meningitis, and diphtheria could be cured with a pill. Surgery for heart disease and organ transplants, as well as chemotherapy, could succeed because those miracle drugs wiped out the infections that arose after treatment.

But less than 100 years after that breakthrough, antibiotics are losing their lifesaving effectiveness. Their overuse has allowed bacteria to evolve so that they are almost impervious to the drugs. That has led to the rise of "superbugs"—which include methicillin-resistant staphylococcus aureus (MRSA) and bacteria resistant to three or more types of antibiotics. And as the number of superbugs increases, the development of new antibiotics to kill them has lagged. At least 2 million Americans fall victim to antibiotic-resistant infections every year; 23,000 die. "The antibiotics we've relied on for decades are becoming less effective—and we risk turning back the clock to a time where simple infections killed people," says Tom Frieden, M.D., M.P.H., director of the Centers for Disease Control and Prevention.

Over this past year, Consumer Reports has investigated the dangers of antibiotic overuse in hospitals and doctors' offices. (See our August and September 2015 issues.) But nowhere are the drugs more inappropriately employed than in the meat and poultry industries. About 80 percent of the antibiotics sold in the U.S. are given to animals raised for food—including hogs, cattle, chickens, and turkeys. The most recent data from the Food and Drug Administration show that more than 32 million pounds of antibiotics were sold for use in food animals in the U.S. in 2013—up 17 percent from just four years earlier.

Recently, several meat and poultry producers, such as Tyson, and restaurant chains, like McDonald's and Subway, have pledged to reduce the production or sale of meat or poultry from animals raised with antibiotics. "But whether such measures will end up significantly reducing antibiotic use remains to be seen," says Gail Hansen, D.V.M., who has more than 25 years of experience in veterinary public health and infectious disease.

"In the last few years we've witnessed some of the bacteria most commonly found in food—germs such as salmonella and campylobacter—become increasingly

resistant to some important antibiotics," says Robert Tauxe, M.D., M.P.H., deputy director of the CDC's Division of Foodborne, Waterborne, and Environmental Diseases. Those resistant strains can cause infections that are "more severe, longer lasting, and harder to treat," Tauxe says. In fact, our calculations using data from the CDC show that about 20 percent of people sickened by an antibiotic-resistant bug don't pick it up in the hospital or from another person—they get it from their food.

Superbugs in Your Meat

Four years ago, Ruby Lee of Sandy, Ore., wound up fighting for her life against a superbug. She was only 10 months old when her parents rushed her to the emergency room with severe diarrhea and a high fever. "Ruby was so sick the first five days that she barely moved," says her mother, Melissa Lee. "We were terrified of losing her." Doctors eventually determined that Ruby's illness was part of a salmonella Heidelberg outbreak involving ground turkey that sickened 135 other people in several states. That bacteria was resistant to several antibiotics, but luckily Ruby's doctors found one that still worked.

Even just handling contaminated meat poses a risk. Ken Koehler, 55, always cooked his burgers to well-done. But he still got sick during a 2011 outbreak of salmonella typhimurium linked to ground beef. Public health officials told him that he may have gotten the resistant bacteria on his hands when shaping the raw meat into patties. Bedridden for weeks, the Old Orchard Beach, Maine, resident counts the experience as one of the worst of his life. Antibiotics tackled the infection, but recovery was slow. "It was a month before I could eat a full meal," he says. "My digestive system is still not back to normal."

Ruby and Ken's stories aren't isolated incidents. Information on cases like these is often incomplete, but according to data from the CDC, at least six multistate outbreaks of food poisoning involving antibiotic-resistant bacteria have occurred since 2011. The largest one, linked to Foster Farms chicken, began in spring 2013 and continued through summer

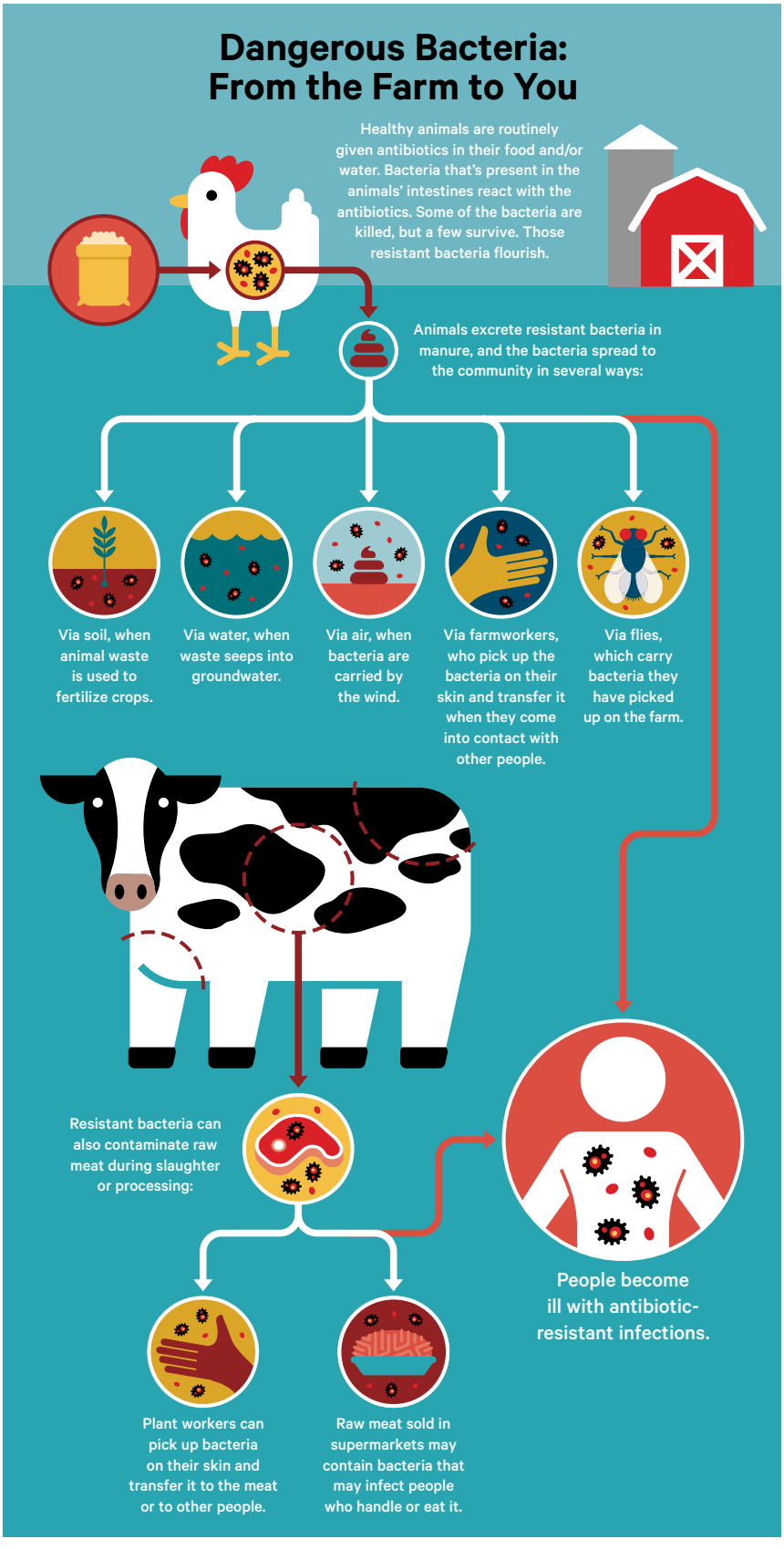

ILLUSTRATION BY JUDE BUFFUM

2014, infecting 634 people in 29 states. About 40 percent were sick enough to be hospitalized—double the usual percentage in salmonella outbreaks.

"Antibiotic-resistant bacteria are all too prevalent in our meat supply," says Urvashi Rangan, Ph.D., executive director of the Food Safety and Sustainability Center at Consumer Reports. "Multistate outbreaks get a lot of attention, but the data underestimate the total number of illnesses because there are many more that occur at the local level." For example, this past August, pork contaminated with salmonella immune to four antibiotics sickened 152 people in Washington state. "Over the years, we've tested hundreds of packages of supermarket meat, poultry, and shrimp, and found multidrug-resistant bacteria in samples from every type of animal," Rangan says. (See "Our Flawed Food Supply," on page 44.)

What has experts most concerned is the use of antibiotics that are important in human medicine or similar to ones that are.

Why Animals Are Drugged

The practice of feeding drugs to animals dates back some 70 years. Thinking it would be easier to study nutrition in "sterile" chicks, a group of researchers fed them antibiotics with the intent of wiping out their gut bacteria. The "rather unexpected result," according to the 1946 study, was that the chicks grew faster. By 1950, researchers had discovered that when given antibiotics, animals reached market weight sooner while consuming less feed. "At the time, they didn't know why the animals grew faster," Gail Hansen says. "We still really don't." But the profit advantage seemed clear, and adding the drugs to feed became standard practice. But research from the past 15 years suggests that today, antibiotics probably don't work well to promote growth, at least in some animals. According to Hansen, that may be because animals farmed today differ genetically from those of yesteryear or because any effect from the antibiotics declined as bacteria grew resistant to the drugs.

The other reason producers give healthy animals low doses of antibiotics is to keep them from getting sick. Under pressure from large processors, over the past few decades small to midsized farms have increasingly been replaced by industrial-scale farms and feedlots that confine thousands of animals together, according to a recent analysis of Department of Agriculture farm census data by Food & Water Watch. In such crowded conditions disease can spread rapidly.

These days farmers often have little say in how their animals are raised. "The majority of food animals now are raised under contracts with major meat-producing companies that require farmers to use feed supplied by the company that may be premixed with antibiotics," Hansen says. "Many have no idea how much and what kind of drugs their animals get." Most of the antibiotics given to animals are in the form of drug-laced feed or water, according to the FDA.

Why Resistance Is Risky

Antibiotics do have their place on the farm: to treat sick animals. When the drugs are used in therapeutic doses, antibiotic resistance is less likely to occur. But the low doses given to animals routinely are problematic. "The combination of frequent antibiotic use and the conditions the animals are raised in creates a hospitable environment for superbugs to develop and proliferate," Rangan says. The drugs can kill off weaker bacteria in the animals' digestive tracts, leaving a few hardy survivors to multiply. Those bacteria, as well as certain antibiotic residues, are excreted in manure, which is the perfect medium for antibiotic-resistant bacteria to grow. Over time, you wind up with colonies of almost indestructible superbugs. "On industrial farms, the animals are literally surrounded by their own waste," Rangan says. So those bacteria get on the animals' hides and skin, and can contaminate the meat we eat when the animals are slaughtered. And, Rangan says, the bacteria continue to reproduce and spread resistance to other bacteria in the animal waste and can get into our environment if the waste is not well-managed.

The problem doesn't just lie with the bacteria that cause foodborne illness. Once resistant bacteria are in the environment, they can mingle with other bacteria and share genetic material, which could contribute to additional antibiotic-resistant infections in hospitals and communities.

What has experts most concerned is the use of antibiotics that are important in human medicine or similar to ones that are. For example, tetracyclines are used in people, but certain types are used primarily in animals. If bacteria develop resistance to the animal drugs, they may also become resistant to the human tetracyclines. When resistant infections occur, doctors have limited options to treat them. For example, the strain of salmonella that sickened Ken Koehler was resistant to nine of the 15 antibiotics the CDC tested it against while investigating the outbreak.

Animal-only antibiotics are also a concern. A group of antibiotics called ionophores that are fed to animals are not generally important in human medicine. But there is a possibility that their long-term use could lead to problems with human drugs. And their use helps make it possible to continue to raise livestock and poultry in crowded conditions, where bacteria can quickly reproduce.

Which Chains and Producers Have the Best Practices?

Consumer Reports' food-safety experts reviewed the antibiotic-use policies of popular chain restaurants and meat and poultry producers. The best policy bans human and animal antibiotics for growth promotion and disease prevention, as well as other drugs (beta-agonists and hormones) in all types of meat. Any routine drug use makes it possible for producers to avoid correcting conditions that can make animals sick in the first place. If a company permits the use of one of those drugs in at least one of the animals it raises or one type of meat it serves, you'll see "Allows" in the Other Drugs column. Though some of the companies here have pledged to make changes in antibiotic use in the future, these are their practices at press time. Not all brands or companies are represented. For more details go to GreenerChoices.org/animalag.

CHAIN RESTAURANTS	Antibiotics for Growth Promotion	Antibiotics for Disease Prevention	Other Drugs
Applebee's	ALLOWS	ALLOWS	ALLOWS
Burger King	BANS	ALLOWS	ALLOWS
Chick-fil-A [1]	ALLOWS	ALLOWS	[2]
Chili's	ALLOWS	ALLOWS	ALLOWS
Chipotle Mexican Grill	BANS	BANS	BANS
Dunkin' Donuts [1]	ALLOWS	ALLOWS	ALLOWS
KFC	ALLOWS	ALLOWS	[2]
McDonald's [1]	ALLOWS	ALLOWS	ALLOWS
Outback Steakhouse	ALLOWS	ALLOWS	ALLOWS
Panera Bread deli turkey [1]	ALLOWS	ALLOWS	BANS
Panera Bread beef, chicken, pork, roasted turkey	BANS	BANS	BANS
Pizza Hut	ALLOWS	ALLOWS	ALLOWS
Starbucks	ALLOWS	ALLOWS	ALLOWS
Subway [1]	ALLOWS	ALLOWS	ALLOWS
Taco Bell	ALLOWS	ALLOWS	ALLOWS
Wendy's	[3]	ALLOWS	ALLOWS

[1] Company has announced eliminating at least some antibiotic use, but the policy is not yet widely implemented. [2] Hormone and beta-agonist use legally prohibited in chicken. [3] Bans human but not animal antibiotics. [4] Bans antibiotic use in chicken but not in beef or pork.

MEAT AND POULTRY PRODUCERS	Antibiotics for Growth Promotion	Antibiotics for Disease Prevention	Other Drugs
1855 Black Angus (JBS)	BANS	ALLOWS	ALLOWS
Angus Pride (Cargill)	ALLOWS	ALLOWS	ALLOWS
Applegate (Hormel)	BANS	BANS	BANS
Aspen Ridge (JBS)	BANS	BANS	BANS
Bell & Evans chicken	BANS	BANS	[2]
Black Canyon Angus Beef (National Beef Packing)	ALLOWS	ALLOWS	ALLOWS
Blue Ribbon Beef (JBS)	BANS	ALLOWS	ALLOWS
Butterball	BANS	ALLOWS	BANS
Clear River Farms (JBS)	BANS	BANS	BANS
Coleman Natural (Perdue)	BANS	BANS	BANS
Foster Farms Fresh & Natural	BANS	ALLOWS	[2]
Foster Farms Simply Raised	BANS	BANS	[2]
Gerber's Amish Farm	BANS	BANS	[2]
Hatfield (Clemens)	BANS	ALLOWS	ALLOWS
Honeysuckle White (Cargill)	BANS	ALLOWS	BANS
Hormel Foods	ALLOWS	ALLOWS	ALLOWS
Meadowland Farms (Cargill)	ALLOWS	ALLOWS	ALLOWS
Nature Raised Farms (Tyson Foods)	BANS	BANS	BANS [2]
Niman Ranch (Perdue)	BANS	BANS	BANS
Open Prairie Natural Angus (Tyson Foods)	BANS	BANS	BANS
Perdue chicken	BANS	[3]	[2]
Perdue Harvestland	BANS	BANS	BANS
Pilgrim's (JBS) [1]	BANS	ALLOWS	[2]
Sanderson Farms	ALLOWS	ALLOWS	[2]
Shady Brook Farms (Cargill)	BANS	ALLOWS	BANS
Smart Chicken (Tecumseh Farms)	BANS	BANS	[2]
Smithfield	[3]	ALLOWS	ALLOWS
Sterling Silver (Cargill)	ALLOWS	ALLOWS	ALLOWS
Strauss	BANS	BANS	BANS
Swift (JBS)	BANS	ALLOWS	ALLOWS
Tyson Foods [1]	[4]	ALLOWS	ALLOWS

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Industry Pushback

Trade groups representing the meat and poultry industry mostly say that the drugs are not widely overused and that they do not put human health at risk. "An important point that's often missing in this discussion is that antibiotics are really needed to both ensure animal health and welfare as well as food safety," says Christine Hoang, D.V.M., assistant director of animal and public health at the American Veterinary Medical Association. Hoang says that the industry is already phasing out use of antibiotics for growth promotion and that drugs used for disease prevention are necessary. As for antibiotic resistance, she says the jury is still out. "The science that is available is unclear on how use of antibiotics in animals relates to human health and resistant infections in the community," Hoang says. The association has gone on record as saying that the use of the drugs in food production "plays an extremely small role." Other organizations that represent the animal agriculture industry echo that view. For example, the Animal Agriculture Alliance says that "layers of protection have been put in place to ensure that animal antibiotics don't affect public health."

Lance Price, Ph.D., a professor of environmental and occupational health at George Washington University in Washington, D.C., categorically disagrees. "As a microbiologist, I have dedicated my career to studying bacteria, and I know that those notions are false," he says. "Studies dating back to the 1960s have repeatedly shown how antibiotic use in food-animal production contributes to the growing crisis of antibiotic-resistant infections in people."

Consumer Reports' tests show that, in general, meat and poultry from animals raised without antibiotics are less likely to harbor multidrug-resistant bacteria than meat from animals that get the drugs routinely. For example, in our most recent tests, we found that ground beef from conventionally raised cows was twice as likely as that from cows raised without antibiotics to contain superbugs. "Those results suggest that farming practices can profoundly affect the safety of our food," Rangan says.

What happens on the farm also has implications for our health overall. Research shows that resistant bacteria bred on the farm wind up reaching people in a surprising number of ways. For example, farm workers can pick up antibiotic-resistant bacteria handling animals and manure; even if the germs don't make them sick, they can still pass them along to other people.

Disposing of the more than 700 billion pounds of manure generated by industrial farming creates a health hazard as well. Some is used as commercial fertilizer and can spread superbugs to crops and taint streams and groundwater. Studies also suggest that resistant bacteria can be picked up and transmitted by flies and spread by the wind. In one study, for example, rural Pennsylvania residents living near fields fertilized with manure from pig farms were up to 38 percent more likely to develop MRSA infections than others in their community.

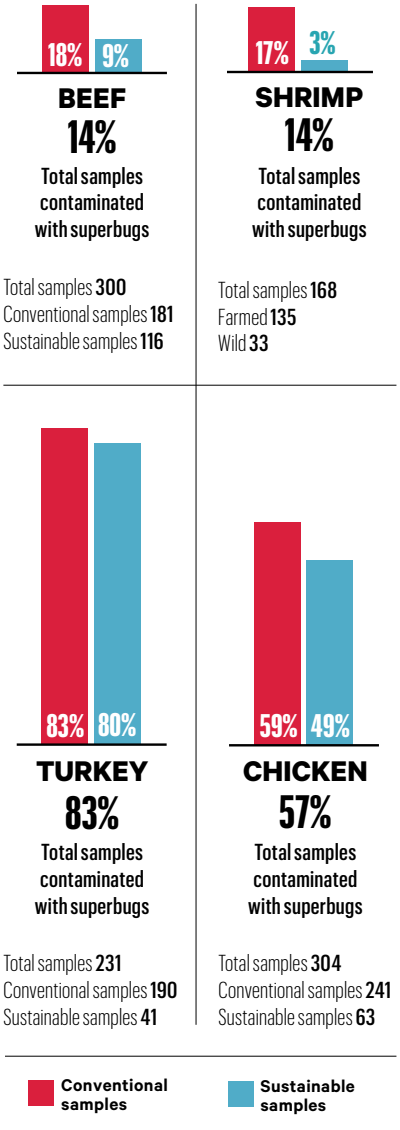
Government Loopholes

In 2013, the FDA announced a voluntary plan to change the way veterinary antibiotics are labeled and sold. The plan is voluntary, the FDA says, because "it is the fastest, most efficient way to make these changes." People need a prescription for antibiotics, but currently almost all of the drugs are available over the counter for use in food animals. By the end of 2016, though, the FDA's plan calls for requiring a veterinarian's approval before feeding animals antibiotics that are important in human medicine. And those drugs will no longer be labeled for use for growth promotion.

But that doesn't mean food producers will immediately cut back on antibiotics. Under the FDA plan, they can continue to use them by saying they're to prevent disease. "That's a pretty big loophole," says Laura Rogers, deputy director of the Antibiotic Resistance Action Center at George Washington University's Milken Institute School of Public Health. "In fact, it has the potential to make the FDA plan meaningless." What's more, producers are free to

Our Flawed Food Supply

Over the past three years, we've tested four types of meat for bacterial contamination. We found superbugs in all of them. And in most of our tests, we saw differences between meat raised conventionally and meat that was more sustainably produced, without antibiotics. The number and type of bacteria we tested for vary, so the results from one test can't be compared with those from another.



Funding for these projects was provided by The Pew Charitable Trusts. Any views expressed are those of Consumer Reports and its advocacy arm, Consumers Union, and do not necessarily reflect the views of the Pew Charitable Trusts.

‘Farming practices can profoundly affect the safety of our food.’

use other drugs to promote growth.

Indeed, for certain veterinary antibiotics, label directions—the dosages used and the way they are administered—for preventing disease are the same as those for promoting growth, according to a 2014 analysis by The Pew Charitable Trusts. What that means is that “the spigot of drugs can keep flowing,” says Rogers, who at the time of the study directed Pew’s campaign on human health and industrial farming.

Government actions have been “weak baby steps,” according to Price. “Until we take a stronger stand, we’re not leading the world in protecting important antibiotics,” he says. “We are just supporting an industry trying to maximize profits at the expense of causing drug-resistant infections in people.”

Progress on Poultry

If you’ve read the headlines about companies pledging to reduce antibiotic use over the past year, you might think that the marketplace is solving the problem, even without tough regulations. Last spring, for example, McDonald’s announced that it would move toward serving chicken raised without antibiotics important to human medicine within two years, Tyson said it would phase out those drugs in chicken, and Wal-Mart called on its vast chain of suppliers to adopt guidelines for “responsible use of antibiotics.” And in the fall, Subway pledged to stop all antibiotic use, starting with poultry but expanding to other animals within 10 years. But a closer look reveals a lot of wiggle room in the way some of those pledges are phrased. “When a company says it will stop selling or producing meat or poultry with antibiotics important in human medicine, it can mean they simply switch to using other drugs like ionophores for disease prevention,” Rangan says. “That can increase our exposure to bacteria because it

‘I look for “no antibiotics” labels.’

Her daughter, Ruby, had a bout with salmonella when she was just 10 months old, and that had a big effect on Melissa Lee’s grocery-shopping habits. “Before, I bought what was on sale or what looked good,” she says. “Now I look for no antibiotics and no hormones. What goes in our bodies makes a big difference.”

Meat-Label Lingo: What It Means and *Doesn’t* Mean

Shopping for “no antibiotics” meat and poultry can be confusing. Some of the labels can be misleading or opaque. To empower you while shopping, we have investigated the claims. For more label ratings, go to GreenerChoices.org/animalag.

No Antibiotics Used Routinely

ANIMAL WELFARE APPROVED No antibiotics are used for growth promotion or disease prevention. Sick animals can be treated with antibiotics. Animal welfare and hygiene practices are fully addressed.

CERTIFIED HUMANE No antibiotics are used for growth promotion or disease prevention. Some animal welfare and hygiene practices are addressed.

GAP STEPS 1-5+ (SOLD AT WHOLE FOODS) No antibiotics are used. Animal welfare and hygiene practices are addressed to varying degrees.

NO ANTIBIOTICS/RAISED WITHOUT ANTIBIOTICS The drugs aren’t used for any purpose. Similar claims: “no antibiotics administered,” “no antibiotics ever,” and “never given antibiotics.” Though those claims on their own are accurate, the ones accompanied by the USDA Process Verified shield are more reliable.

ORGANIC Animals can’t be given antibiotics. Sick animals treated with antibiotics can’t be labeled organic. The exception is chickens: They can be given antibiotics in the egg or on the day they hatch but not afterward.

Antibiotics May Be Used

AMERICAN HUMANE ASSOCIATION Neither animal nor human antibiotics are used for growth promotion, but both can be used for disease prevention. Some animal welfare and hygiene practices are addressed.

GRASSFED Don’t assume all grass-fed beef is raised without routine antibiotics; look for a no-antibiotic or organic label as well. Also, the American Grassfed Association seal means no antibiotics, and the claim is verified.

NATURAL/ALL NATURAL This has nothing to do with antibiotics, hormones, or other drugs, or how the animal was raised. In fact, “natural” on meat and poultry means only that it contains no artificial ingredients or added color and is only minimally processed.

NO HORMONES This doesn’t mean no antibiotics or other growth promotants. By law hormones can’t be used in poultry or hogs, so packages of meat from those animals with this claim are no different from those without it.

PHOTOGRAPH BY PETE STONE

allows animals to continue to be raised in conditions that promote the bugs' growth and spread." And, she adds, claims such as "sustainable" and "responsible antibiotic use" aren't regulated. Companies are free to define them as they see fit. "Moreover, some of these changes won't take place for many years."

Much of the progress in reducing antibiotic use has been in chicken, not in other animals. Certain chicken producers, including Perdue and Tyson Foods, have pledged to reduce their use of antibiotics and are already making changes. For example, Perdue says that 96 percent of its chickens are not given antibiotics used in human medicine; more than half receive no antibiotics ever. To achieve that, the company had to "relook at virtually everything," says Bruce Stewart-Brown, D.V.M., senior vice president of food safety, quality, and live production at Perdue. Changes include constructing cleaner hatcheries, using probiotics (which may help foster the growth of healthy bacteria) in the birds, and expanding the use of vaccinations to prevent disease.

Even when it comes to chickens, though, Rogers points out that not every pledge involves eliminating all antibiotics. "When people say, 'Good job, you're almost there,' I say, 'Whoa, we're so far from almost there,'" she says. "There's been a lot of 'me too' on chicken, but until it's verified to be raised without antibiotics and there is movement when it comes to turkey, pork, and beef, it's far from time to raise the victory flag."

"It's good that change is taking place, but it's moving too slowly," Rangan says. "Ideally not only would all meat be raised

LEARN

For parts one and two of this series, see the August and September 2015 issues of Consumer Reports. For our complete coverage—including videos—of America's Antibiotic Crisis, go to **ConsumerReports.org/superbugs**

Protections That Consumers Deserve and Should Demand

The changes recommended by the Food and Drug Administration to reduce antibiotic use in livestock and poultry, and the changes that certain players in the food industry have made, are good first steps, but government and industry must do more to create meaningful change. These are the steps Consumer Reports recommends.

THE GOVERNMENT SHOULD

Ban the routine use of antibiotics important to human medicine. The FDA has issued voluntary guidelines that phase out the use of these drugs for growth promotion but still allow their use for disease prevention with a veterinarian's approval. That leaves the door open to animals getting antibiotics routinely. At a minimum, the FDA should prohibit all uses of medically important antibiotics except for the responsible treatment of sick animals. Congress should pass the Preservation of Antibiotics for Medical Treatment Act to require the FDA to move in that direction, and state legislatures should establish similar requirements. Ideally, CR believes, no drugs should be given to healthy animals routinely.

Improve monitoring of antibiotic use. Right now, because of inadequate and untimely data, it's very difficult to measure how well programs to reduce the use of antibiotics are working—and it's impossible to identify problem areas. The FDA, working with the Department of Agriculture, should collect more detailed data from feed mills and veterinarians on the actual use of antibiotics in food animals—including the particular drug, animal species, and purpose for which the drug was used—and publicly release the data. Congress should pass the Delivering Antimicrobial Transparency in Animals Act or similar legislation that would make that mandatory.

Prohibit misleading labeling. The USDA requires producers making a no-antibiotics claim to submit paperwork that states that animals were raised without antibiotics. But the agency has approved some claims that imply "no antibiotics," when in fact they can still be used for disease prevention. One example, found on turkey, is "no antibiotics used for growth promotion" accompanied by the USDA Process Verified shield. The claim does not mean "no antibiotics," but the shield gives a false sense of credibility. The USDA should not approve such claims unless antibiotics are never used. The department should also address the misleading use of the "natural" label, which can be used on meat and poultry raised with antibiotics and other drugs.

THE FOOD INDUSTRY SHOULD

Implement more sustainable agriculture practices. The vast majority of animals are raised or finished in crowded, confined, and unsanitary conditions, where they are susceptible to disease outbreaks. Drug use in animal agriculture will be more likely to decline if changes are made to the way animals are raised.

Use clear and meaningful labels. Those such as the USDA Organic seal, or a true "no antibiotics" claim accompanied by a USDA Process Verified shield, are reliable because they are independently verified. Other labels, which either prohibit antibiotic use or allow antibiotics only for the treatment of sick animals, include Animal Welfare Approved, Global Animal Partnership, and American Grassfed. Companies should not use the "natural" label.

Offer consumers more sustainable options. Grocery stores and restaurants—large chains in particular—should phase out the sale of meat and poultry raised with the routine use of antibiotics and other drugs. They should use their purchasing power to encourage suppliers to raise animals in more humane and hygienic conditions.

‘Legislation is important.’

Before Ken Koehler got severely ill from ground beef tainted with antibiotic-resistant salmonella, he had never heard of antibiotic resistance. “I’ve gotten quite an education since,” he says. “The majority of antibiotics are used on healthy animals, and it’s creating strains of bacteria that are dangerous because most antibiotics won’t work against them. I support legislation to ban antibiotic use in healthy animals.”

without any routine antibiotics, but we also would raise animals for food differently. Crowded conditions and unsanitary practices on factory farms are a big part of what makes daily antibiotics and other drugs necessary in the first place.”

Consumers as Change-Makers

The biggest driver of change, the CDC’s Tauxe says, is likely to be consumer demand: “It comes down to millions of consumers making choices every day about what food to buy and the level of safety they want for their families.”

More than one-quarter of Americans report that they are buying meat and poultry raised without antibiotics more often than they did a year ago, according to a nationally representative survey of 1,008 adults from the Consumer Reports National Research Center in September 2015. Almost half said that they check products for a “no antibiotics” claim.

And it is becoming easier to find those products. The percentage of labels on meat and poultry packaging with claims about animals raised without antibiotics more than doubled between 2011 and 2014, according to a recent report from the market research firm Mintel. Meat and poultry sold at Whole Foods, for example, never comes from animals treated with antibiotics, but Consumer Reports’ shoppers have also found a wide selection of no-antibiotic products at chains across the U.S., including Giant, Hannaford, Publix, QFC, Ralphs, and Trader Joe’s.

But consumers don’t always know what they’re buying in their quest for no-antibiotic meat. “We also see quite a bit of confusion about what claims mean,” says Julia Gallo-Torres, a senior analyst at Mintel. The report found that one of the top factors people consider, for example, is whether a product is “all natural.” But that claim doesn’t indicate anything about how an animal is raised or whether drugs are used. Two reliable claims to look for: “organic” and “no antibiotics administered.” The box on page 45 defines the most common antibiotic-related claims on meat and poultry packaging.

Some argue that changing current farming practices to make antibiotics unnecessary would make meat prohibitively expensive for the average consumer to buy. But that assumption is not always true. A 1999 report from the National Research Council (the most recent data available) found that if all routine use of antibiotics were eliminated, the cost to consumers would be about $10 per year—around $14 in today’s dollars.

Farms in the U.S. and around the world are proving that it’s possible to raise all types of livestock without the excessive use of drugs. For example, Niman Ranch, one of the largest suppliers of sustainable meat in the U.S., eschews factory farming. Instead it relies on a network of more than 700 family ranchers and farmers that supply the company with meat raised according to its strict standards, which include never using antibiotics. “If your animals are living in a healthy environment—they are given enough space and not stressed—and you vaccinate them against routine diseases, then antibiotics aren’t needed,” says Paul Willis, a hog farmer who was one of the founders of Niman Ranch. Willis says that sick animals would still be treated with antibiotics, but their meat could not be sold under the Niman Ranch label. But he says that rarely happens. “We take care of our animals,” Willis says. “I haven’t had a really sick pig that needed antibiotics for years.”

Scandinavian countries are modeling how it can work on a large scale. For example, Denmark stopped the use of antibiotics for growth promotion in broiler chickens and pigs about 15 years ago without harming the animals’ health or the farmers’ incomes. And in 2009, the Netherlands, one of the world’s largest meat exporters, set a goal of halving the amount of antibiotics farmers use in four years; it met that goal a year early.

“Europe has no more disease in livestock that we have here. They haven’t seen a difference in animal growth,” Hansen adds. “That experience proves that it is possible to maintain a thriving agriculture industry using far less drugs.”

ACT

Share your infection story. Go to **SafePatientProject.org/share-your-story**

Learn when antibiotics are, and aren’t, needed. Go to **ConsumerHealthChoices.org/antibiotics**

Help stop the unnecessary use of antibiotics in raising animals for food. Go to **ConsumersUnion.org/animals-off-drugs**

Follow **@ConsumerReports** on Twitter and Facebook, and help us stop the spread of superbugs. **#SlamSuperbugs**

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