Issue Overview: Antibiotic resistance

By Bloomberg, adapted by Newsela staff on 10.06.16
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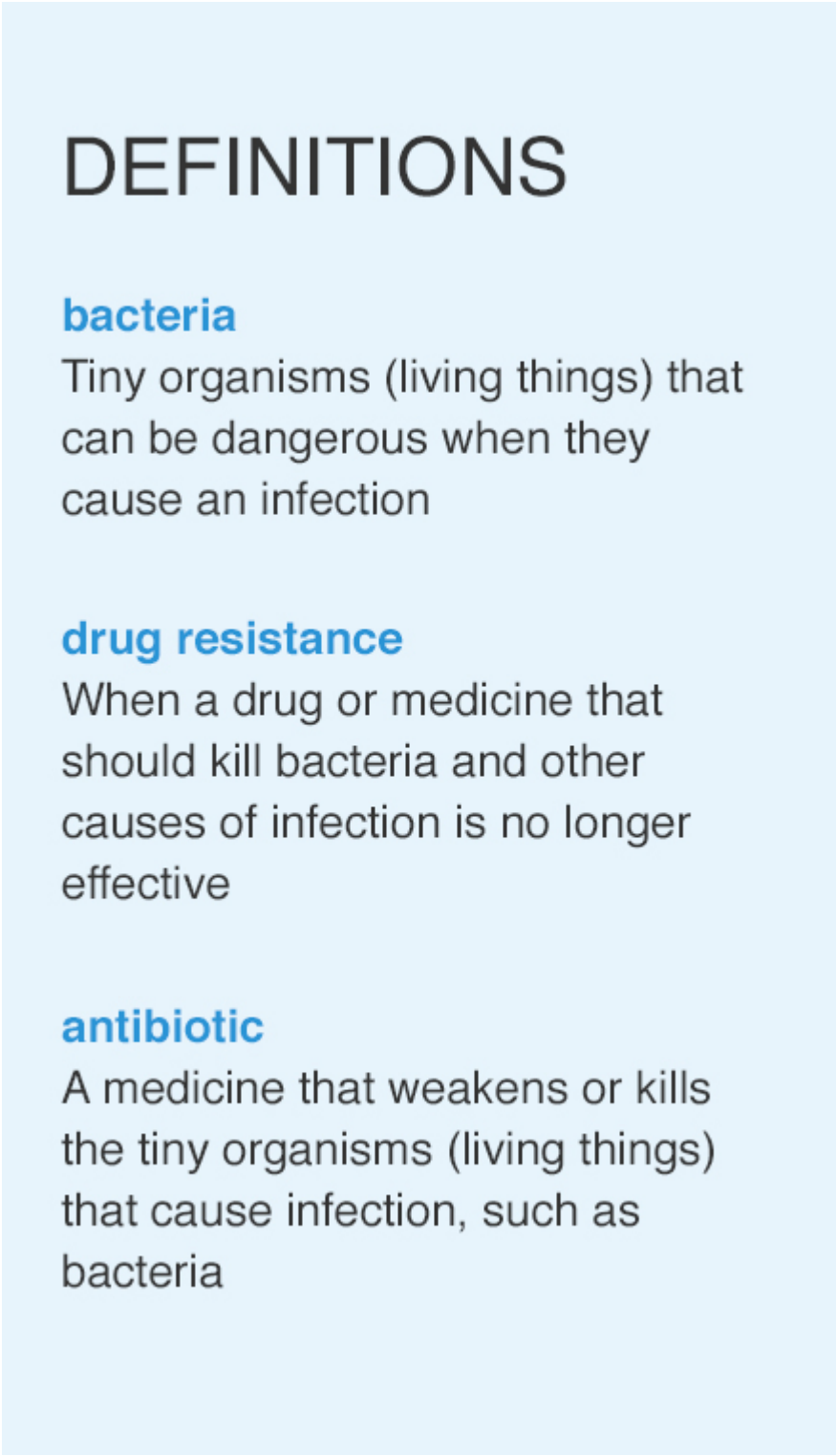
Level **960L**

TOP: Prescription antibiotics. MIDDLE: Graphic by the National Healthcare Safety Network, U.S. Center for Control and Prevention. BOTTOM: Graphic by Center for Drug Evaluation and Research, Centerwatch.



If the phrase “too much of a good thing” applies to anything, it surely applies to antibiotics. Their discovery was one of the most important medical advances of the last century. However, doctors worry that too many people are taking antibiotics, and they are becoming less effective as a result. This is known as drug resistance. There’s widespread agreement on the need to make new antibiotics and to discourage doctors from prescribing the drugs when they’re not needed. Another side of the issue is more controversial: about 80 percent of antibiotics in the U.S. are fed to farm animals.

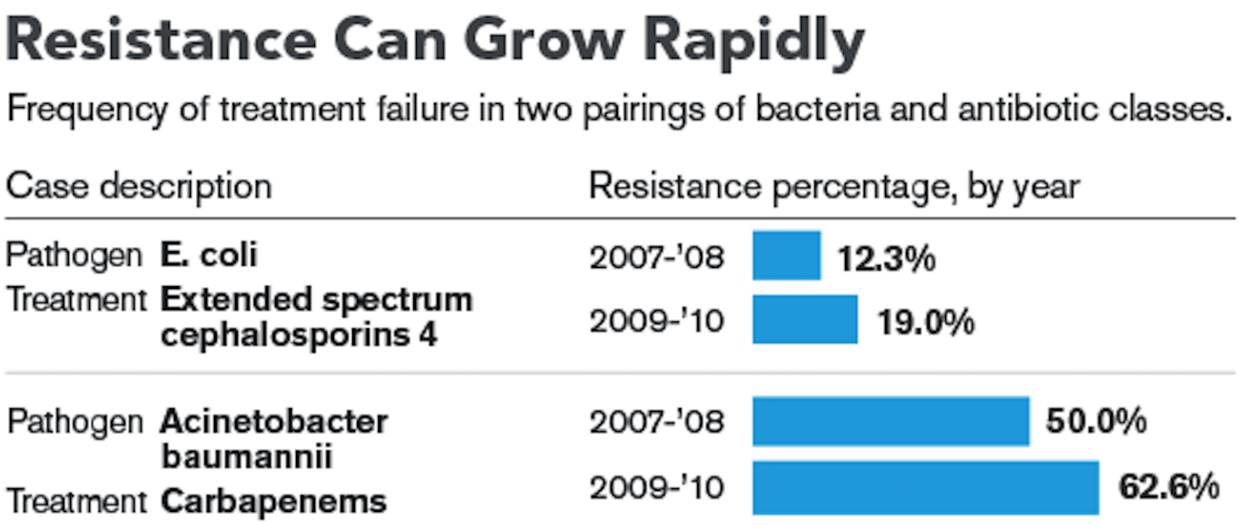
Scientists say using them to fatten livestock faster helps spread drug resistance. Meanwhile, an estimated 700,000 people a year die from drug-resistant infections, with millions more falling sick.

The Situation

In 2015, scientists discovered a new gene that weakens the strongest antibiotic drugs. Many believe the use of antibiotics on farms in China created the gene. It has allowed resistance to spread more quickly than ever. New health plans for farm animals in the U.S. now require written permission from a veterinarian before antibiotics can be given to animals. In 2006, the European Union (EU) banned giving the drugs to healthy animals. California did the same in 2015. Fast-food chains like Chipotle, Panera Bread and McDonald's have announced plans to use less meat from animals raised with antibiotics.

Between 2000 and 2010, the use of antibiotics around the world went up 36 percent. However, in more educated and wealthy countries, the use of antibiotics stayed the same or went down. Most of the growth was in poorer nations. There, antibiotics are often given as a substitute for public-health measures.

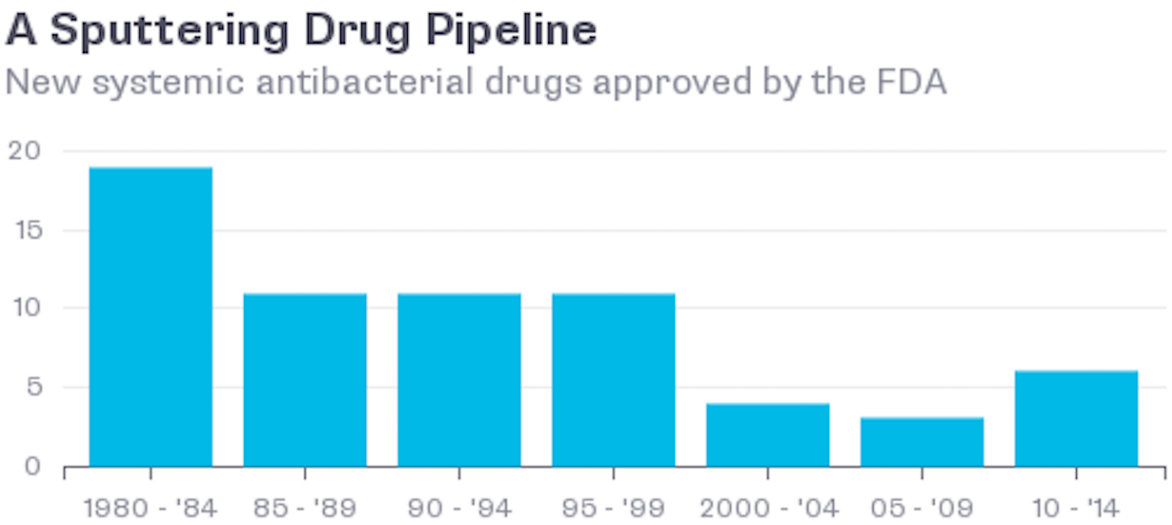
Another problem getting attention is the use of antibacterial hand cleaners. Some believe they may be contributing to antibiotic resistance.



The Background

Antibiotics kill bacteria and help sick people become healthy. But bacteria are always changing in ways that make them stronger than some antibiotics. As more antibiotics are given to patients, bacteria are becoming more resistant. Animals began getting antibiotics in 1946, when scientists noticed that chickens who were fed small amounts grew faster. The drugs soon became an important part of factory farming. On factory farms, animals live close together and disease spreads more quickly.

For more than 50 years, drug companies have defended giving antibiotics to animals. They argue that doing so does not affect drug resistance in humans. But now there is evidence that this is not true. Resistant bacteria can reach people through soil, air or water contaminated with animal waste and through eating animal products. Another problem is that antibiotics are becoming cheaper. People are taking more because they cost less, creating more drug resistance. Meanwhile, there are fewer and fewer large drug companies making new antibiotics.



The Argument

The U.S. government has a plan to reduce antibiotic use in livestock. It believes a voluntary relabeling plan will work faster than a simple ban. Industry groups such as the American Meat Institute support this voluntary approach. Other groups say the plan is an empty gesture. A 2013 study found that since farmers can still use antibiotics to prevent disease, nothing will change. In Europe, officials have seen some decline in antibiotic use since the 2006 ban. Denmark put a ban in place earlier and has seen a bigger drop. Farmers there learned that they needed to raise their animals in healthier conditions once they weren't getting a daily dose.

Quiz

1 Which sentence from the article BEST supports the article's main idea?

(A) However, in more educated and wealthy countries, the use of antibiotics stayed the same or went down.

(B) Animals began getting antibiotics in 1946, when scientists noticed that chickens who were fed small amounts grew faster.

(C) Resistant bacteria can reach people through soil, air or water contaminated with animal waste and through eating animal products.

(D) In Europe, officials have seen some decline in antibiotic use since the 2006 ban.

2 Which detail would be MOST important to include in a summary of the article?

(A) Fast-food chains have begun to use less meat raised with antibiotics.

(B) The gene that weakens strong antibiotics was created in farms in China.

(C) In 1946, scientists noticed that chickens who were fed small amounts of antibiotics grew faster.

(D) Industry groups and fast-food restaurants support the voluntary plan to reduce antibiotic use.

3 Which selection from the article is BEST illustrated by the graph "Resistance Can Grow Rapidly"?

(A) However, doctors worry that too many people are taking antibiotics, and they are becoming less effective as a result.

(B) Another side of the issue is more controversial: about 80 percent of antibiotics in the U.S. are fed to farm animals.

(C) Between 2000 and 2010, the use of antibiotics around the world went up 36 percent.

(D) A 2013 study found that since farmers can still use antibiotics to prevent disease, nothing will change.

4 Use the graph "A Sputtering Drug Pipeline" and the information in the article to select the MOST reasonable conclusion.

(A) Rising drug costs have caused drug companies to avoid developing new antibiotics.

(B) Fewer people died from antibiotic-resistant infections in the 1980s than they do now.

(C) The increase in FDA-approved antibiotics from 2010 to 2014 will help treat resistant infections.

(D) There are fewer antibacterial drugs being developed than there were 30 years ago.