

# Antibiotic-Resistant Bacteria Explained

Where superbugs come from and what can be done to combat them

**Antibiotic-resistant bacteria pose an urgent and growing public health threat.**



**Common bacteria**, such as those causing strep throat and urinary tract infections, are becoming **increasingly difficult to treat**.

Without effective antibiotics, even **simple infections could become deadly**, making medical procedures like surgery, chemotherapy, and dialysis too dangerous.

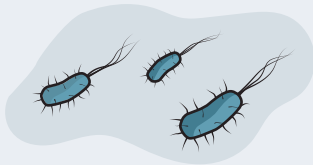
**2 million**

Americans get antibiotic-resistant infections every year.



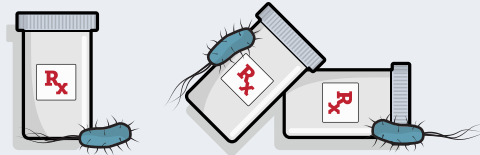
**More than 20,000 die as a result.**

## How do bacteria become resistant to antibiotics?



**Bacteria are constantly evolving** to beat the drugs used to fight them. As bacteria mutate, some develop the ability **to fight off different antibiotics** and survive to multiply and spread resistance.

Sooner or later, those **superbugs will evolve** to defeat every antibiotic on the pharmacy shelf, so **new drugs** to fight infections **will always be needed.**



## What is driving the rise in multidrug-resistant superbugs?

The more antibiotics are used, the less effective they become. Unnecessary and inappropriate use accelerates that process.

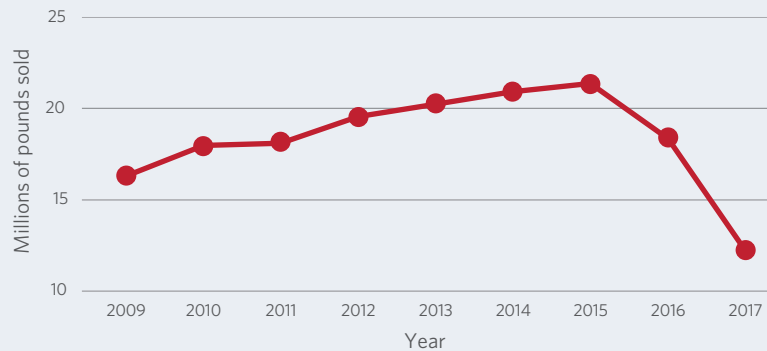


In human health care:

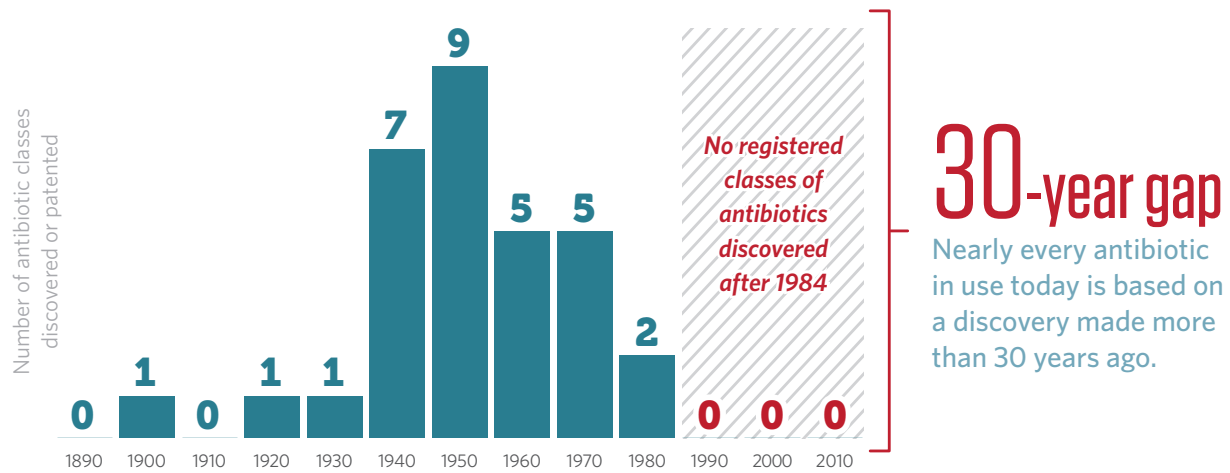
**1 in 3** antibiotic prescriptions written in doctors' offices, emergency rooms, and hospital-based clinics are **unnecessary**—this equals about **47 million prescriptions** each year.

On the farm:

**12** million pounds of antibiotics important to human medicine were **sold for use in food animals** in 2017.



Meanwhile, discovery of novel antibiotics is not keeping pace with the emergence of new superbugs.



## What can be done to combat antibiotic-resistant bacteria?

### Better stewardship for existing antibiotics

**Eliminate inappropriate use** of these lifesaving drugs in both humans and animals.



Reduce the need for antibiotics by using **alternative** and **nontraditional approaches** to disease treatment and prevention.

### Innovation to find new types of antibiotics

Support **targeted research** initiatives to overcome scientific challenges impeding the discovery of new antibiotics.

Address the complex barriers hindering the development of **new treatment options** for patients.



**Together, these efforts will help save antibiotics and protect the health of patients today and for generations to come.**



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*Editor's note: This was updated in Feb. 2019 to reflect the release of 2017 FDA sales data.*

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**For further information, please visit:**

[pewtrusts.org/antibiotic-resistance-project](http://pewtrusts.org/antibiotic-resistance-project)

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