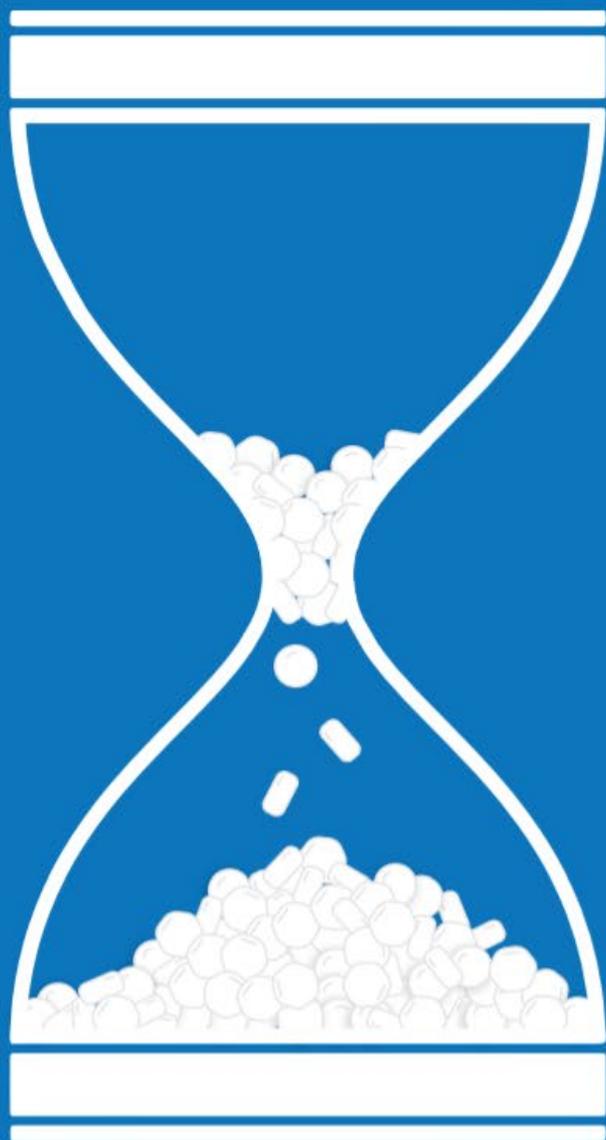


***SUPERBUGS:
ANTIBIOTIC
RESISTANT
WORLDWIDE KILLERS***
**INTERNATIONAL COLLEGE
OF DENTISTS**

Fellows Dr. John B. Tullner and Dr. Samuel Zwetchkenbaum

September 16, 2020



NO TIME TO WAIT:
SECURING THE FUTURE
FROM DRUG-RESISTANT
INFECTIONS

**REPORT TO THE
SECRETARY-GENERAL
OF THE UNITED NATIONS**

APRIL 2019

New report calls for urgent action to avert antimicrobial resistance crisis

International organizations unite on critical recommendations to combat drug-resistant infections and prevent staggering number of deaths each year

29 April 2019 | Joint News Release | New York

UN, international agencies and experts today released a [groundbreaking report](#) demanding immediate, coordinated and ambitious action to avert a potentially disastrous drug-resistance crisis.

If no action is taken - warns the [UN Ad hoc Interagency Coordinating Group on Antimicrobial Resistance](#) who released the report – drug-resistant diseases could cause 10 million deaths each year by 2050 and damage to the economy as catastrophic as the 2008-2009 global financial crisis. By 2030, antimicrobial resistance could force up to 24 million people into extreme poverty.

Currently, at least 700,000 people die each year due to drug-resistant diseases, including 230,000 people who die from multidrug-resistant tuberculosis. More and more common diseases, including respiratory tract infections, sexually transmitted infections and urinary tract infections, are untreatable; lifesaving medical procedures are becoming much riskier, and our food systems are increasingly precarious.

from the Washington Post:

[Health](#)

The superbug that doctors have been dreading just reached the U.S.

Here's how scientists discovered the antibiotic-resistant superbug

1:08 / 2:02

Here's how scientists discovered the antibiotic-resistant superbug (Monica Akhtar, Lena Sun/The Washington Post)

By

[Lena H. Sun](#) and

[Brady Dennis](#)

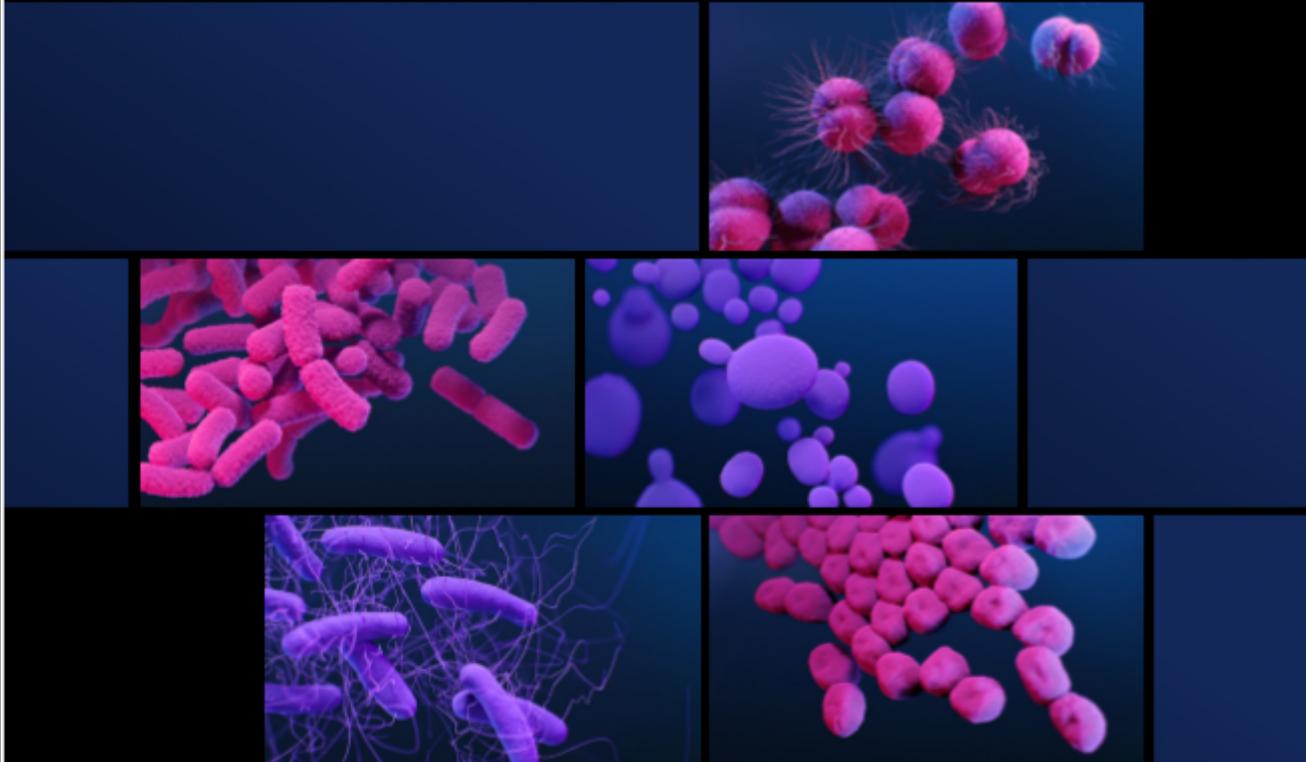
May 27, 2016 at 1:50 p.m. EDT

For the first time, researchers have found a person in the United States carrying bacteria resistant to antibiotics of last resort, an alarming development that the top U.S. public health official says could mean “the end of the road” for antibiotics.

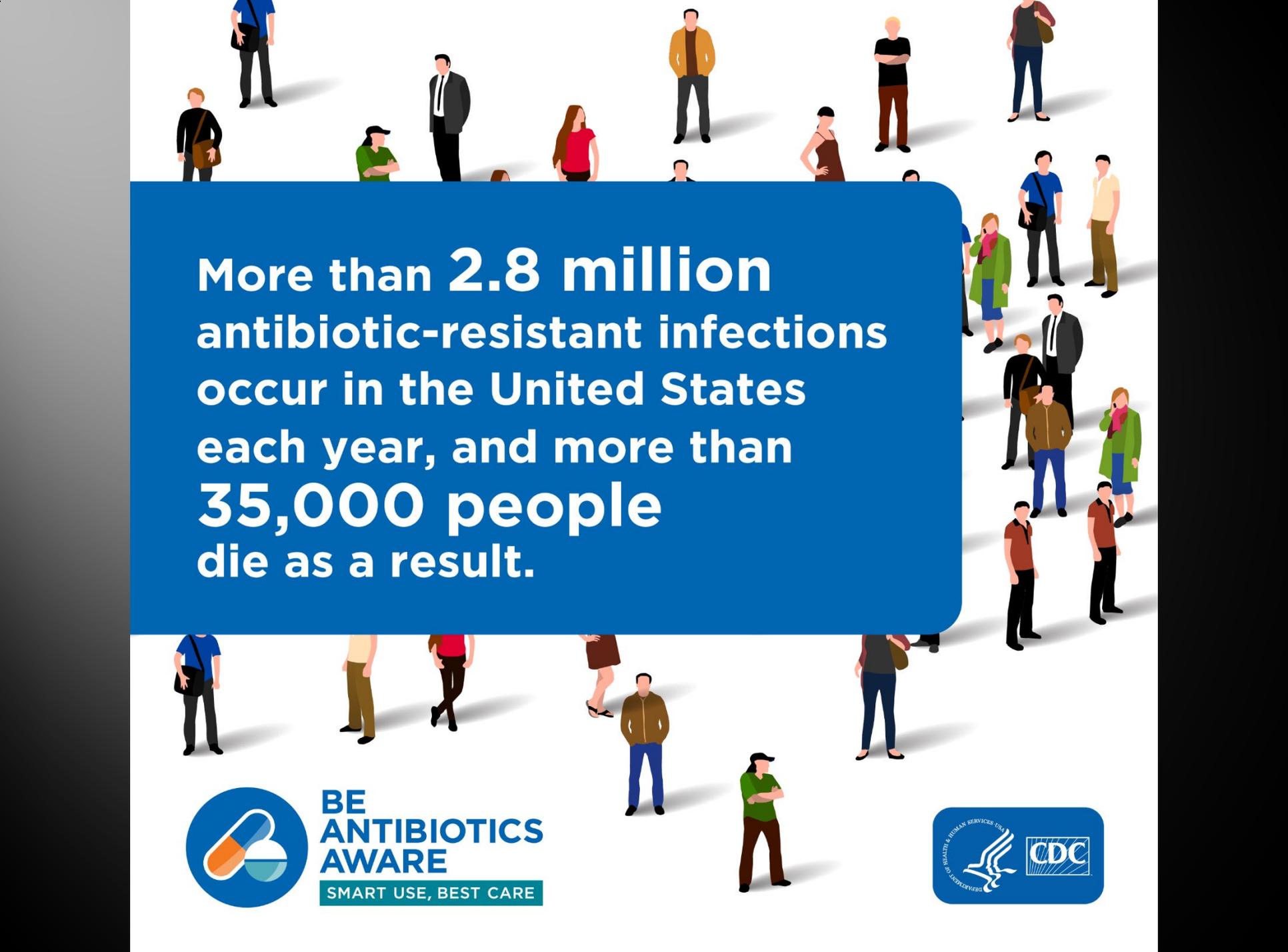
The antibiotic-resistant strain was found last month in the urine of a 49-year-old Pennsylvania woman. Defense Department researchers determined that she carried a strain of *E. coli* resistant to the antibiotic colistin, according to a study [published Thursday](#) in *Antimicrobial Agents and Chemotherapy*.

ANTIBIOTIC RESISTANCE THREATS IN THE UNITED STATES

2019



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention



More than **2.8 million**
antibiotic-resistant infections
occur in the United States
each year, and more than
35,000 people
die as a result.



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SMART USE, BEST CARE





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Get Smart About Antibiotics

A Global Public Health Initiative



DEFINITION

Antibiotic resistance is a critical issue to public health systems worldwide. Because of it, infections that were once easily treated with antibiotics are becoming more dangerous, causing treatment failure, prolonged suffering, or even death. The International College of Dentists formed a partnership with the Centers for Disease

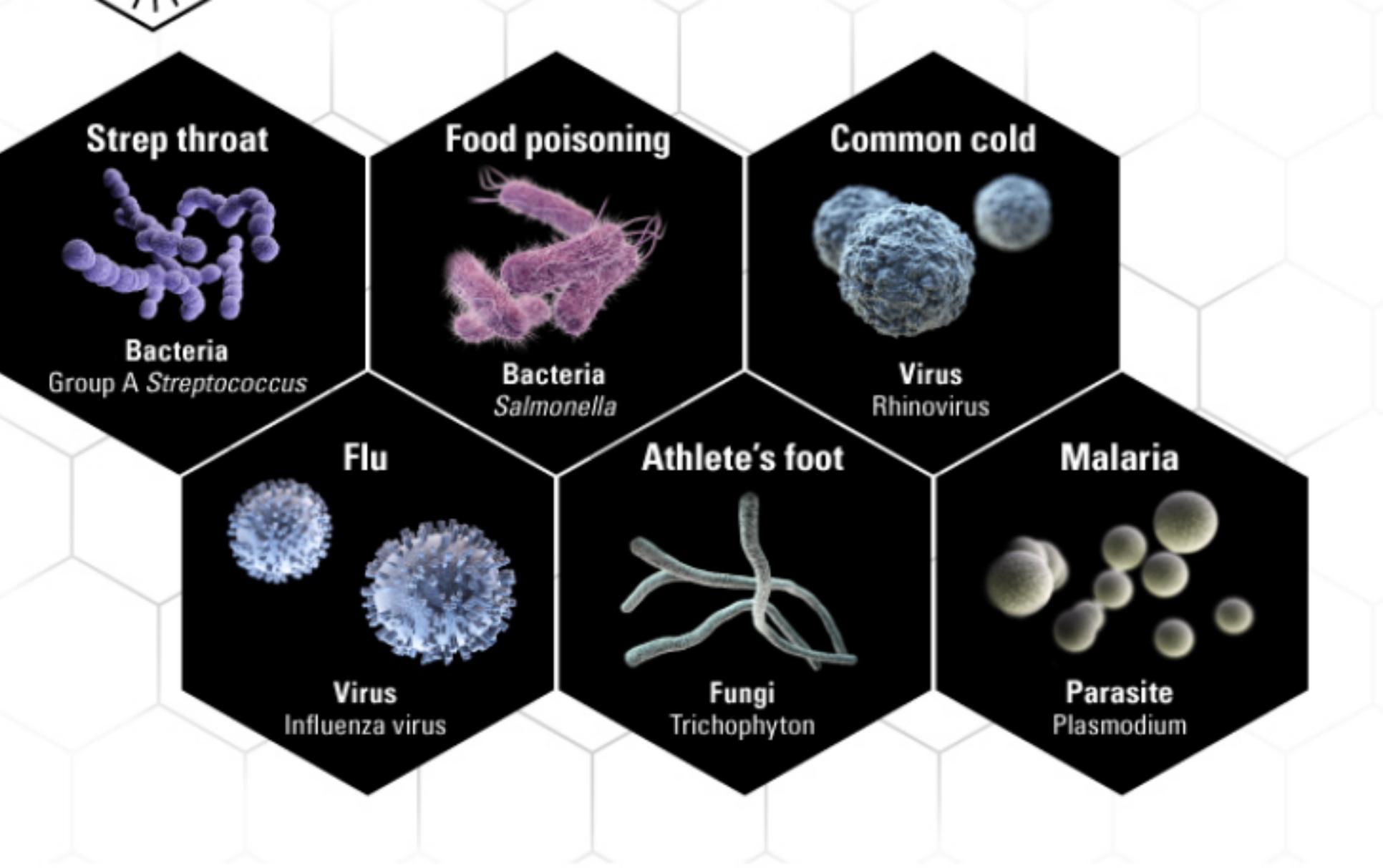
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ANTIBIOTIC RESISTANCE

*RESISTANT TO
BACTERIA ONLY*

ANTIMICROBIAL RESISTANCE

*RESISTANT TO BACTERIA +
VIRUSES, FUNGI*



Resistance Happens and Spreads

ANTIBIOTIC RESISTANCE THE GLOBAL THREAT

Antibiotic resistance – *when bacteria change and cause antibiotics to fail* – is happening **RIGHT NOW**, across the world

The full impact is unknown. There is no system in place to track antibiotic resistance globally



Without urgent action, many modern medicines could become obsolete, turning even common infections into deadly threats.

A GROWING CRISIS WORLDWIDE

Antimicrobial resistance

- [Antimicrobial resistance](#)
- [Global action plan on AMR](#)
- [Monitoring and evaluation](#)
- [Awareness and education](#)
- [Global surveillance](#)
- [Infection, prevention and control](#)
- [Optimise use](#)
- [R&D and investment](#)
- [National action plans](#)
- [UN Interagency Coordination Group on AMR \(IACG\)](#)
- [Resources and publications](#)

Global action plan on antimicrobial resistance



At the Sixty-eight World Health Assembly in May 2015, the World Health Assembly endorsed a global action plan to tackle antimicrobial resistance, including antibiotic resistance, the most urgent drug resistance trend.

Antimicrobial resistance is occurring everywhere in the world, compromising our

Global action plan



Global action plan on antimicrobial resistance

Global action plan on AMR - WHO

The goal of the draft **global action plan** is to ensure, for as long as possible, continuity of successful treatment and prevention of infectious diseases with effective and safe medicines that are quality-assured, used in a responsible way, and accessible to all who need them.

6

SMART FACTS ABOUT ANTIBIOTIC USE



Antibiotics are **LIFE-SAVING** drugs and should only be used when needed



Antibiotics only treat **BACTERIAL** infections



Some ear infections and many sinus infections **CAN GET BETTER** without antibiotics.



Antibiotics **DO NOT** help most sore throats



Green colored mucus is **NOT** a sign that an antibiotic is needed



There are **RISKS** when taking any medication

Talk to your healthcare provider about when and how to safely use antibiotics

www.cdc.gov/antibiotic-use

Improve Antibiotic Use to Combat Antibiotic Resistance



70% of antibiotic prescriptions are likely necessary.
(But we still need to improve drug selection, dose and duration)



At least **30%** of antibiotic prescriptions are unnecessary.

In U.S. Doctor's Offices and Emergency Departments

Goal: By 2020, reduce inappropriate outpatient antibiotic use by **50%** ↓

CDC is working to reduce unnecessary antibiotic use

White House National Action Plan to Combat Antibiotic-Resistant Bacteria (CARB)

www.cdc.gov/antibiotic-use

Centers for Disease Control and Prevention (2012).
Fleming-Dutra, K et al. Prevalence of inappropriate antibiotic prescriptions among US ambulatory care visits, 2010–2011.
Journal of the American Medical Association. May 2016.



Common side effects with antibiotics

include:

Mild skin rash or other allergic reactions

Soft stools, short-term diarrhea

Upset stomach, nausea

Loss of appetite

Fungal (yeast) vaginal infections or oral thrush

More severe antibiotic side effects

include:

Severe allergic reaction that results in difficulty breathing, facial swelling (lips, tongue, throat, face)

Severe watery or bloody diarrhea;

Clostridium difficile infection

Stomach cramps

Yeast infections in the mouth or vagina (white discharge and severe itching in the vagina or mouth sores or white patches in your mouth or on your tongue)

9 OUT OF 10

patients who think they have a penicillin allergy are not truly allergic



Knowing your allergy status prevents the spread of superbugs and helps you get the best care. Talk to your healthcare provider if you think you have a penicillin allergy.



Can I feel better without antibiotics?



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SMART USE, BEST CARE

Respiratory viruses usually go away in a week or two without treatment. To stay healthy and keep others healthy, you can:



Clean Hands



Cover Coughs



Stay Home When Sick

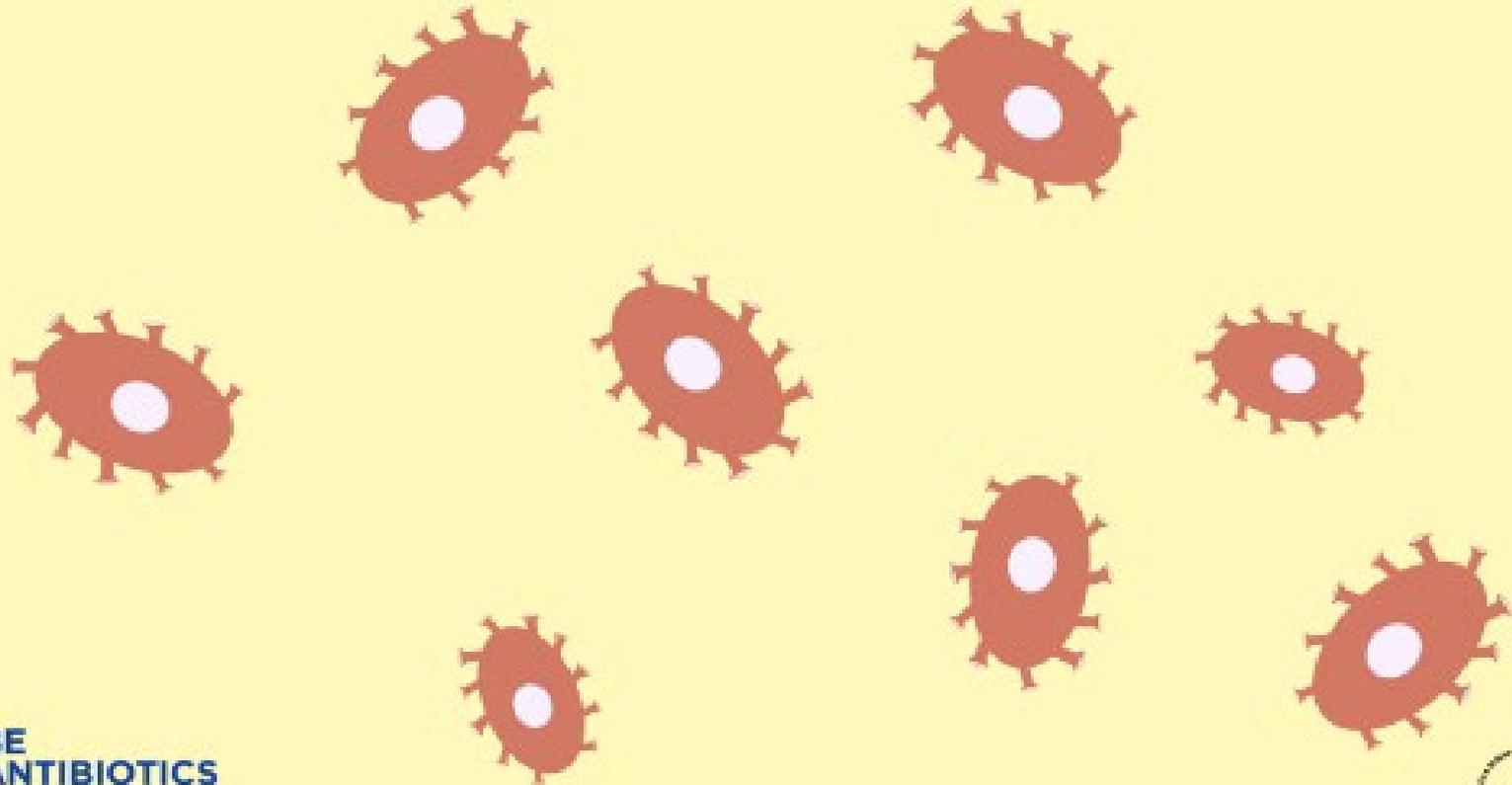


Get Recommended
Vaccines

To learn more about antibiotic prescribing and use, visit www.cdc.gov/antibiotic-use.

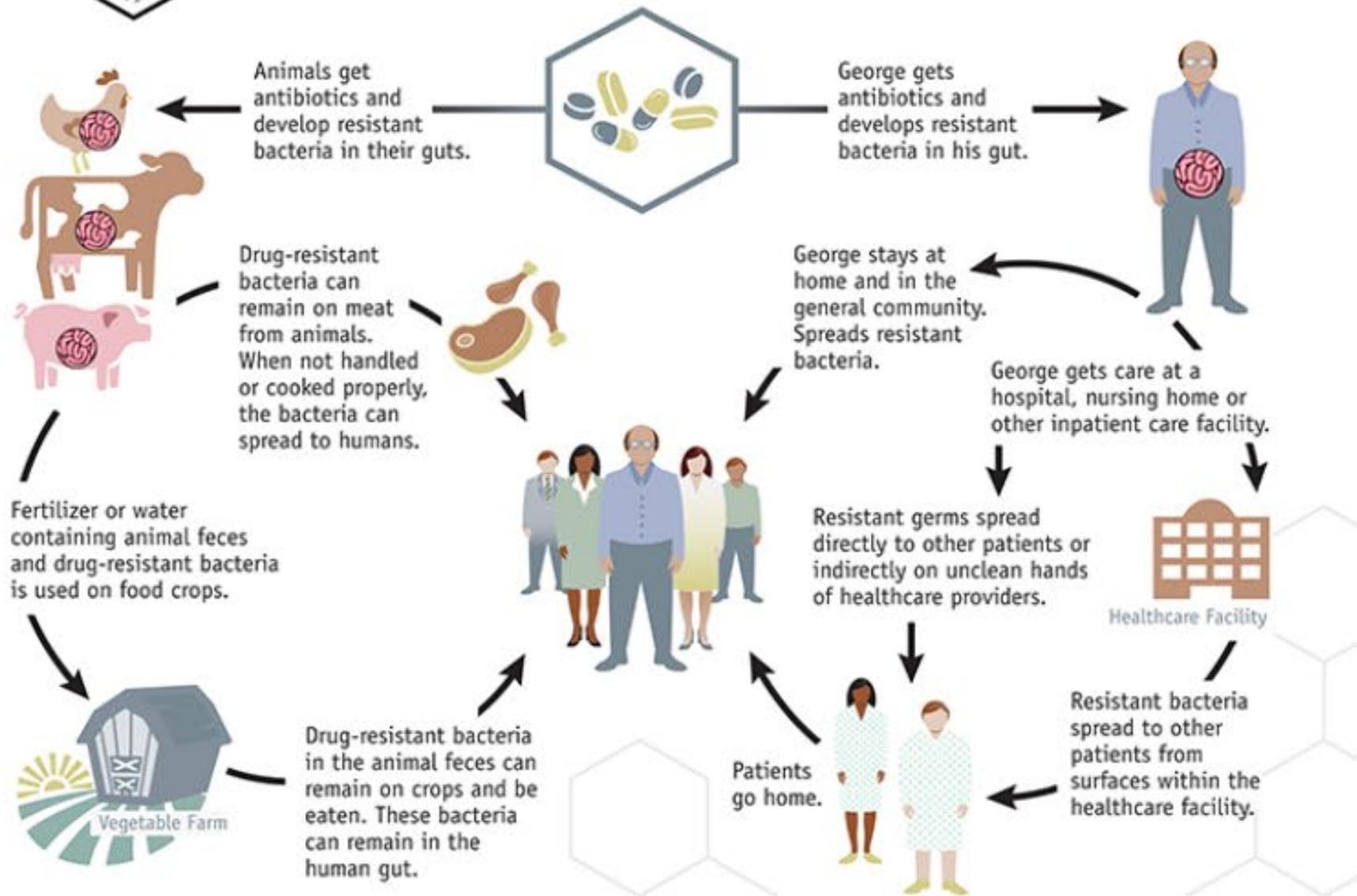


ANTIBIOTIC RESISTANCE





Examples of How Antibiotic Resistance Spreads



Simply using antibiotics creates resistance. These drugs should only be used to treat infections.



**BE
ANTIBIOTICS
AWARE**

SMART USE, BEST CARE

**Hand hygiene and other
infection prevention
measures are important
for every patient.**



Seven Ways Dentists can Act Against Antibiotic Resistance



Dental providers are uniquely positioned to play a role in preventing the spread of antibiotic resistance. Here are seven simple “how-tos” for safe, appropriate antibiotic prescribing and use when treating dental infections.



1

MAKE an accurate diagnosis.

2



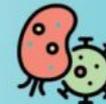
When prescribing an antibiotic, **CHOOSE** the right drug for the right dose and duration.

3



USE narrow-spectrum antibiotics for simple infections and preserve broad-spectrum drugs for more complex infections.

4



AVOID prescribing antibiotics for viral infections.

6

KNOW the side effects and drug interactions of an antibiotic before prescribing.



5

For empiric treatment, **REVISE** treatment regimen based on patient progress and/or test results.



7



TEACH your patients about appropriate antibiotic use and emphasize the importance of taking antibiotics exactly as directed.



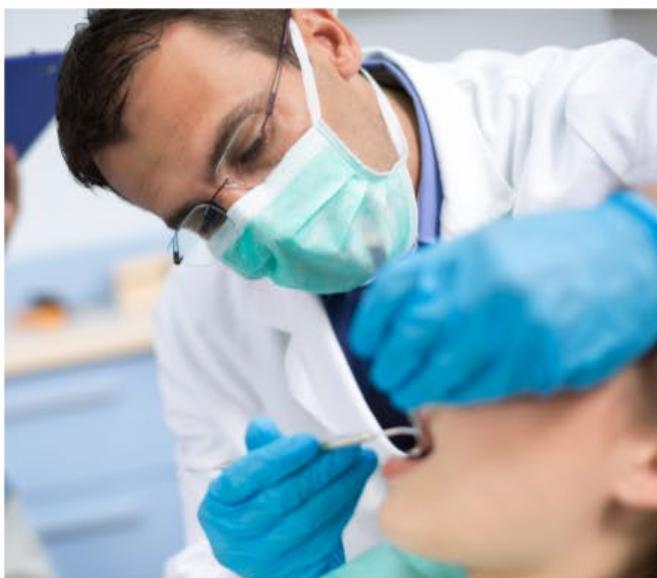
Centers for Disease Control and Prevention
National Center for Emerging and Zoonotic Infectious Diseases

To learn more:
<https://www.cdc.gov/getsmart/community/materials-references/print-materials/hcp/>

Antibiotic Safety: Do's and Don'ts at the Dentist

Do

- ✓ **DO** tell your dentist if you have any drug allergies or medical conditions.
- ✓ **DO** tell your dentist about any medications, vitamins, or herbal
- ✓ **DO** ask how some mouth infections can be treated without antibiotics.
- ✓ **DO** take your antibiotics exactly as prescribed.
- ✓ **DO** tell your dentist if you have side effects, such as frequent diarrhea, while taking, or shortly after stopping antibiotics.



DO NOT

- X **DO NOT** skip doses or stop taking your antibiotics without consulting your dentist.
- X **DO NOT** save unused antibiotics for future use or give antibiotics to others.
- X **DO NOT** take antibiotics prescribed for others.
- X **DO NOT** pressure your dentist to prescribe an antibiotic. Instead, ask your dentist how you can feel better even if antibiotics are not prescribed.

To learn more about antibiotic prescribing and use, visit www.cdc.gov/antibiotic-use/.



World Antimicrobial Awareness Week 2020

Share to Email Share to Facebook Share to
Twitter Share to More

World Antimicrobial Awareness Week
(WAAW) aims to increase awareness of
global antimicrobial resistance (AMR) and to
encourage best practices among the general
public, health workers and policy makers to
avoid the further emergence and spread of
drug-resistant infections.

 U.S. Antibiotic Awareness Week

Get Involved

Be Antibiotics Aware Partner
Toolkit

 Get Email Updates

To receive email updates about
this page, enter your email
address:

Get Involved

USAAW is an annual observance that highlights the steps everyone can take to improve antibiotic prescribing and use.

U.S. Antibiotic Awareness Week is November 18-24, 2020.

Antibiotics save lives and are critical tools for treating a number of common and lead to sepsis. However, at least 30% of the antibiotics in U.S. outpatient settings antibiotics are used, they can cause side effects and lead to antibiotic resistance, public's health.

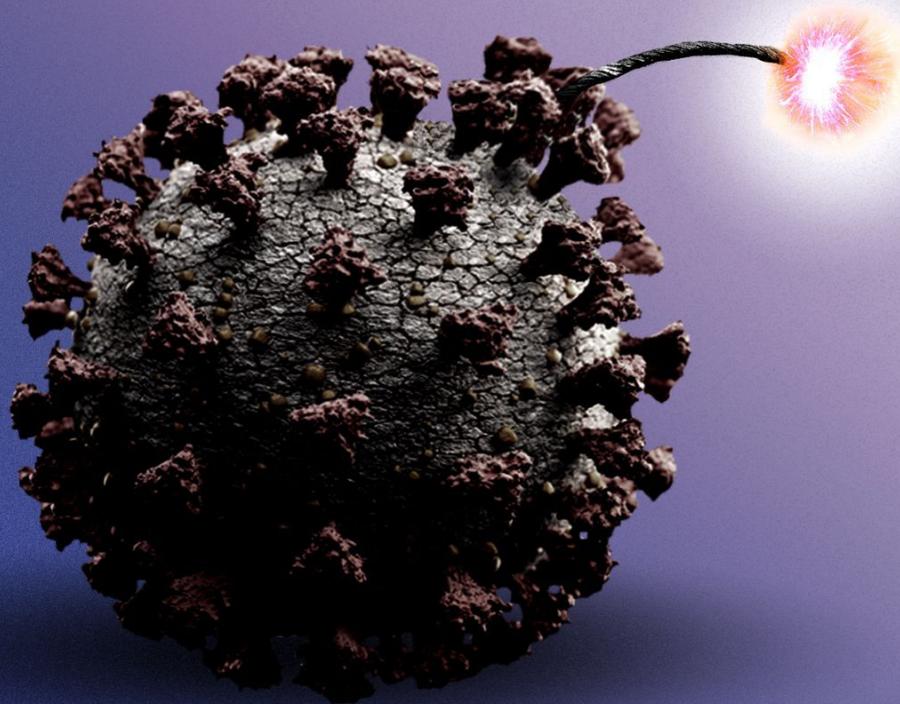
Antibiotic resistance happens when bacteria develop the ability to defeat the drug. In the United States, more than 2.8 million infections from bacteria that are resistant to

from the London Telegraph 7/9/20

Exclusive: Coronavirus could fuel a superbugs timebomb

Former chief medical officer urges hospitals to avoid over-using antibiotics to stop patients from catching secondary infections

By Bill Gardner 9 July 2020 • 9:30pm



In her first major intervention during the virus pandemic, Dame Sally Davies urged hospitals to avoid over-using antibiotic drugs while attempting to prevent coronavirus patients from catching secondary infections.

Antimicrobial resistance – where antibiotics no longer work for some serious infections – already poses a greater threat to humanity than coronavirus, Dame Sally warned.



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ANTIBIOTIC RESISTANCE**

**"ANTIBIOTIC RESISTANCE IS A
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Take the CE Course for 1 Hour of Free Credit:
www.icd.org/get-smart-about-antibiotics



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