SUPERBUGS:  
ANTIBIOTIC RESISTANT WORLDWIDE KILLERS  
INTERNATIONAL COLLEGE OF DENTISTS  

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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


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
ANTIBIOTIC RESISTANCE THREATS IN THE UNITED STATES 2019
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.
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
ANTIBIOTIC RESISTANCE
RESISTANT TO BACTERIA ONLY

ANTIMICROBIAL RESISTANCE
RESISTANT TO BACTERIA + VIRUSES, FUNGI
Strep throat
Bacteria
Group A Streptococcus

Food poisoning
Bacteria
Salmonella

Common cold
Virus
Rhinovirus

Flu
Virus
Influenza virus

Athlete’s foot
Fungi
Trichophyton

Malaria
Parasite
Plasmodium

Drug 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
At the Sixty-eighth 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 ability to treat many bacterial diseases.

Global action plan on antimicrobial resistance

UN Interagency Coordination Group on AMR (IACG)

Resources and publications
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

1. Antibiotics are LIFE-SAVING drugs and should only be used when needed.
2. Antibiotics only treat BACTERIAL infections.
3. Some ear infections and many sinus infections CAN GET BETTER without antibiotics.
4. Antibiotics DO NOT help most sore throats.
5. Green colored mucus is NOT a sign that an antibiotic is needed.
6. 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

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?

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](http://www.cdc.gov/antibiotic-use).
ANTIBIOTIC RESISTANCE
Examples of How Antibiotic Resistance Spreads

Animals get antibiotics and develop resistant bacteria in their guts.

Drug-resistant bacteria can remain on meat from animals. When not handled or cooked properly, the bacteria can spread to humans.

Drug-resistant bacteria in the animal feces can remain on crops and be eaten. These bacteria can remain in the human gut.

Fertilizer or water containing animal feces and drug-resistant bacteria is used on food crops.

Drug-resistant bacteria can remain on meat from animals. When not handled or cooked properly, the bacteria can spread to humans.

George gets antibiotics and develops resistant bacteria in his gut.

George stays at home and in the general community. Spreads resistant bacteria.

Resistant germs spread directly to other patients or indirectly on unclean hands of healthcare providers.

Patients go home.

Drug-resistant bacteria in the animal feces can remain on crops and be eaten. These bacteria can remain in the human gut.

George gets care at a hospital, nursing home or other inpatient care facility.

Resistant bacteria spread to other patients from surfaces within the healthcare facility.

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

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

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

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

To learn more: https://www.cdc.gov/gramnegativecommunity/materials-reference/print-materials/hqbp/
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**
- **DO NOT** skip doses or stop taking your antibiotics without consulting your dentist.
- **DO NOT** save unused antibiotics for future use or give antibiotics to others.
- **DO NOT** take antibiotics prescribed for others.
- **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/](http://www.cdc.gov/antibiotic-use/).
World Antimicrobial Awareness Week 2020

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.
Get Involved

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


Antibiotics save lives and are critical tools for treating a number of common and serious infections. However, at least 30% of the antibiotics in U.S. outpatient settings are unnecessary and are used to treat viral infections, which are not responsive to antibiotics. When antibiotics are used, they can cause side effects and lead to antibiotic resistance, which can compromise public health.

Antibiotic resistance happens when bacteria develop the ability to defeat the drugs used to treat those infections. In the United States, more than 2.8 million infections from bacteria that are resistant to one or more antibiotics occur each year.
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.
GET A GRIP ON ANTIBIOTIC RESISTANCE

“ANTIBIOTIC RESISTANCE IS A WORLDWIDE CRISIS”

Take the CE Course for 1 Hour of Free Credit:
www.icd.org/get-smart-about-antibiotics

BE ANTIBIOTICS AWARE
SMART USE, BEST CARE