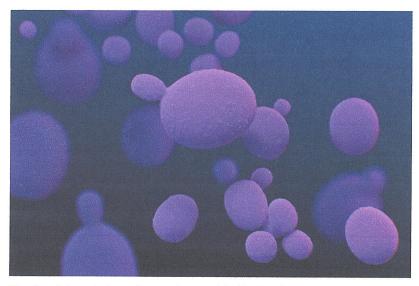
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HEALTH

Superbugs Toll Worse Than Thought, CDC Says

Antibiotic-resistant bacteria and fungi have spread beyond hospitals, complicating medical care, new CDC report says



The Candida auris, in an Illustration provided by the CDC, is listed as one of five 'urgent threats.' PHOTO: CDC

By Betsy McKay

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Drug-resistant bacteria and fungi, along with heavy use of antibiotics, fuel nearly 3.1 million infections with 48,700 deaths every year in the U.S., according to a new federal report warning that the toll from so-called superbugs is greater than previously known.

The findings from the Centers for Disease Control and Prevention, based on data from millions of patient electronic health records and other sources, provide an update to a 2013 report in which the public health agency sounded an alarm about the dangers of these bugs, some of which are resistant to many or most antibiotics intended to destroy them.

Antibiotic-resistant bacteria and fungi, once a threat confined mostly in hospitals, are spreading more aggressively now in other health-care facilities and communities, the CDC warned. Doctors struggle regularly to find antibiotics that will effectively treat their patients, or to operate on or provide cancer care to patients at risk of infection.

"Our nation must stop referring to a coming post-antibiotic era—it's already here," CDC director Robert Redfield said in an introductory letter to the report, which was released Wednesday.

The report identified 18 bacteria and fungi of concern. In addition, new bugs are emerging rapidly, the CDC said. It included a "watch list" of pathogens identified elsewhere in the world that it is keeping an eye on, such as a drug-resistant form of *Bordetella pertussis*, bacteria that cause whooping cough.

"The problem of antibiotic resistance is worse than we previously thought," said Michael Craig, the CDC's senior adviser for antibiotic resistance. Someone in the U.S. develops an antibiotic resistant infection every 11 seconds, and someone dies every 15 minutes, he said in an interview.

The new estimates include 223,900 cases, including 12,800 deaths a year from *Clostridioides difficile* bacteria. While those bacteria aren't drug-resistant, infections with them are fueled by use of antibiotics.

There is some good news, Mr. Craig said. The number of annual deaths from drug-resistant bacteria and fungi has declined 18% since 2013, excluding the deaths from *C. difficile*. That improvement is due largely to steps that hospitals have taken to prevent the spread of drug-resistant bugs, he said. Now, 84% of U.S. hospitals have a program in place to use antibiotics more judiciously, following CDC guidelines, according to the report.

Still, Mr. Craig said, more dangerous bugs are spreading outside hospitals. They include drug-resistant gonorrhea and urinary-tract infections caused by bacteria with enzymes, called extended-spectrum beta-lactamases, or ESBLS, that break down and destroy many common antibiotics, including penicillin.

Urinary-tract infections caused by those bacteria can be life-threatening, Mr. Craig said.

New pathogens are also making their way to the U.S. A drug-resistant pathogen called *Candida auris*, first identified in Asia in 2009, has quickly spread around the world, causing lifethreatening infections, the report noted, listing it as one of five "urgent threats."

The CDC is monitoring for similar emerging bugs, Mr. Craig said.

Infectious-disease experts said they hope the report will help the public understand the extent



A drug-resistant form of the Aspergillus fumigatus fungus is on a watch list of bugs that could become major disease threats. **PHOTO:** CDC

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to which antibiotic resistance is currently complicating medical care for patients.

"The fact of the matter is that it's a massive problem now," said Cornelius Clancy, director of the mycology program and Extensively Drug Resistant Pathogen Laboratory at the University of Pittsburgh School of Medicine. Patients who are colonized with drug-resistant bacteria sometimes cannot be given transplants or undergo other procedures due to the risk they will develop a deadly infection, he said.

"It undermines large chunks of modern medical practice," he said.

More needs to be done to stimulate research and development of new antibiotics, the report said. Most major drug companies have scaled back or cut antibiotic research over the past three decades, it said. Antibiotics are expensive to develop, and manufacturers aren't guaranteed that they will recoup their investments, given that some antibiotics are used sparingly to prevent widespread resistance from developing.

There are 42 new antibiotics in development, according to a recent issue brief from the Pew Charitable Trusts, which studies rising antibiotic resistance and drug development. Most are from small companies. More new drugs are needed, the organization said, because bacteria develop resistance quickly to drugs, and some won't make it through regulatory approval.