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'Superbugs' on the rise, new CDC report says

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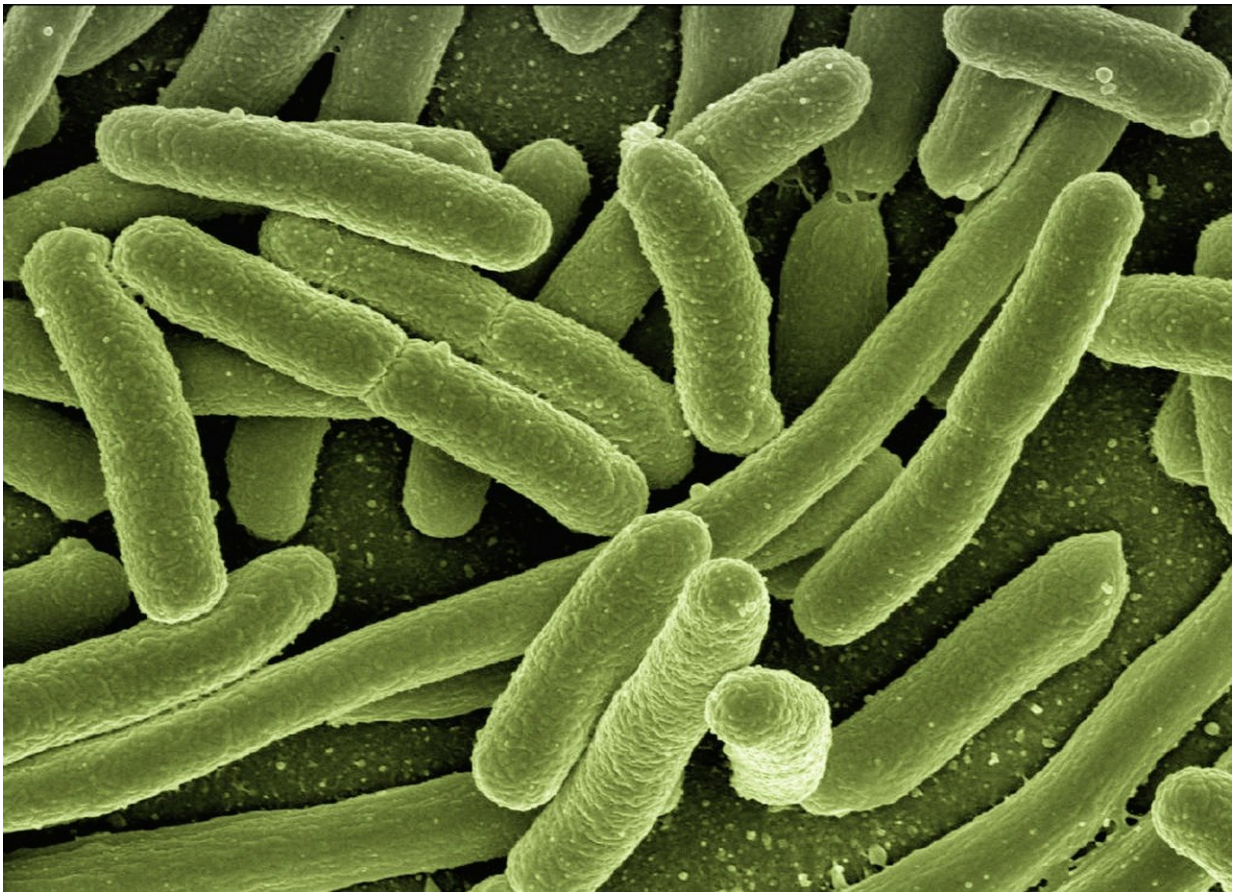

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Six years after a federal government warning that lifesaving antibiotics were losing their punch, a new update Wednesday revealed that the problem of antibiotic-resistant infections is, by some measures, getting

worse.

More than 2.8 million people become infected with drug-resistant bacteria and fungi each year, and at least 35,900 die as a result, the U.S. Centers for Disease Control and Prevention said.

The original 2013 report estimated the annual death total at 23,000, though the agency says that earlier number was a significant underestimate and that the actual number of deaths likely has declined—in part due to hospital efforts to use the drugs more judiciously.

Yet the overall number of infections appears to be on the rise. And outside the hospital setting, the impacts from certain infections have grown indisputably worse, agency officials said.

For example, more than half a million drug-resistant gonorrhea infections occur each year, double the number reported in 2013. Half of all such infections are resistant to at least one antibiotic, and the consequences can be severe. Gonorrhea infections can contribute to infertility in women, and they raise the risk of HIV infections, especially in men.

"Antibiotic resistance remains a significant enemy," CDC director Robert R. Redfield said in a media conference call. "We must remain vigilant."

Hospitals have tackled the problem by prescribing fewer antibiotics, avoiding them in cases where there is no clear benefit. Hygiene and vaccines also have helped.

Research to develop new drugs is needed, as no new class of antibiotics has been developed in decades, agency officials said. Continued funds

for surveillance by state and municipal health departments also is crucial, Redfield and colleagues said.

CDC officials said patients can help, too, by listening to their physicians' advice to steer clear of the drugs when not needed. (Physicians have been known to succumb to the pleas of patients with flu-like symptoms and other respiratory ailments, even though antibiotics do nothing to combat the flu.)

Bacteria can develop resistance even when antibiotics are used appropriately. Every time such a drug is used, a handful of the target bacteria may survive by employing some sort of natural defense mechanism, such as flushing out the drugs through channels in their cell walls.

These resisters then have the potential to reproduce and multiply. What's more, their successful recipes for fighting of drugs are encoded in their DNA and can be shared with other microbial species.

The new CDC numbers, including the upward revisions to the 2013 estimates, were made possible by an analysis of electronic medical records that were not previously available, agency officials said.

While the CDC numbers were not broken down by state, roughly 300 drug-resistant infections were reported by Philadelphia hospitals in 2018, said Kristin Privette, surveillance coordinator for the city Department of Public Health.

Philadelphia is one of six large cities tasked by the CDC to track drug-resistant infections in its hospitals, also helping to arrange for sophisticated laboratory testing of samples where needed, said Steve Alles, the department's director of disease control.

"It's a pretty good machine right now," Alles said. "It's working smoothly."

A separate Philadelphia Inquirer analysis of billing data from the Pennsylvania Health Care Cost Containment Council indicates that drug-resistant infections have gained a foothold throughout the region.

In 2017 and 2018, hospitals in Philadelphia and its four suburban Pennsylvania counties reported that 866 patients had infections that were resistant to multiple antibiotics, of whom 12 died, the data show. Nearly all of the infections were said to have occurred before the patients arrived, not as a result of transmission within the hospital.

It is possible the true number was even higher. That's because the state numbers come from billing data, and in many cases, insurers have not allowed hospitals to seek additional reimbursement for treating infections that resist multiple types of drugs.

While older people can be more susceptible to drug-resistant infections, these deadly bugs can strike patients of any age. One in 7 of the 866 Philadelphia-area infections occurred in people under the age of 40, including children and newborns.

Separately, the CDC estimated the number of infections and deaths due to another troublesome type of bacteria called C. difficile, which typically are not resistant to antibiotics but nevertheless represent a growing scourge tied to overuse of the drugs.

Infections with this microbe, commonly abbreviated as "C. diff," can occur when patients are on antibiotics for some other illness. This rids the gut of certain "helpful" bacteria, clearing the way for C. diff to take hold.

Specialists in antibiotic policy said the CDC report represented a welcome call for renewed vigilance.

Kathy Talkington, director of the Antibiotic Resistance Project at the nonprofit Pew Charitable Trusts, agreed with CDC officials that hospital efforts seem to be keeping the problem in check. But the apparent increase in out-of-hospital infections is cause for concern.

"The emphasis is that this is still a critical problem that needs continuous attention," she said. "We have to continue keeping our foot on the gas."

Pediatrician David Hyun, also a member of Pew's antibiotic resistance team, said physicians in the outpatient setting can use better strategies to dissuade patients from demanding unnecessary antibiotics.

"Research has shown that sometimes what the patient really wants is not the antibiotic itself, but some form of plan that reassures the patient that the doctor or clinic is going to follow through and help them with the illness," Hyun said.

Antibiotics carry risks in addition to fostering drug resistance. By killing "good" bacteria as well as the ones causing an infection, they can disrupt a person's microbiome to result in diarrhea or a yeast infection.

And certain stronger antibiotics can be toxic, raising the risk of liver and nerve damage, aortic rupture or seizures.

The agency listed 18 drug-resistant microbes of particular concern, of which five were deemed to be urgent. Two of those five were new additions since the 2013 report: a type of yeast called Candida auris and a bacterium called Acinetobacter that is resistant to powerful antibiotics called carbapenems.l