



## Summary: COVID-19 Impacts on Antimicrobial Resistance

Antimicrobial-resistant infections and *Clostridioides difficile*—a bacterium that is not typically resistant but can cause deadly diarrhea and is associated with antibiotic use—cause more than 3 million infections and 48,000 deaths in the United States each year. In 2018, CDC identified five core actions integrating a One Health approach to better prepare the United States for the resistance that will continue to emerge worldwide. The pandemic has undone much of the nation's progress on antimicrobial resistance, especially in hospitals. The United States must continue to invest in the prevention-focused public health actions to combat antimicrobial resistance.



### Tracking & Data

Knowing where and how changes in resistance are occurring informs solutions (e.g., outbreak response, containment) to prevent spread and slow resistance. During the COVID-19 pandemic, the detection and reporting of antimicrobial resistance data slowed tremendously because of changes in patient care, testing, treatment, and the capacity of healthcare facilities and health departments.



### Preventing Infections

It is vital to prevent infections before they start. The COVID-19 pandemic undermined efforts in healthcare infection prevention and control. Antimicrobial-resistant infections are amplified in health care. Germs spread among patients and across facilities. Pandemic-related challenges hindered many prevention practices like hand hygiene, cleaning equipment, separating patients, and using personal protective equipment.



### Antimicrobial Use & Access

Antibiotics and antifungals can save lives, but any time they are used—for people, animals, or plants—they can contribute to resistance. While antibiotic use throughout the pandemic varied across healthcare settings, antibiotics were commonly prescribed to patients with COVID-19. Antibiotics are appropriate to treat serious bacterial infections and life-threatening conditions like sepsis and pneumonia, but they are not effective against viruses like the one that causes COVID-19.



### Environment & Sanitation

Efforts to identify antimicrobial-resistant germs, track the spread of resistance, and measure the effect of antimicrobial use require surveillance across human, animal, and plant populations and the environment. CDC is exploring how innovative solutions in wastewater surveillance can be used to improve detection and response for antimicrobial resistance.



### Vaccines, Therapeutics, & Diagnostics

The COVID-19 pandemic highlighted the need to stop the spread of germs before they can cause an infection. Treatment after infection occurs is not the only solution and should not be the only option. We need more prevention products, not just new antimicrobials, to stop infections before they happen. These include alternative treatments to new antimicrobials, new vaccines to combat infections that can develop antimicrobial resistance, and novel decolonizing agents to stop the spread of antimicrobial-resistant germs by people who may not know they are carriers.

