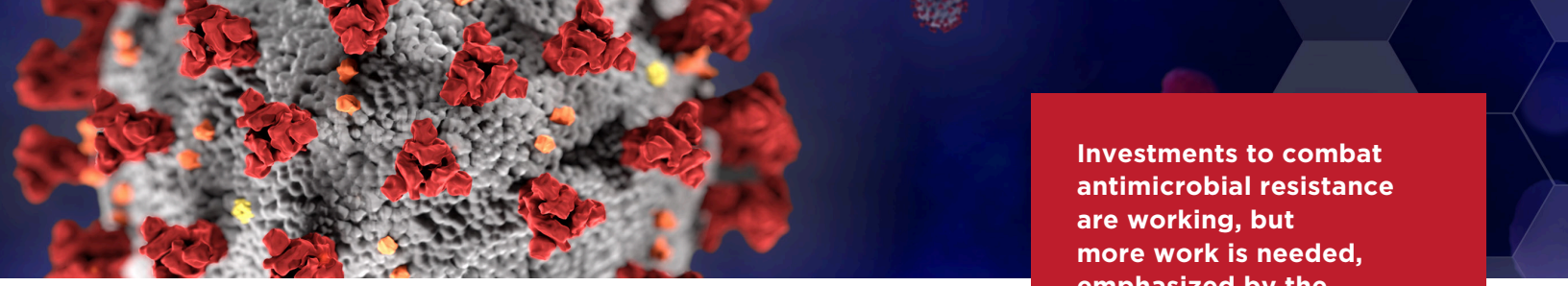


Investments to combat antimicrobial resistance are working, but more work is needed, emphasized by the COVID-19 pandemic. The United States must continue to invest in preparing public health systems across One Health to address threats from multiple angles, simultaneously, and across One Health.

Building Public Health Capacity for Antimicrobial Resistance

CDC is and will remain at the forefront of combating antimicrobial resistance, including leading infection control and response efforts. The agency makes key investments towards establishing a stable foundation for public health that slows the spread of antimicrobial resistance and prevents infections before they start. This work is transforming how the nation and world combat this threat.

First in 2013 and again in 2019, CDC highlighted gaps in knowledge related to antimicrobial resistance in its two Antibiotic Resistance Threats Reports.

It is inevitable that antimicrobial resistance will continue to emerge and spread, but the pandemic has negatively impacted core actions to limit the spread and its impact. Infection prevention and control practices were especially impacted—the most foundational and successful tool to protect people in healthcare settings and communities from getting an infection and the spread of antimicrobial-resistant germs.

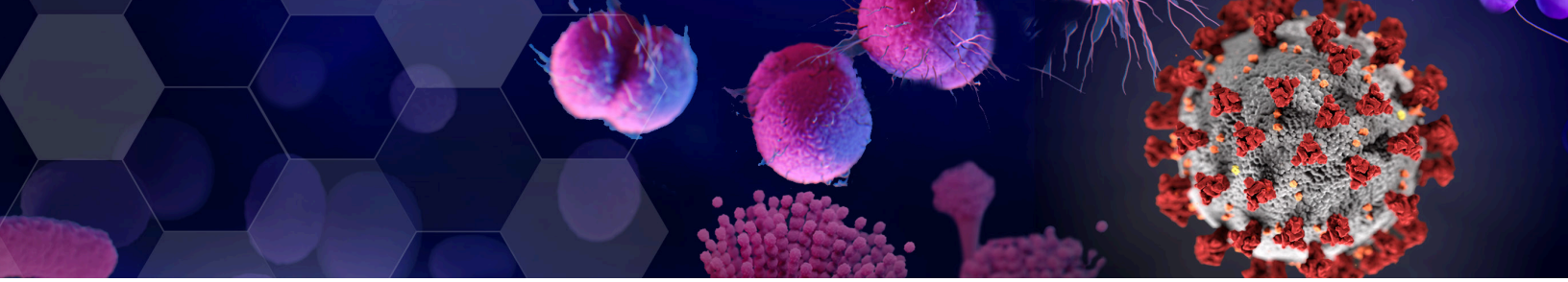
Specimen collection and testing to track resistant infections was also heavily impacted, hampering the United States' ability to understand the burden of antimicrobial resistance to inform the public health response. The pandemic also revealed that CDC's aggressive pre-pandemic investments in the national infrastructure to combat antimicrobial resistance can be flexible and resilient when protecting the nation from more than one threat. Established networks, like CDC's AR Lab Network, can be leveraged during an emergency, offering foundational expertise that can pivot easily to address other threats when challenges arise.

The United States must continue to invest in prevention-focused public health actions, such as accurate laboratory detection, rapid response and containment, effective infection prevention and control, and expansion of innovative strategies to combat antimicrobial resistance. If properly resourced, the United States can continue to build resilient domestic and global public health systems to keep our nation safe against the threats of antimicrobial-resistant pathogens.

Addressing Antimicrobial Resistance and Health Equity

Health equity is when everyone has the opportunity to be as healthy as possible. Many risks for antimicrobial-resistant infections are tied to social determinants of health—where people live, how often people engage with health care, quality of care received, and other factors. CDC is addressing health equity related to antimicrobial resistance as a part of CDC's CORE Initiative, an agency-wide strategy to increase equity across public health.

As a direct result of CDC's prevention investments through its Antimicrobial Resistance Solutions Initiative, the United States has implemented enhanced practices, new initiatives, and innovative studies. Data have shown national progress in slowing the spread of antimicrobial resistance and preventing these infections is possible.



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.

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

Learn more: www.cdc.gov/drugresistance/covid19.html