Antimicrobial resistance (AMR) is one of the most daunting public health challenges in the United States and worldwide. It is considered a global crisis by the World Health Organization, the G20 and the United Nations. AMR occurs when bacteria, viruses, fungi and parasites change over time and no longer respond to medicines or antimicrobial agents making infections harder to treat and increasing the risk of disease spread, severe illness and death. The overuse of antimicrobial agents in medicine, production of food animals and crop protection have caused increasing resistance to those agents.

ASM and its members are tackling AMR from a variety of health and other professions—it is a complex problem that requires multifaceted solutions. Urgent global action is needed across multiple settings and industries to protect people and animals from AMR threats.

Invest robustly in basic, translational and clinical research to better understand how microbes become resistant, and develop more precise clinical diagnostics, novel therapeutics and vaccines. Bolster research on neglected factors such as the roles of waste and wastewater in developing resistance, usage in agriculture, and environmental factors affecting AMR emergence, surveillance and prevention.

Support dedicated prevention and infection control efforts in the community and in health care settings. Better infection control in hospitals has reduced deaths from antibiotic-resistant infections in this setting by 28% since 2013.

Provide incentives for better stewardship of the antimicrobials currently available to patients, and promote policies to develop market-based incentives to foster the development and marketing of new antibiotics, both for humans and animals. We know that improving conscientious antibiotic use reduces the selective pressure on microorganisms, slowing the development of resistance.

Boost national and global AMR surveillance to inform action plans to combat antimicrobial resistant organisms and evaluate the impact of these interventions.

Support expanded use of genomics technologies against AMR pathogens, including broader application to veterinary and agricultural research. Deploying technologies such as advanced molecular detection funded by CDC leads to more rapid and accurate diagnosis and treatment. These genomic technologies should be well funded and accessible across multiple federal agencies, including USDA and EPA.

Harmonize U.S. policy with global policy frameworks and expand laboratory capacity and public health infrastructure in low- and middle-income countries. AMR does not recognize geopolitical borders and addressing AMR will require a coordinated global approach and investments in areas with the highest burden of infections.

According to a 2022 Lancet study, antimicrobial resistance itself caused

- 1.27 million deaths in 2019
- 4.95 million deaths where antimicrobial resistance played a role

https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)02724-0/fulltext
Antimicrobial resistance (AMR) occurs when microbes (bacteria, viruses and fungi) develop the ability through genetic mutations to defeat the antibiotics, antivirals and antifungals designed to kill them. As a result, the microorganisms continue to grow and develop resistance to therapies. Infections caused by antibiotic-resistant bacteria are difficult—sometimes impossible—to treat.