IDSA
Infectious Diseases Society of America
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Antimicrobial Resistance

Antimicrobial drugs save countless lives, but bacteria and other microbes can evolve in ways that enable them to resist a drug's intended effect. Misuse or overuse of antibiotics has made antibiotic resistance (AR) evolve even faster. The increasing number of drug-resistant infections is a serious and growing global health problem. In the United States alone, an estimated 2 million people develop drug-resistant bacterial infections each year, leading to more than 162,044 deaths in the United States alone.

Antimicrobial resistance is recognized as one of the greatest threats to human health worldwide, and a wide array of organizations such as the President's Council of Advisors on Science and Technology (PCAST), World Health Organization (WHO), European Union (EU), and others have dedicated resources and efforts to combat the threat.

A leading factor in the increasing prevalence of antibiotic resistance and associated illnesses and deaths is inappropriate use in both human medicine and agriculture.

THE CAUSES OF ANTIMICROBIAL RESISTANCE

30-percent of antibiotics prescribed in U.S. doctor's offices and emergency rooms are unnecessary.

1 in 5 resistant infections are caused by germs from food and animals.

over 1 billion This is the average cost of bringing a single new antibiotic to market.

20 years to break even under current reimbursement standards for a company to recoup R&D costs.

THE COST OF ANTIMICROBIAL RESISTANCE

162,044 people die from multi-drug resistant infections each year in the U.S. Infections resistant to treatments are the third leading cause of death in the U.S.

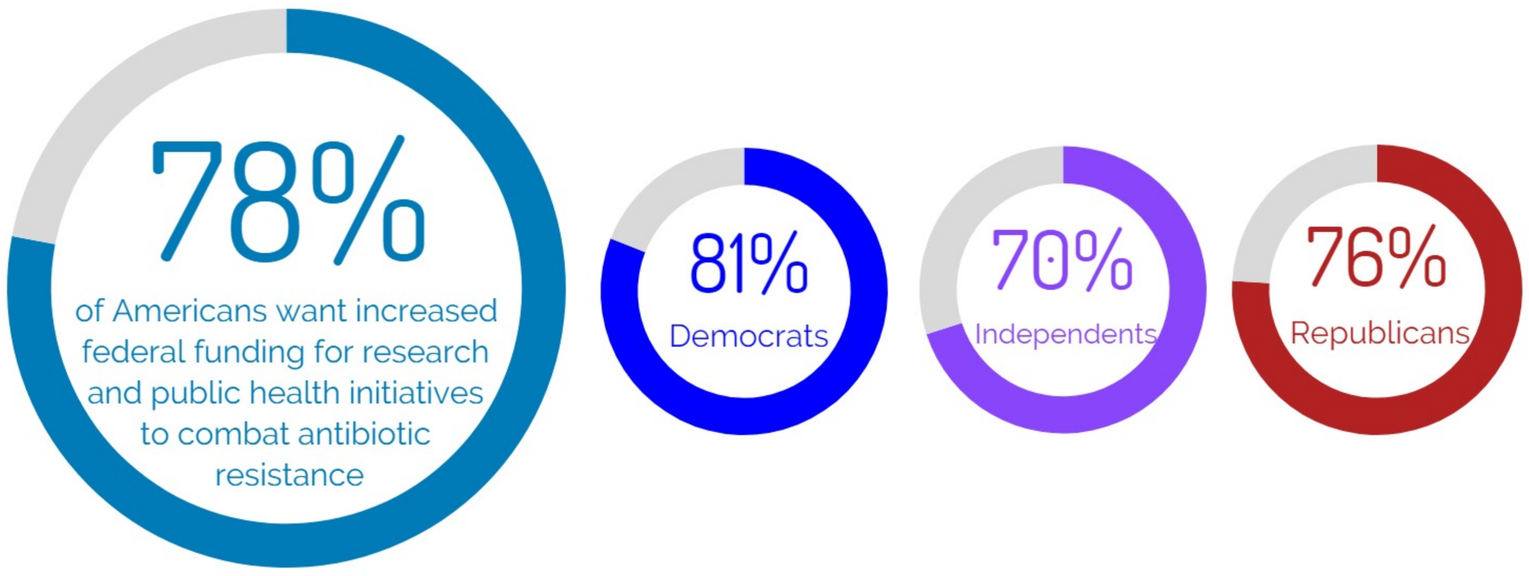
21 - 34 billion annually This is the cost of infections caused by antimicrobial resistant pathogens to the U.S. healthcare system.

Over 2 million illnesses annually are caused by antimicrobial resistant infections.

8 million additional days are spent in hospitals by U.S. patients due to antimicrobial resistant infections.

CONSENSUS FOR ACTION

A majority of Americans agree that the federal government should provide incentives to encourage increased private sector investment in the development of new antibiotics [1].



[1] According to a national public opinion survey conducted by IDSA and Research!America, with support from Pfizer.

THE WAY FORWARD: A ONE HEALTH APPROACH

Research and Development for New Antibiotics and Rapid Diagnostics

In order to address the difficulty and financial cost inherent in developing antibiotics and rapid diagnostics, companies need incentives. Push incentives focus on removing barriers to developer entry by affecting the cost to the developer for investments in research and development and tend to impact the earlier stages of the development process. Pull incentives provide the promise of financial reward after a technology has been developed.

Antimicrobial Stewardship

Antimicrobial stewardship refers to coordinated interventions by promoting the selection of the optimal antimicrobial drug regimen, dose, duration of therapy, and route of administration. Antimicrobial stewards seek to achieve optimal clinical outcomes related to antimicrobial use, minimize toxicity and other adverse events, reduce the costs of healthcare for infections, and limit antimicrobial resistance.

Infectious Disease Workforce

ID physicians make significant contributions to patient care, biomedical research, and public health. Their leadership and services save lives, prevent costly and debilitating diseases, and drive biomedical innovation. Their involvement in patient care lowers rates of mortality and 30-day readmission rates in hospitalized patients, shorter lengths of hospital stay, fewer intensive care unit (ICU) days, and lower Medicare charges and payments.

Infection Prevention

Healthcare associated infections are a significant factor fueling the rise of antimicrobial resistance. Policy decisions which support the evidence-based practices of infectious diseases physicians are the best approach for preventing healthcare associated infections and protection patients and communities.

Surveillance and Data Collection

Surveillance and data collection are vital in the effort to curb antimicrobial resistance. Surveillance allows public health officials identify genes conferring resistance to last-resort antibiotics before they make their way into the human population. Identifying these worrisome genes early and collecting samples is a great boon for research and preparedness.

IDSA represents over 11,000 infectious diseases physicians and scientists devoted to patient care, disease prevention, public health, education, and research in the area of infectious diseases. Our members care for patients of all ages with serious infections, including meningitis, pneumonia, tuberculosis, HIV/AIDS, antibiotic-resistant bacterial infections such as those caused by methicillin-resistant Staphylococcus aureus (MRSA), vancomycin-resistant enterococci (VRE), and Gram-negative bacterial infections such as Acinetobacter baumannii, Klebsiella pneumoniae, and Pseudomonas aeruginosa, emerging infections such as Middle East respiratory syndrome coronavirus (MERS-CoV), Enterovirus D68, and Ebola, and bacteria containing novel resistance mechanisms such as the New Delhi metallo-beta-lactamase (NDM) enzymes and others that make them resistant to a broad range of antibacterial drugs, including one of our most powerful classes of antibiotics, the carbapenems (carbapenem-resistant Enterobacteriaceae, or CRE).