

Responding to the threat of Antimicrobial Resistance

Antimicrobial resistance (AMR) is the ability of microorganisms (such as bacteria, fungi, viruses or protozoa) to nullify the effects of antimicrobial drugs, resulting in these drugs becoming ineffective.^{1,2} AMR can affect anyone, of any age, in any country.¹

The global rise of AMR will have devastating effects on lives and economies²

Impact³

1,270,000 deaths per year are directly attributable to AMR globally

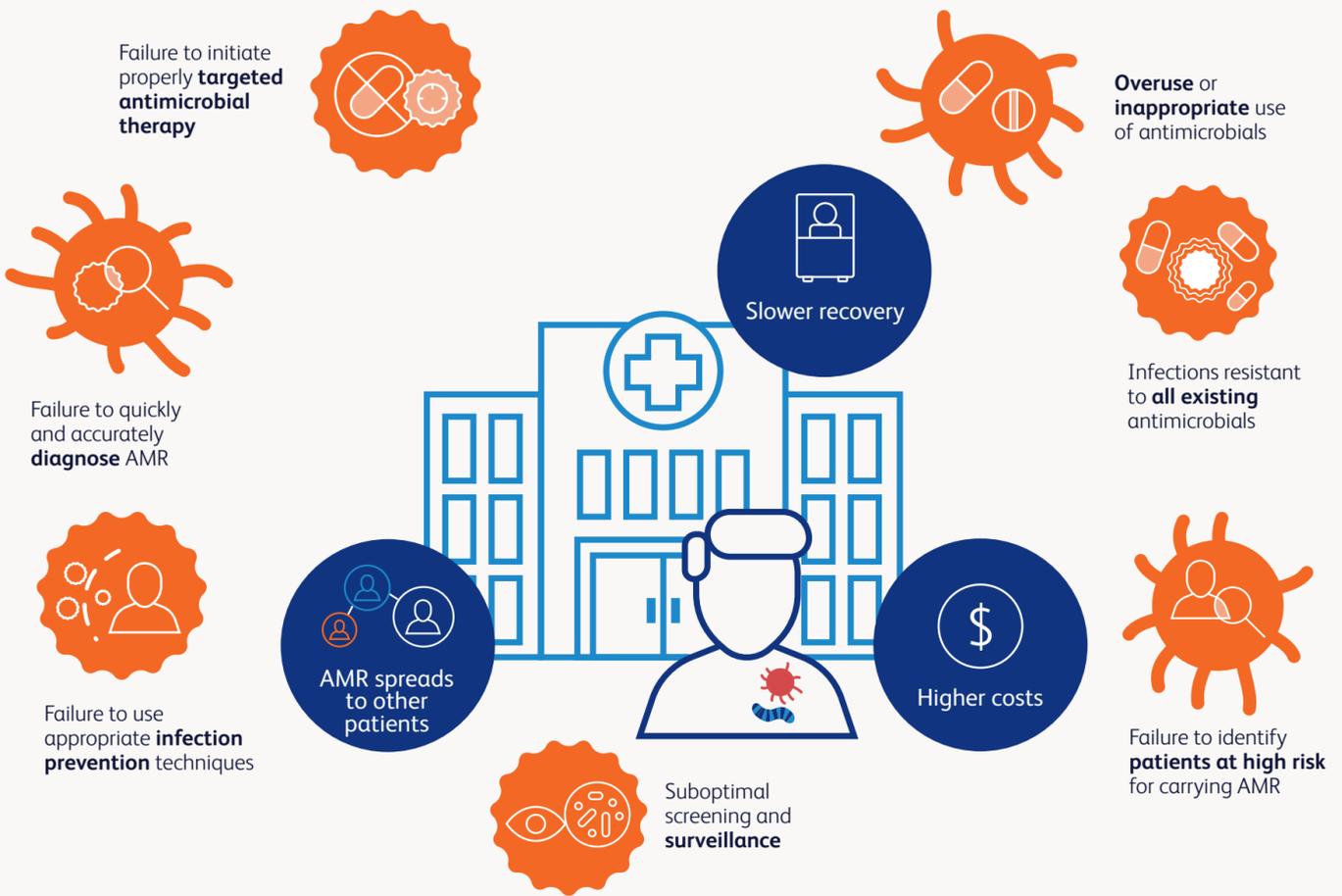
In 2019, 1 in 5 people who died due to AMR were children under age 5

Someone dies every **15** minutes from a drug-resistant infection⁴

Projections^{5,6}

10 million deaths and more than **\$1 trillion*** globally per year by 2050

Antimicrobial-resistant organisms can spread due to lack of effective processes, tools and communication



With effective coordination, patients and healthcare institutions are protected and costs are reduced

Infection prevention and control practices and guidelines

AMR bacteria cause⁷

- 17% of central-line-associated bloodstream infections
- 14% of surgical-site infections
- 10% of catheter-associated urinary tract infections

CREs[†] occur in approximately **1/5** of US long-term acute care hospital patients⁸

Prevent AMR by reducing the spread of pathogens through¹¹⁻¹³

- 1 Comprehensive protocols for patient isolation
- 2 Cleaning and disinfection
- 3 Optimal selection of medical devices

Antibiotic stewardship

Antibiotic use was not in line with best practice guidelines in

- 79% of patients with community-acquired pneumonia
- 77% of patients with urinary tract infections
- 47% of patients prescribed fluoroquinolone treatment

More than half of antibiotics prescribed in hospitals were not consistent with recommended prescribing practices⁹

Effective, timely, accurate diagnostic tests can^{3,8}

- 1 Identify infection-causing organisms
- 2 Determine antimicrobial resistance
- 3 Guide best therapeutic choice

Surveillance

AMR Rates

Patients per 100 admissions

3.54 Before pandemic

4.92 Admissions during pandemic

Rates of antibiotic-resistant isolates in both COVID-19 infected and non-infected patients admitted to hospital increased during the pandemic.¹⁰

Coordinated collection, assimilation and analysis of data are necessary to⁷

- 1 Track high-priority organisms and infections
- 2 Provide early warning of infection outbreaks
- 3 Drive decision-making

BD solutions to combat AMR

- Integrated vascular access
- Standardized surgical preparation procedures
- Safe drug delivery and blood drawing

- Accurate patient screening
- Rapid detection and identification
- Precise susceptibility testing

- Surveillance and outbreak detection
- Measurement of antimicrobial use and resistance
- Optimized therapy selection and monitoring

*Low-impact modeling scenario assuming effects of AMR on labor supply and livestock productivity.
[†]CRE, carbapenem-resistant *Enterobacteriaceae*: Gram-negative bacteria with high levels of resistance to antibiotics.

Antimicrobial Resistance:
 Our future depends on what we do today
 Together...taking action against drug-resistant infections

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