

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 country¹

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

COST³

\$20 billion

annually in the United States

IMPACT⁴

700,000

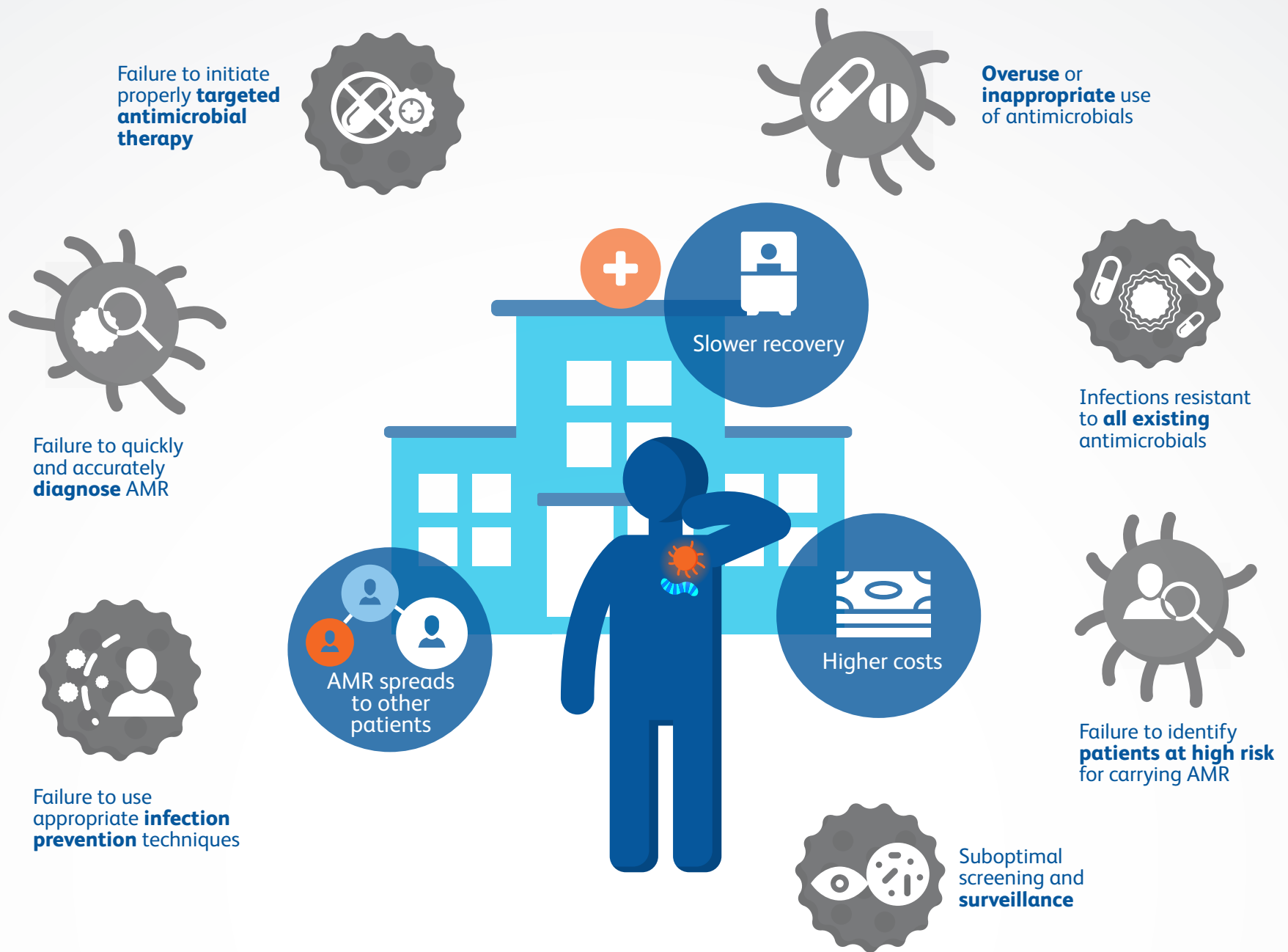
preventable deaths worldwide annually

PROJECTIONS^{4,5}

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 the healthcare institutions are protected and costs are reduced

Infection Prevention & Control

AMR bacteria cause⁶

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 patients⁷

Prevent AMR by reducing the spread of pathogens through¹⁰⁻¹²

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

Diagnostic Testing

An estimated **30%** of antibiotics prescribed in the United States are unnecessary⁸

Most upper respiratory tract infections are viral, yet **50%** of patients with such infections unnecessarily receive antibiotics⁹

Effective, timely, accurate diagnostic tests can^{3,7}

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

Surveillance & Reporting

Up to **70%** fewer patients will get CRE over 5 years if surveillance is properly utilized across facilities to protect patients⁶

Status Quo

12% patients will get CRE

Independent Efforts

8% patients will get CRE

Coordinated Approach

2% patients will get CRE

Coordinated collection, assimilation, and analysis of data are necessary to⁶

- 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 & resistance

Optimized therapy selection and monitoring

¹Low-impact modeling scenario assuming effects of AMR on labor supply and livestock productivity.

²CRE, carbapenem-resistant *Enterobacteriaceae*: Gram-negative bacteria with high levels of resistance to antibiotics.

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