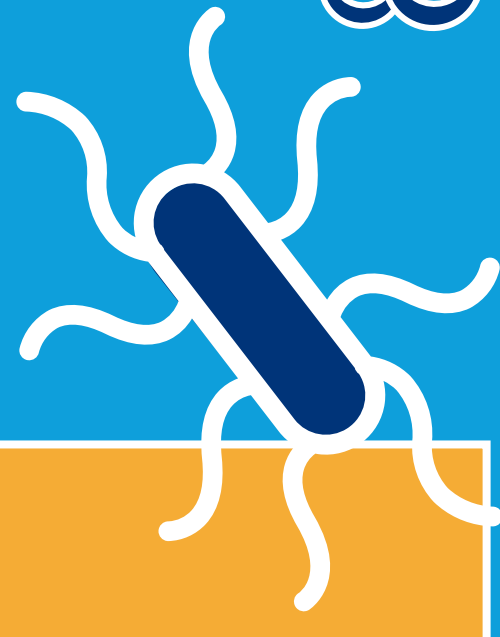
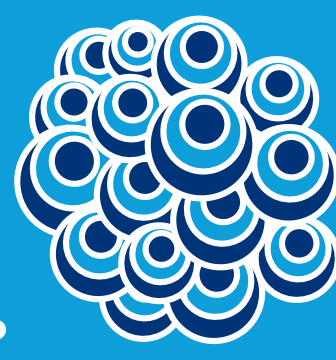


# ExPEC – a Specific Type of *E. coli* – is a Primary Driver of Antimicrobial Resistance (AMR)<sup>1</sup>



## WHAT IS ANTIMICROBIAL RESISTANCE?

AMR occurs when bacteria, viruses, fungi and parasites **change over time, and no longer respond to antibiotics or other medicines.**<sup>2</sup>

This causes common infections that were once easily managed, such as urinary tract infections and pneumonia, to become **increasingly difficult or impossible to treat.**<sup>2</sup>

AMR threatens our ability to treat common infections, and is quickly becoming one of the leading infectious disease-related causes of death worldwide.<sup>2,3</sup>

## GLOBAL IMPACT OF AMR



AMR is recognized by the World Health Organization (WHO) as one of the **top 10 threats to global health.**<sup>2</sup>



It is estimated that more than **1.2 million deaths were attributed to AMR** in 2019 globally, with AMR deaths already surpassing the annual death rates for HIV/AIDS and malaria.<sup>3</sup>



By 2050, AMR infections are predicted to **kill more people than cancer,** with AMR-related deaths predicted to rise to 10 million annually, worldwide.<sup>4</sup>



AMR infections also have a high economic impact. In the U.S. alone, antibiotic-resistant infections are estimated to cost up to **\$20 billion in direct healthcare costs every year.**<sup>5</sup>

## WAYS TO REDUCE AMR

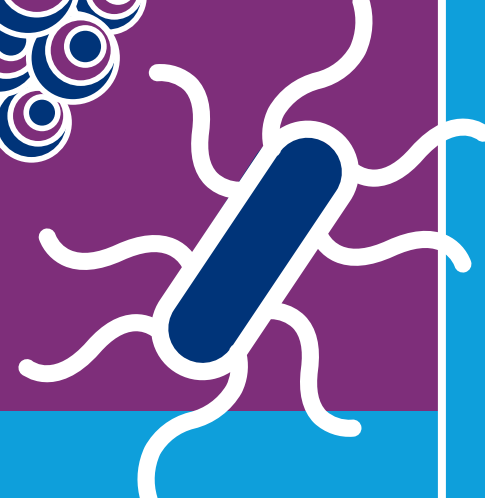
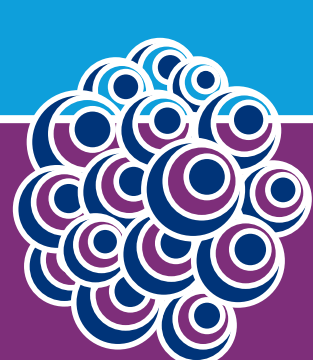


In the fight against AMR, **vaccines and therapeutics have a vital role to play,** alongside new antibiotics and better diagnostics, and increased awareness of the importance of existing antibiotics.

Overuse and improper prescribing of antibiotics, particularly in hospital settings and in the agricultural sector, can contribute to the proliferation of antimicrobial-resistant infections. Therefore, efforts to limit inadequate dosing and non-adherence to guidelines while **improving prescribing methods via antibiotic stewardship** are also crucial in combatting AMR globally.<sup>6</sup>

AMR is a global health challenge that poses a substantial threat to humanity, if left unaddressed.<sup>2</sup>

# ExPEC IS A LEADING CAUSE OF SEPSIS, AMR-RELATED DEATHS



## WHAT IS ExPEC?

ExPEC is a specific pathogenic *E. coli* that has been identified as **the number one cause of community-onset sepsis,** a life-threatening reaction to an infection that can lead to tissue damage, organ failure and death.<sup>7,8</sup>

Each year, ExPEC causes approximately 10 million cases of invasive ExPEC disease (IED) worldwide, which can lead to sepsis.<sup>9</sup>

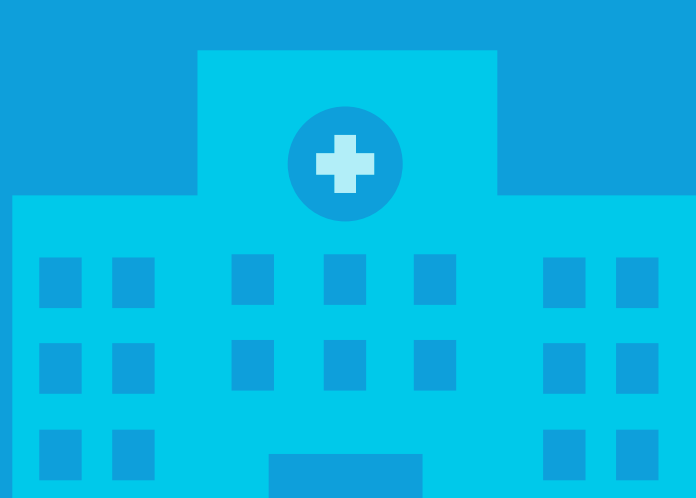
Adults aged 60 years and above are at higher risk of developing IED, and its incidence has been increasing over time.<sup>10</sup>



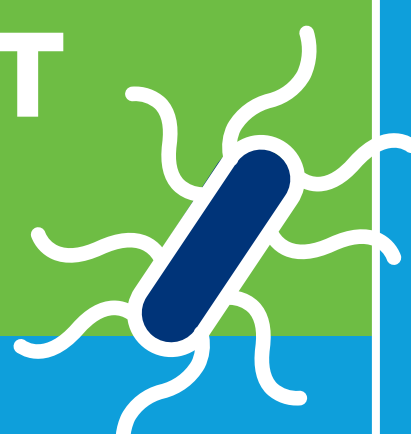
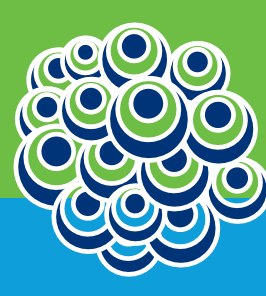
## HOW ExPEC RELATES TO AMR

ExPEC is a common cause of urinary tract infections, which accounts for 25 percent of overall antibiotic prescriptions.<sup>11</sup> As a result, ExPEC is one of the **leading drivers behind AMR,** and one of the most common causes of death due to AMR infection.<sup>12</sup>

In 2019 alone, *E. coli* was responsible for 800,000 deaths associated with AMR.<sup>3</sup>



# JANSSEN'S COMMITMENT TO OUTPACE AMR



At Janssen, we are focused on prioritizing the development of vaccines to protect people from severe bacterial infections caused by ExPEC and *S. aureus*, and are exploring innovative technologies to treat those infected.

Potentially devastating consequences of bacterial infections, dependency on antibiotics and, ultimately, the risk of AMR.

Janssen is prioritizing development of vaccines to protect people from IED and *S. aureus*, two of the leading causes of sepsis.

\*NOTE: The statistics around infections and deaths caused by invasive *E. Coli* disease (IED), are based on figures in the U.S. which have been multiplied by a factor of 22, extrapolating the U.S. figure to a global population figure.

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