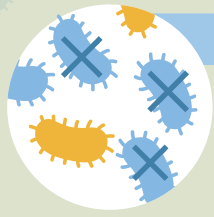
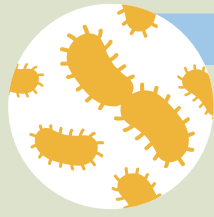


# Antibiotic Resistance: Facts & Stats



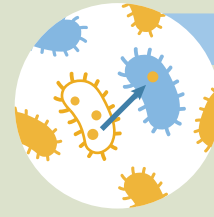
1

Antibiotics kill illness-causing bacteria, as well as good bacteria



2

Drug-resistant bacteria survive and multiply



3

Resistance further spreads through horizontal gene transfer

50%

of the time, antibiotics are not optimally prescribed<sup>1</sup>



## Inappropriate antibiotic use:

- To treat viral infections
- To treat common conditions such as colds and the flu
- Poor patient adherence to the prescribed treatment



## Patients with drug-resistant infections have:

- Higher risk of severe illness and death
- Longer stays at the hospital
- Higher cost of care

## The Effect of Antibiotic Resistance Around the World

**CANADA:** \$36.3 million in MRSA healthcare costs<sup>2</sup>

**US:** \$20 billion spent in excess healthcare costs<sup>3</sup>

**EU:** €1.5 billion in societal costs<sup>4</sup>

**CHINA:** \$20 trillion in economic costs by 2050<sup>5</sup>

Up to \$100 trillion worldwide cost by 2050<sup>5</sup>

By 2050, 10 million more people are expected to die every year given the current rate of antibiotic resistance<sup>5</sup>

**GLOBALLY:** 480,000 new cases of multi-drug resistant TB in 2013<sup>6</sup>

**US:** 2 million infected, 23,000 die<sup>3</sup>

**EU:** 400,000 infected, 25,000 die<sup>4</sup>

## How to Fight Back

### Innovation

#### Develop new:

- Antibiotics
- Diagnostic tests
- Methods for rapid tests
- Collaboration for prevention and surveillance



### Education

#### Teach patients to:

- Practice good hand hygiene
- Get recommended vaccinations
- Take antibiotics exactly as prescribed
- Complete the prescribed course of treatment



### Stewardship

#### Physicians need to:

- Use the right drug at the right dose for the right duration
- Reassess the prescription as appropriate
- Be aware of antibiotic resistance patterns within facilities
- Choose narrow-spectrum antibiotics whenever possible
- Lead programs within your hospitals to improve prescribing practices



Join Thermo Fisher Scientific in the fight against antibiotic resistance and visit [thermoscientific.com/AST](http://thermoscientific.com/AST).

1. "About Antimicrobial Resistance." Centers for Disease Control and Prevention. Centers for Disease Control and Prevention, 08 Sept. 2015. Web.

2. [http://www.chica.org/conf/13\\_presentations/tuesday\\_njoo\\_phacupdateFre.pdf](http://www.chica.org/conf/13_presentations/tuesday_njoo_phacupdateFre.pdf)

3. "Antimicrobial Resistance Global Report on Surveillance 2014." World Health Organization.

4. <http://www.euro.who.int/en/health-topics/disease-prevention/antimicrobial-resistance/data-and-statistics>

5. "Antimicrobial Resistance: Tackling a crisis for the health and wealth of nations". Review on Antimicrobial Resistance. Dec 2014.

6. <http://www.who.int/mediacentre/factsheets/fs104/en/>