



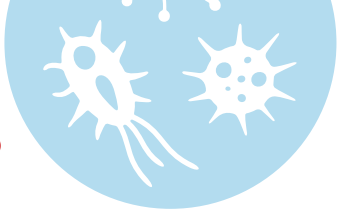
Understanding the importance of antimicrobial stewardship (AMS)

Your role in reducing antimicrobial resistance



AMR&S
WORKING GROUP

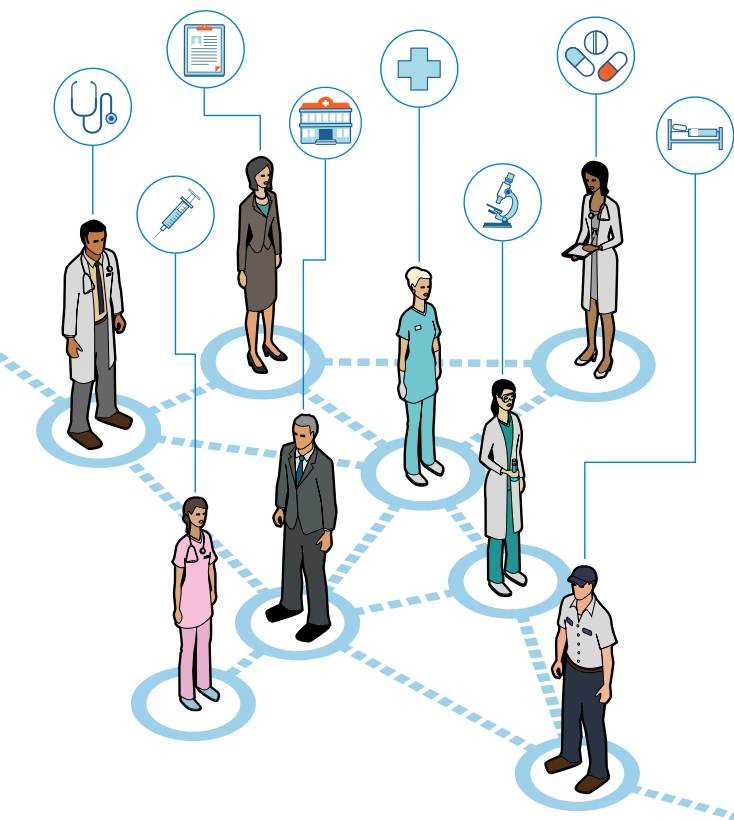
What is AMS?



AMS is a set of coordinated strategies to improve the use of antimicrobial medications with the following goals^{1,2}:

- Improve clinical and patient outcomes
- Reduce antibiotic resistance
- Reduce adverse effects
- Minimize the selection of pathogenic organisms such as *Clostridium difficile*
- Decrease unnecessary costs

To be effective, AMS needs a multidisciplinary team to manage the program and to educate and encourage the participation and support of all hospital personnel^{1,2}





Why do we need AMS?

Antibiotics are often misused and antimicrobial resistance (AMR) is directly related to antibiotic prescribing patterns³⁻⁵

When pathogens become resistant to medication, there are fewer effective treatment options, which can lead to increases in mortality rates, length of hospital stays and healthcare costs⁶

Up to **50%** of antibiotics are prescribed inappropriately in the hospital^{7,8}

30% of hospital pharmaceutical budgets are used for antimicrobials⁹

Up to **58%** of antimicrobial costs can be saved by AMS programs^{8,10}

According to the World Health Organization:

“Antimicrobial resistance threatens the very core of modern medicine and the sustainability of an effective, global public health response to the enduring threat from infectious diseases”⁶



Without effective AMS intervention, by 2050, deaths due to resistant microbes in the Asia-Pacific region are expected to exceed

 **4.7** million/year¹¹

Do's and don'ts for antibiotic use



DO: 'MIND ME'¹²

- ✓ **M**icrobiology guides therapy wherever possible
- ✓ **I**ndications should be evidence based
- ✓ **N**arrowest spectrum required
- ✓ **D**osage appropriate to the site and type of infection
- ✓ **M**inimize duration of therapy
- ✓ **E**nsure monotherapy in most cases

DON'T^{1,2,12}

- ✗ Use antibiotics to treat syndromes not caused by bacteria
- ✗ Treat if culture results reflect colonization or contamination, not infection
- ✗ Administer broad-spectrum antibiotics where narrow-spectrum antibiotics would be equally effective
- ✗ Use a longer-than-necessary duration of antibiotic therapy



What pathogens are problematic in Asia?

ESKAPE pathogens in South, East and Southeast Asian countries:

Enterococcus faecium

Resistant to aminopenicillins¹³

72 – 95%

Staphylococcus aureus

Resistant to oxacillin (MRSA)¹³

6 – 73%

Klebsiella pneumoniae

Resistant to¹³

3rd-gen cephalosporins

6 – 91%

Carbapenems

1 – 65%

Acinetobacter baumannii

Resistant to¹³

Carbapenems

1 – 82%

Fluoroquinolones

23 – 82%

Aminoglycosides

24 – 76%

Pseudomonas aeruginosa

Resistant to¹³

Carbapenems

18 – 36%

Fluoroquinolones

15 – 34%

Aminoglycosides

7 – 37%

Enterobacter aerogenes/cloacae

Resistant to¹³

Carbapenems

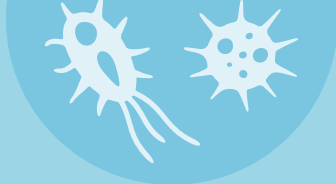
7 – 46%

Fluoroquinolones

15 – 37%

Aminoglycosides

14 – 52%



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