2022
UPDATE

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Understanding the importance of antimicrobial stewardship (AMS)

Your role in reducing antimicrobial resistance

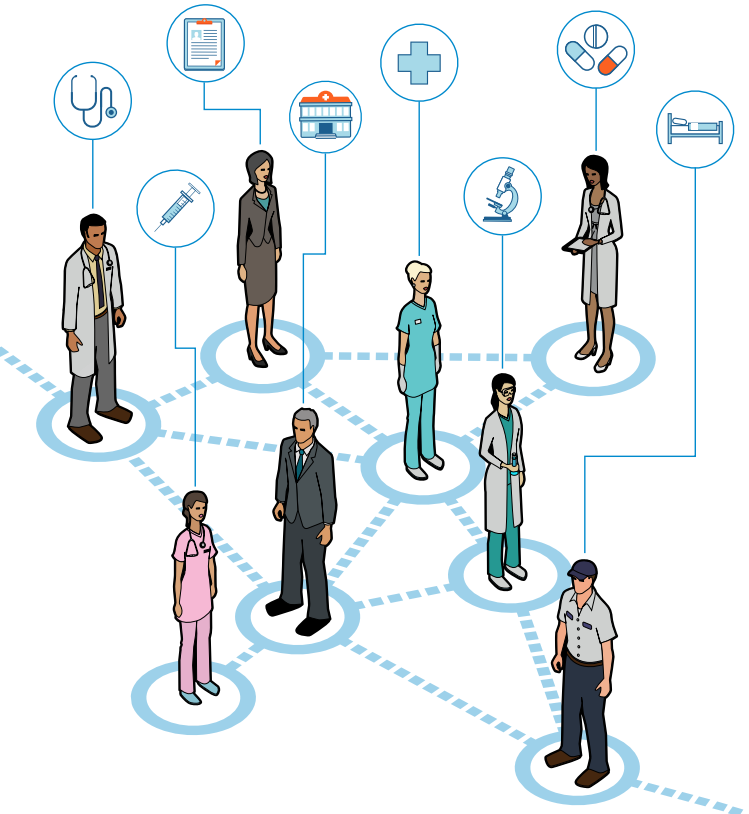
AMR&S
WORKING GROUP

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 patterns[3-5]

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 costs[6]

Up to **50%** of antibiotics are prescribed inappropriately in the hospital[7,8]

30% of hospital pharmaceutical budgets are used for antimicrobials[9]

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/year[11]

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 aminopenicillins[13]
72 – 95%

Staphylococcus aureus

Resistant to oxacillin (MRSA)[13]
6 – 73%

Klebsiella pneumoniae

Resistant to[13]	
3rd-gen cephalosporins	Carbapenems
6 – 91%	1 – 65%

Acinetobacter baumannii

Resistant to[13]		
Carbapenems	Fluoroquinolones	Aminoglycosides
1 – 82%	23 – 82%	24 – 76%

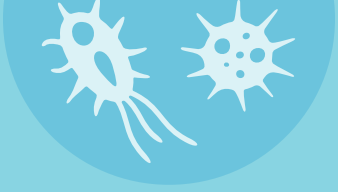
Pseudomonas aeruginosa

Resistant to[13]		
Carbapenems	Fluoroquinolones	Aminoglycosides
18 – 36%	15 – 34%	7 – 37%

Enterobacter aerogenes/cloacae

Resistant to[13]		
Carbapenems	Fluoroquinolones	Aminoglycosides
7 – 46%	15 – 37%	14 – 52%

Based on countries with available data; not all data are available for every country listed in the reference above



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