Annex 2 - WHO AWaRe antibiotic book survey results summarized by question

World Health Organization

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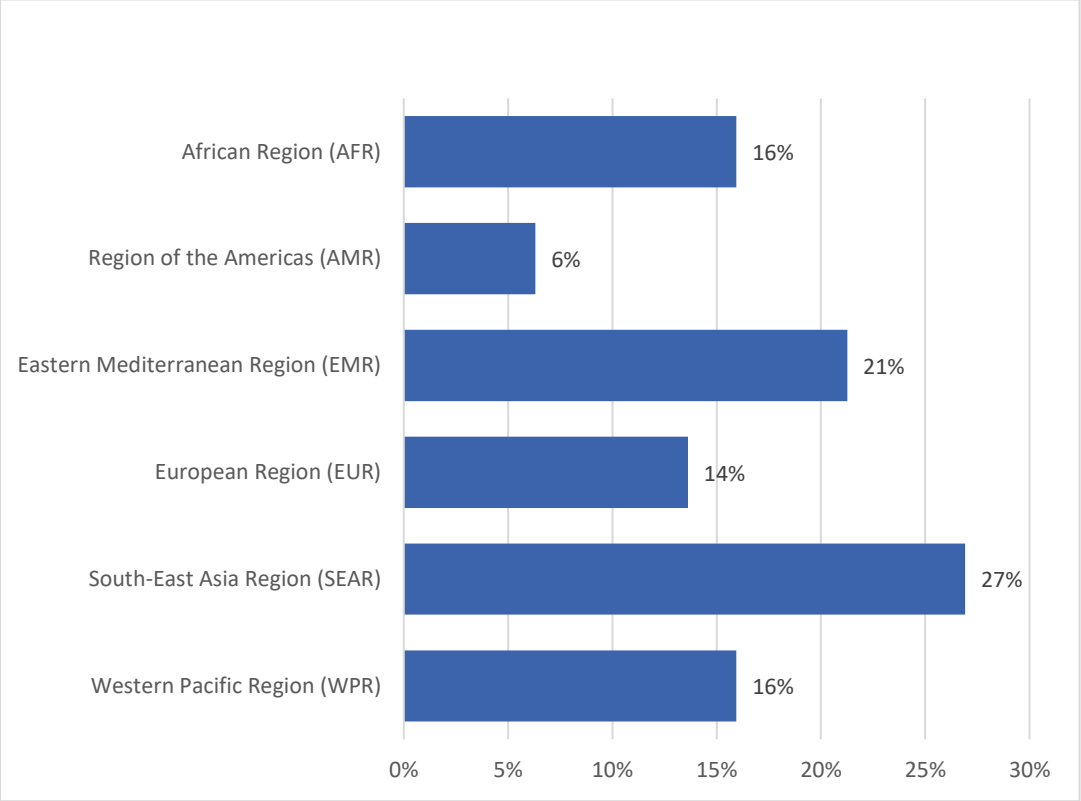
Overview

This document is an annex to the WHO AWaRe antibiotic survey report and details the answers to every survey question. Answers in French or Spanish were translated to English. Typing and grammar errors were adjusted, and similar phrases were combined such as “urinary infection” and “urinary tract infection”.

Demographics

Question 25: A total of 301 responses from all six WHO regions were recorded in English (n=282), Spanish (n=12), and French (n=7).

Figure 1: Distribution of respondents of the WHO AWaRe book survey by WHO region, 2024



Question 24: Over half of respondents were health-care workers (52%, 157/301) followed by academics (20%, 61/301), government policy or programme staff (14%, 43/301), WHO workforce (5%, 15/301), non-government organization (NGO) staff (2%, 6/301) and others (6%, 19/301).

Question 26: Of those who responded to the question about guidelines, national (61%, 180/296) or local (39%, 116/296) guidelines were most commonly used. Many also reported using the AWaRe antibiotic book (44%, 129/296) while some used professional society (37%, 110/296), subnational (15%, 44/296), NGO (3%, 9/296), and Sanford (1.5%, 4/296) guidelines, indicating a reliance on multiple resources to inform antibiotic use.

Responses

1) How important to your setting do you think it is to include the following additional infections in the antibiotic book?

Variable	Very important	Important	Somewhat important	Not important	Grand Total	% Very important	% Very important & important
Surgical site infections	204	82	10	1	297	69%	96%
Diabetic foot infections	197	76	20	5	298	66%	92%
Cardiac infections (e.g. endocarditis)	172	93	22	11	298	58%	89%
Antibiotic prophylaxis post-injury	157	97	33	9	296	53%	86%
Fungal infections	153	97	27	20	297	52%	84%
Prosthetic joint infections	152	92	47	7	298	51%	82%
Antibiotic prophylaxis before dental procedures	142	94	45	17	298	48%	79%
Severe traumatic wound infections (e.g. in war settings)	134	91	58	12	295	45%	76%
COVID-19	97	88	78	35	298	33%	62%
Melioidosis	74	103	70	46	293	25%	60%

2) Are there any other infections you think should be included?

Responses	Count
Empiric treatment in case of suspected antibiotic resistance	1
Skin and soft tissue infections related to aesthetic procedures and chronic wounds	1
Catheter-related infections: (blood, urinary tract, CNS such as V-P shunt)	1
Brucellosis	1
Malaria	1
Bloodstream infections (BSI)	1
Viral infections	1
Emerging infections	1
Infections due to immunocompromised conditions such as diabetes and other comorbid conditions	1
Immunocompromised conditions prone to infection e.g. HIV and HBSAg +ve	1
Tuberculosis, hepatitis, visceral leishmaniasis and infections caused by *Pseudomonas aeruginosa*	1

3) **How important do you think it is to include alternative treatment options in patients with allergies to first or second choice antibiotics?** *Of note, alternatives are currently not included because of the frequent overdiagnosis of antibiotic allergies and the risk that patients receive potentially less effective alternatives.*

Variable	Very important	Important	Somewhat important	Not important	Grand Total	% Very important	% Very important & important
Including alternative treatment options in patients with allergies to 1st and 2nd choice antibiotics	139	108	41	10	298	47%	83%

4) How important do you think it is to include recommendations for targeted antibiotic treatment based on microbial identification and susceptibility test results? E.g. for targeted treatment of infections caused by *Staphylococcus aureus*

Variable	Very important	Important	Somewhat important	Not important	Grand Total	% Very important	% Very important & important
Importance of including recommendations for targeted antibiotic treatment based on microbial identification and susceptibility test results	80	193	20	4	297	27%	92%

5) **If you answered important or very important for Question 4, which key Gram-negative and Gram-positive organisms would you include?** *In future versions of the AWaRe antibiotic book, infections where guidance for targeted antibiotic treatment could be given include healthcare-associated infections or severe (or complicated) community-acquired infections (e.g. sepsis, intra-abdominal or urinary tract infections).*

Variable	Very important	Important	Somewhat important	Not important	Grand Total	% Very important	% Very important & important
Staphylococcus aureus	200	73	8	0	281	71%	97%
Klebsiella pneumoniae	199	70	8	1	278	72%	97%
Pseudomonas aeruginosa	192	71	15	1	279	69%	94%
Escherichia coli	186	82	8	2	278	67%	96%
Acinetobacter baumannii	167	79	26	4	276	61%	89%
Streptococcus pneumoniae	149	96	25	3	273	55%	90%
Salmonella enterica serotype Typhi	133	111	29	3	276	48%	88%
Enterococcus spp.	126	112	32	3	273	46%	87%
Enterobacter spp.	120	119	30	4	273	44%	88%
Group B *Streptococcus*	107	109	47	11	274	39%	79%

6) Are there any other pathogens for which the WHO AWaRe book should provide recommendations for targeted therapy?

Responses listed in groups	Count
Candida spp.	3
Candida auris	2
Carbapenem-producing *Enterobacteriaceae*	2
Stenotrophomonas maltophilia	2
Aspergillosis	1
Candidiasis and aspergillosis	1
Common pathogenic fungi	1
Candida albicans, Pantoea agglomerans, Streptococcus pyogenes	1
Mycobacterium tuberculosis, *Haemophilus influenzae*	1
H. influenzae	1
Mycoplasma pneumoniae	1
Neisseria gonorrhea	1
H. influenzae, *Legionella pneumophila*	1

Brucellosis, common severe parasitic diseases	1
Brucellosis	1
Burkholderia capecia	1
Helicobacter pylori	1
Clostridium difficile, *Proteus mirabilis*	1
Urinary tract infections (UTI)	1
Other staphylococcus	1
Allergic rhinitis	1
Porphyromonas gingivalis	1
Non-typhoidal Salmonella	1
Serratia marcescens	1
Oral pathogens	1
Other streptococci as too often see ceftriaxone, or a quinolone used	1

7) **If you answered important or very important for Question 4, for which pathogen / infection combinations** (e.g. *Escherichia coli* and UTI) would you like to have guidance on targeted antibiotic treatment?

Responses grouped by type of infection	**Count**
UTI	**11**
E. coli	7
K. pneumoniae	3
None specified	1
Bacteremia	**9**
K. pneumoniae	3
S. aureus	2
Salmonella spp.	1
Candida spp.	1
A. baumannii	1
E. coli	1
None specified	**8**
S. aureus and methicillin-resistant *Staphylococcus aureus* (MRSA)	1
P. aeruginosa	1
Nowadays we have gene sequencing test, or we can go for rapid diagnostic test which gives results within 24 hrs and pathogen targeted treatment can be started	1
Community-acquired severe infections	1
Porphyromonas gingivalis	1
ESBL gram negative bacilli (GNB) with amoxicillin+clavulanic acid susceptibility - far too much ertapenem being used	1
A. baumannii	1
Nosocomial carbapenem-resistant organism infections	1
Sepsis	**7**
K. pneumoniae	2
S. aureus	2
S. pyogenes	1

E. coli	1
P. aeruginosa	1
Sepsis neonatal	**2**
E. coli	1
Candida spp.	1
Meningitis	**2**
Tuberculosis	1
K. pneumoniae	1
Respiratory tract infection (RTI)	**2**
RTI	1
K. pneumoniae RTI	1
Skin infection	**2**
S. aureus	2
VAP (ventilator-associated pneumonia)	**2**
A. baumannii	1
Non-fermenting GNB	1
Colistin	**1**
A. baumannii	1
Febrile neutropenia	**1**
P. aeruginosa	1
Fever	**1**
Microorganisms	1
Gastroenteritis	**1**
Fluoroquinolone resistant *Salmonella* spp.	1
Gastrointestinal infections	**1**
Clostridium spp.	1
Hospital-acquired pneumonia (HAP)	**1**
K. pneumoniae	1
Infective endocarditis	**1**
Streptococcal infection	1
Intra-abdominal infections	**1**
Salmonella enterica serotype	1
Necrotic enterocolitis (NEC)	**1**
K. pneumoniae	1
Osteomyelitis	**1**
A. baumannii	1
Pneumonia	**1**
S. aureus, MRSA	1
Puerperal sepsis	**1**
K. pneumoniae	1
Skin infection	**1**
S. aureus	1
Skin infection, burns	**1**

P. aeruginosa	1
Skin infection, diabetic foot	**1**
K. pneumoniae	1
Skin infection, wound	**1**
S. aureus	1
UTI/wounds	**1**
None specified	1
Total	**62**

8) How important do you think it is to include recommendations for certain healthcare-associated infections? *(besides hospital-acquired pneumonia which is already in the book, e.g. catheter-associated bloodstream infections)*

Variable	Very important	Important	Somewhat important	Not important	Grand Total	% Very important	% Very important & important
Importance of including recommendations for certain healthcare associated infections	175	98	19	4	296	59%	92%

9) If you answered important or very important for Question 8, which healthcare-associated infections would you include?

Variable	Very important	Important	Somewhat important	Not important	Grand Total	% Very important	% Very important & important
Catheter-related bloodstream infections	189	76	13	1	279	68%	95%
Catheter-associated urinary tract infections	179	88	14	1	282	63%	95%
Ventilator-associated pneumonia	170	80	26	1	277	61%	90%
Skin and soft tissue infections	142	102	36	2	282	50%	87%
Central nervous system infections	139	98	38	6	281	49%	84%
Intra-abdominal infections	129	119	25	2	275	47%	90%

10) Are there any other healthcare-associated infections that should be included?

Thematically grouped responses	Number
Other	**27**
Tuberculosis	3
Vancomycin-resistant *enterococci* (VRE) UTI and BSI	2
Carbapenem-resistant *Enterobacteriaceae* (CRE) including *Klebsiella* and *Escherichia coli*	1
Animal bites	1
Infections that can occur in ICUs	1
Enterobacter faecalis	1
Yes, there are several healthcare-associated pathogens that should be considered and included in the Antibiotics AWaRe due to their importance in the hospital and healthcare context: (LIST OF 10) Inclusion of these infections in the Antibiotic AWaRe can help improve treatment guidelines and address the challenges of antibiotic resistance in health settings.	1
3rd generation cephalosporin resistant Enterobacterales	1

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A. baumanni, P. aeruginosa causing serious infections in patients with weak immunity	1
Intradermal IV needle infections	1
Lab diagnosed infections	1
Multidrug resistant (MDR) or extensive drug resistant (XDR) infections due to air contamination of ICU or through other patients which have already contracted MDR or XDR (e.g. *Acinetobacter baumanii* or E*nterococcus* spp. or rare resistant fungal infection)	1
Yes, such as by touch with same gloves	1
Mediastinitis	1
MRSA: causes infections of the skin, wounds, and blood.	1
Neonates and pediatrics - multidose vial contamination with non-fermentative Gram-negative rods	1
Acinetobacter baumannii nosocomial infections including pneumonia and wound infections	1
Nontuberculous mycobacteria	1
Staphylococcus epidermidis causing infections associated with implanted medical devices	1
Patient-used utensils/plates/cups during distribution of hospital food	1
E. coli producing extended-spectrum beta-lactamase enzymes (ESBL) causing UTI and HAIs	1
Pseudomonas keratitis	1
Stenotrophomonas maltophilia causeing hospital infections, especially in patients receiving intensive treatment	1
Special care people	1
Superficial thrombophlebitis	1
Surgical	**15**
Surgical site infection	13
Post operative hospital related infections	1
Septic suture line post C/S surgeries	1
***Clostridioides difficile* associated diarrhea (CDAD or CDI)**	**9**
CDAD	9
HAP	**8**
Hospital-acquired pneumonia	6
Lower respiratory tract infections	1
Staphylococcal pneumonia	1
Implantable device	**5**
Prosthetic joint infection	2
Medical implant associated infections	2
Infection associated with prosthetic material that cannot be removed	1
Bone and joint	**4**
Bone infections	1
Tissue expander, osteomyelitis (other than chronic) or internal fixation acute infection	1
Joint replacement infection (hip)	1
Post-acute post-traumatic osteitis	1
Bloodstream infection (BSI)	**3**
Central line related bloodstream infection (CRBSI)	1
While drawing blood for culture	1

Primary and secondary BSI	1
Dialysis	**3**
Dialysis	1
HD catheter or permcath	1
Dialysis related exit site, bloodstream infection	1
Fungal	**3**
Candidemia	1
Yeast infections	1
Fungal infection like *Candida auris*	1
Central line	**2**
Central venous line	1
Central line infections	1
Central nervous system (CNS)	**2**
Gram-negative meningitis	1
Device-associated ventriculitis	1
Ear, nose and throat (ENT)	**2**
Oronasal infections	1
Eye, ear, nose and throat infections	1
Sepsis	**2**
Sepsis nosocomial	1
Sepsis	1
UTI	**2**
Non-catheter UTI	2
Cardiac	**1**
Cardiac infections	1
Dental	**1**
Periodontitis	1
Intra-abdominal	**1**
Abdominal infection	1
Skin and soft tissue	**1**
Bedsore infections	1
Total	**91**

11) How important do you think it is to include more detailed antibiotic dosing guidance for patients with altered renal or hepatic function?

Variable	Very important	Important	Somewhat important	Not important	Grand Total	% Very important	% Very important & important
Importance of including more detailed antibiotic dosing guidance for patients with altered renal or hepatic function	175	88	23	5	291	60%	90%

12) **How important do you think it is to include algorithms for associations of symptoms?** *E.g. to provide pathway style guidance on differential diagnoses and management strategies for fever and cough, which may include upper respiratory tract infection, bronchitis and community-acquired pneumonia*

Variable	Very important	Important	Somewhat important	Not important	Grand Total	% Very important	% Very important & important
Importance of including algorithms for associations of symptoms	144	79	61	10	294	49%	76%

13) If you answered important or very important to Question 12, which algorithms would you include?

Thematically grouped responses	Count
Other	**13**
Clinical pathways for multisite infections	2
Management strategies	1
Cardinal symptoms of the diseases	1
The more the better	1
Gadgets or kits	1
Hospital-associated infections	1
Intensive care unit	1
Depends on geographic area and prevalence of disease in that area	1
Site specific infectious syndrome and community onset tropical infections	1
Diagnostic and treatment	1
Bacterial/viral/fungal	1
For knowing the right treatment plan for all infections	1
Lower respiratory tract infection (LRTI)	**10**
Community-acquired pneumonia (CAP)	4
Pneumonia	3
Hospital-acquired pneumonia	1
Respiratory infections algorithm	1
LRTI	1
UTI	**9**
UTI	8
Catheter-associated urinary tract infection (CAUTI)	1
Skin and soft tissue (SSTI)	**4**
SSTI	4
Upper respiratory tract infections (URTI)	**4**
Bronchitis, pneumonia	1
Tonsillipharyngitis	1
Acute bacterial rhinosinusitis	1
URTI with fever with cough	1
Fever, multiple causes	**3**
Fever and altered level of consciousness	1
Management of fever with suspected tropical illness	1
High grade fever for more than 2 weeks, which may include enteric fever, leptospira and melioidosis	1
Gastrointestinal	**3**
Gastrointestinal infections	2

Fever and pain abdomen	1
Sepsis	**3**
Sepsis	2
Blood infections (sepsis) algorithm	1
BSI	**2**
Bloodstream infections	1
CRBSI	1
Cardiac	**2**
Infective endocarditis	2
CNS	**2**
Meningitis and encephalitis	1
CNS infections	1
Infections in pregnancy	**2**
Urinary tract infections in pregnancy	1
Infections in pregnancy	1
Bone and joint	**1**
Bone	1
Burn	**1**
Sepsis detection in burns, indication of bone harvest in case of osteitis, indication for blood culture in burns	1
Community-acquired infections	**1**
How to treat the community acquired infection in different severity and for how long to prescribe the antibiotics	1
Duration	**1**
For how long to prescribe the antibiotics	1
Implantable devices	**1**
Prosthetic	1
Infection control	**1**
Application of better hospital layout so patients with infectious diseases can be isolated properly	1
Meningitis	**1**
Meningitis algorithm	1
Surgical	**1**
Surgical site infections	1
Syndromic	**1**
Syndromic approach to URTI, LRTI, sepsis, vaginal or urethral discharge, SSTI, and bone and joint (my recommendations are based on what I saw practitioners having difficulty in diagnosis)	1
Respiratory tract infections (RTIs) - unspecified	**1**
RTIs	1
Viral vs bacterial	**1**
Centor criteria or new algorithm scoring that guides its bacterial or viral	1
Viral with superimposed bacterial	**1**
Viral infection like viral URTI which continues with superimposed secondary bacterial infections	1
Total	**69**

14) Is there additional content essential to your practice that you would like to see included in the future?

Variable	Very important	Important	Somewhat important	Not important	Grand Total	% Very important	% Very important & important
Antibiotic stewardship in hospitals	192	80	16	2	290	66%	94%
Summary tables for antibiotic classes and their spectrum of activity	178	97	12	6	293	61%	94%
Antibiotic stewardship in primary care	167	94	28	4	293	57%	89%
Common antibiotics interactions / side effects	158	111	20	3	292	54%	92%
How to interpret an antibiogram	156	91	33	10	290	54%	85%

15) Do you have any other suggestions on content to add?

Thematically grouped responses	Count
Other	**8**
The document is a bit long, perhaps a shorter graphic version for primary care as well to accompany the book?	1
Recommendations to prevent antibiotic resistance and misuse	1
Please make carbapenems Reserve drug, now it is Watch	1
Evaluation grid for effective antibiotic therapy	1
Safety evaluations	1
Bone collection kits for acute osteitis	1
Antibiotic dilutions	1
Newer antimicrobials in pipeline	1
Adverse events	**4**
What are the antibiotic where we need to follow certain precautions to prevent immediate adverse reactions	1
Side effects and interactions with other drugs	1
Contraindications with the drugs	1
Having a non-comprehensive section on side effects and drug-drug interactions	1
Bug-drug combinations	**4**
Site specific drug-bug combination	1
List of main pathogens, infections that cause and antibiotics and appropriate doses	1
How to interpret a culture AST report to choose an antibiotic	1
List of first- and second-line antibiotics and their spectrum	1
Pharmacologic properties	**3**
Differentiation between antimicrobial agents of the same class	2
Bioavailability and stability	1
Duration	**3**
Recommendations about best duration to treat each infection	2
Evidence and support for shorter durations	1
Alternatives	**2**
Drug allergy and choice for alternative drugs chart	1

Alternatives are not only important in case of allergies but also due to shortages	1
Combination antibiotics	**2**
Recommended antibiotic combination table (synergistic or not)	1
Combination antibiotics	1
Spectrum of activity	**2**
Summary table of antibiotic classes and their spectrum of activity would be very useful	1
Non-comprehensive section on spectrum of activity for example in which you state the common errors or common missed concepts	1
Diagnostic stewardship	**2**
Yes, clinically relevant sampling (do and don'ts, diagnostic stewardship)	1
Specimen handling for microbiological analysis	1
Dose adjustment in renal/ hepatic failure	**2**
Renal assessment scoring for nephrotoxic drugs	1
Dose adjustments in organ failure e.g. liver disease and renal failure	1
Surgical	**1**
Surgical antimicrobial prophylaxis in LMICs for clean and clean contaminated surgeries	1
Preparation	**1**
Correct method of dilution and the duration of antibiotics	1
Tuberculosis	**1**
Tuberculosis management with mono-resistance & MDR	1
Debunking myths in AMS	**1**
I think there are a lot of other references out there so the focus of this work could be on debunking common myths and supporting stewardship leaders (if WHO says it then it often holds power in a conference room) - this is why I suggest against making this a comprehensive infectious disease resource and having a non-comprehensive section on side effects and DDIs or spectrum of activity for example in which you state the common errors or common missed concepts, but partnering with other entities who could do some of the regular updating. I also suggest to add a section on Therapeutic drug monitoring as in most hospitals it is an afterthought although necessary and some hospitals don't buy or outsource the testing as it is not seen as necessary.	1
Allergy de-labeling	**1**
Penicillin allergy: tools for de-labeling in community and hospital e.g., PEN-FAST scores	1
Dental	**1**
I would run customized surveys to dentists who might be a potent source for over treatment with antibiotics	1
Therapeutic drug monitoring (TDM)	**1**
I also suggest adding a section on TDM as in most hospitals it is an afterthought although necessary and some hospitals don't buy or outsource the testing as it is not seen as necessary	1
Awareness	**1**
Society awareness is the basic	1
Antibiogram	**1**
Antibiogram must be there in every institution depending on the infection prevalence in that institution	1
PK/PD optimization	**1**
The better way to provide bolus/ drip continuous	1

Total	**42**

16) Is there any recommendation in the book that you disagree with and would consider inappropriate in your setting (only applies to antibiotic choice)?

Thematically grouped responses	**Count**
Conflict between AWaRe and WHO list of medically important antimicrobials	**2**
The AWaRe classification of antibiotics and WHO List of Medically Important Antimicrobials (2024) have some conflicts, Table 2 are antimicrobials authorized only for use in humans, cefoperazone-sulbactam and ceftriaxone-sulbactam are listed in 3rd-, 4th- and 5th generation cephalosporins with β-lactamase inhibitors, but both cefoperazone-sulbactam and ceftriaxone-sulbactam were listed not recommended use in the WHO AWaRe (Access, Watch, Reserve) classification. Cefotaxime-tazobactam can be listed antibiotics not recommended?	1
The AWaRe classification of antibiotics and WHO List of Medically Important Antimicrobials (2024) have some conflicts, Table 2 are antimicrobials authorized only for use in humans, cefoperazone-sulbactam and ceftriaxone-sulbactam are listed in 3rd-, 4th- and 5th generation cephalosporins with β-lactamase inhibitors, but both cefoperazone-sulbactam and ceftriaxone-sulbactam were listed not recommended use in the WHO AWaRe (Access, Watch, Reserve) classification. Cefotaxime-tazobactam can be listed antibiotics not recommended? Cefotaxime-tazobactam has be used in China.	1
Other	**2**
They should mention first and second line for common conditions	1
Safety is key to the user and should be part of the evaluation	1
Recommendation on format	**1**
Not at the moment, but online video content of each chapter with a certificate at the end would be an excellent addition.	1
UTI	**1**
Lower UTI: query use of co-amoxiclav for ESBL (IDSA 2023 guidance). National guidance antibiotic prescribing i.e. cefalexin treatment option. Nitrofurantoin 3-day duration could be considered and if history of recurrent infection or inadequate treatment response, consider extending treatment to 5 days.	1
Sinusitis	**1**
Sinusitis: co-amoxiclav not first line, only recommended in severe/worsening infection on Irish national prescribing guidelines on antibiotic prescribing.ie Lower UTI: query use of co-amoxiclav for ESBL (IDSA 2023 guidance). National guidance antibioticprescribing.ie cefalexin treatment option. Nitrofurantoin 3-day duration could be considered and if history of recurrent infection or inadequate treatment response, consider extending treatment to 5 days.	1
Wound infection	**1**
For the prophylaxis of contaminated wounds, you systematically use metronidazole for anaerobes without specifying the region which could be concerned	1
Elaborate	**1**
I agree with all choices, but I suggest to highlight that choices of certain antibiotics (e.g. ciprofloxacin in children) may differ from what is recommended in high income countries. Likewise, the "to adapt to severity, host vulnerability and local AMR" could be more explained.	1
CDAD	**1**

CDAD: Fidaxomicin also a treatment option listed in our national guidance https://www.hse.ie/eng/services/list/2/gp/antibiotic-prescribing/conditions-and-treatments/gastro/clostridium-difficile/clostridium-difficile.html (also ESCMID guidelines)	1
Phenoxymethylpenicillin	**1**
I just started to use it, so I have little experience. I was surprised of the phenoxymethylpenicillin recommendation for CAP, (despite the very good sensitivity rate of pneumococci for penicillin)	1
Total	**11**

17) Is there any dosing guidance in the book that you disagree with and would consider inappropriate in your setting?

Thematically grouped responses	Count
Dose adjustment in hepatic/ renal insufficiency	**1**
Hepato- renal assessment guidelines with good relevant studies	1
Dose ranges and maximums	**1**
Whenever you have a dose range (example, vancomycin 15-20mg/kg q12h under sepsis and septic shock), it is important to say when to use which end of the range, and to specify a maximum daily dose and a maximum dose per administration in this specific case)	1
PK/PD optimization	**1**
Finally, I do not recall seeing anything about the role of prolonged infusion which is a mainstay of therapy for resistant infections especially in infections where bioavailability is expected to be low (augmented renal clearance and pneumonia or bacteremia for example) and I suggest to add this as its sometimes the only remaining option to optimize therapy	1
TDM	**1**
Also, even if you decide not to add a TDM section, it will be good to mention when TDM is needed under each indication (so vancomycin, aminoglycosides when used therapeutically and voriconazole if you decide to add invasive fungal infections)	1
Vancomycin	**1**
Vancomycin dosing	1
Total	**5**

18) Is there any treatment duration guidance in the AWaRe antibiotic book that you disagree with and would consider inappropriate in your setting?

Thematically grouped responses	Frequency
Pneumonia	**3**
CAP could be treated as short as 3d in some cases	1
Yes, for HAP, duration can be as short as 3 or 5 days. I would be weary of having it as 3 days, but 5 days is possible under certain contexts which you could specify.	1
Please consider decreasing the duration of treatment of all pneumonia to 5 days given the increasing body of data	1
Duration section	**3**
Section on short duration and the evidence would be helpful by major syndromes	1
Yes. At what time the drug should be stopped or tailed up	1

There is still much resistance to antibiotic courses that last less than 7 days. Maybe a discussion on the basis for durations of treatment (empiric, observational in most cases) plus a summary of evidence for the proposed durations could be included in the manual	1
UTI and nitrofurantoin	**1**
3-5 days for UTI with nitrofurantoin	1
Coagulase negative *staphylococcus*	**1**
If you add coagulase negative staph, specify 7 days of vancomycin therapy	1
Immunocompromised	**1**
Immune compromises patients may require longer duration specially in febrile neutropenia	1
Total	**9**

19) Is there any recommendation in the book that you were unable to follow due to unavailability of the recommended first or second choice antibiotics in your setting?

Is there any recommendation in the book that you were unable to follow due to unavailability of the recommended first or second choice antibiotics in your setting?	Count
Yes	7
Cefazolin is largely unavailable. Also, penicillin G.	1
We had discussions because of the non-availability of clindamycin, piperacillin-tazobactam and meropenem: instead, the (less preferred) lincomycin, ticarcillin-clavulanic acid and imipenem were present (and promoted). Likewise, combination products with the new beta lactam inhibitors, plazomycin, cefiderocol, linezolid and fosfomycin are not available or not affordable at places we are working.	1
In some countries, oxacillin or related products are not on the national EML	1
Monoclonal medication and Immunotherapeutic drugs	1
Yes, availability of cefoxitin	1
We do not use clarithromycin in our region - would use doxycycline (mild/mod) or azithromycin (severe) for CAP in adults, we don't have cefixime	1
Yes, cloxacillin is not available	1
Yes. Availability of meropenem in LMIC is a challenge	1

20) Did you notice any errors in the book?

Responses	Count
In the oral health section regarding children smoking cessation was advised as a prevention. I would suggest that advice regarding not commencing smoking and tobacco use in general should be included. For adults both smoking and tobacco use should be noted under prevention.	1
You can't access or download the book currently (403 forbidden notice appears)	1
Few guidelines maybe erroneous about antibiotic stewardship	1
A. baumannii is intrinsically resistant to fosfomycin	1
Ensure side effects of quinolones is in each section	1

21) Do you think any sections in the book were sometimes ambiguous and lacked clarity?

Responses
Under oral health there was a reference to the use of metronidazole, but no guidance provided for dosages when needed. Omitted reference to dry socket and/or osteonecrosis- post traumatic extraction etc.
Management of gingivitis and periodontitis it does not go in the different stages of those diseases it just generalizes which make every day decision-making challenging
Depends on health care system facility audio
There is some inconsistency in the section of "Other Laboratory Tests" between different conditions. For example, pregnancy tests are recommended for differential diagnosis of acute appendicitis but is not suggested for acute diverticulitis (although clinical presentation can be very similar). Blood urea nitrogen is mentioned for community acquired pneumonia but is not present for hospital acquired pneumonia. It is not clear when only white cell blood count is recommended and when full blood count (when in practice it is often one test).
Reserve antibiotics
Regarding CRAB infections
I am working mostly with the French-language infographics - it is great to have these infographics with the essentials, but it is a pity that the explanations of the English text version are not available.
Yes, how this book be useful when already good guidelines are available? Rationale is lacking, why?
More clarity on surgical prophylaxis for clean contaminated surgeries in LMICs
The section regarding antibiotic prophylaxis (AP) for prevention of surgical site infection before oral surgical procedure. It should be added a paragraph if AP is recommended or not in common scenarios (e.g. dental extraction, implant surgery etc.), many dentists overprescribe antibiotics due to the absence of international and national (often) guidelines.
Always could be sharpened but nothing major
Most likely pathogens and susceptibility can differ by region - could consider link out to local data where possible
Antibiotic prophylaxis for contaminated wounds that does not take into account the body region concerned

22) Do you have any suggestions on how to improve the format of the book (layout, organization, readability, etc.)?

Format (layout, organization, readability) grouped thematically	Count
Audio version	**1**
Audible	1
Color code pediatric and adult pages	**1**
Change the color of adults and pediatric pages - it can be very confusing when reading a page and then realizing it is for adults when looking for peds etc and can lead to errors (look alike sound alike concept).	1
Pocket book	**3**
A graphic summary with a few tables would be useful	1
Published in pocket format to allow it to be available in the form of a guide to consult at any time	1
Needs to have a pocket book: summarized version for MDs	1
Printed version	**1**

It would be of interest to have a printed version. One of the great "side-effects" of the AWaRe Antibiotic Handbook is that it is a very valuable "starting-up" guideline for clinical bacteriology. I recommend the AWaRe handbook also for my MD students in (in Belgium) preparing for rotations in LMIC and in particular also for laboratory technicians in french-speaking Africa. The pre-service training of laboratory technicians frequently lacks the clinical associations of bacteria and the AWaRe Handbook sections "Most likely pathogens" and "Diagnosis" are extremely useful for non-MDs or MDs in training to understand the clinical spectrum of bacteria. For the AMR labs in Benin, we provide a printed copy of the Infographics as a look-up booklet for the lab.	1
Total	**6**
Other comments related to content (not format)	
PK/PD	**1**
Increase analysis of antimicrobial PK/PD	1
Implementation plan	**1**
Implementation protocol	1
Surgical prophylaxis	**1**
More oriented on surgical prophylaxis in LMICs	1
Total	**3**
Positive feedback	**2**
Appreciate the readability of the book, and the layout for each disease condition makes the section easy to use	1
Authentic	1
Total	**2**

23) Do you have any suggestions on how to improve the app? (if you did not know about the app or you knew but never used it, please mention it in your comment)

Reply added from question 16 to report results: Indexing	**1**
Needs to be easier to find the required section	1

Thematically grouped replies	**Count**
Not aware of the app	15
Know, but can’t or don’t use it	4
Positive feedback	1
User experience	1
Monitoring	1
Total	**23**