

Consensual definition of antibiotic components according to the antibiotic classification in Korean hospitals.

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	CVR	Mean ± SD
Broad-spectrum antibacterial agents predominantly used for hospital-onset infections, for adult		
Amikacin (IV)	0.750	3.25 ± 0.71
Tobramycin (IV)	0.750	3.00 ± 0.53
Cefepime	1.000	4.00 ± 0.00
Ceftazidime	1.000	4.00 ± 0.00
Imipenem	1.000	4.00 ± 0.00
Meropenem	1.000	4.00 ± 0.00
Doripenem	1.000	4.00 ± 0.00
Piperaclonazobactam	1.000	4.00 ± 0.00
Other 4 th generation cephalosporins	1.000	3.75 ± 0.46
Broad-spectrum antibacterial agents predominantly used for community-acquired infections, for adult		
Ceftriaxone	1.000	3.75 ± 0.46
Cefazolin	0.750	3.75 ± 0.46
Cefepime	1.000	4.00 ± 0.00
Cefepidone	1.000	3.75 ± 0.46
Ceftriaxone	1.000	4.00 ± 0.00
Ertapenem	1.000	3.88 ± 0.35
Gentamicin	1.000	3.75 ± 0.46
Levofloxacin	1.000	3.88 ± 0.35
Moxifloxacin	1.000	3.88 ± 0.35
Ciprofloxacin	1.000	3.88 ± 0.35
Other fluorquinolones	0.750	3.63 ± 0.74
Other 1 st generation cephalosporins	0.750	3.13 ± 0.64
Antibacterial agents predominantly used for resistant gram-positive infections, for adult		
Linezolid	1.000	4.00 ± 0.00
Vancomycin (IV)	1.000	4.00 ± 0.00
Trovanam	1.000	4.00 ± 0.00
Narrow-spectrum beta-lactam agents, for adult		
Amoxicillin	1.000	4.00 ± 0.00
Amoxicillin/clavulanate	1.000	3.88 ± 0.35
Ampicillin	1.000	3.88 ± 0.35
Ampicillin/sulbactam	1.000	3.88 ± 0.35
Nafcillin	1.000	3.88 ± 0.35
Cefadroxil	1.000	3.75 ± 0.46
Cefazolin	1.000	3.88 ± 0.35
Cephalexin	1.000	3.75 ± 0.46
Cefuroxime	1.000	3.63 ± 0.52
Cefosixin	1.000	3.63 ± 0.52
Cefaclor	0.750	3.63 ± 0.74
Cefprozil	0.750	3.63 ± 0.74
Other 1 st generation cephalosporins	0.750	3.50 ± 0.76
Other 2 nd generation cephalosporins	0.750	3.50 ± 0.76
Antibacterial agents predominantly used for extensive antibiotic resistant gram-negative bacteria, for adult		
Colistin (IV)	1.000	4.00 ± 0.00
Ertapenem	1.000	3.88 ± 0.35
Ceftolozan-tazobactam	1.000	3.75 ± 0.46

Methods: The study consisted of two series of modified Delphi studies and was performed from July to August 2019. The study 'antibiotic classification in Korean hospitals' was performed first and followed by the study 'antibiotic components according to the antibiotic classification in Korean hospitals'. Each Delphi study included two rounds of surveys in order to gather opinions and refine the information related to each study. We recruited a total of 12 panels including infectious diseases physicians (10), professor of preventive medicine (1), and the researcher of Health Insurance Review & Assessment Service (1). The questions for the Round 1 survey in each study were adopted from the antibiotic classification of the NHSN.

Results: As for the first study, the response rate of each round was 58.3% (7/12) and 75.0% (9/12), respectively. Most of the subjects of the NHSN's antibiotic classification for adults were accepted except 'antibacterial agents posing the highest risk for *Clostridioides difficile* infection' (CVR = -1.000). On the contrary, all subjects for children were rejected. Finally, a total of 6 classifications were accepted. They were i) broad-spectrum antibacterial agents predominantly for hospital-onset infections, for adult (CVR = 1.000), ii) broad-spectrum antibacterial agents predominantly used for community-acquired infections, for adult (CVR = 1.000), iii) antibacterial agents predominantly used for resistant gram-positive infections, for adult (CVR = 1.000), iv) narrow-spectrum beta-lactam agents, for adult (CVR = 1.000), v) antibacterial agents predominantly used for extensive antibiotic resistant gram-negative bacteria, for adult (CVR = 1.000), and vi) total antibacterial agent (CVR = 1.000).

Conclusion: this study provides antibiotic classification for measuring antibiotic usage in Korean hospitals. This classification may guide to develop a system for measuring of antibiotic usage in each Korean hospital.

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156. Evaluating Antibiotic Use and Developing a Tool to Optimize Prescribing in a Pediatric HIV Clinic in Eswatini

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Session: P-6. Antimicrobial Stewardship: Program Development and Implementation

Background: Antibiotic resistance is an emerging global health issue, fueled by inadequate surveillance systems and the absence of antimicrobial stewardship. In resource-limited settings, antimicrobial use is often based on clinical evaluation rather than microbiologic evidence, making treatment guidelines and the education of healthcare providers paramount to ensuring appropriate antimicrobial prescribing. In a human immunodeficiency virus (HIV) clinic for children and their families in Eswatini, we sought to understand the use of antibiotics and identify specific areas for improvement.

Methods: We performed a retrospective patient chart review as part of a quality improvement (QI) initiative to assess antimicrobial use before and after implementation of a standardized antimicrobial guide. For each prescribing period, 100 random patient encounters were selected for review to observe if the indication for antibiotics, duration, and dose were consistent with World Health Organization (WHO) guidelines. Two physicians reviewed each encounter to determine the appropriateness of antibiotic use using a structured abstraction tool, with a third resolving discrepancies. Results were analyzed using a chi-square test of proportions and a structured survey was performed to assess perceptions of the guide.

Results: After the implementation of an antimicrobial guide, there was a significant decrease in the proportion of clinic visits with an antibiotic prescribed (p < 0.001). Incorrect indication for antimicrobial use decreased from 20.4% in the initial period, to 10.31% and 10.2% but did not reach significance (p = .0621) in the subsequent

periods after implementation. Incorrect dose/duration decreased from 10.47% in the initial period to 7.37% and 3.1% in the subsequent periods, but this was also not significant (p = 0.139). All prescribers who completed the survey used the antimicrobial guide and felt that it positively impacted their prescribing patterns.

Conclusion: Our study found that an antibiotic guide reduced and improved the prescription of antimicrobials. Antimicrobial stewardship is a global problem and this data demonstrates that practical solutions can have a lasting impact on antimicrobial prescribing in low resource settings.

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157. A Multidisciplinary Approach to Carbapenem Stewardship at a Large Community Hospital in Brooklyn, New York

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Session: P-6. Antimicrobial Stewardship: Program Development and Implementation

Background: Carbapenem-resistant gram-negative organisms are a continuously mounting threat, underscoring the need for effective antimicrobial stewardship interventions to improve the use of carbapenems. We sought to implement several multidisciplinary antimicrobial stewardship interventions beginning in January 2019 in an effort to reduce unnecessary meropenem use and the incidence of carbapenem-resistant gram-negatives.

Methods: Prospective audit and feedback was utilized daily in combination with weekly stewardship rounds between an Infectious Diseases pharmacist and physician in the Intensive Care Units. A second Infectious Diseases physician attended weekly interdisciplinary rounds on meropenem high-use units. Meropenem Days of Therapy (DOT) per 1,000 patient days and the incidence of meropenem resistant *Pseudomonas aeruginosa* and *Klebsiella pneumoniae* were compared by the chi-square test of proportions.

Results: Between 2018 and 2019 the institution's meropenem DOT per 1,000 patient days decreased 33%, from 57 to 38 days per 1,000 patient days (difference, 19 days per 1,000 patient days; p < 0.001). In the hospital antibiogram, the meropenem susceptibility of *Pseudomonas aeruginosa* over the same time period increased from 71% to 77% of isolates (difference, 6%; p = 0.009). A non-significant decrease in the susceptibility of meropenem to *Klebsiella pneumoniae* was also observed from 92 to 90% (difference, 2%; p = 0.1658).

Conclusion: These data support the need for antimicrobial stewardship efforts targeting broad-spectrum antimicrobials such as meropenem. In the setting of a sustained decrease in meropenem use over 12 months, we observed a significant improvement in the percent susceptibility rate of *Pseudomonas aeruginosa* to meropenem for the first time in five years.

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158. A multi-site, prospective study of antimicrobial prescribing practices in three low- or middle-income country hospitals

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Session: P-6. Antimicrobial Stewardship: Program Development and Implementation

Background: Antimicrobial stewardship programs (ASPs) are being developed internationally to mitigate the misuse of antimicrobials. An understanding of current practices and prescribing patterns is necessary to determine targets to develop context-specific ASPs in low- and middle-income country (LMIC) hospitals.

Methods: We conducted a prospective study of patients admitted to the adult medical wards at three LMIC tertiary care centers in 2018-2019: a 1,800-bed public hospital in Galle, Sri Lanka; a 991-bed public hospital in Eldoret, Kenya; and a 630-bed private hospital in Moshi, Tanzania. Information regarding antimicrobial therapy received during hospitalization, indications for antimicrobial therapy, and duration of antimicrobial use were extracted from the medical record.

Results: In total, 3150 patients were enrolled: 1297 in Sri Lanka, 750 in Kenya, and 1103 in Tanzania. Antimicrobial use prevalence varied between the three sites, with 56.0% of patients receiving antimicrobials during hospitalization in Sri Lanka, 56.5% in Kenya, and 35.4% in Tanzania. Third-generation cephalosporins were used most frequently in Kenya (70.0%) and Tanzania (73.1%), whereas amoxicillin/clavulanic acid was used most frequently in Sri Lanka (48.4%). Lower respiratory tract infection was the most common indication for antimicrobial use in all three locations: 37.4% in Sri Lanka, 27.8% in Kenya, and 49.2% in Tanzania. No clear indication for antimicrobial use was documented among 11.6% patients receiving antimicrobials in Sri Lanka, 32.8% in Kenya, and 10.5% in Tanzania. In Tanzania, 8.6% of the patients had documentation of input from the