

Supplementary Material 1. Antibiotic Heterogeneity Index Categories³

AHI Categories	The Percentage of AUD for Specific Class of Antibiotic
Recommended to use	<12.5%
Off supervision	12.5% - 20.9%
Restriction to use	>20.9%

Note. AHI, antibiotic heterogeneity index; AUD, antibiotic use density;

The ASP team recommend using the antibiotic regimen for “recommended to use” and “off supervision” categories and recommend against use if antibiotic was in the “restriction to use” category. Adjustment of appropriate antibiotics will consider the history of patient’s drug allergy and the occurrence of MDR-GNB.

Calculation of antibiotic heterogeneity index AHI, prevalence and incidence of MDR-GNB

$$AHI = 1 - \{n/[2 \times (n - 1)]\} \times \Sigma |a_i - b_i|$$

where n = the number of antimicrobial categories; $a_i = 1/n$, the proportion when the distribution of antibiotic use is uniform (0.2); b_i = the proportion of the given antimicrobial in the given study period.

$$prevalence \text{ (isolates/1000 patient – days)} = \frac{\text{Total number of isolates of MDRO overtime period}}{\text{Total isolates in the same period}} \times 1,000 \text{ patient days}$$

Incidence (isolates/1,000 patient – days) =

$$\frac{\text{Number of new isolates of MDR–GNB during a specific period}}{\text{Total isolates at risk in the same period}} \times 1,000 \text{ patient days}$$

Note: CRE surveillance culture and community-onset ESBL-producing microorganisms were excluded from incidence and prevalence calculation in both units.

Antibiotic classes for antibiotic heterogeneity index calculation

Intensive Care Unit	General Medicine Unit
<ol style="list-style-type: none"> 1. Third- and fourth-generation cephalosporins (eg, ceftazidime and cefepime) 2. Fluoroquinolones (eg, ciprofloxacin and levofloxacin) 3. BLBIs (eg, piperacillin/tazobactam, cefoperazone/sulbactam, and sulbactam) 4. Carbapenems (eg, meropenem, imipenem, and doripenem) 5. Tigecycline 	<ol style="list-style-type: none"> 1. Third- and fourth-generation cephalosporins (eg, ceftazidime and cefepime) 2. Fluoroquinolones (eg, ciprofloxacin and levofloxacin) 3. BLBIs (eg, piperacillin/tazobactam, cefoperazone/sulbactam, and sulbactam)

Note. BLBIs, β -lactam β -lactamase inhibitors.