SINAR
SURVEILLANCE OF INDONESIAN NETWORK ON ANTIMICROBIAL RESISTANCE

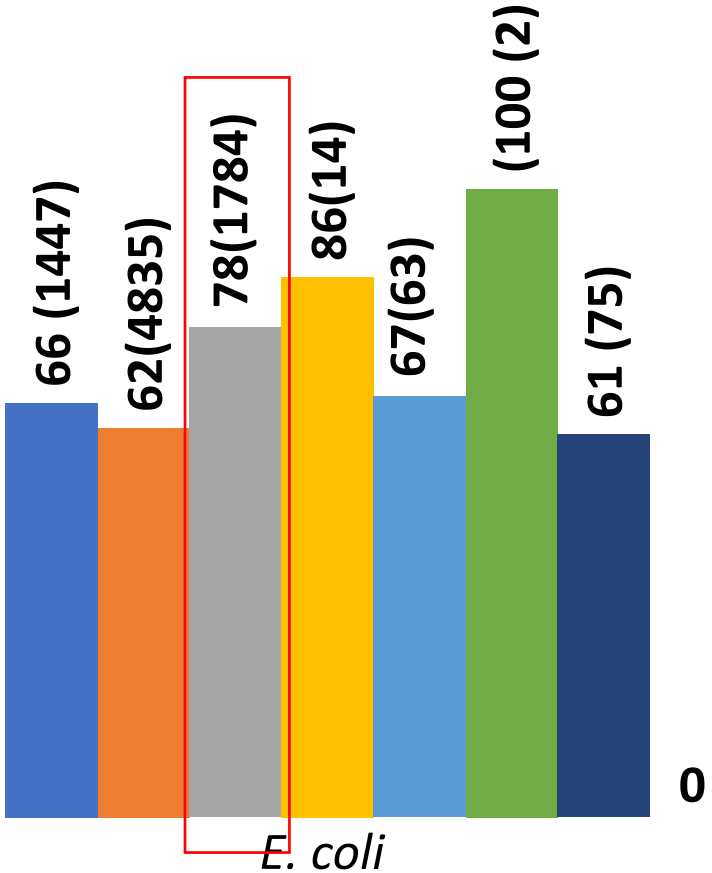
Surveilans 3rd cephalosporin resistant (3GC) dan CRE tahun 2022

Rosantia Sarassari

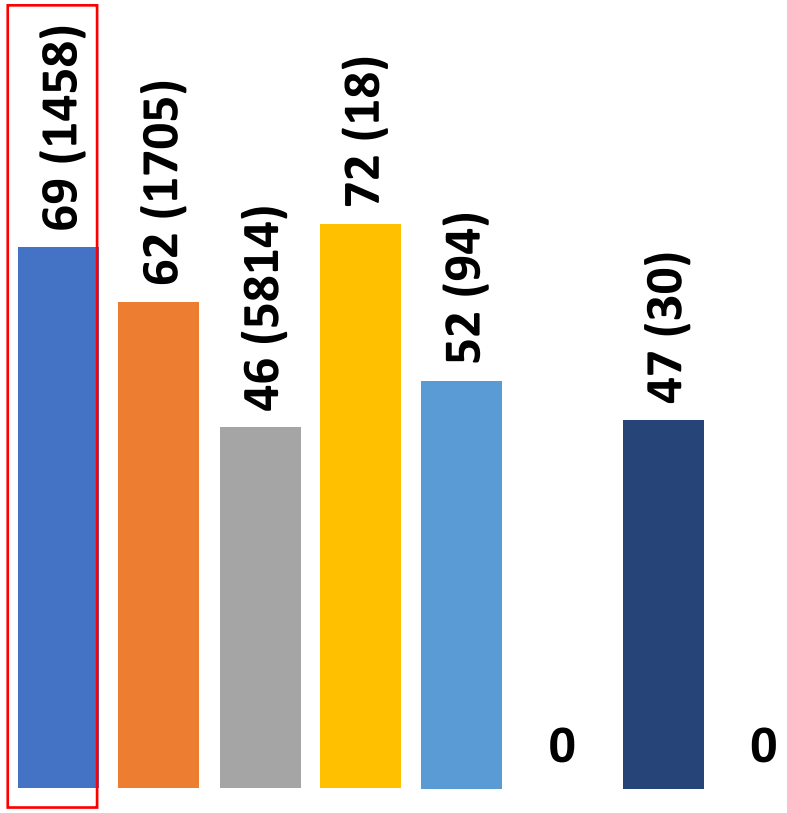
3rd generation cephalosporin resistant

Resistan terhadap salah satu antibiotika cephalosporin generasi ke-3 (Ceftriakson)

Distribusi Enterobacteriales resisten 3rd generation cephalosporin

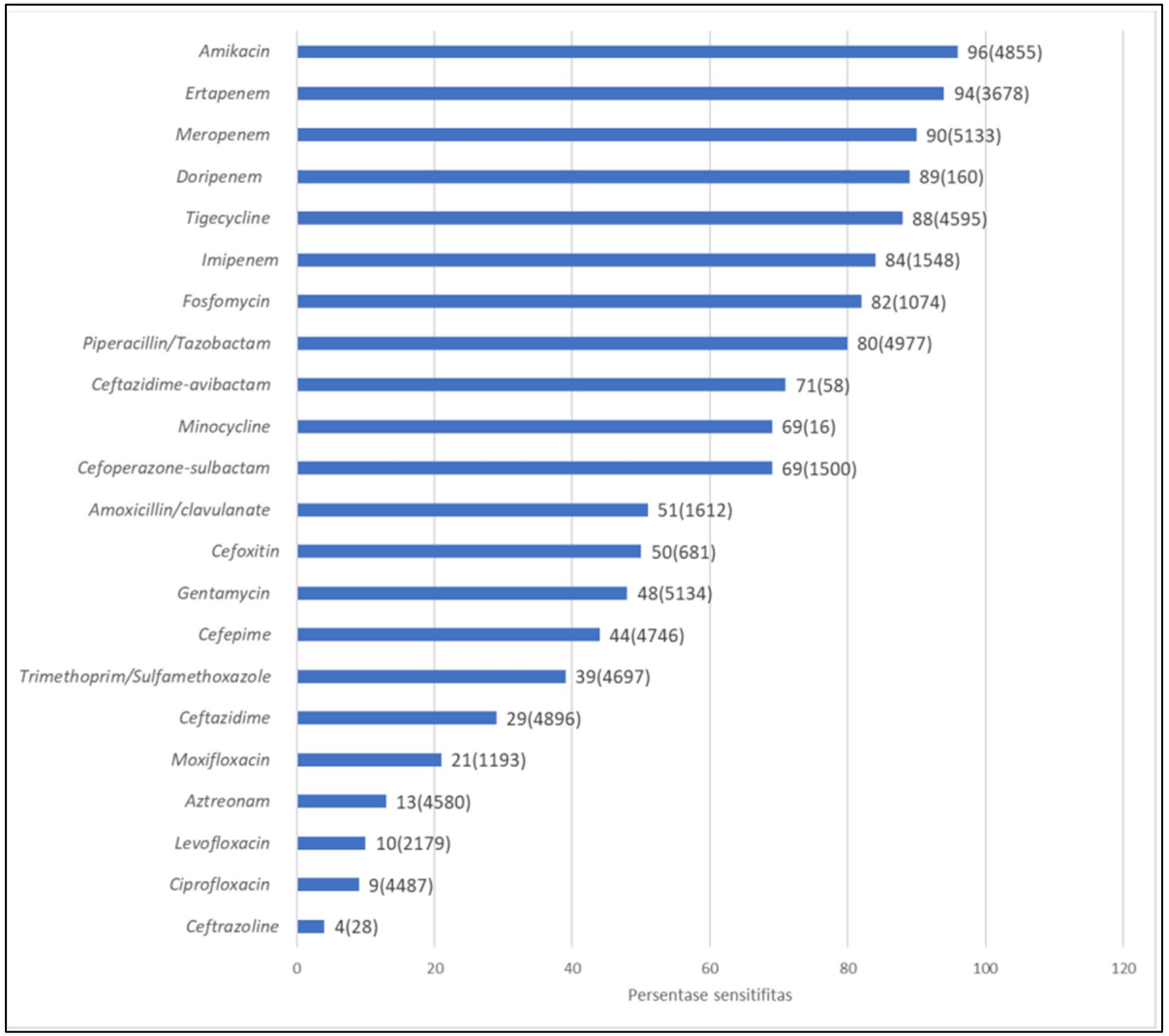


E. coli
3rd gen ceph resistant

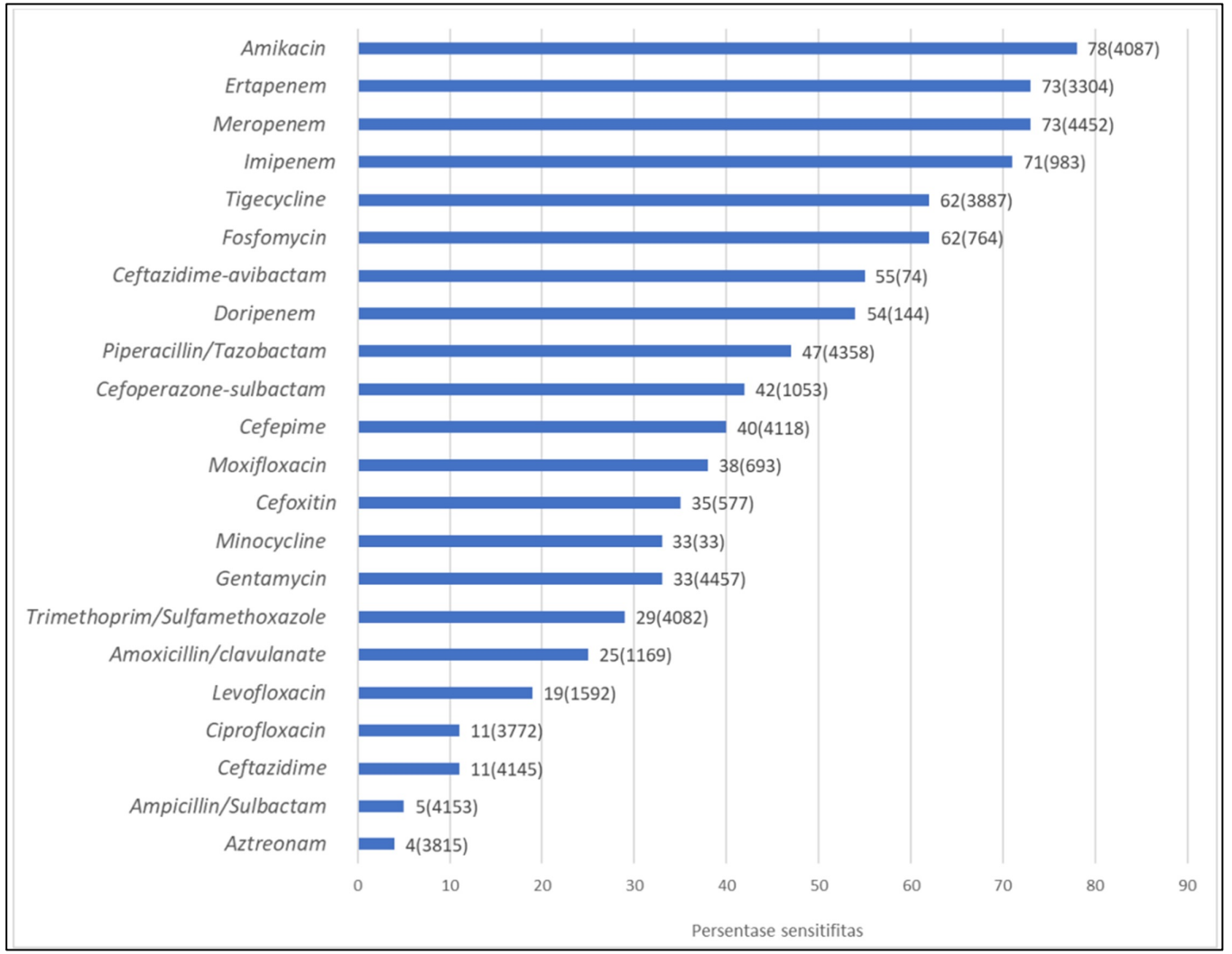


K.pneumoniae
3rd gen ceph resistant

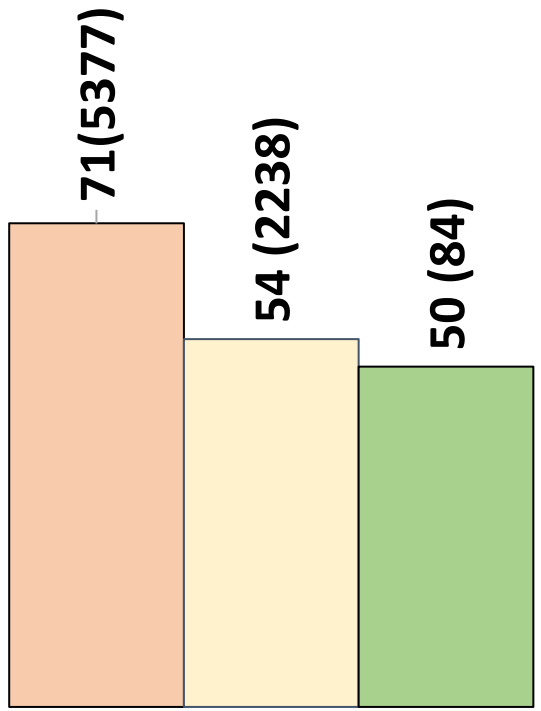
Antibiogram *E.coli*
3rd generation cephalosporin resistant



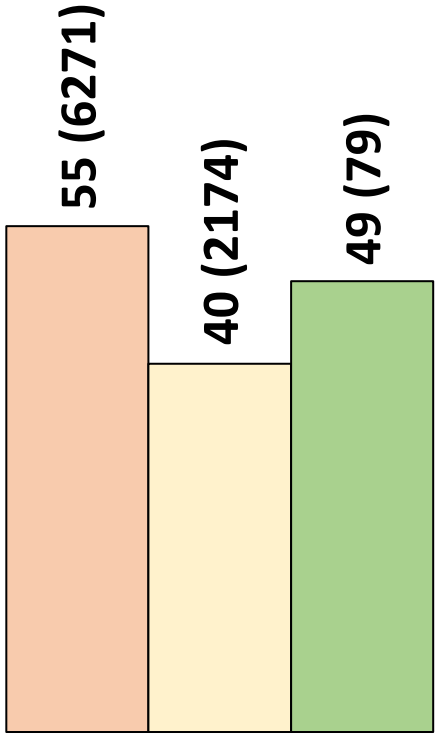
Antibiogram *K. pneumoniae* 3rd gen cephalosporin resistant



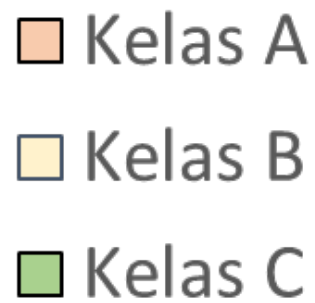
Distribusi Enterobacteriales resisten 3rd generation cephalosporin berdasarkan kelas rumah sakit



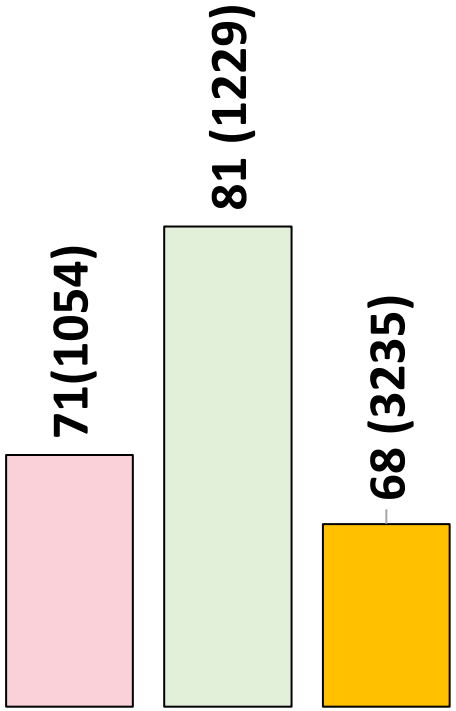
E.coli
3rd gen ceph resistant



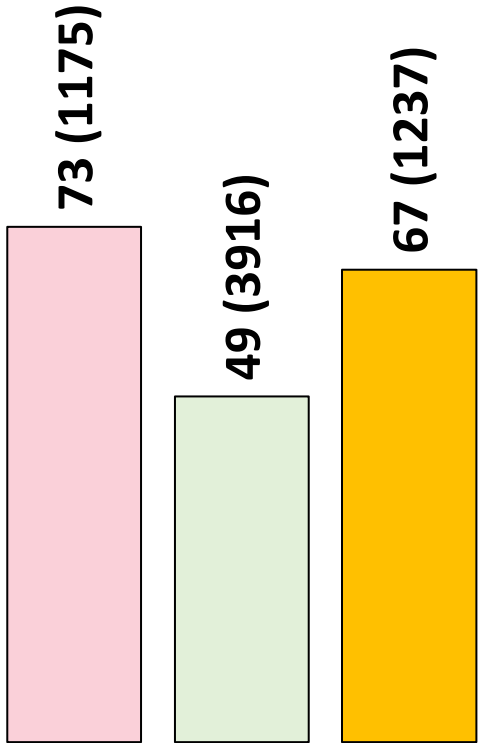
K.pneumoniae
3rd gen ceph resistant



Distribusi Enterobacteriales resisten 3rd generation cephalosporin berdasarkan spesimen di rumah sakit kelas A



E.coli 3rd gen ceph resistant



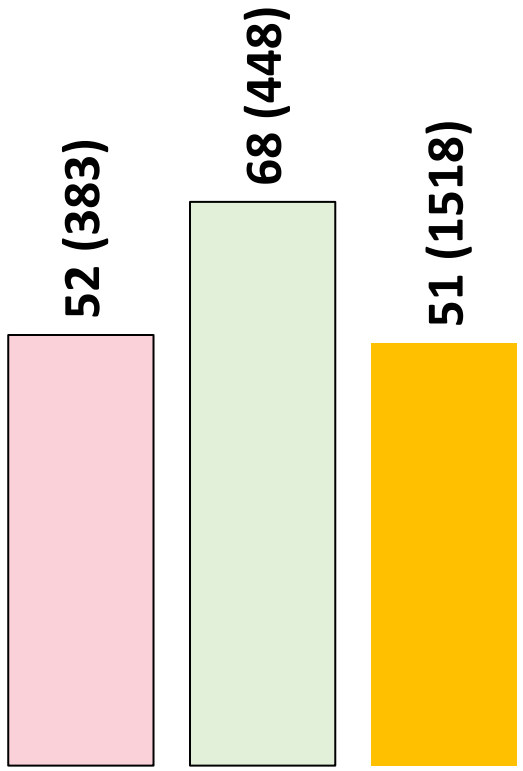
K.pneumoniae 3rd gen ceph resistant

Darah

Saluran nafas bawah

Urin

Distribusi Enterobacteriales resisten 3rd generation cephalosporin berdasarkan spesimen di rumah sakit kelas B



E.coli 3rd gen ceph resistant

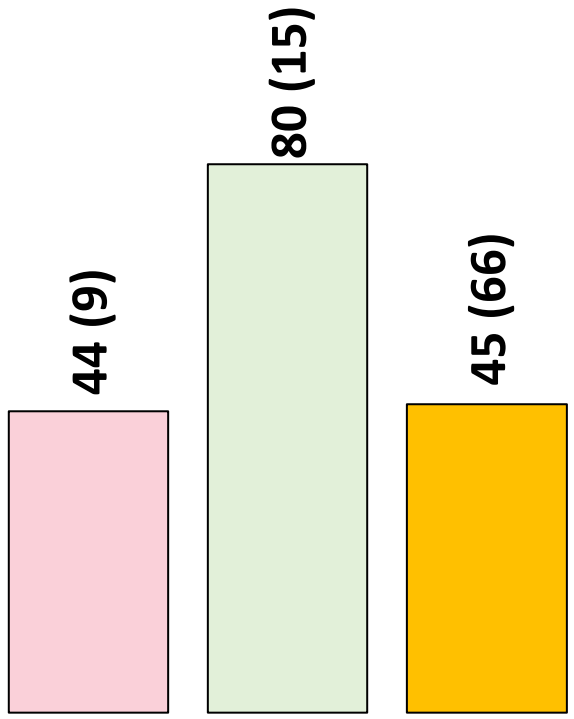
K. pneumoniae 3rd gen ceph resistant

Darah

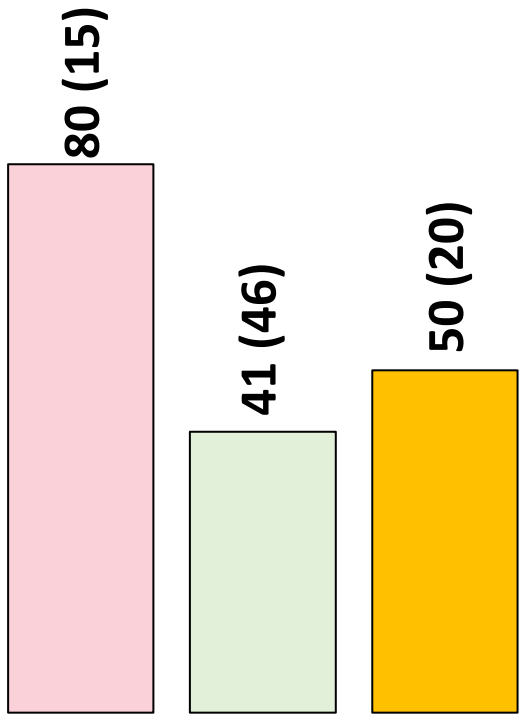
Saluran nafas bawah

Urin

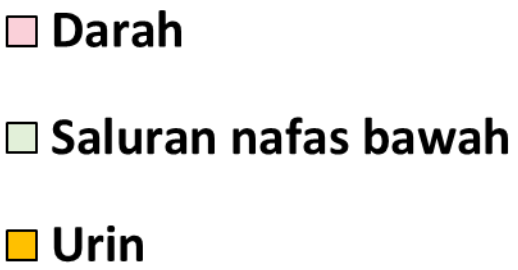
Distribusi Enterobacteriales resisten 3rd generation cephalosporin berdasarkan spesimen di rumah sakit kelas C



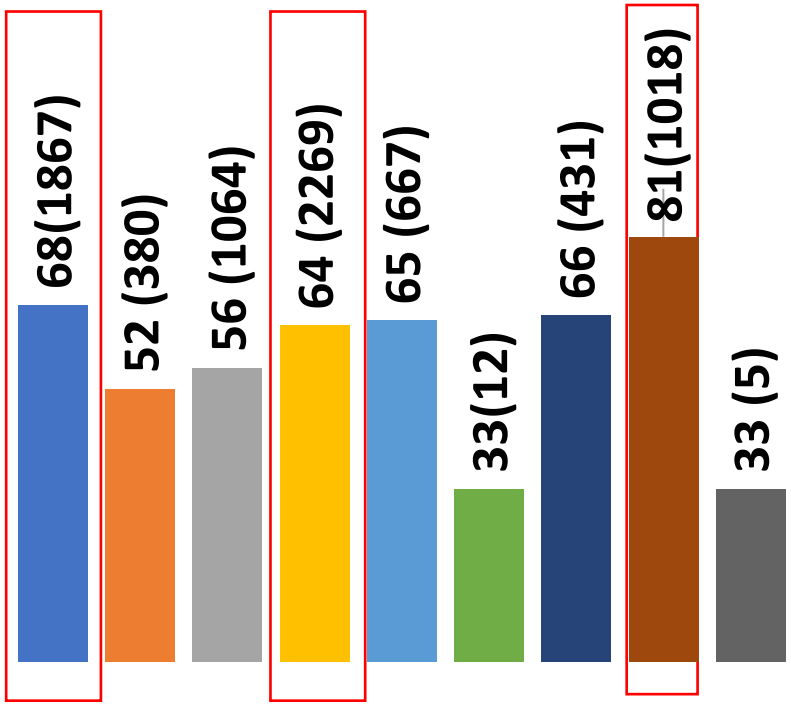
E.coli
3rd gen ceph resistant



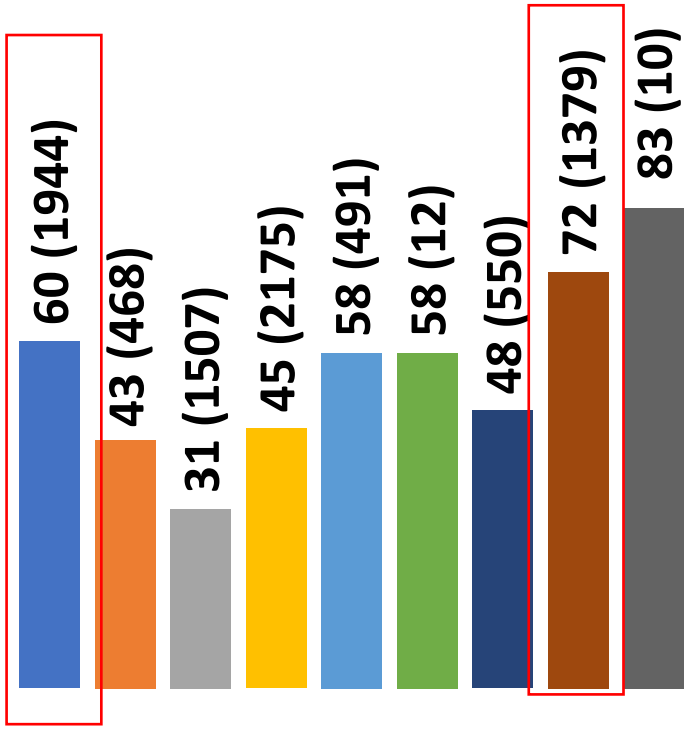
K. pneumoniae
3rd gen ceph resistant



Distribusi Enterobacteriales resisten 3rd generation cephalosporin berdasarkan perbandingan wilayah

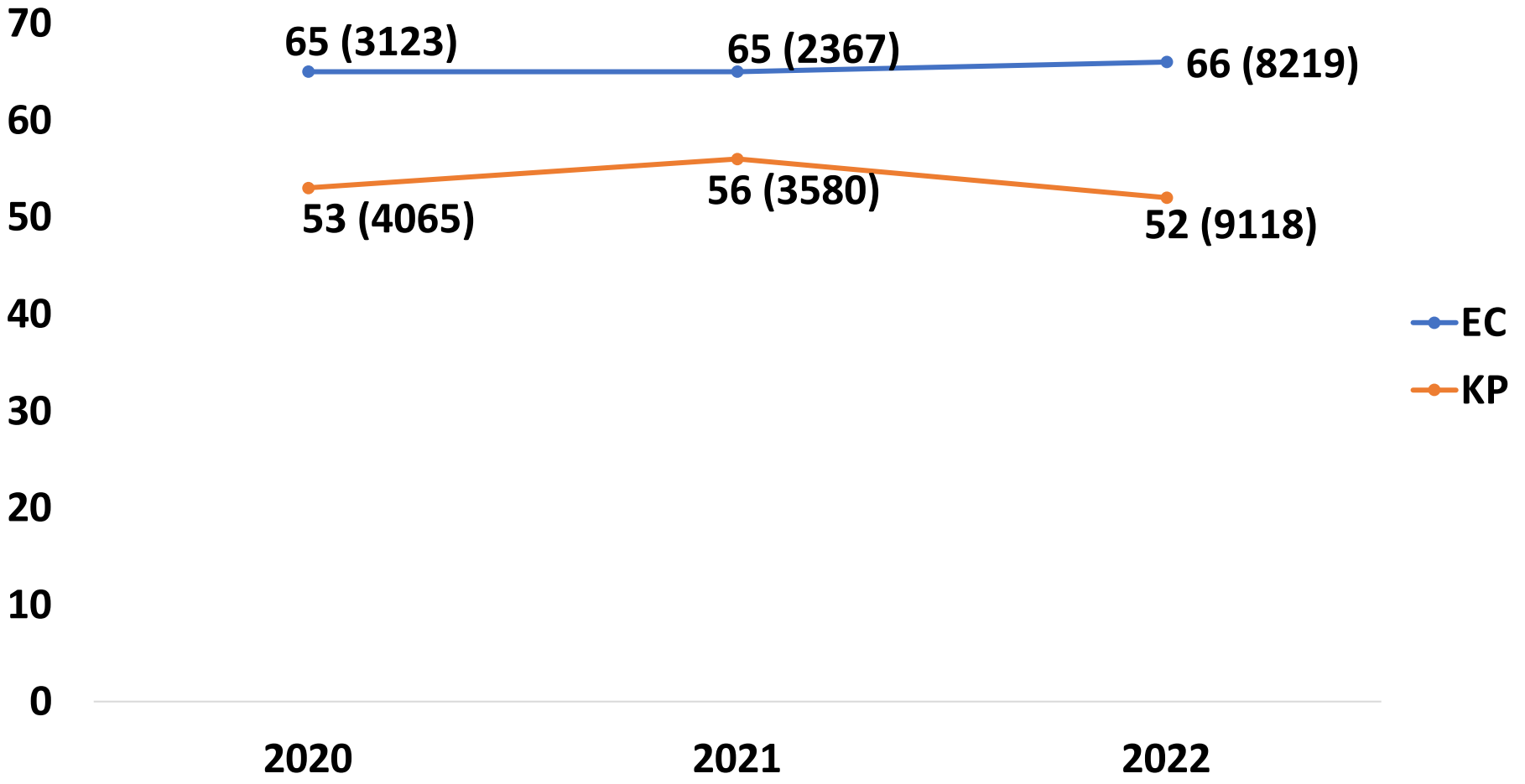


E.coli
3rd gen ceph resistant



K. pneumoniae
3rd gen ceph resistant

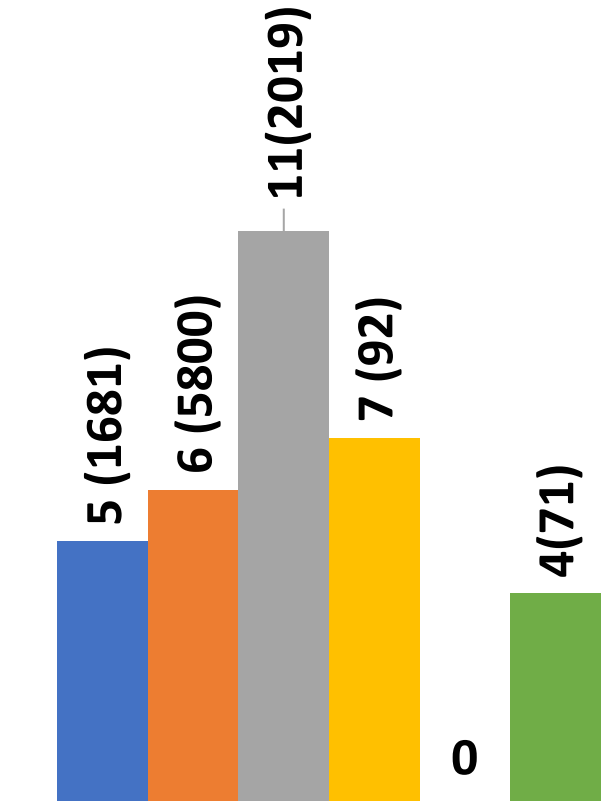
Tren
Enterobacteriales resisten 3rd generation cephalosporin



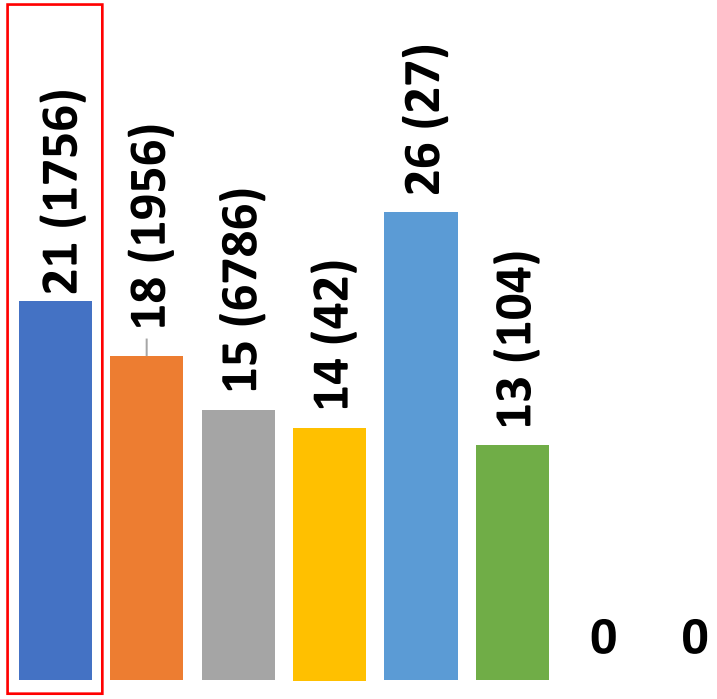
Carbapenem resistant Enterobacteriaceae (CRE)

Resistan terhadap salah satu antibiotika golongan carbapenem(Meropenem)

Distribusi CRE

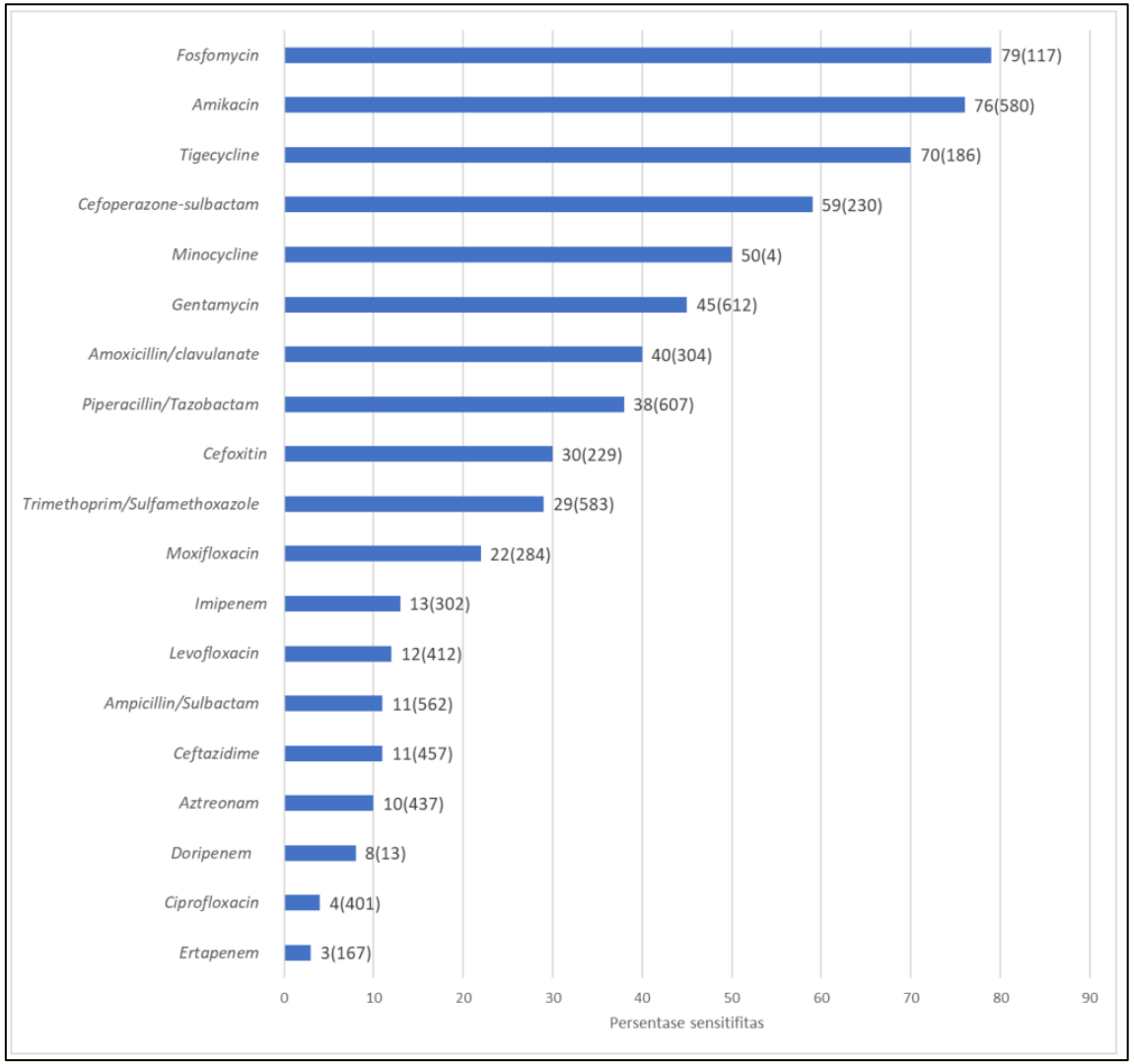


E.coli
carbapenem resistant

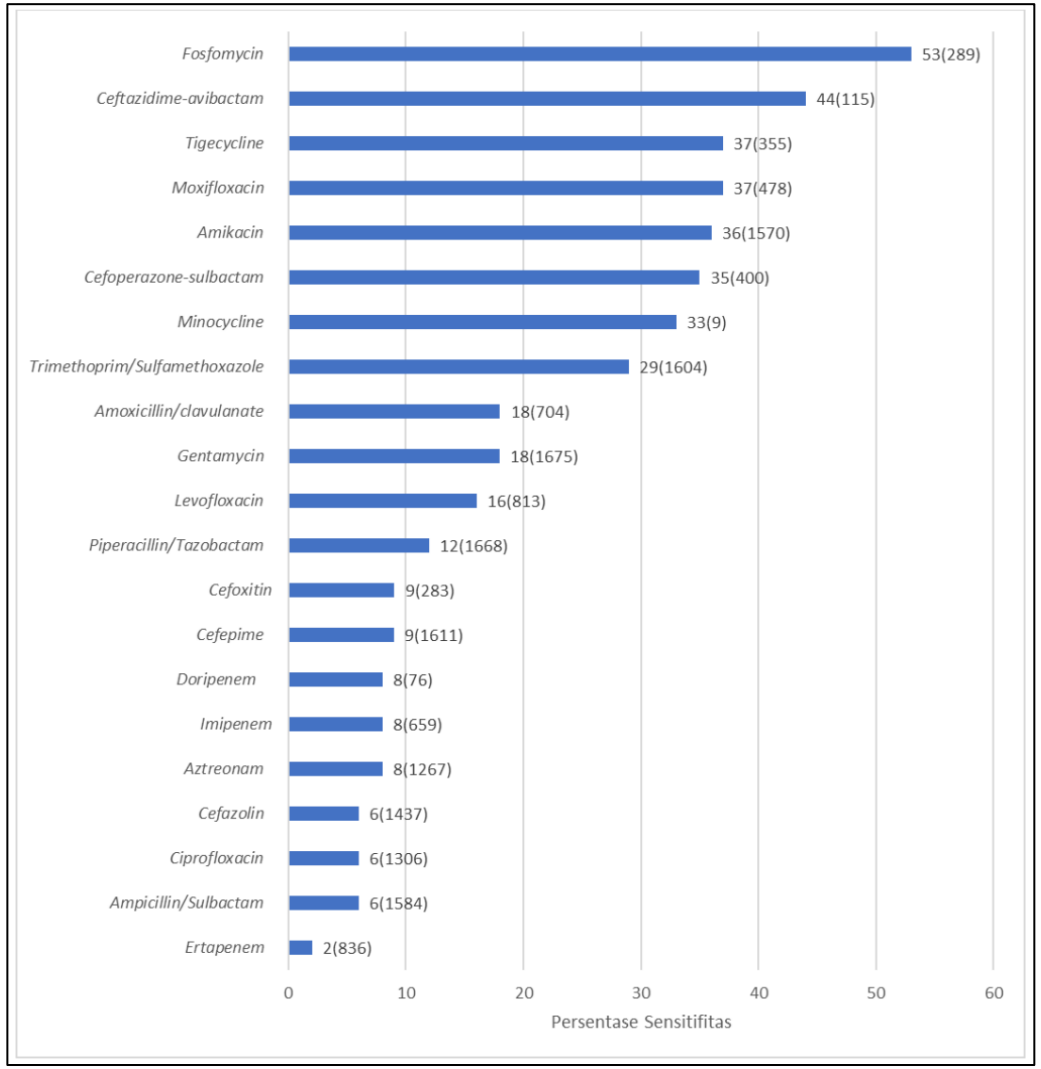


K.pneumoniae
carbapenem resistant

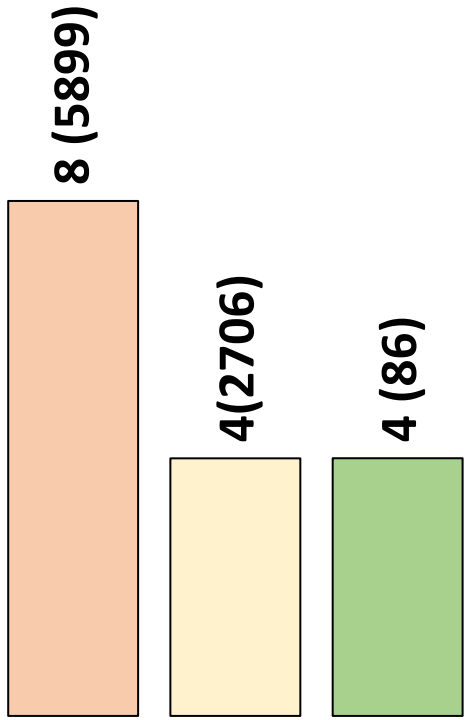
Antibiogram
E. coli carbapenem resistant



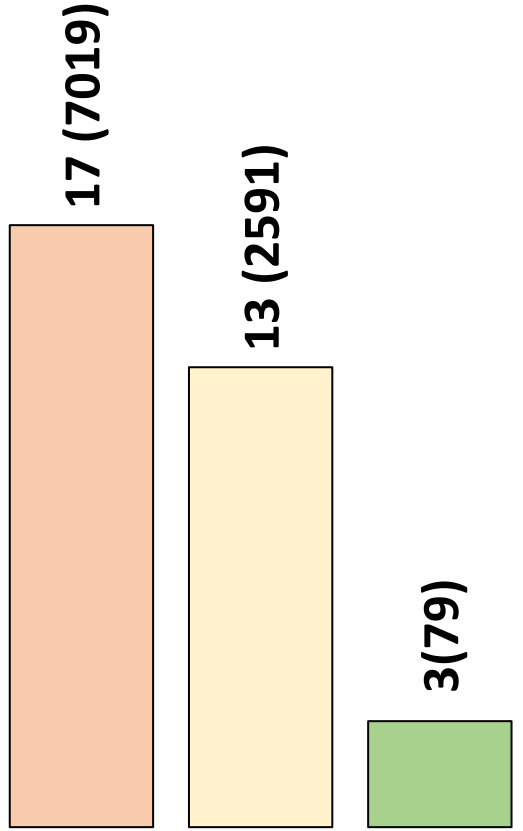
Antibiogram
K.pneumoniae carbapenem resistant



Distribusi CRE berdasarkan kelas RS



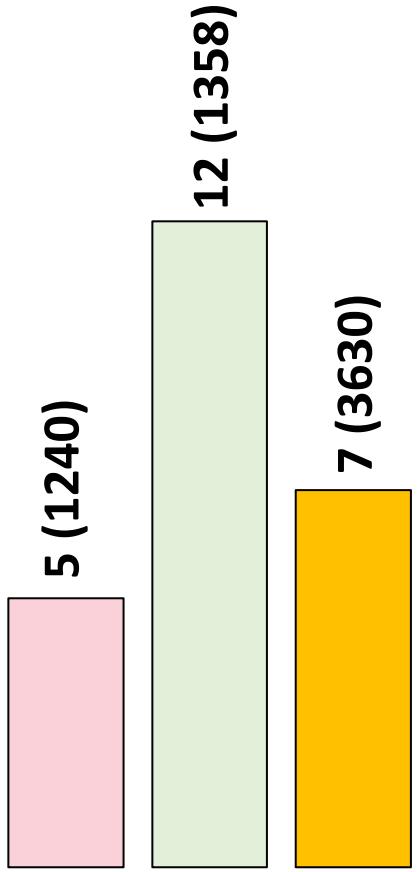
E.coli carbapenem resistant



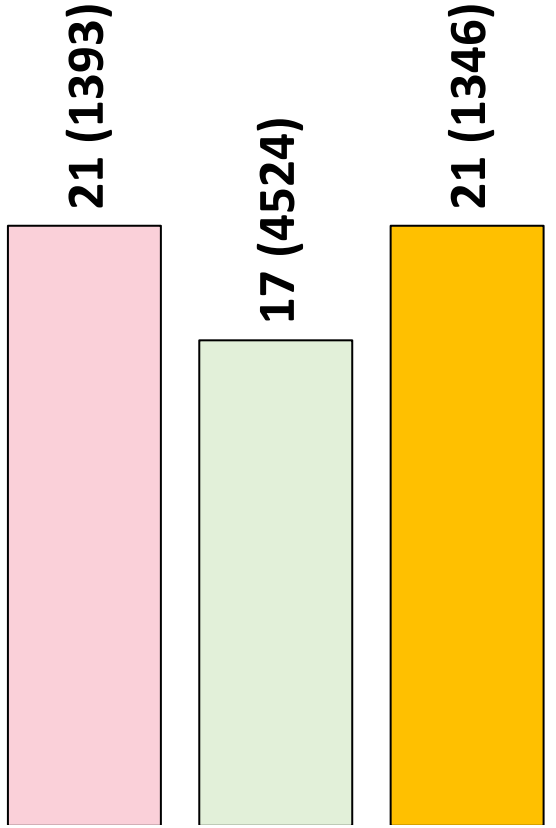
K. pneumonia carbapenem resistant

Kelas A
Kelas B
Kelas C

Distribusi CRE berdasarkan spesimen di RS kelas A



E.coli carbapenem resistant



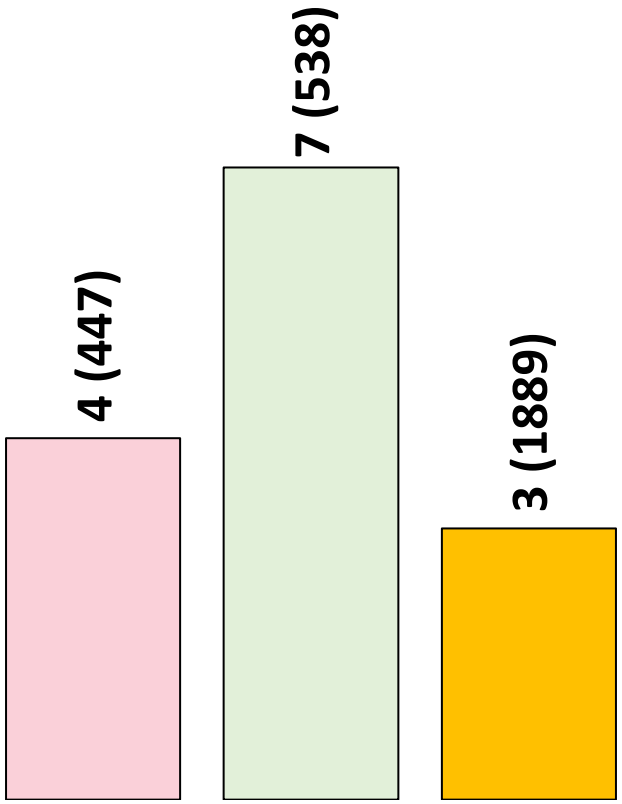
K. pneumoniae carbapenem resistant

Darah

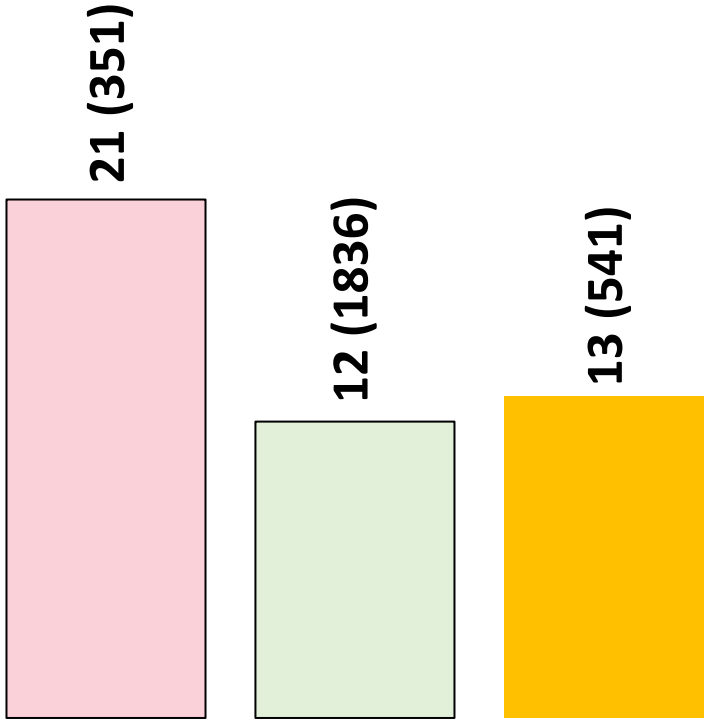
Saluran nafas bawah

Urin

Distribusi CRE berdasarkan spesimen di RS kelas B

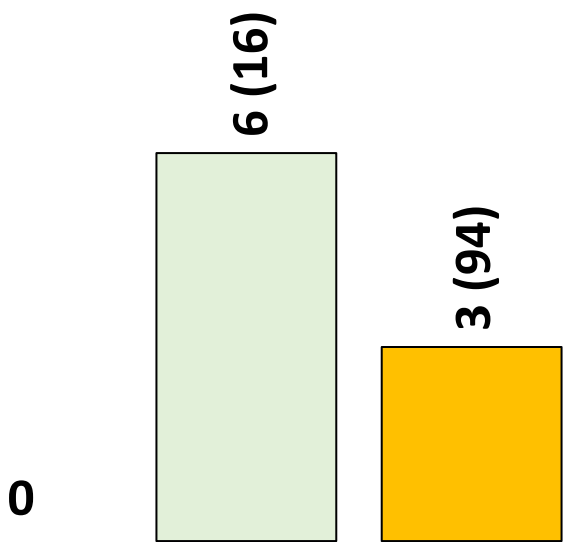


E.coli carbapenem resistant

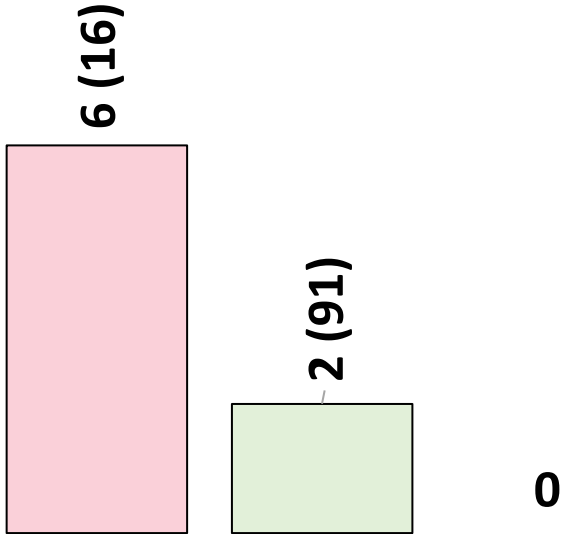


K. pneumoniae carbapenem resistant

Distribusi CRE berdasarkan spesimen di RS kelas C



E.coli carbapenem resistant



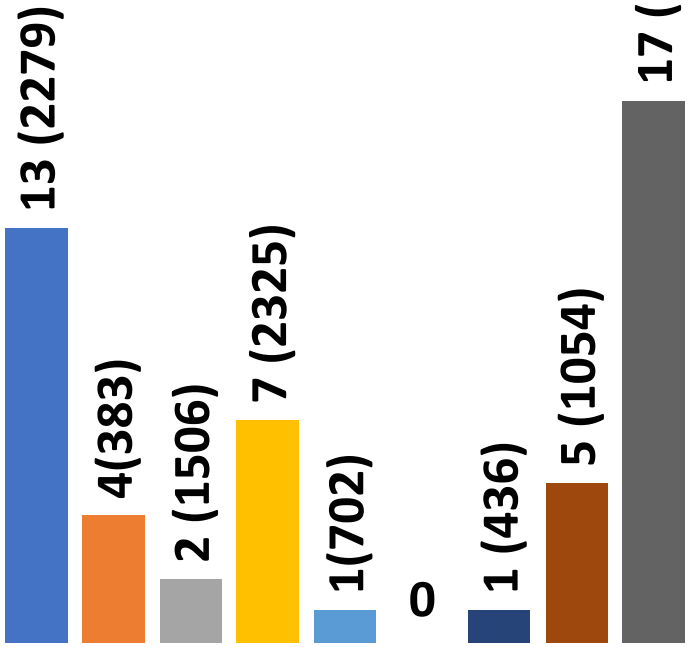
K. pneumoniae carbapenem resistant

Darah

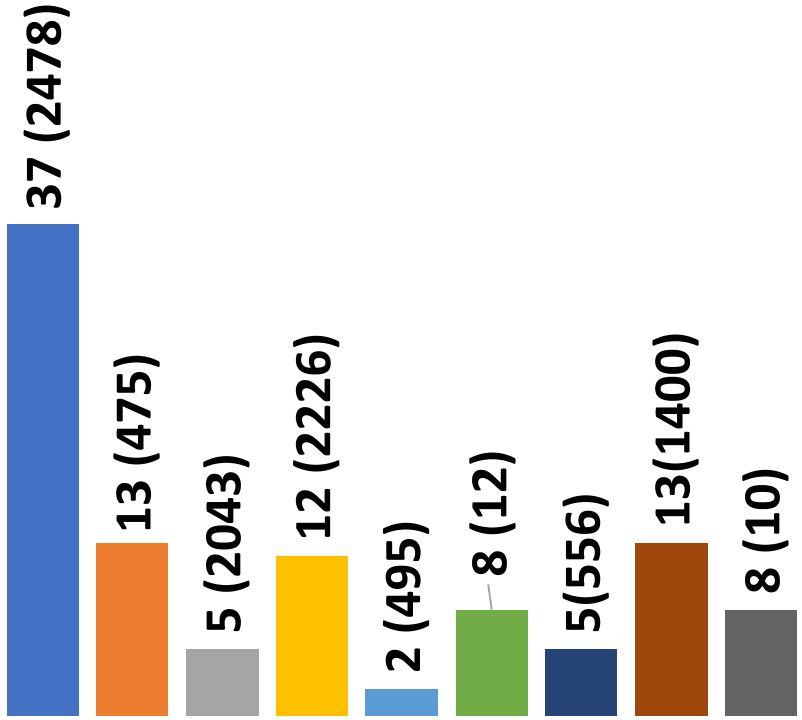
Saluran nafas bawah

Urin

Distribusi CRE berdasarkan wilayah

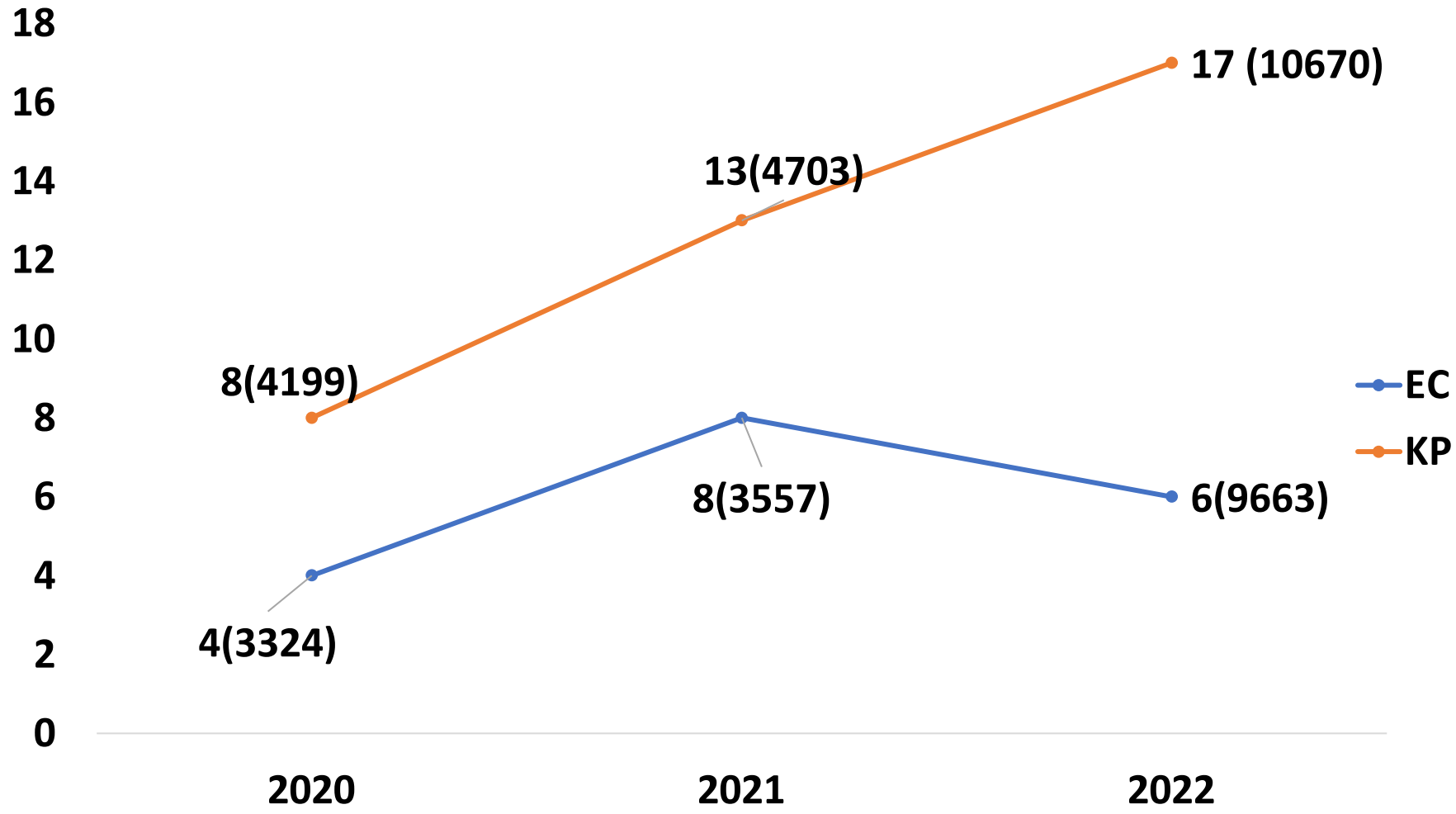


E.coli carbapenem resistant



K. pneumoniae carbapenem resistant

Tren CRE (2020-2022)



Terimakasih

Pola Patogen dan Antibiogram

di Indonesia Tahun 2022

Penyusun

Prof. Dr. dr. Kuntaman, MS, Sp.MK(K)
dr. Anis Karuniawati, Ph.D, Sp.MK(K)
Dr. dr. Wani Devita Gunardi, Sp.MK(K)
Dr. dr. Dewi Anggraini, Sp.MK(K)
dr. Dewi Santosaningsih, Ph.D, Sp.MK
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dr. Cahyarini, Sp.MK(K)
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62. Prof. Dr. dr. Ni Nyoman Sri Budayanti Sp.MK(K)

Table 3A. (Continued)

Test	Criteria for Performance of ESBL Test		ESBL Test	
Test method	Disk diffusion	Broth microdilution	Disk diffusion	Broth microdilution
Results	For *K. pneumoniae*, *K. oxytoca*, and *E. coli*:	Growth at or above the concentrations listed may indicate ESBL production (ie, for *E. coli*, *K. pneumoniae*, and *K. oxytoca*, MIC ≥8 µg/mL for cefpodoxime or MIC ≥2 µg/mL for ceftazidime, aztreonam, cefotaxime, or ceftriaxone; and for *P. mirabilis*, MIC ≥2 µg/mL for cefpodoxime, ceftazidime, or cefotaxime).	A ≥5-mm increase in a zone diameter for either antimicrobial agent tested in combination with clavulanate vs the zone diameter of the agent when tested alone = ESBL (eg, ceftazidime zone = 16; ceftazidime-clavulanate zone = 21).	A ≥3 2-fold concentration decrease in an MIC for either antimicrobial agent tested in combination with clavulanate vs the MIC of the agent when tested alone = ESBL (eg, ceftazidime MIC = 8 µg/mL; ceftazidime-clavulanate MIC = 1 µg/mL).
	Cefpodoxime zone ≤17 mm Ceftazidime zone ≤22 mm Aztreonam zone ≤27 mm Cefotaxime zone ≤27 mm Ceftriaxone zone ≤25 mm			
	For *P. mirabilis*:			
	Cefpodoxime zone ≤22 mm Ceftazidime zone ≤22 mm Cefotaxime zone ≤27 mm			
	Zones above may indicate ESBL production.			
Reporting			For all confirmed ESBL-producing strains: If laboratories use current cephalosporin and aztreonam breakpoints, test interpretations for these agents do not need to be changed from susceptible to resistant.	

Table 3A. Tests for Extended-Spectrum ß-Lactamases in *Klebsiella pneumoniae*, *Klebsiella oxytoca*, *Escherichia coli*, and *Proteus mirabilis*

NOTE 1: Following evaluation of PK/PD properties, limited clinical data, and MIC distributions, revised breakpoints for cefazolin, cefotaxime, ceftazidime, ceftizoxime, ceftriaxone, and aztreonam were published in January 2010 (M100-S20) and are listed in Table 2A. Cefuroxime (parenteral) was also evaluated; however, no change in breakpoints was necessary with the dosage. When using the current breakpoints, routine ESBL testing is not necessary before reporting results. **If ESBL testing is performed, the results may be used to guide therapeutic management or for epidemiological or infection prevention purposes.**

Some phenotypic ESBL tests have known limitations that affect sensitivity (eg, false-negative results due to the coproduction of an AmpC ß-lactamase) and specificity (eg, false-positive results due to hyperproduction of non-ESBL ß-lactamases combined with altered permeability). Genotypic methods are limited by the targets included in the assay (eg, most FDA-cleared ESBL assays target only bla_{CTX-M}). Limitations of phenotypic and genotypic methods must be considered.

Breakpoints for drugs with limited availability in many countries (eg, moxalactam, cefonicid, cefamandole, and cefoperazone) were not evaluated. If considering use of these drugs for *E. coli*, *Klebsiella pneumoniae*, *Klebsiella oxytoca*, or *Proteus mirabilis*, ESBL testing should be performed. If isolates test ESBL positive, the results for moxalactam, cefonicid, cefamandole, and cefoperazone should be reported as resistant.

NOTE 2: Information in black boldface type is new or modified since the previous edition.