



**SHARING :**

**ANTIBIOTIC USE DURING COVID-19 PANDEMIC  
IN SILOAM HOSPITALS BALI**

dr. Putri Mayuni



# POLICY OF ANTIBIOTIC USAGE IN SILOAM HOSPITALS BALI

## ANTIBIOTIC CATEGORIES IMPLEMENTED IN SILOAM HOSPITALS BALI

RESTRICTED

- CARBAPENEM
- VANCOMYCIN
- AMIKACIN
- TIGECYCLIN
- LINEZOLID
- CEFEPIME
- MOXIFLOXACIN

NON  
RESTRICTED

- OTHERS ANTIBIOTICS

## ANTIBIOTIC STEWARDSHIP PROGRAM (ASP)

### ▪ DEFINED COMMITTEE → PRA

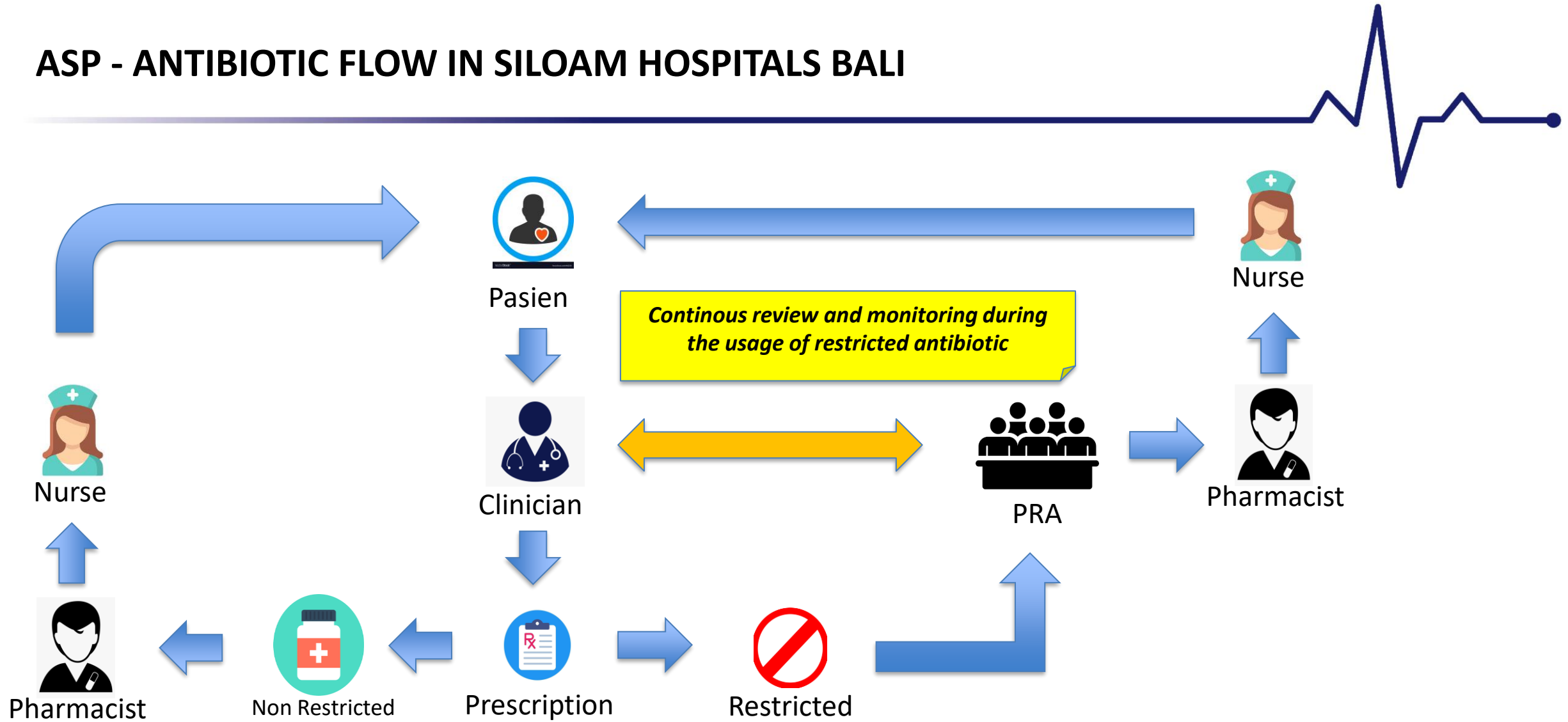
- ✓ CLINICAL MICROBIOLOGIST
- ✓ NURSING
- ✓ CLINICAL PHARMACIST
- ✓ CLINICIAN / DOCTORS
- ✓ PHARMACY AND THERAPY COMMITTEE
- ✓ PREVENTIVE AND CONTROL OF INFECTION COMMITTEE



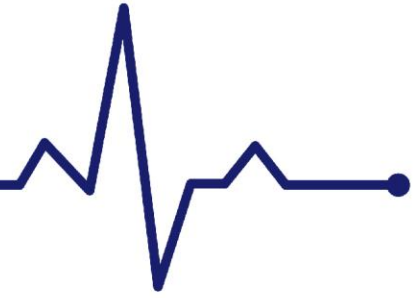
### ▪ COMMITTEE ROLE IN ASP

- ✓ ANTIBIOTIC USAGE REVIEW (QUALITATIVE , QUANTITATIVE)
- ✓ REVIEW ANTIBIOTIC SENSITIVITY PATERN
- ✓ PROVIDE CLINICAL DISCUSSION TO ENCOURAGE RATIONALITY OF ANTIBIOTIC USE

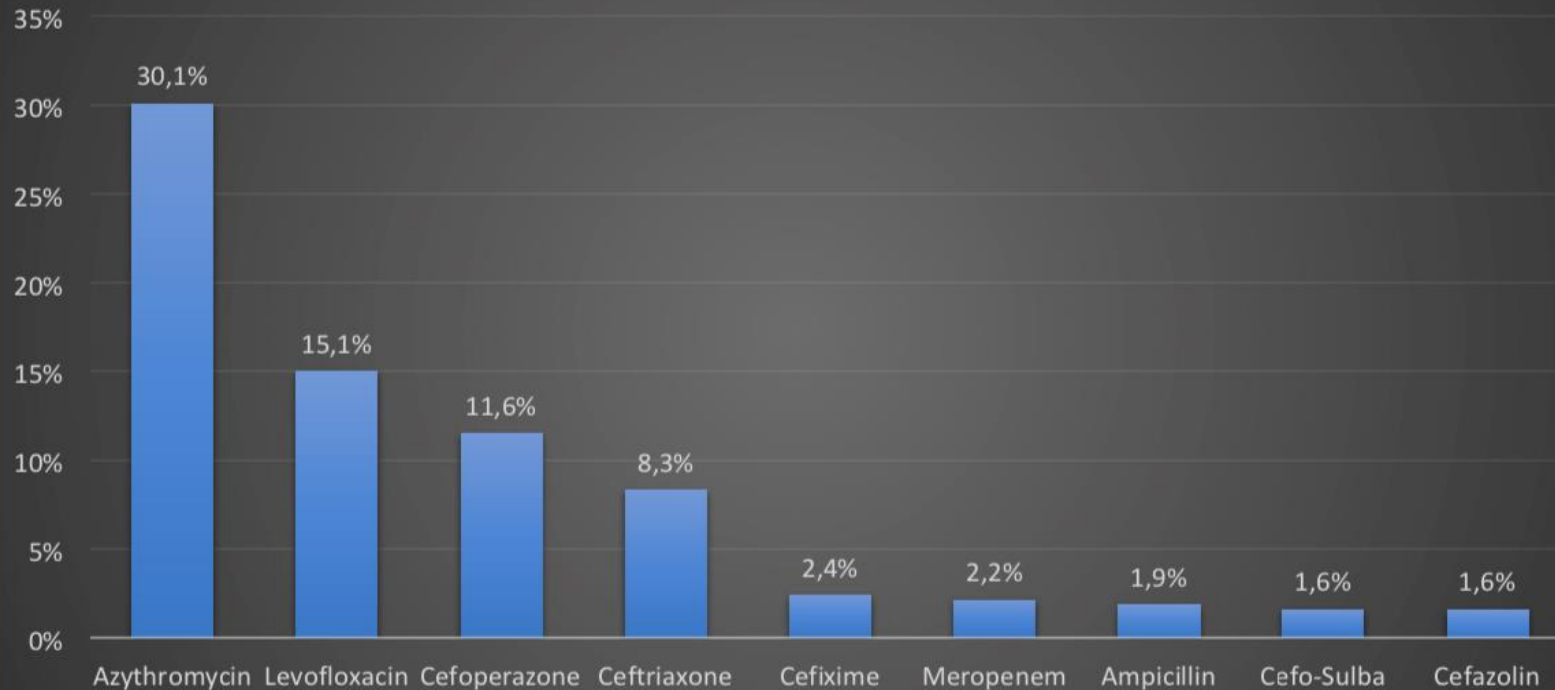
# ASP - ANTIBIOTIC FLOW IN SILOAM HOSPITALS BALI



# TOTAL ANTIBIOTIC USAGE 2020 – QUANTITATIVE (UoM)



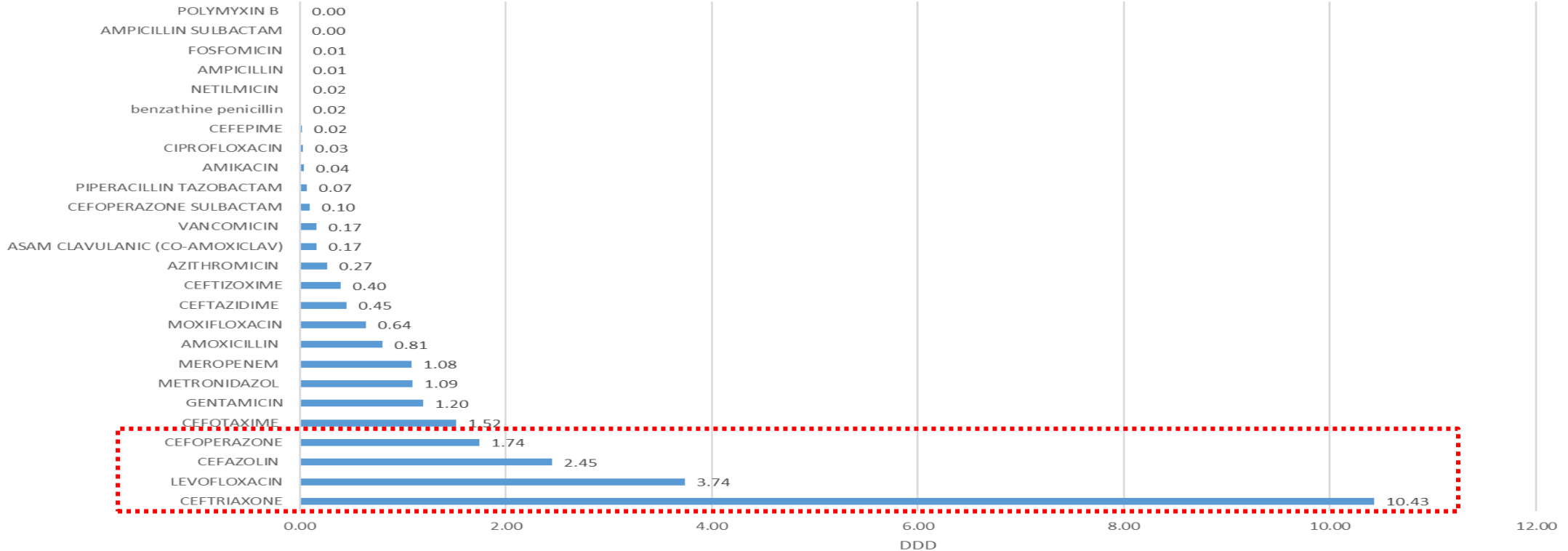
The Used of Antibiotics



- Since April 2020, the usage of Azythromycin become the most frequent AB that been prescribed, especially in COVID patients

# ANTIBIOTIC USAGE 2020 - QUANTITATIVE (DDD/100patient days)

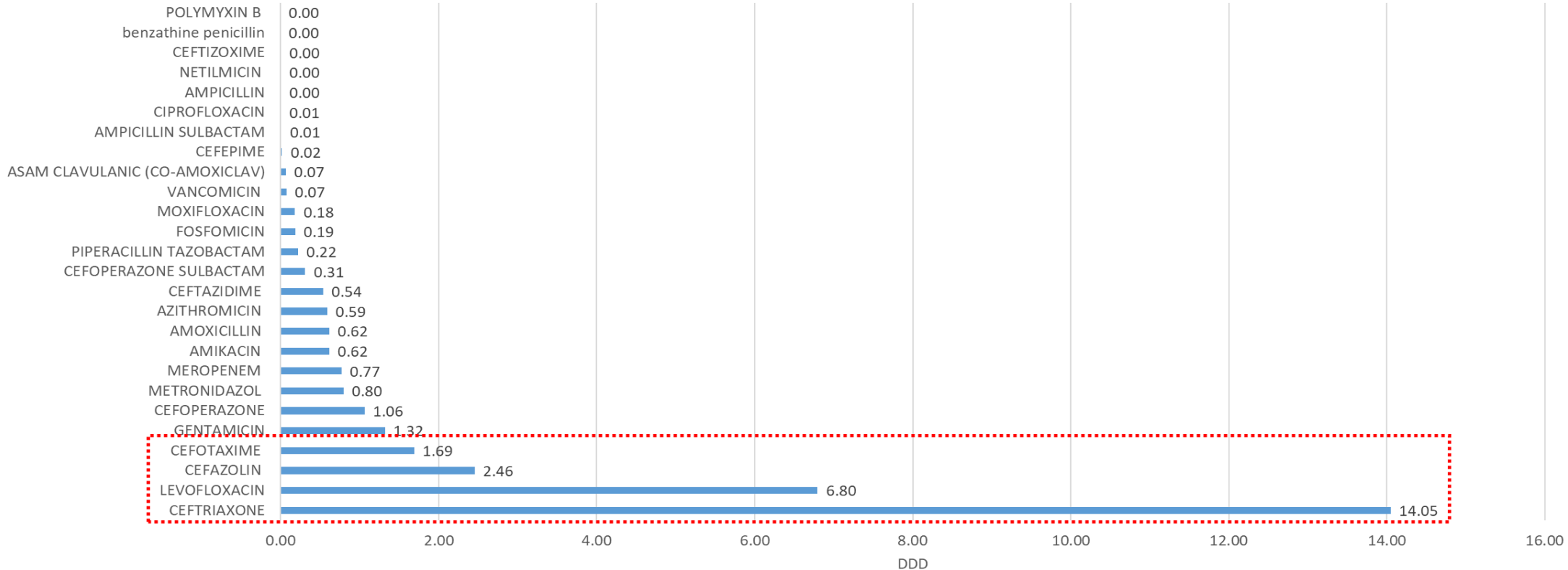
Inpatient Parenteral Antibiotic Quantitative Profile 2020 - DDD  
Siloam Hospitals Bali



- Highest usage of antibiotic in 2020 is **Cephalosporin** (1<sup>st</sup> and 3<sup>rd</sup> Generation) and **Fluroquinolone** (Levofloxacin)

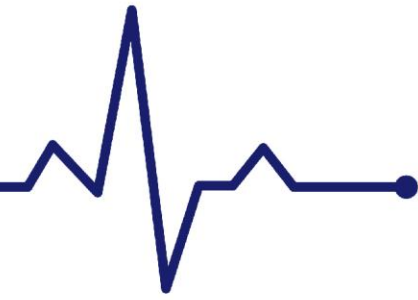
# ANTIBIOTIC USAGE 2021 - QUANTITATIVE (DDD/100patient days)

Inpatient Parenteral Antibiotic Quantitative Profile YTD 2021 - DDD  
Siloam Hospitals Bali



- Highest usage of antibiotic in 2021 is **Cephalosporin** (1<sup>st</sup> and 3<sup>rd</sup> Generation) and **Fluroquinolone** (Levofloxacin) – Similar with 2020's pattern, even with **higher DDD**
- **Fluroquinolone and Cephalosporin induce ESBL (Extended Spectrum Beta Lactamase)**

# Antibiotic Sensitivity Table 2020



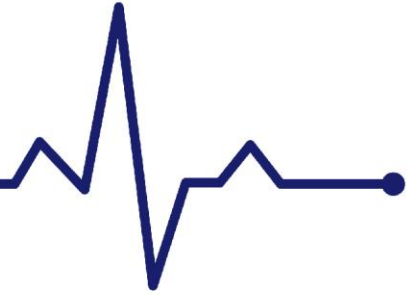
Tabel Sensitifitas Antibiotik  
Siloam Hospitals Bali Bulan Januari – Desember 2020

No	Organism	Jumlah Isolate	Amikacin (%S)	Ampicillin (%S)	Aztreonam (%S)	Cefotaxime (%S)	Ceftazidime (%S)	Chloramphenicol (%S)	Gentamicin (%S)	Tobramycin (%S)	Ciprofloxacin (%S)	Trimethoprim/Sulfamethoxazole (%S)	Amoxicillin/Clavulanic Acid (%S)	Cephalotin (%S)	Meropenem (%S)	Tetracyclin (%S)	Fosfomycin (%S)	Nitrofurantion (%S)	Tazobactam/Piperacillin (%S)	Colistin (%S)	Cefoxitin (%S)	Clindamycin (%S)	Erythromycin (%S)	Norfloxacin (%S)	Vancomycin (%S)	Levofloxacin (%S)	Linezolid (%S)	Penicillin (%S)			
1	Escherichia coli	41	87.8	17.9	66.7	63.4	76.9	78.4	72.5	67.6	30	54.1	51.4	16.2	95		90.5	90.9	87.2	100									35		
2	Klebsiella pneumoniae*	23	82.6	4.3	60.9	47.8	56.5	87	81.8	69.6	69.6	65.2	43.5	47.8	82.6		57.1	42.9	65.2	100										60.9	
3	Staphylococcus aureus*	16		13.3				92.9	75		66.7	80		92.9		93.3					93.3	60	42.9	80	100	92.9	100	18.8			
4	Streptococcus Group B*	9		0		77.8		11.1			11.1					11.1					11.1	11.1		11.1	44.4	44.4					
5	Pseudomonas aeruginosa*	7	66.7	0	71.4	0	71.4	0	71.4	83.3	57.1	0	0	0	71.4		100	0	71.4	100										57.1	

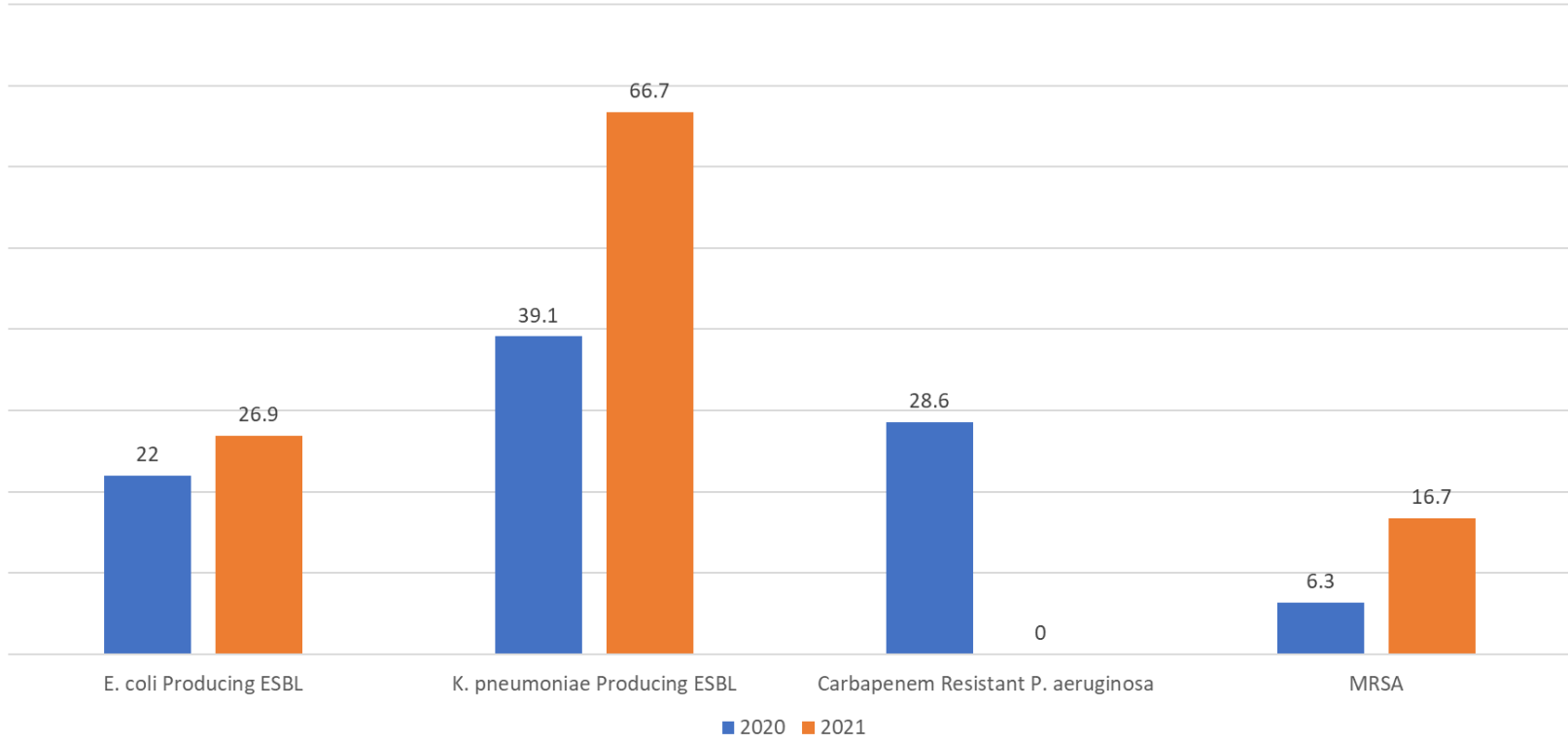
Ket :

RESISTANT	44 - 0
INTERMEDIATE	74 - 45
SENSITIVE	100 - 75

# MDRO (%) Siloam Hospitals Bali



MDRO (%) Siloam Hospitals Bali

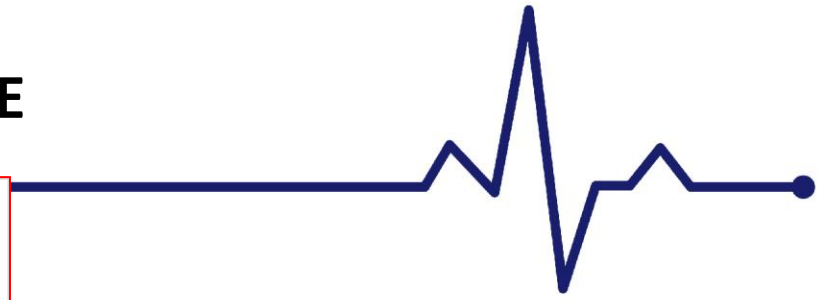


- There is an **increase of MDRO** in 2021 compare to 2020 :

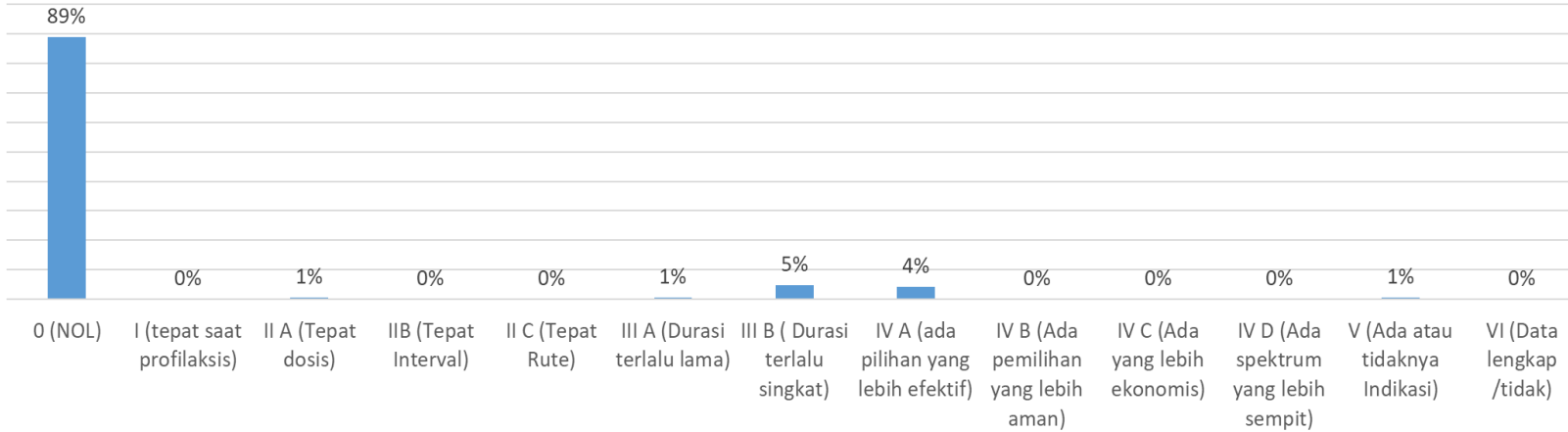
- 4.9% ↑ E. coli
- 27.6% ↑ K. pneumoniae
- 10.4% ↑ MRSA



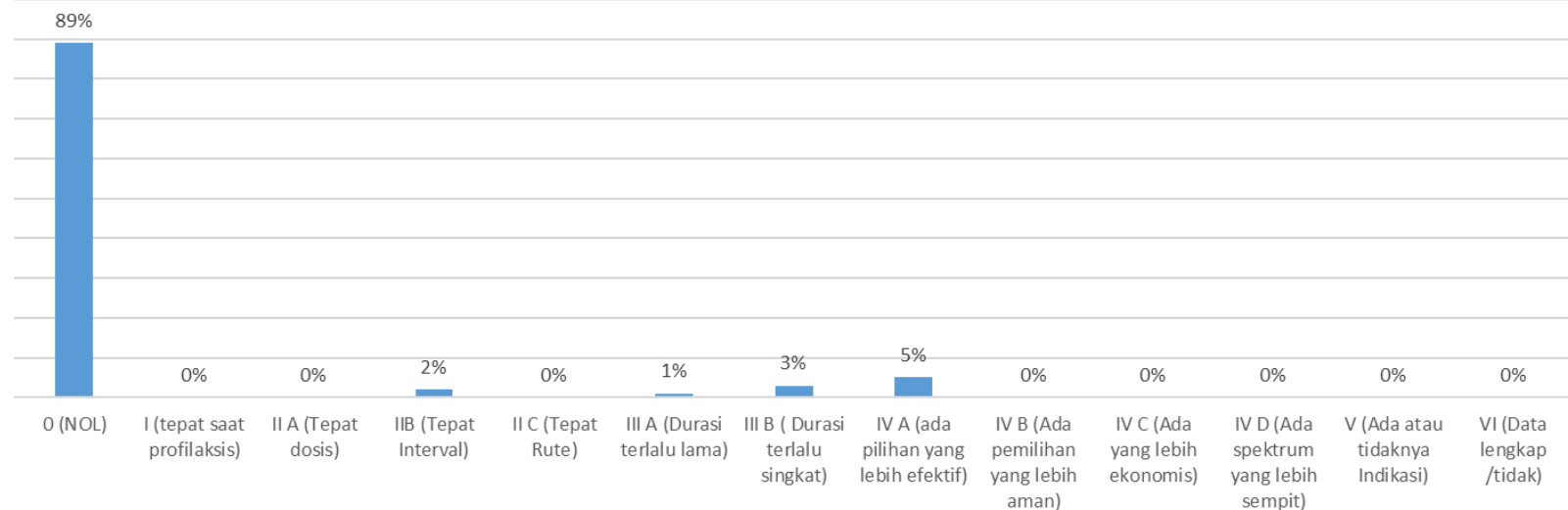
# RESTRICTED ANTIBIOTIC USAGE EVALUATION - QUALITATIVE



Restricted Antibiotic Qualitative Profile 2020 - Gyssens



Restricted Antibiotic Qualitative Profile YTD 2021 - Gyssens



- KPRA and Hospital Management work collaboratively since 2018
- **89%** restricted antibiotic use in 2020 and 2021 is rational
- Another **11%** usage is not rational
  - too short duration
  - less effective choice of antibiotic

# INTEGRATED FORUM COMMUNICATION



- ❖ MONTHLY DOCTOR'S FORUM → MANAGEMENT + ALL DOCTORS
- ❖ CASE DISCUSSION → CLINICIANS + KPRA + MANAGEMENT
- ❖ MONTHLY ANTBIOTIC REVIEW → KPRA
- ❖ ANTIBIOTICS SENSITIVITY PATTERN → MICROBIOLOGIST + PCI



- ❖ SHARING INFORMATION ABOUT ANTIBIOTIC USE
- ❖ INCREASE RATIONALE USE OF ANTIBIOTIC
- ❖ DECREASE PREVALENCE OF MDRO
- ❖ DECREASE ANTIMICROBA RESISTANCE



THANK YOU