DEPARTMENT OF MICROBIOLOGY

GOVERNMENT MEDICAL COLLEGE

SRINAGAR

Total samples received in the Bacteriology Laboratory (IPD, OPD and ICU)

From January 2024 to June 2024

	Blood	**Tracheal aspirates**	**Urine**	**Total**
Total	2826	588	3379	6793
Sterile	1867	432	2358	4664
Contaminated	121	12	132	265
Yeast	231	0	113	344
Clinically significant bacteria	607	144	776	1520

1. Testing was performed as per the clinical and laboratory standards institute 34th Ed CLSI supplement M100: 2024
2. Organisms with data of less than 30 organisms have been excluded.

Gram-negative organisms isolated from January 2024 to June 2024 and their percentage susceptibility

Organism	Number of isolates	Amikacin %S	Ampicilin %S	Ampicilin/ Sulbactam %S	Amoxicilin /clavulanic acid %S	Aztreonam %S	Cefepime %S	Cefixime %S	Ceftazidime %S	Ceftriaxone %S	Ciprofloxacin %S	Fosfomycin %S	Gentamycin %S	Imepenam %S	Meropenam %S	piperacilin /Tazobactam %S	Tetracycline %S	Tobramycin %S	Co-Trimoxazole %S	inpatients	OPD	ICU
Acinetobacter baumannii	240	39.7	IR	2.4	IR	IR	40.1	-	11.6	-	20.3	IR	39.7	24.5	28.2	20.9	33.3	-	10	168	15	42
Acinetobacter sp.	30	45.5	IR	0	IR	IR	-	-	33	-	0	IR	50	26.6	31.6	25.9	54.5	-	0	25	2	3
Escherichia coli	575	79.7	0	-	5.7	-	19.4	20	-	18.3	20.9	94.3	61.8	57.7	60.3	73.4	75	-	42.9	415	116	17
Klebsiella sp.	56	24	IR	-	2.3	-	10	0	-	2.8	10.7	-	0	23.2	26.3	30.6	11.1	-	0	42	7	4
Klebsiella pneumoniae ss. pneumoniae	360	32.7	IR	-	2	-	18	-	-	8.8	7.7	-	22.3	36.1	40	43.3	0	-	25	245	36	13
Pseudomonas aeruginosa	261	56.6	IR	IR	-	73.2	100	-	50	IR	36.4	-	37.8	59.3	64.2	77.9	IR	50	IR	184	23	35
Burkholderia cepacia	72	-	IR	IR	IR	-	-	-	55.5	-	40	IR	-	70.1	67.4	-	-	-	55.6	38	1	25
Proteus mirabilis	37	69.2	-	-	50	-	70.2	-	-	60	53.2	-	70.2	76	78.2	95.7	IR	-	-	19	2	1
Pseudomonas sp.	44	58.8	IR	IR	-	65.2	76.3	-	37.3	IR	31.6	-	25	44.4	45	81.1	-	55.6	IR	30	11	1

NOTE:-

1. IR stands for intrinsic resistance
2. Fosfomycin testing is only recommended for urinary isolates of Escherichia coli

	Good sensitivity
	Poor sensitivity

Gram-positive organisms isolated from January 2024-june 2024 and their percentage susceptibility

Organism	Number of isolates	Penicilin %S	Ampicilin %S	Cefoxitin %S	Ciprofloxacin %S	Clindamycin %S	Erythromycin %S	Fosfomycin %S	Gentamycin %S	High Level gentamycin %S	Linezolid %S	Tetracycline %S	Co-Trimoxazole %S	Vancomycin %S	Inpatientss	OPD	ICU
Enterococcus sp.	233	42	54.0	-	13.4	IR		90.7	IR	59.2	87.6	0.0	IR	80.3	172	43	5
Staphylococcus aureus ss. aureus	461	5.0	-	44.3	18.1	69.5	36.7		85.1	-	99.6	66.7	70.0	-	351	85	9

NOTE:

1. Fosfomycin testing is only recommended in urinary isolates of enterococcus species
2. Cefoxitin in staphylococcus aureus is a surrogate marker for Methicillin resistance. Resistance to cefoxitin indicates resistance to all β-lactams (all penicillins , β-lactam + lactamase inhibitor combinations, first, second and third generation cephalosporins and carbapenems)
3. High-level gentamycin testing is only recommended for Enterococcus isolates from blood with high suspicion of infective endocarditis to check for synergism between gentamycin and other cell wall acting antibiotics
4. Vancomycin testing in Staphylococcus aureus was not performed due to lack of tools for performing MIC testing.

Good sensitivity

Poor sensitivity

Percentage susceptibility of Gram-negative isolates from IPD, OPD and ICUs (BLOOD)

From January 2024-June 2024

Gram-negative isolates	location	Amikacin	Ampicilin	Ampicilin/sulbactam	Amoxicillin/Clavulanate	Aztreonam	Cefepime	Ceftazidime	Ceftriaxone	Ciprofloxacin	Gentamicin	Imipenem	Meropenem	Piperacillin/Tazobactam	Tetracycline	Tobramycine
Acinetobacter baumanii	IPD (n=34)	50	IR	4.5	IR	-	-	12.5	0	27.3	52.4	20.5	23.5	23.5	0	-
	OPD (n=2)	0	IR	0	IR	-	-	0	-	0	0	50	50	0	-	-
	ICU (24)	0	IR	0	IR	-	-	0	0	28.6	23.5	24.3	20	0	0	-
Escherichia coli	IPD (n=14)	88.9	-	0	0	-	0	-	0	0	60	50	57.1	23.1	0	-
	OPD (n=0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	ICU (4)	-	-	0	0	-	100	-	100	0	66.7	50	100	100	-	-
kliebsiella pneumoniae	IPD (n=19)	0	IR	0	0	-	0		0	0	14.3	14.3	28.6	11.1	0	-
	OPD (n=0)	-	IR	-	-	-	-	-	-	-	-	-	-	-	-	-
	ICU (n=1)	-	IR	-	0	-	0	-	0	-	-	0	-	-	-	-
'seudomonas aeruginosa	IPD (n=52)	50	IR	IR	-	42.9	24	26.7	-	41.7	46.7	37.5	43.6	73.8	-	100
	OPD (n=0)	-	IR	IR	-	-	-	-	-	-	-	-	-	-	-	-
	ICU (n=20)	33.3	IR	IR	-	85.7	30	37.5	-	100	47.4	63.6	44.4	88.9	-	-
Pseudomonas spp.	IPD (n=23)	-	IR	IR	-	50	50	23.5	-	75	25	-	47.8	70	-	50
	OPD (n=0)	-	IR	IR	-	-	-	-	-	-	-	-	-	-	-	-
	ICU (n=1)	-	IR	IR	-	-	0	0	-	-	-	-	100	100	-	-
Burkholderia cepacia	IPD (n=38)	-	IR	IR	-	-	-	18.5	-	25	-	-	66.7	-	-	-
	OPD (n=0)	-	IR	IR	-	-	-	-	-	-	-	-	-	-	-	-
	ICU (n=28)	-	IR	IR	-	-	-	41.7	-	25	-	-	63.6	-	-	-

Good sensitivity

Poor sensitivity

Percentage susceptibility of Gram-positive isolates from IPD, OPD and ICUs (BLOOD)

From January 2024-June 2024

organism	location	Ampicilin	penicilin	Cefoxitin	Ciprofloxacin	Clindamycin	Erythromycin	Gentamycin	High-level Gentamycin	Linezolid	vancomycin	Tetracycline
	IPD (n=30)	55	46.6	-	-	-	-	-	55.2	93.3	96.6	-
	OPD (n=1)	100	0	-	-	-	-	-	100	100	100	-
Enterococcus spp.	ICU (n=1)	0	0	-	-	-	-	-	100	100	100	-
	IPD (n=33)	-	0	41.4	6.7	50	21.9	84.2	-	96.7	-	100
	OPD (n=0)	-	-	-	-	-	-	-	-	-	-	-
Staphylococcus aureus	ICU (n=7)	-	0	14.3	33.3	42.9	14.3	100	-	100	-	-

Good sensitivity

Poor sensitivity

Percentage susceptibility of Gram-negative isolates from IPD, OPD and ICUs (URINE)

From January 2024-June 2024

Gram-negative isolates	location	Amikacin	Ampicilin	Ampicilin/sulbactam	Amoxicillin/Clavulanate	Aztreonam	Cefepime	Ceftazidime	Ceftriaxone	Ciprofloxacin	Gentamicin	Imipenem	Meropenem	Piperacillin/Tazobactam	Tobramycine	Fosfomycin
Acinetobacter spp.	IPD (n=5)	100	-	0	-	-	-	33.3	0	0	-	40	60	40	-	-
	OPD (n=0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	ICU (0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Escherichia coli	IPD (n=183)	81.1	0	0	8	100	11.5	-	4.8	10.3	80.4	21.8	27.3	71.1	66.7	95.8
	OPD (n=73)	86.2	0	-	10.3	-	14.7	-	12.3	0	100	41	47.1	78.5	-	89.5
	ICU (4)	75	-	0	0	-	0	-	0	-	0	75	75	50	-	100
kliebsiella pneumoniae	IPD (n=41)	36.7	0	0	0	-	14.6	-	12.1	22.2	14.3	4.5	9.7	31.4	18.8	-
	OPD (n=15)	53.3	-	-	0	-	26.6	-	25	0	0	20	14.3	71.4	33.3	-
	ICU (n=1)	0	-	0	0	-	0	-	0	0	0	0	0	50	33.3	-
Pseudomonas aeruginosa	IPD (n=33)	26.7	-	-	-	68.8	100	84.2	-	25	20	45.4	66.7	83.3	0	-
	OPD (n=7)	57.1	-	-	-	75	71.4	80	-	-	-	57.1	66.7	100	-	-
	ICU (n=1)	0	-	-	-	-	100	100	-	-	0	100	100	-	-	-
Proteus mirabilis	IPD (n=3)	100	-	-	0	-	-	-	50	-	0	100	100	50	-	-
	OPD (n=1)	100	-	-	-	-	-	-	100	-	-	-	100	100	-	-
	ICU (n=0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Good sensitivity

Poor sensitivity

Percentage susceptibility of Gram-positive isolates from IPD, OPD and ICUs (URINE)

From January 2024-June 2024

organism	location	Ampicilin	Penicilin	Cefoxitin	Ciprofloxacin	Clindamycin	Erythromycin	Gentamycin	High-level Gentamycin	vancomycin	Linezolid	Tetracycline
Enterococcus spp.	IPD (n=119)	54.6	64.7	-	11.9	-	-	-	53.6	97.4	89.7	0
	OPD (n=37)	59.4	64.8	-	20	-	-	-	63.6	100	94.3	-
	ICU (n=3)	33.3	33.3	-	33.3	-	-	-	66.7	100	100	0
Staphylococcus aureus	IPD (n=17)	-	0	52.9	10	64.7	35.2	92.9	-	-	100	33.3
	OPD (n=3)	-	0	33.3	100	66.6	33	100	-	-	100	-
	ICU (n=0)	-	-	-	-	-	-	-	-	-	-	-

Good sensitivity

Poor sensitivity

Percentage susceptibility of Gram-negative isolates from ICUs (Tracheal Aspirates)

From January 2024-June 2024

Gram-negative isolates	Number	Amikacin	Ampicilin	Ampicilin/sulbactam	Amoxicillin/Clavulanate	Aztreonam	Cefepime	Ceftazidime	Ceftriaxone	Ciprofloxacin	Gentamicin	Imipenem	Meropenem	Piperacillin/Tazobactam	Tetracycline
Acinetobacter baumanii	52	18	-	4.4	-	-	0	12.2	0	5.1	13	24	28	31.9	45.1
Escherichia coli	18	-	-	0	0	-	31.1	-	20	14.1	12.9	33.3	43.2	52.1	75
kliebsiella pneumoniae	41	3.2	-	0	3.6	-	0		0	4.1	0	36	43.2	41.6	-
Pseudomonas aeruginosa	26	59.9	-	-	-	70.9	-	43.5	-	32.4	24.6	76.9	80.2	61.2	-

GRAM POSITIVE ISOLATES

ORGANISM	Number of isolates	Penicilin	Ampicilin	Cifoxitin	Ciprofloxacin	Clindamycin	Erythromycin	Gentamycin	Linezolid
Staphylococcus aureus	6	0	-	50	0	66.7	16.7	66.7	100

NOTE:

1. Testing was performed as per the clinical and laboratory standards institute 34th Ed CLSI supplement M100: 2024
2. Cefoxitin in staphylococcus aureus is a surrogate marker for Methicillin resistance. Resistance to cefoxitin indicates resistance to all β-lactams (all penicillins , β-lactam + lactamase inhibitor combinations, first, second and third generation cephalosporins and carbapenems)
3. Vancomycin testing in Staphylococcus aureus was not performed due to lack of tools for performing MIC testing.