

Table S1: Systematic review of the resistance rates to beta-lactams (%) of Enterobacter cloacae in urine cultures

Author (year of publication)	Period	Place	N	AMX	AMC	AMP	FOX	CTX	CAZ	FEP	CRO	C-T	IPM	I-R	MEM	ETP	DOR	TZP
F. Gravey (2017) ²⁰	2012-2015	France	397	100	100	100	100	52	52		52					75		55
H. Seifert (2018) ¹⁷	2014-2015	Germany	73						39.7	4.1	45.2	30.1			1.4	6.8	1.4	30.1
S. Lob (2020) ¹⁸	2015-2017	Europe	253						51.6	36.4			5.5	4.3				39.9
G. Jiménez Guerra (2020) ¹⁹	2006-2016	Spain	225							20			8					22
Weighted averages			948	100	100	100	100	52	50.62	25.42	50.94	30.1	6.68	4.3	1.4	64.41	1.4	41.22

AMX=Amoxicillin AMC=Amoxicillin-clavulanic AMP=Ampicillin FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime CRO=Ceftriaxone C-T= Cefotolozane-tazobactam IPM=Imipenem I-R=Imipenem-relebactam
MEM=Meropenem ETP=Ertapenem DOR=Doripenem TZP=Piperacillin-tazobactam

Table S2: Systematic review of the resistance rates to non-beta-lactams (%) of Enterobacter cloacae in urine cultures

Author (year of publication)	Period	Place	N	TIC	AMK	TOB	ATM	GEN	NAL	NIT	FOF	CIP	LVX	SXT	CST
F. Gravey (2017) ²⁰	2012-2015	France	397	50	94			75	60	75	48	67		71	
H. Seifert (2018) ¹⁷	2014-2015	Germany	73		0	2.7					45.2	11	6.8		4.1
S. Lob (2020) ¹⁸	2015-2017	Europe	253		6.3		45.8					33.2			4.3
G. Jiménez Guerra (2020) ¹⁹	2006-2016	Spain	225			17		18	21	41	22	19		25	
Weighted averages			948	50	53.82	13.49	45.8	54.38	45.89	54.38	39.29	42.27	6.8	54.36	4.26

TIC=Ticarcillin AMK=Amikacin TOB=Tobramycin ATM=Aztreonam GEN=Gentamicin NAL=Nalidixic acid NIT=Nitrofurantoin FOF= Fosfomycin CIP=Ciprofloxacin LVX=Levofloxacin SXT= Trimethoprim-sulfamethoxazole
CST=Colistin

Table S3: General annualized resistances (%) of Enterobacter cloacae during 2016-2021

	AMC	AMP	TIC	CXM	FOX	CFM	CTX	CAZ	FEP	IPM	ETP	TZP	AMK	TOB	GEN	NAL	CIP	LVX	FOF	NIT	SXT	CST
2016	50/50 (100)	50/50 (100)	-	27/50 (54)	50/50 (100)	-	18/50 (36)	15/50 (30)	8/50 (16)	2/50 (4)	9/9 (100)	8/50 (16)	-	3/50 (6)	5/50 (10)	0/1 (0)	1/50 (2)	-	14/50 (28)	18/50 (36)	12/50 (24)	-
2017	74/74 (100)	73/74 (98.65)	-	47/74 (63.51)	74/74 (100)	-	33/74 (44.59)	25/74 (33.78)	14/74 (18.92)	7/72 (9.72)	7/10 (70)	11/74 (14.86)	0/2 (100)	8/74 (10.81)	9/74 (12.16)	4/11 (36.36)	12/74 (16.22)	-	29/73 (39.72)	15/73 (20.55)	22/74 (29.73)	-
2018	67/67 (100)	67/67 (100)	0/1 (0)	40/67 (59.7)	67/67 (100)	-	30/67 (44.78)	27/67 (40.30)	11/67 (16.42)	3/63 (4.76)	6/7 (85.71)	11/67 (16.42)	0/2 (100)	5/68 (7.35)	5/68 (7.35)	11/67 (16.42)	10/68 (14.71)	0/1 (0)	25/67 (37.31)	13/67 (19.4)	11/68 (16.18)	-
2019	87/87 (100)	87/87 (100)	41/73 (56.16)	63/88 (71.59)	87/87 (100)	58/69 (84.06)	39/87 (44.83)	33/87 (37.93)	21/88 (23.86)	4/88 (4.55)	15/75 (20)	20/88 (22.73)	2/73 (2.74)	10/88 (11.36)	7/88 (79.55)	13/87 (14.94)	13/87 (14.94)	9/73 (12.33)	30/88 (34.09)	23/66 (34.85)	15/88 (17.05)	2/29 (6.89)
2020	88/88 (100)	88/88 (100)	58/84 (69.05)	74/87 (85.06)	85/85 (100)	68/81 (83.95)	51/88 (57.95)	49/88 (55.68)	32/88 (36.36)	3/88 (3.41)	23/87 (26.44)	29/88 (32.95)	2/88 (2.27)	14/88 (15.91)	9/88 (10.23)	23/87 (26.44)	23/88 (26.14)	17/88 (19.32)	40/88 (45.45)	30/78 (38.46)	26/88 (29.55)	12/84 (14.29)
2021	37/37 (100)	37/37 (100)	27/37 (72.97)	32/37 (85.49)	-	36/36 (100)	23/37 (62.16)	22/37 (59.46)	21/37 (56.76)	2/37 (5.41)	14/37 (37.84)	16/37 (43.24)	3/37 (8.11)	19/37 (51.35)	18/37 (48.65)	17/37 (45.95)	19/37 (51.35)	18/37 (48.65)	13/37 (35.14)	13/37 (35.14)	20/37 (54.05)	5/37 (13.51)
Total	403/403 (100)	402/403 (99.75)	126/195 (64.61)	283/403 (69.53)	363/363 (100)	162/186 (87.10)	194/403 (48.14)	171/403 (42.43)	107/404 (26.48)	21/398 (5.28)	74/225 (32.90)	95/404 (23.51)	7/202 (3.47)	59/405 (14.57)	43/405 (10.62)	68/290 (23.45)	78/404 (19.31)	44/199 (22.11)	131/403 (32.51)	112/371 (30.19)	106/405 (26.17)	19/150 (12.67)

AMC=Amoxicillin-clavulanic; AMP=Ampicillin; TIC=Ticarcillin; CXM=Cefuroxime; FOX=Cefoxitin; CFM=Cefixime; CTX=Cefotaxime; CAZ=Ceftazidime; FEP=Cefepime; IPM=Imipenem; ETP=Ertapenem; TZP=Piperacillin-tazobactam; AMK: amikacin; TOB=Tobramycin; GEN=Gentamicin; NAL=Nalidixic acid; CIP=Ciprofloxacin; LVX=levofloxacin; FOF=Fosfomycin NIT=Nitrofurantoin; SXT=Trimethoprim-sulfamethoxazole; CST=Colistin

Table S4: Resistances to beta-lactams (%) of Enterobacter cloacae in 2016.

		AMC		AMP		CXM			FOX		CTX			CAZ		FEP			IPM			ETP		TZP		
		R	S	R	S	R	I	S	R	S	R	I	S	R	S	R	I	S	R	I	S	R	S	R	I	S
2016	Total	50 (100)		50 (100)		27 (54)	16 (32)	7 (14)	50 (100)		18 (36)	2 (4)	30 (60)	15 (30)	35 (70)	8 (16)	5 (10)	37 (74)	2 (4)	1 (2)	47 (94)	9 (100)		8 (16)	2 (4)	40 (80)
	Collection bag	3 (100)		3 (100)		1 (33.33)	1 (33.33)	1 (33.33)	3 (100)		1 (33.33)		2 (66.67)		3 (100)			3 (100)			3 (100)					3 (100)
	Nephrostomy catheter	4 (100)		4 (100)		1 (25)	2 (50)	1 (25)	4 (100)		1 (25)	1 (25)	2 (50)		4 (100)			4 (100)			4 (100)	1 (100)				4 (100)
	Permanent catheterization	7 (100)		7 (100)		5 (71.43)	2 (28.57)		7 (100)		2 (28.57)		5 (71.43)	2 (28.57)	5 (71.43)	1 (14.29)		6 (85.71)		1 (14.29)	6 (85.71)	1 (100)		2 (28.57)		5 (71.43)
	Clean catch midstream	23 (100)		23 (100)		13 (56.52)	7 (30.43)	3 (13.04)	23 (100)		9 (39.13)		14 (60.87)	8 (34.78)	15 (65.22)	4 (17.39)	3 (13.04)	16 (69.57)	2 (8.69)		21 (91.3)	4 (100)		4 (17.39)	1 (4.35)	18 (78.26)
	Urinary catheter	13 (100)		13 (100)		7 (53.85)	4 (30.77)	2 (15.38)	13 (100)		5 (38.46)	1 (7.69)	7 (53.85)	5 (38.46)	8 (61.54)	3 (23.08)	2 (15.38)	8 (61.54)			13 (100)	3 (100)		2 (15.38)	1 (7.69)	10 (76.92)
	Children	5 (100)		5 (100)		2 (40)	2 (40)	1 (20)	5 (100)		2 (40)		3 (60)	1 (20)	4 (80)			5 (100)			5 (100)					5 (100)
	Adults	24 (100)		24 (100)		16 (66.67)	6 (25)	2 (8.33)	24 (100)		12 (50)		12 (50)	10 (41.67)	14 (58.33)	7 (29.17)	3 (12.5)	14 (58.33)	2 (8.33)		22 (91.67)	5 (100)		6 (25)	1 (4.17)	17 (70.83)
	Elderly	21 (100)		21 (100)		9 (42.86)	8 (38.09)	4 (19.05)	21 (100)		4 (19.05)	2 (9.52)	15 (71.43)	4 (19.05)	17 (80.95)	1 (4.76)	2 (9.52)	18 (85.71)		1 (4.76)	20 (95.24)	4 (100)		2 (9.52)	1 (4.76)	18 (85.71)
	Outpatient	32 (100)		32 (100)		14 (43.75)	11 (34.38)	7 (21.88)	32 (100)		8 (25)	2 (6.25)	22 (68.75)	8 (25)	24 (75)	3 (9.38)	2 (6.25)	27 (84.38)	2 (6.25)		30 (93.75)	5 (100)		5 (15.63)		27 (84.38)
	Inpatient	18 (100)		18 (100)		13 (72.22)	5 (27.78)		18 (100)		10 (55.56)		8 (44.44)	7 (38.89)	11 (61.11)	5 (27.78)	3 (16.67)	10 (55.56)		1 (5.56)	17 (94.44)	4 (100)		3 (16.67)	2 (11.11)	13 (72.22)
	Men	33 (100)		33 (100)		18 (54.55)	9 (27.27)	6 (18.18)	33 (100)		12 (36.36)	1 (3.03)	20 (60.61)	10 (30.3)	23 (69.69)	4 (12.12)	5 (15.15)	24 (72.73)	1 (3.03)	1 (3.03)	31 (93.94)	6 (100)		5 (15.15)	2 (6.06)	26 (78.79)
	Women	17 (100)		17 (100)		9 (52.94)	7 (41.18)	1 (5.88)	17 (100)		6 (35.29)	1 (5.88)	10 (58.82)	5 (29.41)	12 (70.59)	4 (23.53)		13 (76.47)			16 (94.12)	3 (100)		3 (17.65)		14 (82.35)

AMC= Amoxicillin-clavulanic AMP=Ampicillin CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem ETP=Ertapenem TZP=Piperacillin-tazobactam.

Table S5: Resistances to beta-lactams (%) of Enterobacter cloacae in 2017.

		AMC		AMP		CXM			FOX		CTX			CAZ		FEP			IPM		ETP		TZP			
		R	S	R	S	R	I	S	R	S	R	I	S	R	S	R	I	S	R	S	R	S	R	I	S	
2017	Total	74 (100)		73 (98.65)	1 (1.35)	47 (63.51)	25 (33.78)	2 (2.7)	74 (100)		33 (44.59)	4 (5.41)	37 (50)	25 (33.78)	49 (66.22)	14 (18.92)	11 (14.86)	49 (66.22)	7 (9.72)	65 (90.28)	7 (70)	3 (30)	11 (14.86)	10 (13.51)	53 (71.62)	
	Collection bag	6 (100)		6 (100)		5 (83.33)	1 (16.67)		6 (100)		3 (50)	1 (16.67)	2 (33.33)	2 (33.33)	4 (66.67)		3 (50)	3 (50)		6 (100)				1 (16.67)	5 (83.33)	
	Nephrostomy catheter																									
	Permanent catheterization	15 (100)		15 (100)		10 (66.67)	5 (33.33)		15 (100)		9 (60)	2 (13.33)	4 (26.67)	7 (46.67)	8 (53.33)	4 (26.67)	2 (13.33)	9 (60)		15 (100)		1 (100)		4 (26.67)	2 (13.33)	9 (60)
	Clean catch midstream	29 (100)		28 (96.55)	1 (3.45)	14 (48.28)	13 (44.83)	2 (6.89)	29 (100)		8 (27.59)		21 (72.41)	6 (20.69)	23 (79.31)	4 (13.79)	2 (6.89)	23 (79.31)	3 (11.11)	24 (88.89)	3 (75)	1 (25)	3 (10.34)	4 (13.79)	22 (75.86)	
	Urinary catheter	24 (100)		24 (100)		18 (75)	6 (25)		24 (100)		13 (54.17)	1 (4.17)	10 (41.67)	10 (41.67)	14 (58.33)	6 (25)	4 (16.67)	14 (58.33)	4 (16.67)	20 (83.33)	4 (80)	1 (20)	4 (16.67)	3 (12.5)	17 (70.83)	
	Children	11 (100)		11 (100)		8 (72.73)	3 (27.27)		11 (100)		6 (54.55)		5 (45.45)	3 (27.27)	8 (72.73)	1 (9.09)	4 (36.36)	6 (54.55)		11 (100)				1 (9.09)	10 (90.91)	
	Adults	22 (100)		22 (100)		13 (59.09)	8 (36.36)	1 (4.55)	22 (100)		9 (40.91)	2 (9.09)	11 (50)	9 (40.91)	13 (59.09)	4 (18.18)	3 (13.64)	15 (68.18)	4 (18.18)	18 (81.82)	3 (75)	1 (25)	4 (18.18)	4 (18.18)	14 (63.64)	
	Elderly	41 (100)		40 (97.56)	1 (2.44)	26 (63.41)	14 (34.15)	1 (2.44)	41 (100)		18 (43.9)	2 (4.88)	21 (51.22)	13 (31.71)	28 (68.29)	9 (21.95)	4 (9.76)	28 (68.19)	3 (7.69)	36 (92.31)	4 (66.67)	2 (33.33)	7 (17.07)	5 (12.19)	29 (70.73)	
	Outpatient	32 (100)		32 (100)		19 (59.38)	12 (37.5)	1 (3.13)	32 (100)		14 (43.75)	2 (6.25)	16 (50)	11 (34.38)	21 (65.63)	7 (21.88)	4 (12.5)	21 (65.63)	4 (12.5)	28 (87.5)	3 (60)	2 (40)	6 (18.75)	3 (9.38)	23 (71.88)	
	Inpatient	42 (100)		41 (97.62)	1 (2.38)	28 (66.67)	13 (30.95)	1 (2.38)	42 (100)		19 (45.24)	2 (4.76)	21 (50)	14 (33.33)	28 (66.67)	7 (16.67)	7 (6.67)	28 (66.67)	3 (7.5)	37 (92.5)	4 (80)	1 (20)	5 (11.9)	7 (16.67)	30 (71.43)	
	Men	47 (100)		46 (97.87)	1 (2.13)	26 (55.32)	19 (40.43)	2 (4.26)	47 (100)		19 (40.43)	3 (6.38)	25 (53.19)	14 (29.79)	33 (70.21)	7 (14.89)	8 (17.02)	32 (68.09)	1 (2.13)	46 (97.87)	2 (50)	2 (50)	6 (12.77)	5 (10.64)	36 (76.59)	
	Women	27 (100)		27 (100)		21 (77.78)	6 (22.22)		27 (100)		14 (51.85)	1 (3.7)	12 (44.44)	11 (40.74)	16 (59.26)	7 (25.93)	3 (11.11)	17 (62.96)	6 (24)	19 (76)	5 (83.33)	1 (18.67)	5 (18.52)	5 (18.52)	17 (62.96)	

AMC= Amoxicillin-clavulanic AMP=Ampicillin CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem ETP=Ertapenem TZP=Piperacillin-tazobactam

Table S6: Resistances to beta-lactams (%) of Enterobacter cloacae in 2018.

		AMC		AMP		TIC		CXM			FOX		CTX			CAZ		FEP			IPM			ETP		TZP		
		R	S	R	S	R	S	R	I	S	R	S	R	I	S	R	S	R	I	S	R	I	S	R	S	R	I	S
2018	Total	67 (100)		67 (100)		1 (100)		40 (59.7)	22 (32.84)	5 (7.46)	67 (100)		30 (44.78)	4 (5.97)	33 (49.25)	27 (39.71)	41 (60.29)	11 (16.42)	5 (7.46)	51 (76.12)	3 (4.76)	4 (6.35)	56 (88.89)	6 (85.71)	1 (14.29)	11 (16.18)	8 (11.76)	49 (72.06)
	Collection bag	1 (100)		1 (100)				1 (100)			1 (100)				1 (100)					1 (100)								1 (100)
	Nephrostomy catheter	2 (100)		2 (100)				1 (50)	1 (50)		2 (100)		1 (50)	1 (50)		2 (100)				2 (100)								2 (100)
	Permanent catheterization	17 (100)		17 (100)				10 (58.82)	5 (29.41)	2 (11.76)	17 (100)		9 (52.94)	1 (5.88)	7 (41.18)	9 (52.94)	8 (47.06)	4 (23.53)	2 (11.76)	11 (64.71)	1 (7.14)	2 (14.29)	11 (78.57)	1 (100)		4 (23.53)	2 (11.76)	11 (64.71)
	Clean catch midstream	33 (100)		33 (100)				22 (66.67)	9 (27.27)	2 (6.06)	33 (100)		14 (42.42)	2 (6.06)	17 (51.52)	11 (32.35)	23 (67.65)	3 (9.09)	2 (6.06)	28 (84.85)	2 (6.06)	2 (6.06)	29 (87.88)	3 (75)	1 (25)	5 (14.71)	3 (8.82)	26 (76.47)
	Urinary catheter	14 (100)		14 (100)				7 (50)	6 (42.86)	1 (7.43)	14 (100)		7 (50)		7 (50)	7 (50)	7 (50)	4 (28.57)	1 (7.14)	9 (64.29)			13 (100)	2 (100)		2 (14.29)	3 (21.43)	9 (64.29)
	Children	10 (100)		10 (100)				5 (50)	5 (50)		10 (100)		4 (40)		6 (60)	4 (40)	6 (60)	4 (40)		6 (60)			10 (100)	1 (100)		2 (20)	1 (10)	7 (70)
	Adults	19 (100)		19 (100)		1 (100)		14 (73.68)	3 (15.79)	2 (10.53)	19 (100)		8 (42.11)	1 (5.26)	10 (52.63)	7 (35)	13 (65)	2 (10.53)	1 (5.26)	16 (84.21)	1 (5.26)	1 (5.26)	17 (89.47)	3 (100)		2 (10)	1 (5)	17 (85)
	Elderly	38 (100)		38 (100)				21 (55.26)	14 (36.84)	3 (78.95)	38 (100)		18 (47.37)	3 (7.89)	17 (44.74)	16 (42.11)	22 (57.89)	5 (13.16)	4 (10.53)	29 (76.32)	2 (5.88)	3 (8.82)	29 (85.29)	2 (66.67)	1 (33.33)	7 (18.42)	6 (15.79)	25 (65.79)
	Outpatient	35 (100)		35 (100)				22 (62.86)	11 (31.43)	2 (5.71)	35 (100)		16 (45.71)	3 (8.57)	16 (45.71)	14 (40)	21 (60)	5 (14.71)	2 (5.88)	27 (79.41)	2 (6.06)	1 (3.03)	30 (90.91)	5 (100)		5 (14.29)	3 (8.57)	27 (77.14)
	Inpatient	32 (100)		32 (100)		1 (100)		18 (56.25)	11 (34.38)	3 (9.38)	32 (100)		14 (43.75)	1 (3.13)	17 (53.13)	13 (39.39)	20 (60.61)	6 (18.18)	3 (9.09)	24 (72.73)	1 (3.33)	3 (10)	26 (86.67)	1 (50)	1 (50)	6 (18.18)	5 (15.15)	22 (66.67)
	Men	40 (100)		40 (100)		1 (100)		23 (57.5)	14 (35)	3 (7.5)	40 (100)		19 (47.5)	2 (5)	19 (47.5)	16 (39.02)	25 (60.98)	7 (17.5)	2 (5)	31 (77.5)	2 (5.41)	2 (5.41)	33 (89.19)	3 (75)	1 (25)	6 (14.63)	6 (14.63)	29 (70.73)
	Women	27 (100)		27 (100)				17 (62.96)	8 (29.63)	2 (7.41)	27 (100)		11 (40.74)	2 (7.41)	14 (51.85)	11 (40.74)	16 (59.26)	4 (14.81)	3 (11.11)	20 (74.07)	1 (3.85)	2 (7.69)	23 (88.46)	3 (100)		5 (18.52)	2 (7.41)	20 (74.07)

AMC= Amoxicillin-clavulanic AMP=Ampicillin CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem ETP=Ertapenem TZP=Piperacillin-tazobactam.

Table S7: Resistances to beta-lactams (%) of *Enterobacter cloacae* in 2019.

		AMC		AMP		TIC		5		CXM		5		FOX		CFM		5		CTX		5		CAZ		5		FEP		5		IPM		5		ETP		5		TZP		5	
		R	R	R	I	5		R	I	5	R	I	5	R	I	5	R	I	5	R	I	5	R	I	5	R	I	5	R	I	5	R	I	5	R	I	5	R	I	5			
	Total	87 (100)	87 (100)	41 (56,16)	4 (5,48)	28 (38,36)	63 (71,59)	4 (4,55)	21 (23,86)	87 (100)	58 (84,06)	11 (15,94)	39 (44,83)	6 (6,89)	42 (48,28)	33 (37,93)	8 (9,19)	46 (52,87)	21 (23,86)	1 (1,14)	66 (75)	4 (4,55)	5 (5,68)	79 (89,77)	15 (20)	11 (14,67)	49 (65,33)	20 (22,73)	8 (9,09)	60 (68,18)													
	Collection bag	1 (100)	1 (100)	1 (100)			1 (100)			1 (100)	1 (100)		1 (100)	2 (2)		1 (100)			1 (100)						1 (100)			1 (100)			1 (100)			1 (100)			1 (100)			1 (100)			
	Nephrostomy catheter	4 (100)	4 (100)	1 (33,33)	1 (33,33)	3 (33,33)	3 (75)		1 (25)	4 (100)	2 (66,67)	1 (33,33)	2 (50)	1 (25)	1 (25)	2 (50)		2 (50)		1 (25)	3 (75)				2 (50)	2 (50)	1 (25)	1 (25)	1 (25)	1 (25)	2 (50)			2 (50)			2 (50)			2 (50)			
	Permanent catheterization	17 (100)	17 (100)	8 (53,33)	1 (6,67)	6 (40)	10 (58,82)	1 (5,88)	6 (35,29)	17 (100)	14 (93,33)	1 (6,67)	8 (47,06)	1 (5,88)	8 (47,06)	6 (35,29)	2 (11,76)	9 (52,94)	6 (35,29)	1 (25)	11 (64,71)			1 (5,88)	16 (94,12)	5 (31,25)	1 (6,25)	2 (50)	10 (62,5)	3 (17,65)	11 (64,71)												
	Clean catch midstream	44 (100)	45 (100)	19 (54,29)	1 (2,86)	15 (42,86)	33 (73,33)	2 (4,44)	10 (22,22)	44 (100)	25 (78,13)	7 (21,88)	17 (37,78)	4 (8,89)	24 (53,33)	15 (33,33)	2 (4,44)	28 (62,22)	8 (17,78)		37 (82,22)	2 (4,44)	2 (4,44)	41 (91,11)	4 (11,43)	7 (20)	24 (68,57)	9 (20)	3 (6,67)	33 (73,33)													
	Urinary catheter	21 (100)	21 (100)	12 (63,16)	1 (5,26)	6 (31,58)	16 (76,19)	1 (4,76)	4 (19,05)	21 (100)	16 (88,89)	2 (11,11)	11 (55)	9 (45)	9 (45)	4 (20)	7 (35)	6 (28,57)		15 (71,43)	2 (9,52)	2 (9,52)	17 (80,95)	4 (21,05)	2 (10,53)	13 (68,42)	6 (28,57)	1 (4,76)	14 (66,67)														
	Children	3 (100)	3 (100)	2 (66,67)		1 (33,33)	4 (80)		1 (20)	3 (100)	1 (50)	1 (50)	3 (75)		1 (25)	2 (50)		2 (40)		4 (80)				3 (100)	1 (33,33)	2 (66,67)	1 (20)			4 (80)													
	Adults	30 (100)	30 (100)	10 (43,48)	1 (4,35)	12 (52,17)	23 (76,67)	1 (3,33)	6 (20)	30 (100)	19 (90,48)	2 (9,52)	12 (40)	3 (10)	15 (50)	11 (36,67)	2 (6,67)	17 (56,67)	6 (20)		24 (80)	2 (6,67)	2 (6,67)	28 (93,33)	4 (17,39)	7 (23,33)	2 (6,67)	21 (70)															
	Elderly	52 (100)	53 (100)	29 (61,7)	3 (6,38)	15 (31,91)	36 (67,92)	3 (5,66)	14 (26,42)	52 (100)	38 (82,61)	8 (17,39)	24 (45,28)	3 (5,66)	26 (49,06)	20 (37,74)	6 (11,32)	27 (50,94)	14 (26,42)	1 (1,89)	38 (71,69)	4 (7,55)	3 (5,66)	46 (86,79)	6 (12,24)	12 (22,64)	6 (11,32)	35 (66,04)															
	Outpatient	34 (100)	35 (100)	17 (60,71)	2 (7,14)	9 (32,14)	26 (74,29)	3 (8,57)	6 (17,14)	34 (100)	25 (96,15)	1 (3,85)	16 (45,71)	4 (11,43)	15 (42,86)	13 (37,14)	3 (8,57)	19 (54,29)	8 (22,86)		27 (77,14)	2 (5,71)	4 (11,43)	29 (82,86)	7 (25)	3 (10,71)	18 (64,29)	7 (20)	2 (5,71)	26 (74,29)													
	Inpatient	53 (100)	53 (100)	24 (53,33)	2 (4,44)	19 (42,22)	37 (69,81)	1 (1,89)	15 (28,3)	53 (100)	33 (76,74)	10 (23,26)	23 (44,23)	2 (3,85)	27 (51,92)	20 (38,46)	5 (9,62)	27 (51,92)	13 (24,53)	1 (1,89)	39 (73,58)	2 (3,77)	1 (1,89)	50 (94,34)	8 (17,02)	13 (24,53)	6 (11,32)	34 (54,15)															
	Men	55 (100)	56 (100)	21 (46,67)	3 (6,67)	21 (46,67)	39 (69,64)	4 (7,14)	13 (23,21)	55 (100)	33 (80,49)	8 (19,51)	25 (45,45)	3 (5,45)	27 (49,09)	20 (36,36)	6 (10,91)	29 (52,73)	13 (23,21)	1 (1,79)	42 (75)	3 (5,36)	3 (5,36)	50 (89,29)	12 (25,53)	6 (12,77)	29 (61,7)	13 (23,21)	5 (8,93)	38 (67,86)													
	Women	32 (100)	32 (100)	20 (71,43)	1 (3,57)	7 (25)	24 (75)		8 (25)	32 (100)	25 (89,29)	3 (10,71)	14 (43,75)	3 (9,38)	15 (46,88)	13 (40,63)	2 (6,25)	17 (53,13)	8 (25)		24 (75)	1 (3,13)	2 (6,25)	29 (90,63)	3 (10,71)	5 (17,86)	7 (21,88)	3 (9,38)	22 (68,75)														

AMC= Amoxicillin-clavulanic acid; AMP=Ampicillin TIC= ticarcillin CXM=Cefuroxime FOX=Cefoxitin CFM= Cefixime CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem ETP=Ertapenem TZP=Piperacillin-tazobactam.

Table S8: Resistances to beta-lactams (%) of *Enterobacter cloacae* in 2020.

		AMC R	AMP R	T1C R I S			CXM R S		FOX R	CFM R S		CTX R I S			CAZ R I S			FEP R S		IPM R I S			ETP R I S			TZP R I S		
	Total	88 (100)	88 (100)	58 (69.05)	5 (5.95)	21 (25)	74 (85.06)	13 (14.94)	85 (100)	68 (83.95)	13 (16.05)	51 (57.95)	1 (1.14)	36 (40.91)	49 (55.68)	4 (4.55)	35 (39.77)	32 (36.36)	56 (63.64)	3 (3.41)	5 (5.68)	80 (90.91)	23 (26.44)	10 (11.49)	54 (61.07)	29 (32.95)	13 (14.77)	46 (52.27)
	Collection bag	1 (100)	1 (100)	1 (100)			1 (100)		1 (100)	1 (100)		1 (100)			1 (100)			1 (100)		1 (100)			1 (100)			1 (100)		
	Nephrostomy catheter	22 (100)	22 (100)	19 (86.36)		3 (13.64)	20 (90.91)	2 (9.09)	21 (100)	20 (95.24)	1 (4.76)	16 (72.73)	1 (4.55)	5 (22.73)	16 (72.73)		6 (27.27)	9 (40.91)	13 (59.09)	2 (9.09)	2 (9.09)	18 (81.82)	7 (31.82)	3 (13.64)	12 (54.55)	10 (45.45)	3 (13.64)	9 (40.91)
	Clean catch midstream	49 (100)	49 (100)	27 (58.69)	4 (8.69)	15 (32.61)	41 (83.67)	8 (16.33)	48 (100)	38 (86.36)	6 (13.64)	26 (53.05)		23 (46.94)	24 (48.98)	4 (8.16)	21 (42.86)	18 (36.73)	31 (63.27)	1 (2.04)	2 (4.08)	46 (93.88)	12 (25)	5 (10.42)	31 (64.58)	14 (28.57)	8 (16.33)	27 (55.1)
	Urinary catheter	16 (100)	16 (100)	11 (73.33)	1 (6.67)	3 (20)	13 (86.67)	2 (13.33)	15 (100)	10 (66.67)	5 (33.33)	9 (56.25)		7 (43.75)	9 (56.25)		7 (43.75)	5 (31.25)	11 (68.75)	1 (6.25)	15 (93.75)	4 (25)	2 (12.5)	10 (62.5)	5 (31.25)	2 (12.5)	9 (56.25)	
	Children	3 (100)	3 (100)	2 (66.67)		1 (33.33)	3 (100)		3 (100)	3 (100)		2 (66.67)		1 (33.33)	2 (66.67)		1 (33.33)	2 (33.33)		3 (100)			2 (66.67)		1 (33.33)	2 (66.67)		1 (33.33)
	Adults	33 (100)	33 (100)	19 (63.33)	4 (13.33)	7 (23.33)	30 (90.91)	3 (9.09)	31 (100)	25 (86.21)	4 (13.79)	17 (51.52)		16 (48.48)	16 (48.48)	1 (3.03)	16 (48.48)	15 (45.45)	18 (54.55)	2 (6.06)	4 (12.12)	27 (81.82)	10 (31.25)	4 (12.5)	18 (56.25)	14 (42.42)	2 (6.06)	17 (51.52)
	Elderly	52 (100)	52 (100)	37 (72.55)	1 (1.96)	13 (25.49)	41 (80.39)	10 (19.61)	51 (100)	40 (81.63)	9 (18.37)	32 (61.54)	1 (1.92)	19 (36.54)	31 (59.62)	3 (5.77)	18 (34.62)	16 (30.77)	36 (69.23)	1 (1.92)	1 (1.92)	50 (96.15)	11 (21.15)	6 (11.54)	35 (67.31)	13 (25)	11 (21.15)	28 (53.85)
	Outpatient	32 (100)	32 (100)	16 (53.33)	1 (3.33)	13 (43.33)	23 (71.88)	9 (28.13)	32 (100)	22 (78.57)	6 (21.43)	13 (40.63)	1 (3.13)	18 (56.25)	12 (37.5)	2 (6.25)	18 (56.25)	7 (21.88)	25 (78.13)		1 (3.13)	31 (96.88)	4 (12.9)	5 (16.13)	22 (70.97)	8 (25)	3 (9.38)	21 (65.63)
	Inpatient	56 (100)	56 (100)	42 (77.78)	4 (7.41)	8 (14.81)	51 (92.73)	4 (7.27)	53 (100)	46 (86.79)	7 (13.21)	38 (67.86)		18 (32.14)	37 (66.07)	2 (3.57)	17 (30.36)	25 (44.64)	31 (55.36)	3 (5.36)	4 (7.14)	49 (87.5)	19 (33.93)	5 (8.93)	32 (57.14)	21 (37.5)	10 (17.86)	25 (44.64)
Men	52 (100)	52 (100)	31 (62)	4 (8)	15 (30)	44 (84.62)	8 (15.38)	50 (100)	41 (83.67)	8 (16.33)	26 (50)	1 (1.92)	25 (48.08)	25 (48.08)	2 (3.85)	25 (48.08)	14 (26.92)	38 (73.08)	1 (1.92)	3 (5.77)	48 (92.31)	8 (15.69)	6 (11.76)	37 (72.55)	12 (23.08)	6 (11.54)	34 (65.38)	
Women	36 (100)	36 (100)	27 (79.41)	1 (2.94)	6 (17.65)	30 (85.71)	5 (14.29)	35 (100)	27 (84.38)	5 (15.63)	25 (69.44)		11 (30.56)	24 (66.67)	2 (5.56)	10 (27.78)	18 (50)	18 (50)	2 (5.56)	2 (5.56)	32 (88.89)	15 (41.67)	4 (11.11)	17 (47.22)	17 (47.22)	7 (19.44)	12 (33.33)	

AMC= Amoxicillin-clavulanic acid; AMP=Ampicillin TIC= ticarcillin CXM=Cefuroxime FOX=Cefoxitin CFM= Cefixime CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem ETP=Ertapenem TZP=Piperacillin-tazobactam.

Table S9: Resistances to beta-lactams (%) of *Enterobacter cloacae* in 2021.

	AMC	AMP	TIC			CXM		CFM	CEF		CTX			CAZ			FEP		IPM		ETP			S	TZP	
	R	R	R	I	S	R	S	R	R	S	R	I	S	R	I	S	R	S	R	S	R	I	S		I	S
Total	37 (100)	37 (100)	27 (72.97)	1 (2.7)	9 (24.32)	32 (86.49)	5 (13.51)	36 (100)	36 (97.29)	1 (2.7)	23 (62.16)	4 (10.81)	10 (27.03)	22 (59.46)	2 (5.41)	13 (35.14)	21 (56.76)	16 (43.24)	2 (5.41)	35 (94.59)	14 (37.84)	3 (8.11)	20 (54.05)	16 (43.24)	2 (5.41)	19 (51.35)
Collection bag	1 (100)	1 (100)			1 (100)	1 (100)		1 (100)	1 (100)				1 (100)			1 (100)			1 (100)				1 (100)			1 (100)
Permanent catheterization	7 (100)	7 (100)	5 (71.43)	1 (14.29)	1 (14.29)	6 (85.71)	1 (14.29)	7 (100)	7 (100)		4 (57.14)	1 (14.29)	2 (28.57)	4 (57.14)		3 (42.86)	4 (57.14)	3 (42.86)		7 (100)	3 (42.86)		4 (57.14)	2 (28.57)		5 (71.43)
Clean catch midstream	13 (100)	13 (100)	8 (61.54)		5 (38.46)	9 (69.23)	4 (30.77)	12 (100)	12 (92.31)	1 (7.69)	6 (46.15)	2 (15.28)	5 (38.46)	6 (46.15)	1 (7.69)	6 (46.15)	5 (38.46)	8 (61.54)	1 (7.69)	12 (92.31)	2 (15.38)	1 (7.69)	10 (76.92)	5 (38.46)	1 (7.69)	7 (53.85)
Urinary catheter	16 (100)	16 (100)	14 (87.5)		2 (12.5)	16 (100)		16 (100)	16 (100)		13 (81.25)	1 (6.25)	2 (12.5)	12 (75)	1 (6.25)	3 (18.75)	12 (75)	4 (25)	1 (6.25)	15 (93.75)	9 (56.25)	2 (12.5)	5 (31.25)	9 (56.25)	1 (6.25)	6 (37.5)
Children	3 (100)	3 (100)			3 (100)	3 (100)		3 (100)	3 (100)				3 (100)			3 (100)			3 (100)				3 (100)			3 (100)
Adults	24 (100)	24 (100)	21 (87.5)		3 (12.5)	22 (91.67)	2 (8.33)	23 (100)	23 (95.83)	1 (4.17)	19 (79.17)	2 (8.33)	3 (12.5)	18 (75)	1 (4.17)	5 (20.83)	19 (79.17)	5 (20.83)	1 (4.17)	23 (95.83)	11 (45.83)	3 (12.5)	10 (41.67)	13 (54.17)	2 (8.33)	9 (37.5)
Elderly	10 (100)	10 (100)	6 (60)	1 (10)	3 (30)	7 (70)	3 (30)	10 (100)	10 (100)		4 (40)	2 (20)	4 (40)	4 (40)	1 (10)	5 (50)	2 (20)	8 (80)	1 (10)	9 (90)	3 (30)		7 (70)	3 (30)		7 (70)
Outpatient	6 (100)	6 (100)	2 (33.33)		4 (66.67)	4 (66.67)	2 (33.33)	5 (100)	5 (83.33)	1 (16.67)	1 (16.67)	1 (16.67)	4 (66.67)	1 (16.67)	1 (16.67)	4 (66.67)		6 (100)	1 (16.67)	5 (83.33)	1 (16.67)		5 (83.33)	1 (16.67)		5 (83.33)
Inpatient	31 (100)	31 (100)	25 (80.65)	1 (3.23)	5 (16.13)	28 (90.32)	3 (9.68)	31 (100)	31 (100)		22 (70.97)	3 (9.68)	6 (19.35)	21 (67.74)	1 (3.23)	9 (29.03)	21 (67.74)	10 (32.26)	1 (3.23)	30 (96.77)	13 (41.94)	3 (9.68)	15 (48.39)	15 (48.39)	2 (6.45)	14 (45.16)
Men	23 (100)	23 (100)	17 (73.91)		6 (26.09)	20 (86.96)	3 (13.04)	23 (100)	23 (100)		13 (56.52)	4 (17.39)	6 (26.09)	12 (52.18)	2 (8.69)	9 (39.13)	12 (52.17)	11 (47.83)	2 (8.69)	21 (91.3)	10 (43.48)	1 (4.35)	12 (52.17)	9 (39.13)		14 (60.87)
Women	14 (100)	14 (100)	10 (71.43)	1 (7.14)	3 (21.43)	12 (85.71)	2 (14.29)	13 (100)	13 (92.86)	1 (7.14)	10 (71.43)		4 (28.57)	10 (71.43)		4 (28.57)	9 (64.29)	5 (35.71)		14 (100)	4 (28.57)	2 (14.29)	8 (57.14)	7 (50)	2 (14.29)	5 (35.72)

AMC= Amoxicillin-clavulanic acid; AMP=Ampicillin TIC= ticarcillin CXM=Cefuroxime FOX=Cefoxitin CFM= Cefixime CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem ETP=Ertapenem TZP=Piperacillin-tazobactam.

Table S10: Resistances to non-beta-lactams (%) of *Enterobacter cloacae* in 2016.

		TOB			GEN			NAL		CIP			FOF		NIT			SXT	
		R	I	S	R	I	S	R	S	R	I	S	R	S	R	I	S	R	S
2016	Total	3 (6)	4 (8)	43 (86)	5 (10)	1 (2)	44 (88)	1 (100)		1 (2)	9 (18)	40 (80)	14 (28)	36 (72)	18 (36)	16 (32)	16 (32)	12 (24)	38 (76)
	Collection bag			3 (100)			3 (100)					3 (100)	1 (33.33)	2 (66.67)		2 (66.67)	1 (33.33)		3 (100)
	Nephrostomy catheter			4 (100)			4 (100)	1 (100)				4 (100)		4 (100)	2 (50)	2 (50)			4 (100)
	Permanent catheterization		1 (14.29)	6 (85.71)	1 (14.29)		6 (85.71)			3 (42.86)		4 (57.14)	4 (57.14)	3 (42.86)	5 (71.43)		2 (28.57)	2 (28.57)	5 (71.43)
	Clean catch midstream	1 (4.35)	2 (8.69)	20 (86.96)	1 (4.35)	1 (4.35)	21 (91.3)			3 (13.04)		20 (86.96)	4 (17.39)	19 (82.61)	8 (34.78)	7 (30.43)	8 (34.78)	6 (26.09)	17 (73.19)
	Urinary catheter	2 (15.38)	1 (7.69)	10 (76.92)	3 (23.08)		10 (76.92)			3 (23.08)	1 (7.69)	9 (69.23)	5 (38.46)	8 (61.54)	3 (23.08)	5 (38.46)	5 (38.46)	4 (30.77)	9 (69.23)
	Children			5 (100)			5 (100)					5 (100)	1 (20)	4 (80)	1 (20)	2 (40)	2 (40)	1 (20)	4 (80)
	Adults	2 (8.33)	4 (16.67)	18 (75%)	4 (16.67)	1 (4.17)	19 (79.17)			4 (16.67)	1 (4.17)	19 (79.16)	6 (25)	18 (75)	10 (41.67)	7 (29.17)	7 (29.17)	7 (29.17)	17 (70.83)
	Elderly	1 (4.76)		20 (95.24)	1 (4.76)		20 (95.24)	1 (100)		5 (23.81)		16 (76.19)	7 (33.33)	14 (66.67)	7 (33.33)	7 (33.33)	7 (33.33)	4 (19.05)	17 (80.95)
	Outpatient	1 (3.13)	2 (6.25)	29 (90.63)	1 (3.13)	1 (3.13)	30 (93.75)	1 (100)		5 (15.63)		27 (84.38)	9 (28.13)	23 (71.88)	11 (34.38)	7 (21.88)	14 (43.75)	7 (21.88)	25 (78.13)
	Inpatient	2 (11.11)	2 (11.11)	14 (77.78)	4 (22.22)		14 (77.78)			4 (22.22)	1 (5.56)	13 (72.22)	5 (27.78)	13 (72.22)	7 (38.89)	9 (50)	2 (11.11)	5 (27.78)	13 (72.22)
	Men	2 (6.06)	1 (3.03)	30 (90.91)	2 (6.06)	1 (3.03)	30 (90.91)			7 (21.21)		26 (78.79)	7 (21.21)	26 (78.79)	11 (33.33)	10 (30.3)	12 (36.36)	8 (24.24)	25 (75.76)
	Women	1 (5.88)	3 (17.65)	13 (76.47)	3 (17.65)		14 (82.35)	1 (100)		2 (11.76)	1 (5.88)	14 (82.35)	7 (41.18)	10 (58.82)	7 (41.18)	6 (35.29)	4 (23.52)	4 (23.53)	13 (76.47)

TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomycin NIT= Nitrofurantoin SXT= Trimethoprim-sulfamethoxazole

Table S11: Resistances to non-beta-lactams (%) of *Enterobacter cloacae* in 2017.

		AMK		TOB			GEN		NAL		CIP		FOF		NIT			SXT	
		R	S	R	I	S	R	S	R	S	R	S	R	S	R	I	S	R	S
2017	Total	2	(100)	8	2	64	9	65	4	7	12	62	29	44	15	37	21	22	52
	Collection bag			3		3	3	3			6	(100)	1	5	1	2	3	3	3
	Nephrostomy catheter					(50)	(50)	(50)					(16.67)	(83.33)	(16.67)	(33.33)	(50)	(50)	(50)
	Permanent catheterization			1		14	1	14	4	1	6	9	4	11	6	9		6	9
	Clean catch midstream	1	(100)		1	28	1	28		5	3	26	13	15	5	15	8	5	24
	Urinary catheter	1	(100)	4	1	19	4	20		1	3	21	11	13	3	11	10	8	16
				(16.67)	(4.17)	(79.17)	(16.67)	(83.33)		(100)	(12.5)	(87.5)	(45.83)	(54.17)	(12.5)	(45.83)	(41.67)	(33.33)	(66.67)
	Children			5		6	5	6			11	(100)	2	9		8	3	5	6
	Adults			(45.45)		(54.55)	(45.45)	(54.55)					(18.18)	(81.81)		(72.73)	(27.27)	(45.45)	(54.55)
	Elderly	1	(100)	1	1	20	2	20	1	2	4	18	9	13	3	12	7	8	14
				(4.55)	(4.55)	(90.91)	(9.09)	(90.91)	(33.33)	(66.67)	(18.18)	(81.82)	(40.91)	(59.09)	(13.64)	(54.55)	(31.82)	(36.36)	(63.64)
	Outpatient	2	(100)	2	1	38	2	39	3	5	8	33	18	22	12	17	11	9	32
				(4.88)	(2.44)	(92.68)	(4.88)	(95.12)	(37.5)	(62.5)	(19.51)	(80.49)	(45)	(55)	(30)	(42.5)	(27.5)	(21.95)	(78.05)
	Inpatient	1	(100)	3	1	28	4	28	1	7	7	25	12	20	7	17	8	9	23
				(9.38)	(3.3)	(87.5)	(12.5)	(87.5)	(12.5)	(87.5)	(21.88)	(78.13)	(37.5)	(62.5)	(21.88)	(53.13)	(25)	(28.13)	(71.88)
	Men	1	(100)	4	1	42	5	42	2	3	6	41	16	30	12	26	8	13	34
	Women	1	(100)	4	1	22	4	23	2	4	6	21	13	14	3	11	13	9	18
				(14.81)	(3.7)	(81.48)	(14.81)	(85.19)	(33.33)	(66.67)	(22.22)	(77.78)	(48.15)	(51.85)	(11.11)	(40.74)	(48.15)	(33.33)	(66.67)

AMK= Amikacin TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomicin NIT= Nitrofurantoin SXT= Trimethoprim-sulfamethoxazole

Table S12: Resistances to non-beta-lactams (%) of *Enterobacter cloacae* in 2018.

		AMK	TOB			GEN		NAL		CIP		LVX	FOF		NIT			SXT	
		R S	R	I	S	R	S	R	S	R	S	R S	R	S	R	I	S	R	S
2018	Total	2 (100)	5 (7.35)	3 (4.41)	60 (88.24)	5 (7.35)	63 (92.95)	11 (16.42)	56 (83.58)	10 (14.71)	58 (85.29)	1 (100)	25 (37.31)	42 (62.69)	13 (19.4)	33 (49.25)	21 (31.34)	11 (16.18)	57 (83.82)
	Collection bag				1 (100)		1 (100)		1 (100)		1 (100)			1 (100)		1 (100)		1 (100)	
	Nephrostomy catheter				2 (100)		2 (100)		2 (100)		2 (100)		1 (50)	1 (50)		1 (50)	1 (50)		2 (100)
	Permanent catheterization	1 (100)	1 (5.88)	2 (11.76)	14 (82.35)	1 (5.88)	16 (94.12)	5 (29.41)	12 (70.59)	5 (29.41)	12 (70.59)		7 (41.18)	10 (58.82)	3 (17.65)	7 (41.18)	7 (41.18)	3 (17.65)	14 (82.35)
	Clean catch midstream	1 (100)	1 (2.94)	1 (2.94)	32 (94.12)	1 (2.94)	33 (97.06)	4 (12.12)	29 (87.88)	3 (8.82)	31 (91.18)	1 (100)	14 (42.42)	19 (57.58)	6 (18.18)	21 (63.64)	6 (18.18)	5 (14.71)	29 (85.29)
	Urinary catheter		3 (21.43)		11 (78.57)	3 (21.43)	11 (78.57)	2 (14.29)	12 (85.71)	2 (14.29)	12 (85.71)		3 (21.43)	11 (78.57)	4 (28.57)	3 (21.43)	7 (50)	3 (21.43)	11 (78.57)
	Children		3 (30)		7 (70)	3 (30)	7 (70)	1 (11.11)	8 (88.89)	2 (20)	8 (80)		3 (30)	7 (70)	3 (30)	3 (30)	4 (40)	3 (30)	7 (70)
	Adults	2 (100)		2 (10)	18 (90)		20 (100)	4 (20)	16 (80)	2 (10)	18 (90)	1 (100)	11 (57.89)	8 (42.11)	1 (5.26)	12 (63.16)	6 (31.58)	2 (10)	18 (90)
	Elderly		2 (5.26)	1 (2.63)	35 (92.11)	2 (5.26)	36 (94.74)	6 (15.79)	32 (84.21)	6 (15.79)	32 (84.21)		11 (28.95)	27 (71.05)	9 (23.68)	18 (47.37)	11 (28.95)	6 (15.79)	32 (84.21)
	Outpatient		2 (5.71)	1 (2.86)	32 (91.43)	2 (5.71)	33 (94.29)	6 (17.14)	29 (82.86)	5 (14.29)	30 (85.71)		12 (34.29)	23 (65.71)	8 (22.86)	14 (40)	13 (37.14)	5 (14.29)	30 (85.71)
	Inpatient	2 (100)	3 (9.09)	2 (6.06)	28 (84.85)	3 (9.09)	30 (90.91)	5 (15.63)	27 (84.38)	5 (15.15)	28 (84.85)	1 (100)	13 (40.63)	19 (59.38)	5 (15.63)	19 (59.38)	8 (25)	6 (18.18)	27 (81.82)
	Men	2 (100)	2 (4.88)	2 (4.88)	37 (90.24)	2 (4.88)	39 (95.12)	5 (12.5)	35 (87.5)	6 (14.63)	35 (85.37)	1 (100)	14 (35)	26 (65)	9 (22.5)	18 (45)	13 (32.5)	6 (14.63)	35 (85.37)
	Women		3 (11.11)	1 (3.7)	23 (85.19)	3 (11.11)	24 (88.89)	6 (22.22)	21 (77.78)	4 (14.81)	23 (85.19)		11 (40.74)	16 (59.26)	4 (14.81)	15 (55.56)	8 (29.63)	5 (18.52)	22 (81.48)

AMK= Amikacin TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomycin NIT= Nitrofurantoin SXT= Trimethoprim-sulfamethoxazole

Table S13: Resistances to non-beta-lactams (%) of *Enterobacter cloacae* in 2019.

		AMK		TOB			GEN			NAL		CIP			LVX			FOF		NIT			SXT		CST	
		R	S	R	I	S	R	I	S	R	S	R	I	S	R	I	S	R	S	R	I	S	R	S	R	S
2019	Total	2 (2.74)	71 (97.26)	10 (11.36)	3 (3.41)	75 (85.23)	7 (79.55)	1 (1.14)	80 (90.91)	13 (14.94)	74 (85.06)	13 (14.94)	5 (5.75)	69 (79.31)	9 (12.33)	1 (1.34)	63 (86.3)	30 (34.09)	58 (65.91)	23 (34.85)	7 (10.61)	36 (54.55)	15 (17.05)	73 (82.95)	2 (6.89)	27 (93.1)
	Collection bag		1 (100)			1 (100)			1 (100)		1 (100)			1 (100)			1 (100)					1 (100)		1 (100)		
	Nephrostomy catheter		3 (100)			4 (100)			4 (100)	2 (50)	2 (50)	1 (25)		3 (75)			3 (100)	1 (25)	3 (75)	1 (100)			1 (25)	3 (75)		
	Permanent catheterization	1 (6.67)	14 (83.33)	4 (23.53)		13 (76.47)	2 (11.76)	1 (5.88)	14 (82.35)	4 (23.53)	13 (76.47)	4 (25)	1 (6.25)	11 (68.75)	3 (20)		12 (80)	5 (29.41)	12 (70.59)	5 (29.41)		12 (70.59)	4 (23.53)	14 (82.35)	1 (16.67)	5 (83.33)
	Clean catch midstream		35 (100)	5 (11.11)	1 (2.22)	39 (86.67)	4 (8.89)		41 (91.11)	4 (9.09)	40 (90.91)	6 (13.33)	2 (4.44)	37 (82.22)	4 (11.43)	1 (2.86)	30 (85.71)	16 (35.56)	29 (64.44)	17 (37.78)	6 (13.33)	22 (48.89)	8 (17.78)	37 (82.22)	1 (6.25)	15 (93.75)
	Urinary catheter	1 (5.26)	18 (94.74)	1 (4.76)	2 (9.52)	18 (85.71)	1 (4.76)		20 (95.24)	3 (14.29)	18 (85.71)	2 (9.52)	2 (9.52)	17 (80.95)	2 (10.53)		17 (89.47)	8 (38.09)	13 (61.9)		1 (50)	1 (50)	2 (9.52)	19 (90.48)		7 (100)
	Children		3 (100)			5 (100)			5 (100)		5 (100)			5 (100)			3 (100)		5 (100)		2 (66.67)	1 (33.33)		5 (100)		
	Adults		23 (100)	3 (10)		27 (90)	3 (10)		27 (90)	4 (13.33)	26 (86.67)	4 (13.33)	3 (10)	23 (76.67)	3 (13.04)		20 (86.96)	11 (36.67)	19 (63.33)	10 (38.46)	2 (7.69)	14 (53.85)	5 (16.67)	25 (83.33)	1 (9.09)	10 (90.91)
	Elderly	2 (4.26)	45 (95.74)	7 (13.21)	3 (5.66)	43 (81.13)	4 (7.55)	1 (1.89)	48 (90.57)	9 (17.31)	43 (82.69)	9 (17.31)	1 (3.85)	41 (78.85)	6 (12.77)	1 (2.13)	40 (85.11)	19 (35.85)	34 (64.15)	13 (35.14)	3 (8.11)	21 (56.76)	10 (18.87)	43 (81.13)	1 (5.56)	17 (94.44)
	Outpatient	1 (3.57)	27 (96.43)	4 (11.43)	2 (5.71)	29 (82.86)	3 (8.57)		32 (91.43)	6 (17.65)	28 (82.35)	7 (20)	1 (2.86)	27 (77.14)	4 (14.29)		24 (85.71)	11 (31.43)	24 (68.57)	8 (36.36)	3 (13.64)	11 (50)	7 (20)	28 (80)		11 (100)
	Inpatient	1 (2.22)	44 (97.78)	6 (11.32)	1 (1.89)	46 (86.79)	4 (7.55)	1 (1.89)	48 (90.57)	7 (13.21)	46 (86.79)	6 (11.54)	4 (7.69)	42 (80.77)	5 (11.11)	1 (2.22)	39 (86.67)	19 (35.85)	34 (64.15)	15 (34.09)	4 (9.09)	25 (56.82)	8 (15.09)	45 (84.91)	2 (11.11)	16 (88.89)
	Men	1 (2.22)	44 (97.78)	7 (12.5)	1 (1.79)	48 (85.71)	4 (7.14)		52 (92.86)	9 (16.36)	46 (83.64)	9 (16.36)	1 (1.82)	45 (81.82)	7 (15.56)		38 (84.44)	17 (30.36)	39 (69.64)	15 (34.09)	5 (11.36)	24 (54.55)	9 (16.07)	47 (83.93)	2 (11.11)	16 (88.89)
	Women	1 (3.57)	27 (96.43)	3 (9.38)	2 (6.25)	27 (84.38)	3 (9.38)	1 (3.13)	28 (87.5)	4 (12.5)	28 (87.5)	4 (12.5)	4 (12.5)	24 (75)	2 (7.14)	1 (3.57)	25 (89.29)	13 (40.63)	19 (59.38)	8 (36.36)	2 (9.09)	12 (54.55)	6 (18.75)	26 (81.25)		11 (100)

AMK= Amikacin TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomycin NIT= Nitrofurantoin SXT= Trimethoprim-sulfamethoxazole CST= Colistin

Table S14: Resistances to non-beta-lactams (%) of *Enterobacter cloacae* in 2020.

		AMK			TOB			GEN			NAL		CIP			LVX			FOF		NIT		SXT		CST	
		R	I	S	R	I	S	R	I	S	R	S	R	I	S	R	I	S	R	S	R	S	R	S	R	S
2020	Total	2 (2.27)	2 (2.27)	84 (95.45)	14 (15.91)	4 (4.55)	70 (79.55)	9 (10.23)	2 (2.27)	77 (87.5)	23 (26.44)	64 (73.56)	23 (26.14)	2 (2.27)	63 (71.59)	17 (19.32)	6 (6.82)	65 (73.86)	40 (45.45)	48 (54.55)	30 (38.46)	48 (61.54)	26 (29.55)	62 (70.45)	12 (14.29)	72 (85.71)
	Collection bag			1 (100)			1 (100)			1 (100)	1 (100)			1 (100)		1 (100)			1 (100)					1 (100)		1 (100)
	Nephrostomy catheter			22 (100)	4 (18.18)	2 (9.09)	16 (72.73)			22 (100)	7 (31.82)	15 (68.18)	6 (27.27)	1 (4.55)	15 (68.18)	5 (22.73)	1 (4.55)	16 (72.73)	11 (50)	11 (50)	11 (50)	11 (50)	6 (27.27)	16 (72.73)	2 (9.09)	20 (90.91)
	Permanent catheterization			46 (93.88)			39 (79.59)			41 (83.67)	13 (26.53)	36 (73.47)	13 (26.53)	1 (2.04)	35 (71.43)	11 (22.45)	2 (4.08)	36 (73.47)	21 (42.86)	28 (57.14)	17 (37.78)	28 (62.22)	16 (32.65)	33 (67.35)	8 (17.39)	38 (82.61)
	Clean catch midstream	2 (4.08)	1 (2.04)	46 (93.88)	10 (20.41)		39 (79.59)	6 (12.24)	2 (4.08)	41 (83.67)	13 (26.53)	36 (73.47)	13 (26.53)	1 (2.04)	35 (71.43)	11 (22.45)	2 (4.08)	36 (73.47)	21 (42.86)	28 (57.14)	17 (37.78)	28 (62.22)	16 (32.65)	33 (67.35)	8 (17.39)	38 (82.61)
			1 (6.25)	15 (93.75)		2 (12.5)	14 (87.5)	3 (18.75)		13 (81.25)	2 (13.33)	13 (86.67)	3 (18.75)		13 (81.25)	1 (6.25)	2 (12.5)	13 (81.25)	7 (43.75)	9 (56.25)	2 (18.18)	9 (81.82)	4 (25)	12 (75)	2 (13.33)	13 (86.67)
	Urinary catheter			3 (100)			3 (100)			3 (100)		3 (100)			3 (100)			3 (100)	1 (33.33)	2 (66.67)	3 (100)		3 (100)		1 (33.33)	2 (66.67)
	Children	2 (6.06)	1 (3.03)	30 (90.91)	8 (24.24)	2 (6.06)	23 (69.69)	5 (15.15)	1 (3.03)	27 (81.82)	11 (34.38)	21 (65.63)	11 (33.33)	1 (3.03)	21 (65.63)	11 (33.33)	1 (3.03)	21 (63.64)	14 (42.42)	19 (57.58)	11 (37.93)	18 (62.07)	16 (48.48)	17 (51.52)	5 (16.67)	25 (83.33)
	Adults		1 (1.92)	51 (98.08)	6 (11.54)	2 (3.85)	44 (84.62)	4 (7.69)	1 (1.92)	47 (90.38)	12 (23.08)	40 (76.92)	12 (23.08)	1 (1.92)	39 (75)	6 (11.54)	5 (9.62)	41 (78.85)	25 (48.08)	27 (51.92)	16 (34.78)	30 (65.22)	10 (19.23)	42 (80.77)	6 (11.76)	45 (88.24)
	Elderly	1 (3.13)		31 (96.88)	1 (3.13)		31 (96.88)		2 (6.25)	30 (93.75)	5 (15.63)	27 (84.38)	4 (12.5)	1 (3.13)	27 (84.38)	3 (9.38)	2 (6.25)	27 (84.38)	20 (62.5)	12 (37.5)	8 (27.59)	21 (72.41)	4 (12.5)	28 (87.5)	7 (23.33)	23 (76.67)
	Outpatient	1 (1.79)	2 (3.57)	53 (94.64)	13 (23.21)	4 (7.14)	39 (69.64)	9 (16.07)		47 (83.93)	18 (32.73)	37 (67.27)	19 (33.93)	1 (1.79)	36 (64.29)	14 (25)	4 (7.14)	38 (67.86)	20 (35.71)	36 (64.29)	22 (44.89)	27 (55.1)	22 (39.29)	34 (60.71)	5 (9.26)	49 (90.74)
	Inpatient	1 (1.92)	1 (1.92)	50 (96.15)	6 (11.54)	2 (3.85)	44 (84.62)	3 (5.77)	2 (3.85)	47 (90.38)	13 (25)	39 (75)	13 (25)	1 (1.92)	38 (73.08)	10 (19.23)	3 (5.77)	39 (75)	26 (50)	26 (50)	20 (42.55)	27 (57.45)	11 (21.15)	41 (78.85)	9 (18)	41 (82)
	Men	1 (2.78)	1 (2.78)	34 (94.44)	8 (22.22)	2 (5.56)	26 (72.22)	6 (16.67)		30 (83.33)	10 (28.57)	25 (71.43)	10 (27.78)	1 (2.78)	25 (71.43)	7 (19.44)	3 (8.33)	26 (72.22)	14 (38.89)	22 (81.11)	10 (32.26)	21 (67.74)	15 (41.67)	21 (58.33)	3 (8.82)	31 (91.18)

AMK= Amikacin TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomycin NIT= Nitrofurantoin SXT= Trimethoprim-sulfamethoxazole CST= Colistin

Table S15: Resistances to non-beta-lactams (%) of *Enterobacter cloacae* in 2021.

		AMK		TOB		GEN		NAL		CIP			LVX			FOF		NIT		SXT		CST	
		R	S	R	S	R	S	R	S	R	I	S	R	I	S	R	S	R	S	R	S	R	S
2021	Total	3 (8.11)	34 (91.89)	19 (51.35)	18 (48.65)	18 (48.65)	19 (51.35)	17 (45.95)	20 (54.05)	19 (51.35)	2 (5.41)	16 (43.24)	18 (48.65)	2 (5.41)	17 (45.95)	13 (35.14)	24 (64.86)	13 (35.14)	24 (64.86)	20 (54.05)	17 (45.95)	5 (13.51)	32 (86.49)
	Collection bag		1 (100)		1 (100)		1 (100)		1 (100)			1 (100)			1 (100)		1 (100)		1 (100)		1 (100)		1 (100)
	Nephrostomy catheter																						
	Permanent catheterization		7 (100)	3 (42.86)	4 (57.14)	3 (42.86)	4 (57.14)	3 (42.86)	4 (57.14)	4 (57.14)		3 (42.86)	3 (42.86)	1 (14.29)	3 (42.86)	3 (42.86)	4 (57.14)	3 (42.86)	4 (57.14)	4 (57.14)	3 (42.86)	1 (14.29)	6 (85.71)
	Clean catch midstream		13 (100)	5 (38.46)	8 (61.54)	4 (30.77)	9 (69.23)	4 (30.77)	9 (69.23)	4 (30.77)	2 (15.38)	7 (53.85)	5 (38.46)		8 (61.54)	7 (53.85)	6 (46.15)	6 (46.15)	7 (53.85)	5 (38.46)	8 (61.54)	2 (15.28)	11 (84.62)
	Urinary catheter	3 (18.75)	13 (81.25)	11 (68.75)	5 (31.25)	11 (68.75)	5 (31.25)	10 (62.5)	6 (37.5)	11 (68.75)		5 (31.25)	10 (62.5)	1 (6.25)	5 (31.25)	3 (18.75)	13 (81.25)	4 (25)	12 (75)	11 (68.75)	5 (31.25)	2 (12.5)	14 (87.5)
	Children		3 (100)		3 (100)		3 (100)		3 (100)			3 (100)			3 (100)		3 (100)	2 (66.67)	1 (33.33)		3 (100)		3 (100)
	Adults	3 (12.5)	21 (87.5)	16 (66.67)	8 (33.33)	16 (66.67)	8 (33.33)	15 (62.5)	9 (37.5)	17 (70.83)	1 (4.17)	6 (25)	16 (66.67)	2 (8.33)	6 (25)	8 (33.33)	16 (66.67)	8 (33.33)	16 (66.67)	18 (75)	6 (25)	2 (8.33)	22 (91.67)
	Elderly		10 (100)	3 (30)	7 (70)	2 (20)	8 (80)	2 (20)	8 (80)	2 (20)	1 (10)	7 (70)	2 (20)		8 (80)	5 (50)	5 (50)	3 (30)	7 (70)	2 (20)	8 (80)	3 (30)	7 (70)
	Outpatient		6 (100)	1 (16.67)	5 (83.33)		6 (100)		6 (100)	1 (16.67)		5 (83.33)			6 (100)	1 (16.67)	5 (83.33)	1 (16.67)	5 (83.33)		6 (100)	2 (33.33)	4 (66.67)
	Inpatient	3 (9.67)	28 (90.32)	18 (58.06)	13 (41.94)	18 (58.06)	13 (41.94)	17 (54.84)	14 (45.16)	18 (58.06)	2 (6.45)	11 (35.48)	18 (58.06)	2 (6.45)	11 (35.48)	12 (38.71)	19 (61.29)	12 (38.71)	19 (61.29)	20 (64.52)	11 (35.48)	3 (9.68)	28 (90.32)
	Men	1 (4.35)	22 (95.65)	11 (47.83)	12 (52.17)	10 (43.47)	13 (56.52)	9 (39.13)	14 (60.87)	11 (47.83)	1 (4.35)	11 (47.83)	9 (39.13)	2 (8.69)	12 (52.17)	8 (34.78)	15 (65.22)	9 (39.13)	14 (60.87)	11 (47.83)	12 (52.17)	5 (21.74)	18 (78.26)
	Women	2 (14.29)	12 (85.71)	8 (57.14)	6 (42.86)	8 (57.14)	6 (42.86)	8 (57.14)	6 (42.86)	8 (57.14)	1 (7.14)	5 (35.71)	9 (64.29)		5 (35.71)	5 (35.71)	9 (64.29)	4 (28.57)	10 (71.43)	9 (64.29)	5 (35.71)		14 (100)

AMK= Amikacin TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomycin NIT= Nitrofurantoin SXT= Trimethoprim-sulfamethoxazole CST= Colistin

Table S16: Systematic review of the resistance rates (%) of *Morganella morganii* in urine cultures.

Author (year of publication)	Period	Place	N	AMC	AMP	CTX	CAZ	CRO	FEP	IMI	MEM	TZP	AMK	TOB	GEN	FOF	CIP	SXT
T. Demir (2013) ²¹	2008-2012	Turkey	7	71.4	85.7		28.6								57.1	100	28.6	57.1
R. K. Flamm ²² (2014)	2011	Europe	36			5.6	5.6	5.6	0		0	0					5.6	
E. Mantadakis (2015) ²³	2008-2014	Greece	2	100	100	0	0	0		0	0		100	0	0			0
H. Seifert (2018) ¹⁷	2014-2015	Germany	25				28	32	12		0	0	0	8		92	16	
G. Jiménez Guerra (2020) ¹⁹	2006-2016	Spain	167						10	11		19		22	10	4	16	14
J. Hrbacek (2021) ²⁴	2011-2019	Czech Republic	194	92.9	95.7	16.3	13.7		14.3	1.1	1.1	13.6	4.3		12.4		34.4	27.5
Weighted averages			431	92.23	95.39	14.49	14.24	15.89	11.1	5.65	0.83	13.95	4.68	19.97	12.09	18.43	23.47	21.82

AMX=Amoxicillin AMP=Ampicillin CTX=Cefotaxime CAZ=Ceftazidime CRO=Ceftriaxone FEP=Cefepime IPM=Imipenem MEM=Meropenem TZP=Piperacillin-tazobactam AMK=Amikacin

TOB=Tobramycin GEN=Gentamicin FOF=Fosfomycin CIP=Ciprofloxacin SXT=Trimethoprim-sulfamethoxazole

Table S17: General annualized resistances (%) of *Morganella morganii* during 2016-2021

	TIC	CXM	FOX	CFM	CTX	CAZ	FEP	IPM	TZP	TOB	GEN	NAL	CIP	FOF	NIT	SXT
2016	- (79.41)	27/34 (79.41)	4/34 (11.76)	-	4/33 (12.12)	3/34 (8.82)	0/34 (0)	10/34 (29.41)	0/34 (0)	2/34 (5.88)	6/34 (17.65)	14/34 (41.18)	10/34 (29.41)	26/34 (76.47)	6/34 (17.65)	12/34 (35.29)
2017	- (58.82)	20/34 (58.82)	5/34 (14.71)	-	7/34 (20.59)	2/37 (5.41)	0/37 (0)	7/31 (22.58)	1/37 (2.7)	1/37 (2.7)	11/37 (29.73)	23/34 (67.65)	10/37 (27.03)	29/35 (82.86)	17/34 (50)	15/37 (40.54)
2018	- (68.97)	20/29 (68.97)	2/29 (6.89)	-	3/29 (10.34)	0/29 (0)	0/29 (0)	5/17 (29.41)	0/29 (0)	2/29 (6.89)	6/29 (20.69)	13/29 (44.83)	4/29 (13.79)	21/29 (72.41)	12/29 (41.38)	7/29 (24.14)
2019	6/24 (25)	29/30 (96.67)	0/7 (0)	17/22 (77.27)	9/29 (31.03)	6/30 (20)	1/31 (2.23)	6/29 (20.69)	0/31 (0)	0/31 (0)	4/31 (12.9)	13/30 (43.33)	7/31 (22.58)	26/30 (86.67)	23/30 (76.67)	9/31 (29.03)
2020	11/26 (42.31)	25/26 (96.15)		21/24 (87.5)	12/26 (46.15)	8/26 (30.77)	5/26 (19.23)	2/20 (10)	1/26 (3.85)	6/26 (23.08)	8/26 (30.77)	12/26 (46.15)	11/26 (42.31)	23/26 (88.46)	25/25 (100)	11/26 (42.31)
2021	3/11 (27.27)	10/11 (90.91)	-	8/10 (80)	6/11 (54.55)	4/11 (36.36)	2/11 (18.18)	1/11 (9.09)	1/11 (9.09)	2/11 (18.18)	2/11 (18.18)	2/11 (18.18)	3/11 (27.27)	8/11 (72.73)	11/11 (100)	2/11 (18.18)
Total	20/61 (32.79)	131/164 (79.88)	11/104 (10.58)	46/56 (82.14)	41/162 (25.31)	23/167 (13.77)	8/168 (4.76)	31/142 (21.83)	3/168 (1.79)	13/168 (7.74)	37/168 (22.02)	77/164 (46.95)	45/168 (26.79)	133/165 (80.61)	94/163 (57.67)	56/168 (33.33)

TIC=Ticarcillin; CXM=Cefuroxime; FOX=Cefoxitin; CFM=Cefixime; CTX=Cefotaxime; CAZ=Ceftazidime; FEP=Cefepime; IPM=Imipenem; TZP=Piperacillin-tazobactam; TOB=Tobramycin; GEN=Gentamicin; NAL=Nalidixic acid; CIP=Ciprofloxacin; FOF=Fosfomycin NIT=Nitrofurantoin; SXT=Trimethoprim-sulfamethoxazole.

Table S18: Resistances to beta-lactams (%) of *Morganella morganii* in 2016.

		CXM			FOX			CTX			CAZ			FEP			IPM			TZP	
		R	I	S	R	I	S	R	I	S	R	I	S	R	I	S	R	I	S	R	S
2016	Total	27 (79.41)	3 (8.82)	4 (11.76)	4 (11.76)	2 (5.88)	28 (82.35)	4 (12.12)	7 (21.21)	22 (66.67)	3 (8.82)	1 (2.94)	30 (88.24)	1 (2.94)	33 (97.06)	10 (29.41)	21 (61.76)	3 (8.82)		34 (100)	
	Collection bag	2 (100)			2 (100)			1 (50)			1 (50)			2 (100)			2 (100)			2 (100)	
	Permanent catheterization	2 (100)			2 (100)			1 (100)			2 (100)			2 (100)			1 (50)	1 (50)		2 (100)	
	Clean catch midstream	15 (88.24)	1 (5.88)	1 (5.88)	2 (11.76)	1 (5.88)	14 (82.35)	3 (17.65)	5 (29.41)	9 (52.94)	2 (11.76)		15 (88.24)	1 (5.88)	16 (94.12)	6 (35.29)	11 (64.71)			17 (100)	
	Urinary catheter	8 (61.54)	2 (15.38)	3 (23.08)	2 (15.38)	1 (7.69)	10 (76.92)		2 (15.38)	11 (84.62)		1 (7.69)	12 (92.31)		13 (100)	3 (23.08)	7 (53.85)	3 (23.08)		13 (100)	
	Children	5 (100)			1 (20) 4 (80)			1 (20) 1 (20) 3 (60)			1 (20)			5 (100)			1 (20)	4 (80)		5 (100)	
	Adults	9 (69.23)	2 (15.38)	2 (15.38)	3 (23.08)		10 (76.92)	3 (23.08)	3 (23.08)	7 (53.85)	2 (15.38)	1 (7.69)	10 (76.92)	1 (7.69)	12 (92.31)	5 (38.46)	7 (53.85)	1 (6.67)		13 (100)	
	Elderly	13 (81.25)	1 (6.25)	2 (12.5)	1 (6.25)	1 (6.25)	14 (87.5)		3 (20)	12 (80)			16 (100)		16 (100)	4 (25)	10 (62.5)	2 (12.5)		16 (100)	
	Outpatient	19 (79.17)	3 (12.5)	2 (8.33)	3 (12.5)	2 (8.33)	19 (79.17)	3 (13.04)	7 (30.43)	13 (56.52)	2 (88.33)	1 (4.17)	21 (87.5)	1 (4.17)	13 (95.83)	8 (33.33)	14 (58.33)	2 (8.33)		24 (100)	
	Inpatient	8 (80)		2 (20)	1 (10)		9 (90)	1 (10)		9 (90)	1 (10)		9 (90)		11 (100)	2 (20)	7 (70)	1 (10)		10 (100)	
	Men	16 (80)	2 (10)	2 (10)	3 (15)		17 (85)	4 (21.05)	5 (26.32)	10 (52.63)	3 (15)	1 (5)	16 (80)	1 (5)	19 (95)	4 (20)	15 (75)	1 (5)		20 (100)	
	Women	11 (78.57)	1 (7.14)	2 (14.29)	1 (7.14)	2 (14.29)	11 (78.57)		2 (14.29)	12 (85.71)			14 (100)		14 (100)	6 (42.86)	6 (42.86)	2 (14.29)		14 (100)	

CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem TZP=Piperacillin-tazobactam

Table S19: Resistances to beta-lactams (%) of *Morganella morganii* in 2017.

		CXM			FOX			CTX			CAZ			FEP			IPM			TZP	
		R	I	S	R	I	S	R	I	S	R	I	S	R	I	S	R	I	S	R	S
2017	Total	20 (58.82)	3 (8.82)	11 (32.35)	5 (14.71)	1 (2.94)	28 (82.35)	7 (20.59)	3 (8.82)	24 (70.59)	2 (5.41)	1 (2.7)	34 (91.89)	3 (8.11)		34 (91.89)	7 (22.58)	16 (51.61)	8 (25.81)	1 (2.7)	36 (97.29)
	Permanent catheterization	3 (75)		1 (25)	2 (50)		2 (50)	2 (50)		2 (50)	1 (20)		4 (80)	2 (40)		3 (60)		4 (100)			5 (100)
	Clean catch midstream	17 (70.83)	1 (4.17)	6 (25)	3 (12.5)		21 (87.5)	4 (16.67)	3 (12.5)	17 (70.83)	1 (3.85)	1 (3.85)	24 (92.31)	1 (3.85)		25 (96.15)	7 (33.33)	10 (47.62)	4 (19.05)	1 (3.85)	25 (96.15)
	Urinary catheter		2 (33.33)	4 (66.67)		1 (16.67)	5 (83.33)	1 (16.67)		5 (83.33)			6 (100)			6 (100)		2 (33.33)	4 (66.67)		6 (100)
	Children	3 (100)					3 (100)	1 (33.33)		2 (66.67)			3 (100)			3 (100)	1 (50)		1 (50)		3 (100)
	Adults	5 (100)			2 (40)		3 (60)	1 (20)		4 (80)	2 (33.33)		4 (66.67)	1 (16.67)		5 (83.33)	1 (16.67)	4 (66.67)	1 (16.67)	1 (16.67)	5 (83.33)
	Elderly	12 (46.15)	3 (11.54)	11 (42.31)	3 (11.54)	1 (3.85)	22 (84.62)	5 (19.23)	3 (11.54)	18 (69.23)		1 (3.57)	27 (96.43)	2 (7.14)		26 (92.86)	5 (21.74)	12 (52.17)	6 (26.09)		28 (100)
	Outpatient	7 (43.75)	2 (12.5)	7 (43.75)			16 (100)	2 (12.5)	2 (12.5)	12 (75)		1 (6.25)	15 (93.75)			16 (100)	3 (23.08)	8 (61.54)	2 (15.38)		16 (100)
	Inpatient	13 (72.22)	1 (5.56)	4 (22.22)	5 (27.78)	1 (5.56)	12 (66.67)	5 (27.78)	1 (5.56)	12 (66.67)	2 (9.52)		19 (90.48)	3 (14.29)		18 (85.71)	4 (22.22)	8 (44.44)	6 (33.33)	1 (4.76)	20 (95.24)
	Men	10 (52.63)	2 (10.53)	7 (36.84)	2 (10.53)	1 (5.26)	16 (84.21)	4 (21.05)	2 (10.53)	13 (68.41)	1 (5)		19 (95)	2 (10)		18 (90)	4 (25)	8 (50)	4 (25)		20 (100)
	Women	10 (66.67)	1 (6.67)	4 (26.67)	3 (20)		12 (80)	3 (20)	1 (6.67)	11 (73.33)	1 (5.88)	1 (5.88)	15 (88.24)	1 (5.88)		16 (94.12)	3 (20)	8 (53.33)	4 (26.67)	1 (5.88)	16 (94.12)

CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem TZP=Piperacillin-tazobactam

Table S20: Resistances to beta-lactams (%) of *Morganella morganii* in 2018.

		CXM			FOX			CTX			CAZ		FEP		IMI			PTZ	
		R	I	S	R	I	S	R	I	S	R	I	S	R	S	R	I	S	R
2018	Total	20 (68.97)	6 (20.69)	3 (10.34)	2 (6.89)	1 (3.45)	26 (89.66)	3 (10.34)	4 (13.79)	22 (75.86)	2 (6.89)	27 (93.1)	29 (100)	5 (29.41)	10 (58.82)	2 (11.76)	29 (100)		
	Permanent catheterization	6 (66.67)	2 (22.22)	1 (11.11)	1 (11.11)		8 (88.89)		2 (22.22)	7 (77.78)		9 (100)	9 (100)	1 (20)	3 (60)	1 (20)	9 (100)		
	Clean catch midstream	12 (66.67)	4 (22.22)	2 (11.11)		1 (5.56)	17 (94.44)	2 (11.11)	2 (11.11)	14 (77.78)	1 (5.56)	17 (94.44)	18 (100)	3 (30)	6 (60)	1 (10)	18 (100)		
	Urinary catheter	2 (100)			1 (50)		1 (50)	1 (50)		1 (50)	1 (50)	1 (50)	2 (100)	1 (50)	1 (50)		2 (100)		
	Children	1 (100)					1 (100)	1 (100)				1 (100)	1 (100)	1 (100)			1 (100)		
	Adults	3 (37.5)	3 (37.5)	2 (25)	1 (12.5)		7 (87.5)		1 (12.5)	7 (87.5)		8 (100)	8 (100)		2 (50)	2 (50)	10 (100)		
	Elderly	16 (80)	3 (15)	1 (5)	1 (5)	1 (5)	18 (90)	3 (15)	3 (15)	14 (70)	2 (10)	18 (90)	20 (100)	4 (33.33)	8 (66.67)		18 (100)		
	Outpatient	6 (85.71)	1 (14.29)			1 (14.29)	6 (85.71)	2 (28.57)	1 (14.29)	4 (57.14)	1 (14.29)	6 (85.71)	7 (100)		5 (100)		7 (100)		
	Inpatient	14 (63.64)	5 (22.73)	3 (13.64)	2 (9.09)		20 (90.91)	1 (4.55)	3 (13.64)	18 (81.82)	1 (4.55)	21 (95.45)	21 (100)	5 (41.67)	5 (41.67)	2 (16.67)	21 (100)		
	Men	10 (62.5)	3 (18.75)	3 (18.75)	2 (12.5)		14 (87.5)	1 (6.25)	2 (12.5)	13 (81.25)	1 (6.25)	15 (93.75)	16 (100)	4 (33.33)	6 (50)	2 (16.67)	16 (100)		
	Women	10 (76.92)	3 (23.08)			1 (7.69)	12 (92.31)	2 (15.38)	2 (15.38)	9 (69.23)	1 (7.69)	12 (92.31)	13 (100)	1 (20)	4 (80)		13 (100)		

CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem TZP=Piperacillin-tazobactam

Table S21: Resistances to beta-lactams (%) of *Morganella morganii* in 2019.

		TIC			CXM		FOX		CFM		CTX			CAZ			FEP		IPM			TZP	
		R	I	S	R	S	R	S	R	S	R	I	S	R	I	S	R	S	R	I	S	R	S
2019	Total	6 (25)	4 (16.67)	14 (58.33)	29 (96.67)	1 (3.33)	7 (100)		17 (77.27)	5 (22.73)	9 (31.03)	1 (3.45)	19 (65.52)	6 (20)	4 (13.33)	20 (66.67)	1 (2.23)	30 (96.77)	6 (20.69)	21 (72.41)	2 (6.89)	31 (100)	
	Permanent catheterization	1 (100)			4 (100)		3 (100)						3 (100)			3 (100)		4 (100)	3 (75)	1 (25)		4 (100)	
	Clean catch midstream	4 (28.57)	3 (21.43)	7 (50)	17 (100)		3 (100)		12 (85.71)	2 (14.29)	7 (41.18)	1 (5.88)	9 (52.94)	4 (23.53)	3 (17.65)	10 (58.82)	1 (5.88)	16 (94.12)	1 (5.88)	16 (94.12)		17 (100)	
	Urinary catheter	1 (11.11)	1 (11.11)	7 (77.78)	8 (88.89)	1 (11.11)	1 (100)		5 (62.5)	3 (37.5)	2 (22.22)		7 (77.78)	2 (20)	1 (10)	7 (70)		10 (100)	2 (25)	4 (50)	2 (25)	10 (100)	
	Children			2 (100)	3 (100)		1 (100)		1 (50)	1 (50)	1 (33.33)		2 (66.67)		1 (33.33)	2 (66.67)		3 (100)	1 (50)	1 (50)		3 (100)	
	Adults	1 (14.29)	2 (28.57)	4 (57.14)	8 (100)		1 (100)		6 (100)		1 (14.29)		6 (85.71)		2 (28.57)	5 (71.43)		8 (100)		7 (87.5)	1 (12.5)	8 (100)	
	Elderly	5 (33.33)	2 (13.33)	8 (53.33)	18 (94.74)	1 (5.26)	5 (100)		10 (71.43)	4 (28.57)	7 (36.84)	1 (5.26)	11 (57.89)	6 (30)	1 (5)	13 (65)	1 (5)	19 (95)	5 (26.32)	13 (68.42)	1 (5.26)	21 (100)	
	Outpatient	3 (23.08)	3 (23.08)	7 (53.85)	14 (100)		2 (100)		9 (75)	3 (25)	8 (57.14)	1 (7.14)	5 (35.71)	5 (33.33)	3 (20)	7 (46.67)	1 (6.67)	14 (93.33)	2 (14.29)	11 (78.57)	1 (7.14)	15 (100)	
	Inpatient	3 (27.27)	1 (9.09)	7 (63.64)	15 (93.75)	1 (6.25)	5 (100)		8 (80)	2 (20)	1 (6.67)		14 (93.33)	1 (6.67)	1 (6.67)	13 (86.67)		16 (100)	4 (26.67)	10 (66.67)	1 (6.67)	16 (100)	
	Men	5 (35.71)	2 (14.29)	7 (50)	16 (94.12)	1 (5.88)	3 (100)		11 (84.62)	2 (15.38)	6 (37.5)	1 (6.25)	9 (56.25)	3 (18.75)	2 (12.5)	11 (68.75)		17 (100)	2 (12.5)	13 (81.25)	1 (6.25)	17 (100)	
	Women	1 (10)	2 (20)	7 (70)	13 (100)		4 (100)		6 (66.67)	3 (33.33)	3 (23.08)		10 (76.92)	3 (21.43)	2 (14.29)	9 (64.29)	1 (7.14)	13 (92.86)	4 (30.77)	8 (61.54)	1 (7.69)	14 (100)	

TIC= Ticarcillin CXM=Cefuroxime FOX=Cefoxitin CFM= Cefixime CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem TZP=Piperacillin-tazobactam

Table S22: Resistances to beta-lactams (%) of *Morganella morganii* in 2020.

		TIC			CXM		CFM		CTX			CAZ			FEP		IPM			TZP	
		R	I	S	R	S	R	S	R	I	S	R	I	S	R	S	R	I	S	R	S
2020	Total	11 (42.31)	4 (15.38)	11 (42.31)	25 (96.15)	1 (3.85)	21 (87.5)	3 (12.5)	12 (46.15)	1 (3.85)	13 (50)	8 (30.77)	5 (19.23)	13 (50)	5 (19.23)	21 (80.77)	2 (10)	10 (50)	8 (40)	1 (3.85)	25 (96.15)
	Permanent catheterization			4 (100)	4 (100)		1 (33.33)	2 (66.67)			4 (100)			4 (100)		4 (100)		1 (33.3)	2 (66.67)		4 (100)
	Clean catch midstream	7 (58.33)	3 (25)	2 (16.67)	11 (91.67)	1 (8.33)	11 (91.67)	1 (8.33)	8 (75)		4 (25)	7 (58.33)	2 (16.67)	3 (25)	4 (25)	8 (75)	1 (12.5)	5 (62.5)	2 (25)	1 (8.33)	11 (91.67)
	Urinary catheter	4 (40)	1 (10)	5 (50)	10 (100)		9 (100)		4 (40)	1 (10)	5 (50)	1 (10)	3 (30)	6 (60)	1 (10)	9 (90)	1 (11.11)	4 (44.44)	4 (44.44)		10 (100)
	Children			1 (100)	1 (100)		1 (100)				1 (100)			1 (100)		1 (100)		1 (100)			1 (100)
	Adults	2 (40)		3 (60)	5 (100)		2 (66.67)	1 (33.33)	2 (40)		3 (60)	2 (40)		3 (60)		5 (100)		3 (75)	1 (25)		5 (100)
	Elderly	6 (46.15)	3 (23.08)	4 (30.77)	19 (95)	1 (5)	18 (90)	2 (10)	10 (50)	1 (5)	9 (45)	6 (30)	5 (25)	9 (45)	5 (25)	15 (75)	2 (13.33)	6 (40)	7 (46.67)	1 (5)	19 (95)
	Outpatient	9 (45)	4 (20)	7 (35)	12 (92.31)	1 (7.69)	10 (76.92)	3 (23.08)	7 (53.85)		6 (46.15)	5 (38.46)	1 (7.69)	7 (53.85)	3 (23.08)	10 (76.92)	1 (10)	5 (50)	4 (40)		13 (100)
	Inpatient	5 (38.46)	1 (7.69)	7 (53.85)	13 (100)		11 (100)		5 (38.46)	1 (7.69)	7 (53.85)	3 (23.08)	4 (30.77)	6 (46.15)	2 (15.38)	11 (84.62)	1 (10)	5 (50)	4 (40)	1 (7.69)	12 (92.31)
	Men	5 (33.33)	1 (16.67)	9 (60)	14 (93.33)	1 (6.67)	11 (78.57)	3 (21.43)	5 (33.33)		10 (66.67)	4 (26.67)	1 (6.67)	10 (66.67)	2 (13.33)	13 (86.67)	2 (14.29)	6 (42.86)	6 (42.86)	1 (6.67)	14 (93.33)
	Women	6 (54.55)	3 (27.27)	2 (18.18)	11 (100)		10 (100)		7 (63.64)	1 (9.09)	3 (27.27)	4 (36.36)	4 (36.36)	3 (27.27)	3 (27.27)	8 (72.73)		4 (66.67)	2 (33.33)		11 (100)

TIC= Ticarcillin CXM=Cefuroxime CFM= Cefixime CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem TZP=Piperacillin-tazobactam

Table S23: Resistances to beta-lactams (%) of *Morganella morganii* in 2021.

		TIC			CXM		CFM		CTX		CAZ			FEP		IPM			TZP	
		R	I	S	R	S	R	S	R	S	R	I	S	R	S	R	I	S	R	S
2021	Total	3 (27.27)	2 (18.18)	6 (54.55)	10 (90.91)	1 (9.09)	8 (80)	2 (20)	6 (54.55)	5 (45.45)	4 (36.36)	2 (18.18)	5 (45.45)	2 (18.18)	9 (81.82)	1 (9.09)	10 (90.91)		1 (9.09)	10 (90.91)
	Permanent catheterization			1 (100)	1 (100)			1 (100)		1 (100)			1 (100)		1 (100)		1 (100)		1 (100)	
	Clean catch midstream	2 (33.33)	1 (16.67)	3 (50)	5 (83.33)	1 (16.67)	5 (83.33)	1 (16.67)	4 (66.67)	2 (33.33)	3 (50)	1 (16.67)	2 (33.33)	1 (16.67)	5 (83.33)	1 (16.67)	5 (83.33)		6 (100)	
	Urinary catheter	1 (25)	2 (25)	2 (50)	4 (100)		3 (100)		2 (50)	2 (50)	1 (25)	1 (25)	2 (50)	1 (25)	3 (75)		4 (100)		1 (25)	3 (75)
	Children	1 (50)		1 (50)	2 (100)		2 (100)		2 (100)		2 (100)			1 (50)	1 (50)	1 (50)	1 (50)		2 (100)	
	Adults	2 (66.67)		1 (33.33)	2 (66.67)	1 (33.33)	2 (66.67)	1 (33.33)	2 (66.67)	1 (33.33)	1 (33.33)	1 (33.33)	1 (33.33)	1 (33.33)	2 (66.67)		3 (100)		1 (33.33)	2 (66.67)
	Elderly		2 (33.33)	4 (66.67)	6 (100)		4 (80)	1 (20)	2 (33.33)	4 (66.67)	1 (16.67)	1 (16.67)	4 (66.67)		6 (100)		9 (100)		6 (100)	
	Outpatient	1 (50)		1 (50)	2 (100)		2 (100)		1 (50)	1 (50)	1 (50)		1 (50)		2 (100)		2 (100)		2 (100)	
	Inpatient	2 (22.22)	2 (22.22)	5 (55.56)	8 (88.89)	1 (11.11)	6 (75)	2 (25)	5 (55.56)	4 (44.44)	3 (33.33)	2 (22.22)	4 (44.44)	2 (22.22)	7 (77.78)	1 (11.11)	8 (88.89)		1 (11.11)	8 (88.89)
	Men	2 (33.33)	2 (33.33)	2 (33.33)	5 (83.33)	1 (16.67)	4 (66.67)	2 (33.33)	4 (66.67)	2 (33.33)	3 (50)	1 (16.67)	2 (33.33)	1 (16.67)	5 (83.33)	1 (16.67)	5 (83.33)		6 (100)	
	Women	1 (20)		4 (80)	5 (100)		4 (100)		2 (40)	3 (60)	1 (20)	1 (20)	3 (60)	1 (20)	4 (80)		5 (100)		1 (20)	4 (80)

TIC= Ticarcillin CXM=Cefuroxime CFM= Cefixime CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem TZP=Piperacillin-tazobactam

Table S24: Resistances to non-beta-lactams (%) of *Morganella morganii* in 2016.

		TOB			GEN			NAL		CIP			FOF		NIT			SXT	
		R	I	S	R	I	S	R	S	R	I	S	R	S	R	I	S	R	S
2016	Total	2 (5.88)	2 (5.88)	30 (88.24)	6 (17.65)	2 (5.88)	26 (76.47)	14 (41.18)	20 (58.82)	10 (29.41)	3 (8.82)	21 (61.76)	26 (76.47)	8 (23.53)	6 (17.65)	24 (70.59)	4 (11.76)	12 (35.29)	22 (64.71)
	Collection bag			2 (100)		1 (50)	1 (50)		2 (100)			2 (100)	2 (100)			2 (100)		2 (100)	
	Permanent catheterization			2 (100)			2 (100)		2 (100)			2 (100)	2 (100)		1 (50)	1 (50)		2 (100)	
	Clean catch midstream		1 (5.88)	16 (94.12)	2 (11.76)	1 (5.88)	14 (82.35)	6 (35.29)	11 (64.71)	5 (29.41)	1 (5.88)	11 (64.71)	13 (76.47)	4 (23.53)	3 (17.65)	12 (70.59)	2 (11.76)	6 (35.29)	11 (64.71)
	Urinary catheter	2 (15.38)	1 (7.69)	10 (76.92)	4 (30.77)		9 (69.23)	8 (61.54)	5 (38.46)	5 (38.46)	2 (15.38)	6 (46.15)	9 (69.23)	4 (30.77)	2 (15.38)	9 (69.23)	2 (15.38)	6 (46.15)	7 (53.85)
	Children			5 (100)		1 (20)	4 (80)		5 (100)			5 (100)	4 (80)	1 (20)	1 (20)	4 (80)		5 (100)	
	Adults		2 (15.38)	11 (84.62)	2 (15.38)		11 (84.62)	6 (46.15)	7 (53.85)	6 (46.15)		7 (53.85)	8 (61.54)	5 (38.46)	2 (15.38)	8 (61.54)	3 (23.08)	6 (46.15)	7 (53.85)
	Elderly	2 (12.5)		14 (87.5)	4 (25)	1 (6.25)	11 (68.75)	8 (50)	8 (50)	4 (25)	3 (18.75)	9 (56.25)	14 (87.5)	2 (12.5)	3 (18.75)	12 (75)	1 (6.25)	6 (37.5)	10 (62.5)
	Outpatient	1 (4.17)	2 (8.33)	21 (87.5)	5 (20.83)	1 (4.17)	18 (75)	10 (41.67)	14 (58.33)	8 (33.33)	2 (8.33)	14 (58.33)	19 (79.17)	5 (20.83)	5 (20.83)	16 (66.67)	3 (12.5)	9 (37.5)	15 (62.5)
	Inpatient	1 (10)		9 (90)	1 (10)	1 (10)	8 (80)	4 (40)	6 (60)	2 (20)	1 (10)	7 (70)	7 (70)	3 (30)	1 (10)	8 (80)	1 (10)	3 (30)	7 (70)
	Men		2 (10)	18 (90)	4 (20)		16 (80)	7 (35)	13 (65)	6 (30)	1 (5)	13 (65)	14 (70)	6 (30)	3 (15)	14 (70)	3 (15)	6 (30)	14 (70)
	Women	2 (14.29)		12 (85.71)	2 (14.29)	2 (14.29)	10 (71.43)	7 (50)	7 (50)	4 (28.57)	2 (14.29)	8 (57.14)	12 (85.71)	2 (14.29)	3 (21.43)	10 (71.43%)	1 (7.14)	6 (42.86)	8 (57.14)

TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomicin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole

Table S25: Resistances to non-beta-lactams (%) of *Morganella morganii* in 2017.

		TOB			GEN		NAL		CIP			FOF		NIT			SXT	
		R	I	S	R	S	R	S	R	I	S	R	S	R	I	S	R	S
2017	Total	1 (2.7)	1 (2.7)	35 (94.59)	11 (29.73)	26 (70.27)	23 (67.65)	11 (32.35)	10 (27.03)	4 (10.81)	23 (62.16)	29 (82.86)	6 (17.14)	17 (50)	17 (50)		15 (40.54)	22 (59.46)
	Permanent catheterization			5 (100)	2 (40)	3 (60)	4 (100)		1 (20)		4 (80)	4 (80)	1 (20)	3 (75)	1 (25)		5 (100)	
	Clean catch midstream	1 (3.85)	1 (3.85)	24 (92.31)	6 (23.08)	20 (76.92)	14 (58.33)	10 (41.67)	4 (15.38)	4 (15.38)	18 (69.23)	19 (79.17)	5 (20.83)	9 (37.5)	15 (62.5)		10 (38.46)	16 (61.54)
	Urinary catheter			6 (100)	3 (50)	3 (50)	5 (83.33)	1 (16.67)	5 (83.33)		1 (16.67)	6 (100)		5 (83.33)	1 (16.67)		6 (100)	
	Children			3 (100)		3 (100)		3 (100)			3 (100)	2 (66.67)	1 (33.33)		3 (100)		3 (100)	
	Adults			6 (100)	1 (16.67)	5 (83.33)	3 (60)	2 (40)			6 (100)	5 (100)		1 (20)	4 (80)		4 (66.67)	2 (33.33)
	Elderly	1 (3.57)	1 (3.57)	26 (92.86)	10 (35.71)	18 (64.29)	20 (76.92)	6 (23.08)	10 (35.71)	4 (14.29)	14 (50)	22 (81.48)	5 (18.52)	16 (61.54)	10 (38.46)		11 (39.29)	17 (60.71)
	Outpatient	1 (6.25)		15 (93.75)	6 (37.5)	10 (62.5)	12 (75)	4 (25)	5 (31.25)	2 (12.5)	9 (56.25)	13 (81.25)	3 (18.75)	8 (50)	8 (50)		6 (37.5)	10 (62.5)
	Inpatient		1 (4.76)	20 (95.24)	5 (23.81)	16 (76.19)	11 (61.11)	7 (38.89)	5 (23.81)	2 (9.52)	14 (66.67)	15 (83.33)	3 (16.67)	9 (50)	9 (50)		9 (42.86)	12 (57.14)
	Men	1 (5)	1 (5)	18 (90)	7 (35)	13 (65)	13 (68.42)	6 (31.58)	6 (30)	3 (15)	11 (55)	18 (90)	2 (10)	10 (52.63)	9 (47.37)		10 (50)	10 (50)
	Women			17 (100)	4 (23.53)	13 (76.47)	10 (66.67)	5 (33.33)	4 (29.41)	1 (5.88)	12 (70.59)	11 (73.33)	4 (26.67)	7 (46.67)	8 (53.33)		5 (29.41)	12 (70.59)

TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomycin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole

Table S26: Resistances to non-beta-lactams (%) of *Morganella morganii* in 2018.

		TOB		GEN		NAL		CIP			FOF		NIT			SXT	
		R	S	R	S	R	S	R	I	S	R	S	R	I	S	R	S
2018	Total	2 (6.89)	27 (93.1)	6 (20.69)	23 (79.31)	13 (44.83)	16 (55.17)	4 (13.79)	3 (10.34)	22 (75.86)	21 (72.41)	8 (27.59)	12 (41.38)	17 (58.62)		7 (24.14)	22 (75.86)
	Permanent catheterization		9 (100)	1 (11.11)	8 (88.89)	5 (55.56)	4 (44.44)	2 (22.22)	1 (11.11)	6 (66.67)	7 (77.78)	2 (22.22)	5 (55.56)	4 (44.44)		3 (33.33)	6 (66.67)
	Clean catch midstream	2 (11.11)	16 (88.89)	4 (22.22)	14 (77.78)	7 (38.89)	11 (61.11)	1 (5.56)	2 (11.11)	15 (83.33)	12 (66.67)	6 (33.33)	7 (38.89)	11 (61.11)		4 (22.22)	14 (77.78)
	Urinary catheter		2 (100)	1 (50)	1 (50)	1 (50)	1 (50)	1 (50)		1 (50)	2 (100)			2 (100)			2 (100)
	Children		1 (100)		1 (100)		1 (100)			1 (100)	1 (100)			1 (100)			1 (100)
	Adults	2 (20)	8 (80)	2 (25)	6 (75)	3 (37.5)	5 (62.5)	2 (25)		6 (75)	6 (75)	2 (25)	4 (50)	4 (50)		2 (25)	6 (75)
	Elderly		18 (100)	4 (20)	16 (80)	10 (50)	10 (50)	2 (10)	3 (15)	15 (75)	14 (70)	6 (30)	8 (40)	12 (60)		5 (25)	15 (75)
	Outpatient	1 (14.29)	6 (85.71)	2 (28.57)	5 (71.43)	1 (14.29)	6 (85.71)			7 (100)	6 (85.71)	1 (14.29)	3 (42.86)	4 (57.14)		2 (28.57)	5 (71.43)
	Inpatient	1 (4.55)	21 (95.45)	4 (18.18)	18 (81.82)	12 (54.55)	10 (45.45)	4 (18.18)	3 (13.64)	15 (68.18)	15 (68.18)	7 (31.82)	9 (40.91)	13 (59.09)		5 (22.73)	17 (77.27)
	Men	1 (6.25)	15 (93.75)	5 (31.25)	11 (68.75)	8 (50)	8 (50)	3 (18.75)	2 (12.5)	11 (68.75)	12 (75)	4 (25)	7 (43.75)	9 (56.25)		4 (25)	12 (75)
	Women	1 (7.69)	12 (92.31)	1 (7.69)	12 (92.31)	5 (38.46)	8 (61.54)	1 (7.69)	1 (7.69)	11 (84.62)	9 (69.23)	4 (30.77)	5 (38.46)	8 (61.54)		3 (23.08)	10 (76.92)

TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomycin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole

Table S27: Resistances to non-beta-lactams (%) of *Morganella morganii* in 2019.

		TOB			GEN		NAL		CIP			FOF		NIT			SXT		
		R	I	S	R	S	R	S	R	I	S	R	S	R	I	S	R	I	S
2019	Total	2	29		4	27	13	17	7	2	22	26	4	23	7		9	1	21
		(6.45)	(93.55)		(12.9)	(87.09)	(43.33)	(56.67)	(22.58)	(6.45)	(70.97)	(86.67)	(13.33)	(76.67)	(23.33)		(29.03)	(3.23)	(67.74)
	Permanent catheterization	1	3		2	2	2	2			4	3	1	1	3		3		1
		(25)	(75)		(50)	(50)	(50)	(50)			(100)	(75)	(25)	(25)	(75)		(75)		(25)
	Clean catch midstream	1	16		2	15	10	7	7	1	9	14	3	14	3		4	1	12
		(5.88)	(94.12)		(11.76)	(88.24)	(58.82)	(41.18)	(41.18)	(5.88)	(52.94)	(82.35)	(17.65)	(82.35)	(17.65)		(23.53)	(5.88)	(70.59)
	Urinary catheter		10			10	1	8		1	9	9		8	1		2		8
			(100)			(100)	(11.11)	(88.89)		(10)	(90)	(100)		(88.89)	(11.11)		(20)		(80)
	Children		3			3	1	2			3	3		2	1		1		2
			(100)			(100)	(33.33)	(66.67)			(100)	(100)		(66.67)	(33.33)		(33.33)		(66.67)
	Adults		8			8	3	5	2		6	5	3	7	1				8
			(100)			(100)	(37.5)	(62.5)	(25)		(75)	(62.5)	(37.5)	(87.5)	(12.5)				(100)
	Elderly	2	18		4	16	9	10	5	2	13	18	1	14	5		8	1	11
		(10)	(90)		(20)	(80)	(47.37)	(52.63)	(25)	(10)	(65)	(94.74)	(5.26)	(73.68)	(26.32)		(40)	(5)	(55)
	Outpatient	1	14		2	13	8	6	6	2	7	13	1	12	2		5		10
		(6.67)	(93.33)		(13.33)	(86.67)	(57.14)	(42.86)	(40)	(13.33)	(46.67)	(92.86)	(7.14)	(85.71)	(14.29)		(33.33)		(66.67)
	Inpatient	1	15		2	14	5	11	1		15	13	3	11	5		4	1	11
		(6.25)	(93.75)		(12.5)	(87.5)	(31.25)	(68.75)	(6.25)		(93.75)	(81.25)	(18.75)	(68.75)	(31.25)		(25)	(6.25)	(68.75)
	Men	1	16		2	15	7	10	5		12	14	3	14	3		4		13
		(5.88)	(94.12)		(11.76)	(88.24)	(41.18)	(58.82)	(29.41)		(70.59)	(82.35)	(17.65)	(82.35)	(17.65)		(23.53)		(76.47)
	Women	1	13		2	12	6	7	2	2	10	12	1	9	4		5	1	8
		(7.14)	(92.86)		(14.29)	(85.71)	(46.15)	(53.85)	(14.29)	(14.29)	(71.43)	(92.31)	(7.69)	(69.23)	(30.77)		(35.71)	(7.14)	(57.14)

TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomycin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole

Table S28: Resistances to non-beta-lactams (%) of *Morganella morganii* in 2020.

		TOB			GEN			NAL		CIP		FOF		NIT		SXT		
		R	I	S	R	I	S	R	S	R	S	R	S	R	S	R	I	S
2020	Total	6 (23.08)	2 (7.69)	18 (69.23)	8 (30.77)	1 (3.85)	17 (65.38)	12 (46.15)	14 (53.85)	11 (42.31)	15 (57.69)	23 (88.46)	3 (11.54)	25 (100)		11 (42.31)	1 (3.85)	14 (53.85)
	Permanent catheterization	1 (25)		3 (75)	2 (50)		2 (50)	2 (50)	2 (50)	2 (50)	2 (50)	4 (100)		4 (100)		1 (25)	1 (25)	2 (50)
	Clean catch midstream	3 (25)	1 (8.33)	8 (66.67)	4 (25)		8 (75)	7 (58.33)	5 (41.67)	6 (50)	6 (50)	11 (91.67)	1 (8.33)	12 (100)		7 (58.33)		5 (41.67)
	Urinary catheter	2 (20)	1 (10)	7 (70)	2 (20)	1 (10)	7 (70)	3 (30)	7 (70)	3 (30)	7 (70)	8 (80)	2 (20)	9 (100)		3 (30)		7 (70)
	Children			1 (100)			1 (100)		1 (100)		1 (100)	1 (100)		1 (100)				1 (100)
	Adults			5 (100)			5 (100)	1 (20)	4 (80)		5 (100)	5 (100)		5 (100)				5 (100)
	Elderly	6 (30)	2 (10)	12 (60)	8 (40)	1 (5)	11 (55)	11 (55)	9 (45)	11 (55)	9 (45)	17 (85)	3 (15)	19 (100)		11 (55)	1 (5)	8 (40)
	Outpatient	3 (23.08)		10 (76.92)	4 (30.77)		9 (69.23)	6 (46.15)	7 (53.85)	6 (46.15)	7 (53.85)	11 (84.62)	2 (15.38)	12 (100)		7 (53.85)	1 (7.69)	5 (38.46)
	Inpatient	3 (23.08)	2 (15.38)	8 (61.54)	4 (30.77)	1 (7.69)	8 (61.54)	6 (46.15)	7 (53.85)	5 (38.46)	8 (61.54)	12 (92.31)	1 (7.69)	13 (100)		4 (30.77)		9 (69.23)
	Men	2 (13.33)	1 (6.67)	12 (80)	4 (26.67)		11 (73.33)	6 (40)	9 (60)	5 (33.33)	10 (66.67)	13 (86.67)	2 (13.33)	14 (100)		6 (40)		9 (60)
	Women	4 (36.36)	1 (9.09)	6 (54.55)	4 (36.36)	1 (9.09)	6 (54.55)	6 (54.55)	5 (45.45)	6 (54.55)	5 (45.45)	10 (90.91)	1 (9.09)	11 (100)		5 (45.45)	1 (9.09)	5 (45.45)

TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomicin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole

Table S29: Resistances to non-beta-lactams (%) of *Morganella morganii* in 2021.

		TOB		GEN		NAL		CIP		FOF		NIT		SXT	
		R	S	R	S	R	S	R	S	R	S	R	S	R	S
2021	Total	2 (18.18)	9 (81.82)	2 (18.18)	9 (81.82)	2 (18.18)	9 (81.82)	3 (27.27)	8 (72.73)	8 (72.73)	3 (27.27)	11 (100)		2 (18.18)	9 (81.82)
	Permanent catheterization		1 (100)		1 (100)		1 (100)		1 (100)	1 (100)		1 (100)			1 (100)
	Clean catch midstream		6 (100)		6 (100)		6 (100)	1 (16.67)	5 (83.33)	4 (66.67)	2 (33.33)	6 (100)			6 (100)
	Urinary catheter	2 (50)	2 (50)	2 (50)	2 (50)	2 (50)	2 (50)	2 (50)	2 (50)	3 (75)	1 (25)	4 (100)		2 (50)	2 (50)
	Children		2 (100)		2 (100)		2 (100)	1 (50)	1 (50)	2 (100)		2 (100)			2 (100)
	Adults	1 (33.33)	2 (66.67)	1 (33.33)	2 (66.67)	1 (33.33)	2 (66.67)	1 (33.33)	2 (66.67)	1 (33.33)	2 (66.67)	3 (100)		1 (33.33)	2 (66.67)
	Elderly	1 (16.67)	5 (83.33)	1 (16.67)	5 (83.33)	1 (16.67)	5 (83.33)	1 (16.67)	5 (83.33)	5 (83.33)	1 (16.67)	6 (100)		1 (16.67)	5 (83.33)
	Outpatient		2 (100)		2 (100)		2 (100)	1 (50)	1 (50)	1 (50)	1 (50)	2 (100)			2 (100)
	Inpatient	2 (22.22)	7 (77.78)	2 (22.22)	7 (77.78)	2 (22.22)	7 (77.78)	2 (22.22)	7 (77.78)	7 (77.78)	2 (22.22)	9 (100)		2 (22.22)	7 (77.78)
	Men		6 (100)		6 (100)		6 (100)	2 (33.33)	4 (66.67)	5 (83.33)	1 (16.67)	6 (100)		1 (16.67)	5 (83.33)
	Women	2 (40)	3 (60)	2 (40)	3 (60)	2 (40)	3 (60)	1 (20)	4 (80)	3 (60)	2 (40)	5 (100)		1 (20)	4 (80)

TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomycin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole

Table S30: Systematic review of the resistance rates (%) of *Klebsiella aerogenes* in urine cultures

Author (year of publication)	Period	Place	N	CAZ	FEP	CRO	C-T	IPM	I-R	MEM	ETP	DOR	TZP	AMK	TOB	ATM	GEN	NAL	NIT	FOF	CIP	LVX	SXT	CST
H. Seifert (2018) ¹⁷	2014-2015	Germany	14	50	21.4	50	42.9			0	7.1	7.1	50	0	0					35.7	14.3	14.3		0
S. Lob (2020) ¹⁸	2015-2017	Europe	106	30.2	1.9			0.9	0.9				26.4	1.9		29.2					6.6			3.8
G. Jiménez Guerra (2020) ¹⁹	2006-2016	Spain	150		5			12					18		7		6	14	47	13	8		7	
Weighted averages			270	32.51	4.63	50	42.9	7.4	0.9	0	7.1	7.1	22.96	1.68	6.4	29.2	6	14	47	14.94	42.27	14.3	7	3.36

CAZ=Ceftazidime FEP=Cefepime CRO=Ceftriaxone CT=Ceftolozane-tazobactam IPM=Imipenem I-R=Imipenem-relebactam MEM=Meropenem ETP=Ertapenem DOR=Doripenem TZP=Piperacilin-tazobactam AMK=Amikacin TOB=Tobramycin ATM=Aztreonam GEN=Gentamicin NAL=Nalidixic acid NIT=Nitrofurantoin FOF=Fosfomycin CIP=Ciprofloxacin LVX=Levofloxacin SXT=Trimethoprim-sulfamethoxazole CST=Colistin

Table S31: General annualized resistances (%) of *Klebsiella aerogenes* during 2016-2021

	AMC	AMP	TIC	CXM	FOX	CFM	CTX	CAZ	FEP	IPM	ETP	TZP	AMK	TOB	GEN	NAL	CIP	LVX	FOF	NIT	SXT	CST
2016	23/23 (100)	23/23 (100)	-	10/22 (45.45)	23/23 (100)	-	7/23 (30.43)	7/23 (30.43)	1/23 (4.35)	1/23 (4.35)	2/3 (66.67)	1/23 (4.35)	-	1/23 (4.35)	1/23 (4.35)	4/23 (17.39)	2/23 (8.69)	-	3/23 (13.04)	6/23 (26.09)	1/23 (4.35)	-
2017	24/24 (100)	24/24 (100)	-	4/23 (17.39)	24/24 (100)	-	5/24 (20.83)	3/24 (12.5)	1/24 (4.17)	5/24 (20.83)	1/4 (25)	2/24 (8.33)	-	1/24 (4.17)	1/24 (4.17)	2/24 (8.33)	1/24 (4.17)	-	5/24 (20.83)	2/24 (8.33)	1/24 (4.17)	-
2018	21/21 (100)	21/21 (100)	-	9/21 (42.86)	21/21 (100)	-	8/21 (38.09)	8/21 (38.09)	0/21 (0)	0/19 (0)	-	0/21 (0)	-	0/21 (0)	0/21 (0)	1/21 (4.76)	1/21 (4.76)	-	4/21 (19.05)	1/21 (4.76)	0/21 (0)	-
2019	37/37 (100)	37/37 (100)	15/30 (50)	10/37 (27.03)	37/37 (100)	10/29 (34.48)	9/36 (25)	10/37 (27.03)	3/36 (8.33)	1/37 (2.7)	2/30 (6.67)	3/37 (8.11)	0/30 (0)	2/37 (5.41)	3/37 (8.11)	7/37 (18.92)	5/37 (13.51)	4/30 (13.33)	7/37 (18.92)	6/30 (20)	4/37 (10.81)	6/30 (20)
2020	23/23 (100)	23/23 (100)	13/23 (56.52)	12/23 (52.17)	23/23 (100)	11/23 (47.83)	10/23 (43.48)	10/23 (43.48)	3/23 (13.04)	1/23 (4.35)	1/23 (4.35)	8/23 (34.78)	0/23 (0)	1/23 (4.35)	1/23 (4.35)	4/23 (17.39)	3/23 (13.04)	3/23 (13.04)	6/23 (26.09)	5/19 (26.32)	1/23 (4.35)	1/23 (4.35)
2021	13/13 (100)	13/13 (100)	2/13 (15.38)	2/13 (15.38)	12/12 (100)	2/13 (15.38)	2/13 (15.38)	2/13 (15.38)	1/13 (7.69)	0/13 (0)	0/13 (0)	1/13 (7.69)	0/13 (0)	0/13 (0)	0/13 (0)	0/13 (0)	0/13 (0)	0/13 (0)	1/13 (7.69)	1/13 (7.69)	0/13 (0)	1/13 (7.69)
Total	141/141 (100)	141/141 (100)	30/66 (45.45)	47/139 (33.81)	141/140 (100)	23/65 (35.38)	41/140 (29.29)	40/141 (28.37)	9/140 (6.43)	8/139 (5.75)	6/73 (8.22)	15/141 (10.64)	0/63 (0)	5/141 (3.55)	6/141 (4.25)	18/141 (12.77)	12/141 (8.51)	7/70 (10)	26/141 (18.44)	21/130 (16.15)	7/141 (4.96)	8/66 (12.12)

AMC=Amoxicillin-clavulanic; AMP=Ampicillin; TIC=Ticarcillin; CXM=Cefuroxime; FOX=Cefoxitin; CFM=Cefixime; CTX=Cefotaxime; CAZ=Ceftazidime; FEP=Cefepime; IPM=Imipenem; ETP=Ertapenem; TZP=Piperacillin-tazobactam; AMK: amikacin; TOB=Tobramycin; GEN=Gentamicin; NAL=Nalidixic acid; LVX=Levofloxacin; FOF=Fosfomycin NIT=Nitrofurantoin; SXT=Trimethoprim-sulfamethoxazole; CST=Colistin

Table S32: Resistances to beta-lactams (%) of *Klebsiella aerogenes* in 2016.

		AMC		AMP		CXM			FOX		CTX			CAZ			FEP		IPM		ETP		TZP		
		R	S	R	S	R	I	S	R	S	R	I	S	R	I	S	R	S	R	S	R	S	R	I	S
2016	Total	23 (100)		23 (100)		10 (45.45)	2 (9.09)	10 (45.45)	23 (100)		7 (30.43)	1 (4.35)	15 (65.22)	7 (30.43)		16 (69.57)	1 (4.35)	22 (95.65)	1 (4.35)	22 (95.65)	2 (66.67)	1 (33.33)	1 (4.35)	5 (21.74)	17 (73.91)
	Nephrostomy catheter																								
	Permanent catheterization	3 (100)		3 (100)		1 (33.33)		2 (66.67)	3 (100)		1 (33.33)		2 (66.67)	1 (33.33)		2 (66.67)	3 (100)		3 (100)						3 (100)
	Clean catch midstream	14 (100)		14 (100)		7 (53.85)		6 (46.15)	14 (100)		9 (64.29)	1 (7.14)	4 (28.57)	4 (28.57)		10 (71.43)	1 (7.14)	13 (92.86)	1 (7.14)	13 (92.86)	1 (50)	1 (50)	1 (7.14)	3 (21.43)	10 (71.43)
	Urinary catheter	6 (100)		6 (100)		2 (33.33)	2 (33.33)	2 (33.33)	6 (100)		2 (33.33)		4 (66.67)	2 (33.33)		4 (66.67)	6 (100)		6 (100)		1 (100)			2 (33.33)	4 (66.67)
	Children	2 (100)		2 (100)		1 (50)		1 (50)	2 (100)				2 (100)			2 (100)	2 (100)		2 (100)						2 (100)
	Adults	11 (100)		11 (100)		6 (54.55)		5 (45.45)	11 (100)		5 (45.45)		6 (54.55)	5 (45.45)		6 (54.55)	1 (9.09)	10 (90.91)	1 (9.09)	10 (90.91)	1 (50)	1 (50)	1 (9.09)	3 (27.27)	7 (63.64)
	Elderly	10 (100)		10 (100)		3 (33.33)	2 (22.22)	4 (44.44)	10 (100)		2 (20)	1 (10)	7 (70)	2 (20)		8 (80)	10 (100)		10 (100)		1 (100)			2 (20)	8 (80)
	Outpatient	17 (100)		17 (100)		8 (50)	2 (12.5)	6 (37.5)	17 (100)		5 (29.41)		12 (70.59)	5 (29.41)		12 (70.59)	1 (5.88)	16 (94.12)	1 (5.88)	16 (94.12)	1 (50)	1 (50)	1 (5.88)	3 (17.65)	13 (76.47)
	Inpatient	6 (100)		6 (100)		2 (33.33)		4 (66.67)	6 (100)		2 (33.33)	1 (16.67)	3 (50)	2 (33.33)		4 (66.67)	6 (100)		6 (100)		1 (100)			2 (33.33)	4 (66.67)
	Men	11 (100)		11 (100)		5 (50)		5 (50)	11 (100)		4 (36.36)		7 (63.64)	4 (36.36)		7 (63.64)	1 (9.09)	10 (90.91)		11 (100)	1 (50)	1 (50)	1 (9.09)	2 (18.18)	8 (72.73)
	Women	12 (100)		12 (100)		5 (41.67)	2 (16.67)	5 (41.67)	12 (100)		3 (25)	1 (8.33)	8 (66.67)	3 (25)		9 (75)	12 (100)		1 (8.33)	11 (91.67)	1 (100)			3 (25)	9 (75)

AMC= Amoxicillin-clavulanic AMP=Ampicillin CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem ETP=Ertapenem TZP=Piperacillin-tazobactam.

Table S33: Resistances to beta-lactams (%) of *Klebsiella aerogenes* in 2017.

		AMC		AMP		CXM			FOX		CTX		CAZ		FEP		IPM		ETP		TZP	
		R	S	R	S	R	I	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S
2017	Total	24	(100)	24	(100)	4	6	13	24	(100)	5	19	3	21	1	23	5	19	1	3	2	22
						(17.39)	(26.09)	(56.52)			(20.83)	(79.17)	(12.5)	(87.5)	(4.17)	(95.83)	(20.83)	(79.17)	(25)	(75)	(8.33)	(91.67)
	Collection bag	1	(100)	1	(100)	1			1	(100)	1	(100)	1	(100)	1	(100)	1	(100)			1	(100)
	Permanent catheterization	2	(100)	2	(100)	1	1		2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	1	(100)	2	(100)
						(50)	(50)															
	Clean catch midstream	14	(100)	14	(100)	2	3	8	14	(100)	3	11	2	12	1	13	4	10	2	(100)	1	13
						(15.38)	(23.08)	(61.54)			(21.43)	(78.57)	(14.29)	(85.71)	(7.14)	(92.86)	(28.57)	(71.43)			(7.14)	(92.86)
	Urinary catheter	7	(100)	7	(100)	2	1	4	7	(100)	2	5	1	6	7	(100)	1	6	1	(100)	1	6
						(28.57)	(14.29)	(57.14)			(28.57)	(71.43)	(14.29)	(85.71)			(14.29)	(85.71)			(14.29)	(85.71)
	Children	4	(100)	4	(100)	1	3		4	(100)	1	3	1	3	4	(100)	1	3	1	(100)	4	(100)
						(25)	(75)				(25)	(75)	(25)	(75)			(25)	(75)				
	Adults	8	(100)	8	(100)	1		6	8	(100)	2	6	1	7	8	(100)	2	6	1	(100)	1	7
						(14.29)		(85.71)			(25)	(75)	(12.5)	(87.5)			(25)	(75)			(12.5)	(87.5)
	Elderly	12	(100)	12	(100)	2	3	7	12	(100)	2	10	1	11	1	11	2	10	1	1	1	11
						(16.67)	(25)	(58.33)			(16.67)	(83.33)	(8.33)	(91.67)	(8.33)	(91.67)	(16.67)	(83.33)	(50)	(50)	(8.33)	(91.67)
	Outpatient	15	(100)	15	(100)	1	4	10	15	(100)	1	14	15	(100)	15	(100)	3	12	1	(100)	15	(100)
						(6.67)	(26.67)	(66.67)			(6.67)	(93.33)					(20)	(80)				
	Inpatient	9	(100)	9	(100)	3	2	3	9	(100)	4	5	3	6	1	8	2	7	3	(100)	2	7
						(37.5)	(25)	(37.5)			(44.44)	(55.56)	(33.33)	(66.67)	(11.11)	(88.89)	(22.22)	(77.78)			(22.22)	(77.78)
	Men	13	(100)	13	(100)	3	4	5	13	(100)	4	9	3	10	1	12	1	12	3	(100)	2	11
						(25)	(33.33)	(41.67)			(30.77)	(69.23)	(23.08)	(76.92)	(7.69)	(92.31)	(7.69)	(92.31)			(15.38)	(84.62)
	Women	11	(100)	11	(100)	1	2	8	11	(100)	1	10	11	(100)	11	(100)	4	7	1	(100)	11	(100)
						(9.09)	(18.18)	(72.73)			(9.09)	(90.91)					(36.36)	(63.64)				

AMC= Amoxicillin-clavulanic acid; AMP=Ampicillin CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem ETP=Ertapenem TZP=Piperacillin-tazobactam.

Table S34: Resistances to beta-lactams (%) of *Klebsiella aerogenes* in 2018.

		AMC		AMP		CXM			FOX		CTX			CAZ		FEP		IPM			TZP		
		R	S	R	S	R	I	S	R	S	R	I	S	R	S	R	S	R	I	S	R	I	S
2018	Total	21	(100)	21	(100)	9	4	8	21	(100)	8	13	(61.9)	8	13	21	(100)	3	16	(84.21)	6	15	(71.43)
	Permanent catheterization	3	(100)	3	(100)	2	1	(33.33)	3	(100)	1	2	(66.67)	1	2	3	(100)	1	2	(66.67)	1	2	(66.67)
	Clean catch midstream	16	(100)	16	(100)	5	3	8	16	(100)	5	11	(68.75)	5	11	16	(100)	2	12	(85.71)	3	13	(81.25)
	Urinary catheter	2	(100)	2	(100)	2		(100)	2	(100)	2		(100)	2		2	(100)		2	(100)	2		(100)
	Adults	11	(100)	11	(100)	4	1	6	11	(100)	4	7	(63.63)	4	7	11	(100)	2	7	(77.78)	4	7	(63.64)
	Elderly	10	(100)	10	(100)	5	3	2	10	(100)	4	6	(60)	4	6	10	(100)	1	9	(90)	2	8	(80)
	Outpatient	7	(100)	7	(100)		1	6	7	(100)		7	(100)		7	7	(100)	2	3	(60)		7	(100)
	Inpatient	14	(100)	14	(100)	9	3	2	14	(100)	8	6	(42.86)	8	6	14	(100)	1	13	(92.86)	6	8	(57.14)
	Men	11	(100)	11	(100)	7	2	2	11	(100)	6	5	(45.45)	6	5	11	(100)	1	9	(90)	5	6	(54.55)
	Women	10	(100)	10	(100)	2	2	6	10	(100)	2	8	(80)	2	8	10	(100)	2	7	(77.78)	1	9	(90)

AMC= Amoxicillin-clavulanic acid; AMP=Ampicillin CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem ETP=Ertapenem TZP=Piperacillin-tazobactam.

Table S35: Resistances to beta-lactams (%) of *Klebsiella aerogenes* in 2019.

		AMC		AMP		TIC		CXM			FOX		CFM		CTX			CAZ			FEP		IPM			ETP		TZP		
		R	S	R	S	R	S	R	I	S	R	S	R	S	R	I	S	R	I	S	R	S	R	I	S	R	S	R	I	S
2019	Total	37 (10 0)	37 (10 0)	15 (50)	15 (50)	10 (27.0 3)	2 (5.41)	25 (67.5 7)			37 (10 0)	10 (34.4 8)	19 (65.5 2)	9 (25)	2 (5.56)	25 (69.4 4)	10 (27.0 3)	1 (2.7)	26 (70.2 7)	3 (8.33)	33 (91.6 7)	1 (2.7)	4 (10.8 1)	32 (86.4 9)	2 (6.67)	28 (93.3 3)	3 (8.11)	5 (13.5 1)	29 (78.3 8)	
	Permanent catheterization	5 (10 0)	5 (10 0)	5 (100)		4 (80)		1 (20)			5 (10 0)	3 (60)	2 (40)	3 (60)		2 (40)	3 (60)		2 (40)	1 (20)	4 (80)		1 (20)	4 (80)	1 (20)	4 (80)	1 (20)	2 (40)	2 (40)	
	Clean catch midstream	23 (10 0)	23 (10 0)	8 (44.4 4)	10 (55.5 6)	5 (21.7 4)	2 (8.69)	16 (69.5 7)			23 (10 0)	6 (35.2 9)	11 (64.7 3)	5 (22.7 3)	1 (4.55)	16 (72.7 3)	6 (26.0 9)	1 (4.3 5)	16 (69.5 7)	2 (9.09)	20 (90.9 1)	1 (4.3 5)	2 (8.69)	20 (86.9 6)	1 (5.56)	17 (94.4 4)	2 (8.69)	3 (13.0 4)	18 (78.2 6)	
	Urinary catheter	9 (10 0)	9 (10 0)	2 (28.5 7)	5 (71.4 3)	1 (11.1 1)		8 (88.8 9)			9 (10 0)	1 (14.2 9)	6 (85.7 1)	1 (11.1 1)	1 (11.1 1)	7 (77.7 8)	1 (11.1 1)		8 (88.8 9)		9 (100)		1 (11.1 1)	8 (88.8 9)		7 (100)		9 (100)		
	Children	2 (10 0)	2 (10 0)		1 (100)			2 (100)			2 (10 0)		1 (100)			2 (100)			2 (100)		2 (100)		1 (50)	1 (50)		1 (100)			2 (100)	
	Adults	13 (10 0)	13 (10 0)	4 (40)	6 (60)	2 (15.3 8)	2 (15.3 8)	9 (69.2 3)			13 (10 0)	2 (22.2 2)	7 (77.7 8)	2 (16.6 7)		10 (83.3 3)	3 (23.0 8)	1 (7.6 9)	9 (69.2 3)	1 (8.33)	11 (91.6 7)		2 (15.3 8)	11 (84.6 2)	1 (10)	9 (90)	2 (8)	11 (84.6 2)		
	Elderly	22 (10 0)	22 (10 0)	11 (57.8 9)	8 (42.1 1)	8 (36.3 6)		14 (63.6 4)			22 (10 0)	8 (42.1 1)	11 (57.8 9)	7 (31.8 2)	2 (9.09)	13 (59.0 9)	7 (31.8 2)		15 (68.1 8)	2 (9.09)	20 (90.9 1)	1 (4.5 5)	1 (4.55)	20 (90.9 1)	1 (5.26)	18 (94.7 4)	1 (4.55)	5 (22.7 3)	16 (72.7 3)	
	Outpatient	15 (10 0)	15 (10 0)	4 (36.3 6)	7 (63.6 4)	2 (13.3 3)	1 (6.67)	12 (80)			15 (10 0)	3 (27.2 7)	8 (72.7 3)	2 (13.3 3)	1 (6.67)	12 (80)	2 (13.3 3)		13 (86.6 7)		15 (100)		1 (6.67)	14 (93.3 3)		11 (100)		1 (6.67)	13 (86.6 7)	
	Inpatient	22 (10 0)	22 (10 0)	11 (57.8 9)	8 (42.1 1)	8 (36.3 6)	1 (4.55)	13 (59.0 9)			22 (10 0)	7 (38.8 9)	11 (61.1 1)	7 (33.3 3)	1 (4.76)	13 (14.2 9)	8 (36.3 6)	1 (4.5 5)	13 (59.0 9)	3 (14.2 9)	18 (85.7 1)	1 (4.5 5)	3 (13.6 4)	18 (81.8 2)	2 (10.5 3)	17 (89.4 7)	2 (9.09)	4 (18.1 8)	16 (72.7 3)	
	Men	18 (10 0)	18 (10 0)	10 (62.5)	6 (37.5)	9 (50)	1 (5.56)	8 (44.4 4)			18 (10 0)	8 (50)	8 (50)	8 (44.4 4)		10 (55.5 6)	8 (44.4 4)		10 (55.5 6)	2 (11.1 1)	16 (88.8 9)		1 (5.56)	17 (94.4 4)		1 (6.25)	15 (93.7 5)	3 (16.6 7)	4 (22.2 2)	11 (61.1 1)
	Women	19 (10 0)	19 (10 0)	5 (35.7 1)	9 (64.2 9)	1 (5.26)	1 (5.26)	17 (89.4 7)			19 (10 0)	2 (15.3 8)	11 (84.6 2)	1 (5.56)	2 (11.1 1)	15 (83.3 3)	2 (10.5 3)	1 (5.2 6)	16 (84.2 1)	1 (5.56)	17 (94.4 4)	1 (5.2 6)	3 (15.7 9)	15 (78.9 5)	1 (7.14)	13 (92.8 6)		1 (5.26)	18 (94.7 4)	

AMC= Amoxicillin-clavulanic acid; AMP=Ampicillin CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem ETP=Ertapenem TZP=Piperacillin-tazobactam.

Table S36: Resistances to beta-lactams (%) of *Klebsiella aerogenes* in 2020.

		AMC		AMP		TIC			CXM		FOX		CFM		CTX			CAZ			FEP		IPM		ETP			TZP		
		R	S	R	S	R	I	S	R	S	R	S	R	S	R	I	S	R	I	S	R	S	R	S	R	I	S	R	I	S
2020	Total	23 (10 0)	23 (10 0)	13 (56.5 2)	2 (8.69)	8 (34.7 8)	12 (52.1 7)	11 (47.8 3)	23 (10 0)	11 (47.8 3)	12 (52.1 7)	10 (43.4 8)	1 (4.35)	12 (52.1 7)	10 (43.4 8)	1 (4.35)	12 (52.1 7)	3 (13.0 4)	20 (86.9 6)	1 (4.35)	22 (95.6 5)	1 (4.35)	1 (4.3 5)	21 (91.3 5)	8 (34.7 8)	2 (8.69)	13 (56.5 2)			
	Nephrostomy catheter	1 (10 0)	1 (10 0)			1 (100)		1 (100)	1 (10 0)		1 (100)			1 (100)			1 (100)			1 (100)				1 (100)			1 (100)			
	Permanent catheterization	7 (10 0)	7 (10 0)	4 (57.1 4)	1 (14.2 9)	2 (28.5 7)	4 (57.1 4)	3 (42.8 6)	7 (10 0)	3 (42.8 6)	4 (57.1 4)	3 (42.8 6)	1 (14.2 9)	3 (42.8 6)	3 (42.8 6)	1 (14.2 9)	3 (42.8 6)	3 (42.8 6)	4 (57.1 4)		7 (100)		1 (14.2 9)		6 (85.7 1)	3 (42.8 6)		4 (57.1 4)		
	Clean catch midstream	8 (10 0)	8 (10 0)	5 (62.5)	1 (12.5)	2 (25)	5 (62.5)	3 (37.5)	8 (10 0)	3 (37.5)	5 (62.5)	3 (37.5)		5 (62.5)	3 (37.5)		5 (62.5)			8 (100)				1 (12.5 5)	7 (87.5)	3 (37.5)	1 (12.5)	4 (50)		
	Urinary catheter	7 (10 0)	7 (10 0)	4 (57.1 4)		3 (42.8 6)	3 (42.8 6)	4 (57.1 4)	7 (10 0)	5 (71.4 3)	2 (28.5 7)	4 (57.1 4)		3 (42.8 6)	4 (57.1 4)		3 (42.8 6)	7 (100)		1 (14.2 9)	6 (85.7 1)			7 (100)	2 (28.5 7)	1 (14.2 9)	4 (57.1 4)			
	Children	3 (10 0)	3 (10 0)			3 (100)		3 (100)	3 (10 0)	1 (33.3 3)	2 (66.6 7)			3 (100)			3 (100)			3 (100)				3 (100)			3 (100)			
	Adults	5 (10 0)	5 (10 0)	4 (80)		1 (20)	4 (80)	1 (20)	5 (10 0)	3 (60)	2 (40)	3 (60)		2 (40)	3 (60)		2 (40)			5 (100)				5 (100)			1 (20)	1 (20)	3 (60)	
	Elderly	15 (10 0)	15 (10 0)	9 (60)	2 (13.3 3)	4 (26.6 7)	8 (53.3 3)	7 (46.6 7)	15 (10 0)	7 (46.6 7)	8 (53.3 3)	7 (46.6 7)	1 (6.67)	7 (46.6 7)	7 (46.6 7)	1 (6.67)	7 (46.6 7)	3 (20)	12 (80)	1 (6.67)	14 (93.3 3)	1 (6.67)	1 (6.6 7)	13 (86.6 7)	7 (46.6 7)	1 (6.67)	7 (46.6 7)			
	Outpatient	4 (10 0)	4 (10 0)	2 (50)		2 (50)	3 (75)	1 (25)	4 (10 0)	1 (25)	3 (75)	1 (25)	1 (25)	2 (50)	1 (25)	1 (25)	2 (50)	1 (25)	3 (75)		4 (100)				4 (100)	1 (25)		3 (75)		
	Inpatient	19 (10 0)	19 (10 0)	11 (57.8 9)	2 (10.5 3)	6 (31.5 8)	9 (47.3 7)	10 (52.6 3)	19 (10 0)	10 (52.6 3)	9 (47.3 7)	9 (47.3 7)		10 (52.6 3)	9 (47.3 7)		10 (52.6 3)	2 (10.5 3)	17 (89.4 7)	1 (5.26)	18 (94.7 4)	1 (5.26)	1 (5.2 6)	17 (89.4 7)	7 (36.8 4)	2 (10.5 3)	10 (52.6 3)			
	Men	14 (10 0)	14 (10 0)	8 (57.1 4)		6 (42.8 6)	8 (57.1 4)	6 (42.8 6)	14 (10 0)	7 (50)	7 (50)	6 (42.8 6)	1 (7.14)	7 (50)	6 (42.8 6)	1 (7.14)	7 (50)	3 (21.4 3)	11 (78.5 7)	1 (7.14)	13 (92.8 6)	1 (7.14)	1 (7.1 4)	12 (85.7 1)	6 (42.8 6)		8 (57.1 4)			
	Women	9 (10 0)	9 (10 0)	5 (55.5 6)	2 (22.2 2)	2 (22.2 2)	4 (44.4 4)	5 (55.5 6)	9 (10 0)	4 (44.4 4)	5 (55.5 6)	4 (44.4 4)		5 (55.5 6)	4 (44.4 4)		5 (55.5 6)			9 (100)				9 (100)	2 (22.2 2)	2 (22.2 2)	5 (55.5 6)			

AMC= Amoxicillin-clavulanic acid AMP=Ampicillin CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem ETP=Ertapenem TZP=Piperacillin-tazobactam.

Table S37: Resistances to beta-lactams (%) of *Klebsiella aerogenes* in 2021.

		AMC		AMP		TIC		CXM		FOX		CFM		CTX		CAZ			FEP		IPM		ETP		TZP		
		R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	I	S	R	S	R	S	R	S	R	I	S
2021	Total	13 (100)		13 (100)		2 (15.38)	11 (84.62)	2 (15.38)	11 (84.62)	12 (100)		2 (15.38)	11 (84.62)	2 (15.38)	11 (84.62)	2 (15.38)		11 (84.62)	1 (7.69)	12 (92.31)	13 (100)		13 (100)		1 (7.69)	1 (7.69)	11 (84.62)
	Permanent catheterization	1 (100)		1 (100)									1 (100)		1 (100)		1 (100)		1 (100)		1 (100)		1 (100)				1 (100)
	Clean catch midstream	11 (100)		11 (100)		1 (9.09)	10 (90.91)	1 (9.09)	10 (90.91)	11 (100)		1 (9.09)	10 (90.91)	1 (9.09)	10 (90.91)	1 (9.09)		10 (90.91)		11 (100)		11 (100)			1 (9.09)	10 (90.91)	
	Urinary catheter	1 (100)		1 (100)		1 (100)		1 (100)		1 (100)		1 (100)		1 (100)		1 (100)			1 (100)		1 (100)		1 (100)		1 (100)		
	Children	9 (100)		9 (100)		2 (22.22)	7 (77.78)	2 (22.22)	7 (77.78)	9 (100)		2 (22.22)	7 (77.78)	2 (22.22)	7 (77.78)	2 (22.22)		7 (77.78)	1 (11.11)	8 (88.89)	9 (100)		9 (100)		1 (11.11)	1 (11.11)	7 (77.78)
	Adults	4 (100)		4 (100)			4 (100)		4 (100)	3 (100)			4 (100)		4 (100)		4 (100)		4 (100)		4 (100)		4 (100)				4 (100)
	Elderly	11 (100)		11 (100)		1 (9.09)	10 (90.91)	1 (9.09)	10 (90.91)	10 (100)		1 (9.09)	10 (90.91)	1 (9.09)	10 (90.91)	1 (9.09)		10 (90.91)		11 (100)		11 (100)			1 (9.09)	10 (90.91)	
	Outpatient	2 (100)		2 (100)		1 (50)	1 (50)	1 (50)	1 (50)	2 (100)		1 (50)	1 (50)	1 (50)	1 (50)	1 (50)		1 (50)	1 (50)	1 (50)	1 (50)	2 (100)		2 (100)		1 (50)	1 (50)
	Inpatient	3 (100)		3 (100)		1 (33.33)	2 (66.67)	1 (33.33)	2 (66.67)	3 (100)		1 (33.33)	2 (66.67)	1 (33.33)	2 (66.67)	1 (33.33)		2 (66.67)	1 (33.33)	2 (66.67)	3 (100)		3 (100)		1 (33.33)		2 (66.67)
	Men	10 (100)		10 (100)		1 (10)	9 (90)	1 (10)	9 (90)	9 (100)		1 (10)	9 (90)	1 (10)	9 (90)	1 (10)		9 (90)		10 (100)		10 (100)		10 (100)		1 (10)	9 (90)

AMC= Amoxicillin-clavulanic acid AMP=Ampicillin CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem ETP=Ertapenem TZP=Piperacillin-tazobactam.

Table S38: Resistances to non-beta-lactams (%) of *Klebsiella aerogenes* in 2016.

		TOB		GEN		NAL		CIP		FOF		NIT			SXT	
		R	S	R	S	R	S	R	S	R	S	R	I	S	R	S
2016	Total	1 (4.35)	22 (95.65)	1 (4.35)	22 (95.65)	4 (17.39)	19 (82.61)	2 (8.69)	21 (91.3)	3 (13.04)	20 (86.96)	6 (26.09)	14 (60.87)	3 (13.04)	1 (4.35)	22 (95.65)
	Nephrostomy catheter															
	Permanent catheterization		3 (100)		3 (100)	1 (33.33)	2 (66.67)		3 (100)		3 (100)	2 (66.67)		1 (33.33)		3 (100)
	Clean catch midstream	1 (7.14)	13 (92.86)	1 (7.14)	13 (92.86)	2 (14.29)	12 (85.71)	1 (7.14)	13 (92.86)	2 (14.29)	12 (85.71)	2 (14.29)	10 (71.43)	2 (14.29)	1 (7.14)	13 (92.86)
	Urinary catheter		6 (100)		6 (100)	1 (16.67)	5 (83.33)	1 (16.67)	5 (83.33)	1 (16.67)	5 (83.33)	2 (33.33)	4 (66.67)			6 (100)
	Children		2 (100)		2 (100)		2 (100)		2 (100)		2 (100)		2 (100)			2 (100)
	Adults	1 (9.09)	10 (90.91)	1 (9.09)	10 (90.91)	2 (18.18)	9 (81.82)	1 (9.09)	10 (90.91)	2 (18.18)	9 (81.82)	3 (27.27)	6 (54.55)	2 (18.18)	1 (9.09)	10 (90.91)
	Elderly		10 (100)		10 (100)	2 (20)	8 (80)	1 (10)	9 (90)	1 (10)	9 (90)	3 (30)	6 (60)	1 (10)		10 (100)
	Outpatient	1 (5.88)	16 (94.12)	1 (5.88)	16 (94.12)	2 (11.76)	15 (88.24)	1 (5.88)	16 (94.12)	2 (11.76)	15 (88.24)	4 (23.53)	10 (58.82)	3 (17.65)	1 (5.88)	16 (94.12)
	Inpatient		6 (100)		6 (100)	2 (33.33)	4 (66.67)	1 (16.67)	5 (83.33)	1 (16.67)	5 (83.33)	2 (33.33)	4 (66.67)			6 (100)
	Men	1 (9.09)	10 (90.91)	1 (9.09)	10 (90.91)	3 (27.27)	8 (72.73)	1 (9.09)	10 (90.91)	3 (27.27)	8 (72.73)	4 (36.36)	4 (36.36)	3 (27.27)	1 (9.09)	10 (90.91)
	Women		12 (100)		12 (100)	1 (8.33)	11 (91.67)	1 (8.33)	11 (91.67)		12 (100)	2 (16.67)	10 (83.33)			12 (100)

TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomycin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole

Table S39: Resistances to non-beta-lactams (%) of *Klebsiella aerogenes* in 2017.

		TOB		GEN		NAL		CIP			FOF		NIT			SXT		
		R	S	R	S	R	S	R	I	S	R	S	R	I	S	R	I	S
2017	Total	1 (4.17)	23 (95.83)	1 (4.17)	23 (95.83)	2 (8.33)	22 (91.67)	1 (4.17)	1 (4.17)	22 (91.67)	5 (20.83)	19 (79.17)	2 (8.33)	12 (50)	10 (41.67)	1 (4.17)		23 (95.83)
	Collection bag		1 (100)		1 (100)		1 (100)			1 (100)	1 (100)			1 (100)			1 (100)	
	Permanent catheterization	1 (50)	1 (50)	1 (50)	1 (50)	1 (50)	1 (50)			2 (100)	2 (100)				2 (100)		2 (100)	
	Clean catch midstream		14 (100)		14 (100)	1 (7.14)	13 (92.86)	1 (7.14)	1 (7.14)	12 (85.71)	2 (14.29)	12 (85.71)	2 (14.29)	7 (50)	5 (35.71)	1 (7.14)		13 (92.86)
	Urinary catheter		7 (100)		7 (100)		7 (100)			7 (100)	2 (28.57)	5 (71.43)		4 (57.14)	3 (42.86)			7 (100)
	Children		4 (100)		4 (100)		4 (100)		1 (25)	3 (75)	2 (50)	2 (50)	1 (25)	3 (75)			4 (100)	
	Adults		8 (100)		8 (100)		8 (100)			8 (100)	1 (12.5)	7 (87.5)	1 (12.5)	4 (50)	3 (37.5)			8 (100)
	Elderly	1 (8.33)	11 (91.67)	1 (8.33)	11 (91.67)	2 (16.67)	10 (83.33)	1 (8.33)		11 (91.67)	2 (16.67)	10 (83.33)		5 (41.67)	7 (58.33)	1 (8.33)		11 (91.67)
	Outpatient		15 (100)		15 (100)		15 (100)			15 (100)	2 (13.33)	13 (86.67)	1 (6.67)	8 (53.33)	6 (40)			15 (100)
	Inpatient	1 (11.11)	8 (88.89)	1 (11.11)	8 (88.89)	2 (22.22)	7 (77.78)	1 (11.11)	1 (11.11)	7 (77.78)	3 (33.33)	6 (66.67)	1 (11.11)	4 (44.44)	4 (44.44)	1 (11.11)		8 (88.89)
	Men	1 (7.69)	12 (92.31)	1 (7.69)	12 (92.31)	2 (15.38)	11 (84.62)	1 (7.69)	1 (7.69)	11 (84.62)	3 (23.08)	10 (76.92)	1 (7.69)	6 (46.15)	6 (46.15)	1 (7.69)		12 (92.31)
	Women		11 (100)		11 (100)		11 (100)			11 (100)	2 (18.18)	9 (81.82)	1 (9.09)	6 (54.55)	4 (36.36)			11 (100)

TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomycin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole

Table S40: Resistances to non-beta-lactams (%) of *Klebsiella aerogenes* in 2018.

		TOB		GEN		NAL		CIP		FOF		NIT			SXT	
		R	S	R	S	R	S	R	S	R	S	R	I	S	R	S
2018	Total		21 (100)		21 (100)	1 (4.76)	20 (95.24)	1 (4.76)	20 (95.24)	4 (19.05)	17 (80.95)	1 (4.76)	13 (61.9)	7 (33.33)		21 (100)
	Permanent catheterization		3 (100)		3 (100)		3 (100)		3 (100)	1 (33.33)	2 (66.67)	1 (33.33)	2 (66.67)			3 (100)
	Clean catch midstream		16 (100)		16 (100)	1 (6.25)	15 (93.75)	1 (6.25)	15 (93.75)	3 (18.75)	13 (81.25)		9 (56.25)	7 (43.75)		16 (100)
	Urinary catheter		2 (100)		2 (100)		2 (100)		2 (100)		2 (100)		2 (100)			2 (100)
	Children		11 (100)		11 (100)		11 (100)		11 (100)	1 (9.09)	10 (90.91)		9 (81.82)	2 (18.18)		11 (100)
	Adults		10 (100)		10 (100)	1 (10)	9 (90)	1 (10)	9 (90)	3 (30)	7 (70)	1 (10)	4 (40)	5 (50)		10 (100)
	Elderly		7 (100)		7 (100)		7 (100)		7 (100)	2 (28.57)	5 (71.43)		5 (71.43)	2 (28.57)		7 (100)
	Outpatient		14 (100)		14 (100)	1 (7.14)	13 (92.86)	1 (7.14)	13 (92.86)	2 (14.29)	12 (85.71)	1 (7.14)	8 (57.14)	5 (35.71)		14 (100)
	Inpatient		11 (100)		11 (100)		11 (100)		11 (100)	2 (18.18)	9 (81.82)	1 (9.09)	6 (54.55)	4 (36.36)		11 (100)
	Men		10 (100)		10 (100)	1 (10)	9 (90)	1 (10)	9 (90)	2 (20)	8 (80)		7 (70)	3 (30)		10 (100)

TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomycin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole

Table S41: Resistances to non-beta-lactams (%) of *Klebsiella aerogenes* in 2019.

		AMK			TOB			GEN			NAL		CIP		LVX			FOF		NIT			SXT		CST	
		R	I	S	R	I	S	R	I	S	R	S	R	S	R	I	S	R	S	R	I	S	R	S	R	S
2019	Total	1 (3.33)		29 (96.67)	2 (5.41)	1 (2.7)	34 (91.89)	3 (8.11)	1 (2.7%)	33 (89.19)	7 (18.92)	30 (81.08)	5 (13.51)	32 (86.49)	4 (13.33)	1 (3.33)	25 (83.33)	7 (18.92)	30 (81.08)	6 (20)	3 (10)	21 (70)	4 (10.81)	33 (89.19)	6 (20)	24 (80)
	Permanent catheterization			5 (100)		1 (20)	4 (80)	1 (20)	1 (20)	3 (60)	2 (40)	3 (60)	2 (40)	3 (60)	2 (40)		3 (60)	2 (40)	3 (60)	1 (20)		4 (80)	2 (40)	3 (60)	2 (40)	3 (60)
	Clean catch midstream		1 (5.56)	17 (94.44)		2 (8.69)	21 (91.3)	2 (8.69)		21 (91.3)	4 (17.39)	19 (82.61)	2 (8.69)	21 (91.3)	1 (5.56)	1 (5.56)	16 (88.89)	4 (17.39)	19 (82.61)	5 (21.7)	2 (8.69)	16 (69.57)	1 (4.35)	22 (95.65)	3 (16.67)	15 (83.33)
	Urinary catheter			7 (100)			9 (100)			9 (100)	1 (11.11)	8 (88.89)	1 (11.11)	8 (88.89)	1 (14.29)		6 (85.71)	1 (11.11)	8 (88.89)		1 (50)	1 (50)	1 (11.11)	8 (88.89)	1 (14.29)	6 (85.71)
	Children			1 (100)			2 (100)			2 (100)		2 (100)		2 (100)			1 (100)		2 (100)		1 (50)	1 (50)		2 (100)		1 (100)
	Adults			10 (100)	1 (7.69)		12 (92.31)	1 (7.69)	1 (7.69)	11 (84.62)	2 (15.38)	11 (84.62)	1 (7.69)	12 (92.31)	1 (10)		9 (90)		13 (100)	3 (27.2)	1 (9.09)	7 (63.64)	2 (15.38)	11 (84.62)	2 (20)	8 (80)
	Elderly		1 (5.26)	18 (94.74)	1 (4.55)	1 (4.55)	20 (90.91)	2 (9.09)		20 (90.91)	5 (22.73)	17 (77.27)	4 (18.18)	18 (81.82)	3 (15.79)	1 (5.26)	15 (78.95)	7 (31.82)	15 (68.18)	3 (17.6)	1 (5.88)	13 (76.47)	2 (9.09)	20 (90.91)	4 (21.05)	15 (78.95)
	Outpatient			11 (100)			15 (100)			15 (100)	3 (20)	12 (80)	2 (13.33)	13 (86.67)	1 (9.09)	1 (9.09)	9 (81.82)	3 (20)	12 (80)	3 (23.0)		10 (76.92)		15 (100)	1 (9.09)	10 (90.91)
	Inpatient		1 (5.26)	18 (94.74)	2 (9.09)	1 (4.55)	19 (86.36)	3 (13.64)	1 (4.55)	18 (81.82)	4 (18.18)	18 (81.82)	3 (13.64)	19 (86.36)	3 (15.79)		16 (84.21)	4 (18.18)	18 (81.82)	3 (17.6)	3 (17.65)	11 (64.71)	4 (18.18)	18 (81.82)	5 (26.32)	14 (73.68)
	Men			16 (100)	1 (5.56)	1 (5.56)	16 (88.89)	2 (11.11)	1 (5.56)	15 (83.33)	4 (22.22)	14 (77.78)	4 (22.22)	14 (77.78)	3 (18.75)	1 (6.25)	12 (75)	3 (16.67)	15 (83.33)	4 (26.6)	1 (7)	10 (66.67)	4 (22.22)	14 (77.78)	3 (18.75)	13 (81.25)
	Women		1 (7.14)	13 (92.86)	1 (5.26)		18 (94.74)	1 (5.26)		18 (94.74)	3 (15.79)	16 (84.21)	1 (5.26)	18 (94.74)	1 (7.14)		13 (92.86)	4 (21.05)	15 (78.95)	2 (13.3)	2 (13.33)	11 (73.33)		19 (100)	3 (21.43)	11 (78.57)

AMK= Amikacin TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomicin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole CST=Colistin

Table S42: Resistances to non-beta-lactams (%) of *Klebsiella aerogenes* in 2020.

		AMK		TOB		GEN		NAL		CIP			LVX			FOF		NIT		SXT		CST	
		R	S	R	S	R	S	R	S	R	I	S	R	I	S	R	S	R	S	R	S	R	S
2020	Total	23 (100)		1 (4.35)	22 (95.65)	1 (4.35)	22 (95.65)	4 (17.39)	19 (82.61)	3 (13.04)	2 (86.96)	18 (78.26)	3 (13.04)	1 (4.35)	19 (82.61)	6 (26.09)	17 (73.91)	5 (26.32)	14 (73.68)	1 (4.35)	22 (95.65)	1 (4.35)	22 (95.65)
	Nephrostomy catheter	1 (100)			1 (100)		1 (100)		1 (100)			1 (100)			1 (100)		1 (100)				1 (100)		1 (100)
	Permanent catheterization	7 (100)			7 (100)	1 (14.29)	6 (85.71)	1 (14.29)	6 (85.71)	2 (28.57)	1 (14.29)	4 (57.14)	1 (14.29)	1 (14.29)	5 (71.43)	4 (57.14)	3 (42.86)	2 (28.57)	5 (71.43)		7 (100)		7 (100)
	Clean catch midstream	8 (100)			8 (100)		8 (100)	3 (37.5)	5 (62.5)	1 (12.5)	1 (12.5)	6 (75)	2 (25)		6 (75)		8 (100)	2 (25)	6 (75)	1 (12.5)	7 (87.5)	1 (12.5)	7 (87.5)
	Urinary catheter	7 (100)		1 (14.29)	6 (85.71)		7 (100)		7 (100)			7 (100)			7 (100)	2 (28.57)	5 (71.43)	1 (25)	3 (75)		7 (100)		7 (100)
	Children	3 (100)			3 (100)		3 (100)	1 (33.33)	2 (66.67)			3 (100)			3 (100)	1 (33.33)	2 (66.67)		2 (100)		3 (100)		3 (100)
	Adults	5 (100)			5 (100)		5 (100)	2 (40)	3 (60)	2 (40)		3 (60)	1 (20)	1 (20)	3 (60)	1 (20)	4 (80)		4 (100)	1 (20)	4 (80)	1 (20)	4 (80)
	Elderly	15 (100)		1 (6.67)	14 (93.33)	1 (6.67)	14 (93.33)	1 (6.67)	14 (93.33)	1 (6.67)	2 (13.33)	12 (80)	2 (13.33)		13 (86.67)	4 (26.67)	11 (73.33)	5 (38.46)	8 (61.54)		15 (100)		15 (100)
	Outpatient	4 (100)			4 (100)	1 (25)	3 (75)	1 (25)	3 (75)	1 (25)		3 (75)	1 (25)		3 (75)	1 (25)	3 (75)	1 (25)	3 (75)		4 (100)		4 (100)
	Inpatient	19 (100)		1 (5.26)	18 (94.74)		19 (100)	3 (15.79)	16 (84.21)	2 (10.53)	2 (10.53)	15 (78.95)	2 (10.53)	1 (5.26)	16 (84.21)	5 (26.32)	14 (73.68)	4 (26.67)	11 (73.33)	1 (5.26)	18 (94.74)	1 (5.26)	18 (94.74)
	Men	14 (100)		1 (7.14)	13 (92.86)	1 (7.14)	13 (92.86)	2 (14.29)	12 (85.71)	2 (14.29)	1 (7.14)	11 (78.57)	1 (7.14)	1 (7.14)	12 (85.71)	6 (42.86)	8 (57.14)	3 (27.27)	8 (72.73)		14 (100)		14 (100)
	Women	9 (100)			9 (100)		9 (100)	2 (22.22)	7 (77.78)	1 (11.11)	1 (11.11)	7 (77.78)	2 (22.22)		7 (77.78)		9 (100)	2 (25)	6 (75)	1 (11.11)	8 (88.89)	1 (11.11)	8 (88.89)

AMK= Amikacin TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomycin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole CST=Colistin

Table S43: Resistances to non-beta-lactams (%) of *Klebsiella aerogenes* in 2021.

		AMK		TOB		GEN		NAL		CIP		LVX		FOF		NIT		SXT		CST	
		R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S
2021	Total	13	(100)	13	(100)	13	(100)	13	(100)	13	(100)	13	(100)	1	12 (7.69) (92.31)	1	12 (7.69) (92.31)	13	(100)	1	12 (7.69) (92.31)
	Permanent catheterization	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)		1 (100)		1 (100)	1	(100)		1 (100)
	Clean catch midstream	11	(100)	11	(100)	11	(100)	11	(100)	11	(100)	11	(100)		11 (100)	1	10 (9.09) (90.91)	11	(100)	1	10 (9.09) (90.91)
	Urinary catheter	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)		1 (100)	1	(100)		1 (100)
	Children			9	(100)	9	(100)	9	(100)	9	(100)	9	(100)	1	8 (11.11) (88.89)	1	8 (11.11) (88.89)	9	(100)	1	8 (11.11) (88.89)
	Adults	4	(100)	4	(100)	4	(100)	4	(100)	4	(100)	4	(100)		4 (100)		4 (100)	4	(100)		4 (100)
	Elderly	11	(100)	11	(100)	11	(100)	11	(100)	11	(100)	11	(100)		11 (100)	1	10 (9.09) (90.91)	11	(100)	1	10 (9.09) (90.91)
	Outpatient	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	1	1 (50) (50)		2 (100)	2	(100)		2 (100)
	Inpatient	3	(100)	3	(100)	3	(100)	3	(100)	3	(100)	3	(100)	1	2 (33.33) (66.67)		3 (100)	3	(100)		3 (100)
	Men	10	(100)	10	(100)	10	(100)	10	(100)	10	(100)	10	(100)		10 (100)	1	9 (10) (90)	10	(100)	1	9 (10) (90)

AMK= Amikacin TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomycin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole CST=Colistin

Table S44: Systematic review of the resistance rates (%) of *Citrobacter freundii* in urine cultures.

Author (year of publication)	Period	Place	N	CAZ	FEP	CRO	C-T	IPM	I-R	MEM	ETP	DOR	TZP	AMK	TOB	ATM	GEN	NAL	NIT	FOF	CIP	LVX	SXT	CST
H. Seifert (2018) ¹⁷	2014-2015	Germany	26	34.6	3.8	38.5	30.8			0	0	0	34.6	0	3.8					0	15.4	15.4		0
S. Lob (2020) ¹⁸	2015-2017	Europe	116	32.8	13.8			1.7	0.9				27.6	2.6		29.3					25.9			0
G. Jiménez Guerra (2020) ¹⁹	2006-2016	Spain	76		4			6					11		15		16	27	7	7	18		18	
Weighted averages			218	33.13	9.19	38.5	30.8	3.4	0.9	0	0	0	22.65	2.12	6.35	29.3	16	27	7	2.77	21.89	15.4	18	0

CAZ=Ceftazidime FEP=Cefepime CRO=Ceftriaxone C-T=Ceftolozane-tazobactam IPM=Imipenem I-R=Imipenem-relebactam MEM=Meropenem ETP=Ertapenem DOR=Doripenem
TZP=Piperacillin-tazobactam AMK=Amikacin TOB=Tobramycin ATM=Aztreonam GEN=Gentamicin NAL=Nalidixic acid NIT=Nitrofurantoin FOF=Fosfomycin CIP=Ciprofloxacin
LVX=Levofloxacin SXT=Trimethoprim-sulfamethoxazole CST=Colistin

Table S45: General annualized resistances (%) of *Citrobacter freundii* during 2016-2021

	AMC	AMP	TIC	CXM	FOX	CFM	CTX	CAZ	FEP	IPM	ETP	TZP	AMK	TOB	GEN	NAL	CIP	LVX	FOF	NIT	SXT	CST
2016	12/12 (100)	12/12 (100)	-	3/12 (25)	12/12 (100)	-	3/12 (25)	2/12 (16.67)	0/12 (0)	0/11 (0)	-	1/12 (8.33)	-	0/12 (0)	0/12 (0)	1/12 (8.33)	0/12 (0)	-	0/12 (0)	0/12 (0)	1/12 (8.33)	-
2017	18/18 (100)	18/18 (100)	-	9/18 (50)	17/17 (100)	-	8/18 (44.44)	6/18 (33.33)	2/18 (11.11)	0/18 (0)	-	2/18 (11.11)	-	1/18 (5.56)	1/18 (5.56)	6/18 (33.33)	5/18 (27.78)	-	0/18 (0)	0/18 (0)	3/18 (0)	-
2018	25/25 (100)	24/25 (96)	-	7/25 (28)	25/25 (100)	-	5/24 (20.83)	6/25 (24)	2/25 (8)	0/24 (0)	-	0/25 (0)	-	1/25 (4)	1/25 (4)	5/25 (20)	4/25 (16)	-	1/25 (4)	1/25 (4)	2/25 (8)	-
2019	27/27 (100)	27/27 (100)	12/25 (48)	9/27 (33.33)	26/26 (100)	18/24 (75)	10/27 (37.04)	10/27 (37.04)	7/27 (25.93)	0/27 (0)	1/25 (4)	5/27 (18.52)	2/25 (8)	5/27 (18.52)	6/27 (22.22)	7/27 (25.93)	6/27 (22.22)	5/25 (20)	0/27 (0)	1/22 (4.55)	8/27 (29.63)	3/25 (12)
2020	17/17 (100)	17/17 (100)	7/17 (41.18)	5/17 (29.41)	17/17 (100)	13/17 (76.47)	6/16 (37.5)	4/16 (25)	2/17 (11.76)	0/17 (0)	1/17 (5.88)	1/17 (5.88)	0/17 (0)	2/17 (11.76)	1/17 (5.88)	5/17 (29.41)	5/17 (29.41)	3/17 (17.65)	0/17 (0)	0/17 (0)	3/17 (17.65)	0/17 (0)
2021	8/8 (100)	8/8 (100)	7/8 (87.5)	5/8 (62.5)	8/8 (100)	6/8 (75)	5/8 (62.5)	5/8 (62.5)	3/8 (37.5)	0/7 (0)	1/7 (12.5)	1/8 (12.5)	1/8 (12.5)	1/8 (12.5)	0/8 (0)	5/8 (62.5)	4/8 (50)	2/8 (25)	2/8 (25)	0/8 (0)	1/8 (12.5)	1/8 (12.5)
Total	107/107 (100)	106/107 (99.06)	26/50 (52)	38/107 (35.51)	105/105 (100)	37/49 (75.51)	37/105 (35.24)	33/106 (31.13)	16/107 (14.95)	0/104 (0)	3/49 (6.12)	10/107 (9.35)	3/50 (6)	10/107 (9.35)	9/107 (8.41)	29/107 (27.10)	24/107 (22.43)	10/50 (20)	3/107 (2.80)	2/102 (1.96)	18/107 (16.82)	4/50 (8)

AMC=Amoxicillin-clavulanic; AMP=Ampicillin; TIC=Ticarcillin; CXM=Cefuroxime; FOX=Cefoxitin; CFM=Cefixime; CTX=Cefotaxime; CAZ=Ceftazidime; FEP=Cefepime; IPM=Imipenem; ETP=Ertapenem; TZP=Piperacillin-tazobactam; AMK: amikacin; TOB=Tobramycin; GEN=Gentamicin; NAL=Nalidixic acid; CIP=Ciprofloxacin; LVX=Levofloxacin; FOF=Fosfomicin NIT=Nitrofurantoin; SXT=Trimethoprim-sulfamethoxazole; CST=Colistin

Table S46: Resistances to beta-lactams (%) of *Citrobacter freundii* in 2016.

		AMC		AMP		CXM			FOX		CTX		CAZ		FEP			IPM		TZP	
		R	S	R	S	R	I	S	R	S	R	S	R	I	S	R	S	R	S		
2016	Total	12 (100)		12 (100)		3 (25)	2 (16.67)	7 (58.33)	12 (100)		3 (25)	9 (75)	2 (16.67)	10 (83.33)	1 (8.33)	11 (91.67)		11 (100)	1 (8.33)	11 (91.67)	
	Permanent catheterization	4 (100)		4 (100)		2 (50)	1 (25)	1 (25)	4 (100)		2 (50)	2 (50)	1 (25)	3 (75)	1 (25)	3 (75)		3 (100)	1 (25)	3 (75)	
	Clean catch midstream	6 (100)		6 (100)		1 (16.67)	1 (16.67)	4 (66.67)	6 (100)		1 (16.67)	5 (83.33)	1 (16.67)	5 (83.33)		6 (100)		6 (100)		6 (100)	
	Urinary catheter	2 (100)		2 (100)				4 (100)	2 (100)			2 (100)		2 (100)		2 (100)		2 (100)		2 (100)	
	Adults	4 (100)		4 (100)		1 (25)	1 (25)	2 (50)	4 (100)			4 (100)		4 (100)		4 (100)		3 (100)		4 (100)	
	Elderly	8 (100)		8 (100)		2 (25)	1 (12.5)	5 (62.5)	8 (100)		3 (37.5)	5 (62.5)	2 (25)	6 (75)	1 (12.5)	7 (87.5)		8 (100)	1 (12.5)	7 (87.5)	
	Outpatient	8 (100)		8 (100)		1 (12.5)	1 (12.5)	6 (75)	8 (100)		1 (12.5)	7 (87.5)		8 (100)		8 (100)		8 (100)		8 (100)	
	Inpatient	4 (100)		4 (100)		2 (50)	1 (25)	1 (25)	4 (100)		2 (50)	2 (50)	2 (50)	2 (50)	1 (25)	3 (75)		3 (100)	1 (25)	3 (75)	
	Men	6 (100)		6 (100)		2 (33.33)	1 (16.67)	3 (50)	6 (100)		3 (50)	3 (50)	2 (33.33)	4 (66.67)	1 (16.67)	5 (83.33)		5 (100)	1 (16.67)	5 (83.33)	
	Women	6 (100)		6 (100)		1 (16.67)	1 (16.67)	4 (66.67)	6 (100)			6 (100)		6 (100)		6 (100)		6 (100)		6 (100)	

AMC= Amoxicillin-clavulanic acid AMP=Ampicillin CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem TZP=Piperacillin-tazobactam.

Table S47: Resistances to beta-lactams (%) of *Citrobacter freundii* in 2017.

		AMC		AMP		CXM			FOX		CTX			CAZ			FEP			IPM			TZP		
		R	S	R	S	R	I	S	R	S	R	I	S	R	I	S	R	I	S	R	I	S	R	I	S
2017	Total	18 (100)		18 (100)		9 (50)	3 (16.67)	6 (33.33)	17 (100)		8 (44.44)	10 (55.56)		6 (33.33)	1 (5.56)	11 (61.11)	2 (11.11)	2 (11.11)	14 (77.78)	1 (5.56)	17 (94.44)		2 (11.11)	1 (5.56)	15 (83.33)
	Collection bag	1 (100)		1 (100)		1 (100)			1 (100)		1 (100)			1 (100)				1 (100)		1 (100)				1 (100)	
	Nephrostomy catheter	1 (100)		1 (100)		1 (100)			1 (100)		1 (100)			1 (100)				1 (100)		1 (100)				1 (100)	
	Permanent catheterization	2 (100)		2 (100)		2 (100)			2 (100)		2 (100)			1 (50)		1 (50)	1 (50)	1 (50)		2 (100)		1 (50)		1 (50)	
	Clean catch midstream	11 (100)		11 (100)		3 (27.27)	2 (18.18)	6 (54.55)	10 (100)		2 (18.18)	9 (81.82)		1 (9.09)	1 (9.09)	9 (81.82)	1 (9.09)	1 (9.09)	9 (81.82)	1 (9.09)	10 (90.91)		1 (9.09)		10 (90.91)
	Urinary catheter	3 (100)		3 (100)		2 (66.67)	1 (33.33)		3 (100)		2 (66.67)	1 (33.33)		2 (66.67)		1 (33.33)		3 (100)		3 (100)			1 (33.33)	2 (66.67)	
	Children	2 (100)		2 (100)		1 (50)		1 (50)	2 (100)		1 (50)	1 (50)		1 (50)		1 (50)		2 (100)		2 (100)				2 (100)	
	Adults	2 (100)		2 (100)		1 (50)	1 (50)		2 (100)		1 (50)	1 (50)				2 (100)	1 (50)	1 (50)		2 (100)				2 (100)	
	Elderly	14 (100)		14 (100)		7 (50)	2 (14.29)	5 (35.71)	13 (100)		6 (42.86)	8 (57.14)		5 (35.71)	1 (7.14)	8 (57.14)	1 (7.14)	2 (14.29)	11 (78.57)	1 (7.14)	13 (92.86)		2 (14.29)	1 (7.14)	11 (78.57)
	Outpatient	8 (100)		8 (100)		2 (25)	1 (12.5)	5 (62.5)	7 (100)		1 (12.5)	7 (87.5)		1 (12.5)		7 (87.5)		8 (100)		8 (100)				8 (100)	
	Inpatient	10 (100)		10 (100)		7 (70)	2 (20)	1 (10)	10 (100)		7 (70)	3 (30)		5 (50)	1 (10)	4 (40)	2 (20)	2 (20)	6 (60)	1 (10)	9 (90)		2 (20)	1 (10)	7 (70)
	Men	7 (100)		7 (100)		4 (57.14)	1 (14.29)	2 (28.57)	7 (100)		3 (42.86)	4 (57.14)		2 (28.57)	1 (14.29)	4 (57.14)	1 (14.29)	1 (14.29)	5 (71.43)	1 (14.29)	6 (85.71)		1 (14.29)		6 (85.71)
	Women	11 (100)		11 (100)		5 (45.45)	2 (18.18)	4 (36.36)	10 (100)		5 (45.45)	6 (54.55)		4 (36.36)		7 (63.64)	1 (9.09)	1 (9.09)	9 (81.82)		11 (100)		1 (9.09)	1 (9.09)	9 (81.82)

AMC= Amoxicillin-clavulanic acid AMP=Ampicillin CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem TZP=Piperacillin-tazobactam.

Table S48: Resistances to beta-lactams (%) of *Citrobacter freundii* in 2018.

		AMC		AMP			CXM			FOX		CTX		CAZ		FEP			IPM		TZP		
		R	S	R	I	S	R	I	S	R	S	R	S	R	S	R	I	S	R	S	R	I	S
2018	Total	25 (100)		24 (96)	1 (4)		7 (28)	6 (24)	12 (48)	25 (100)		5 (20.83)	19 (79.17)	6 (24)	19 (76)	2 (8)	1 (4)	22 (88)	24 (100)		3 (12)	22 (88)	
	Permanent catheterization	6 (100)		6 (100)			1 (16.67)	2 (33.33)	3 (50)	6 (100)		1 (20)	4 (80)	1 (16.67)	5 (83.33)			6 (100)	6 (100)		1 (16.67)	5 (83.33)	
	Clean catch midstream	12 (100)		12 (100)			4 (33.33)	1 (8.33)	7 (58.33)	12 (100)		2 (16.67)	10 (83.33)	2 (16.67)	10 (83.33)		1 (8.33)	11 (91.67)	11 (100)		1 (8.33)	11 (91.67)	
	Urinary catheter	7 (100)		6 (85.71)	1 (14.29)		2 (28.57)	3 (42.86)	2 (28.57)	7 (100)		2 (28.57)	5 (71.43)	3 (42.86)	4 (57.14)	2 (28.57)		5 (71.43)	7 (100)		1 (14.29)	6 (85.71)	
	Adults	5 (100)		5 (100)				1 (20)	4 (80)	5 (100)			5 (100)		5 (100)			5 (100)	5 (100)			5 (100)	
	Elderly	20 (100)		19 (95)	1 (5)		7 (35)	5 (25)	8 (40)	20 (100)		5 (26.32)	14 (73.68)	6 (30)	14 (70)	2 (10)	1 (5)	17 (85)	19 (100)		3 (15)	17 (85)	
	Outpatient	8 (100)		8 (100)			3 (27.5)	2 (25)	3 (37.5)	8 (100)		3 (42.86)	4 (57.14)	3 (37.5)	5 (62.5)	1 (12.5)	1 (12.5)	6 (75)	8 (100)		2 (25)	6 (75)	
	Inpatient	17 (100)		16 (94.12)	1 (5.88)		4 (23.53)	4 (23.53)	9 (52.94)	17 (100)		2 (11.76)	15 (88.24)	3 (17.65)	14 (82.35)	1 (5.88)		16 (94.12)	16 (100)		1 (5.88)	16 (94.12)	
	Men	10 (100)		10 (100)			2 (20)	1 (10)	7 (70)	10 (100)		1 (11.11)	8 (88.89)	1 (10)	9 (90)			10 (100)	9 (100)			10 (100)	
	Women	15 (100)		14 (93.33)	1 (6.67)		5 (33.33)	5 (33.33)	5 (33.33)	15 (100)		4 (26.67)	11 (73.33)	5 (33.33)	10 (66.67)	2 (13.33)	1 (6.67)	12 (80)	15 (100)		3 (20)	12 (80)	

AMC= Amoxicillin-clavulanic acid AMP=Ampicillin CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem TZP=Piperacillin-tazobactam.

Table S49: Resistances to beta-lactams (%) of *Citrobacter freundii* in 2019.

		AMC		AMP		TIC		CXM		FOX		CFM		CTX			CAZ			FEP		IPM			ETP			TZP		
		R	S	R	S	R	S	R	S	R	S	R	S	R	I	S	R	I	S	R	S	R	I	S	R	I	S	R	I	S
2019	Total	27 (100)		27 (100)		12 (48)	13 (52)	9 (33.33)	18 (66.67)	26 (100)		18 (75)	6 (25)	10 (37.04)	1 (3.7)	16 (59.26)	10 (37.04)	3 (11.11)	14 (51.85)	7 (25.93)	20 (74.07)	1 (3.7)	26 (96.29)	1 (4)	1 (4)	23 (92)	5 (18.52)	1 (3.7)	21 (77.78)	
	Permanent catheterization	3 (100)		3 (100)		3 (100)		2 (66.67)	1 (33.33)	2 (100)		3 (100)		2 (66.67)		1 (33.33)	3 (100)			2 (66.67)	1 (33.33)		2 (66.67)	1 (33.33)		2 (66.67)				
	Clean catch midstream	19 (100)		19 (100)		6 (35.29)	11 (64.71)	4 (21.05)	15 (78.95)	19 (100)		10 (62.5)	6 (37.5)	4 (21.05)	1 (5.26)	14 (73.68)	4 (21.05)	2 (10.53)	13 (68.42)	2 (10.53)	17 (89.47)	1 (5.26)	18 (94.74)		1 (5.88)	16 (94.12)	2 (10.53)		17 (89.47)	
	Urinary catheter	5 (100)		5 (100)		3 (60)	2 (40)	3 (60)	2 (40)	5 (100)		5 (100)		4 (80)		1 (20)	3 (60)	1 (20)	1 (20)	3 (60)	2 (40)		5 (100)		5 (100)	2 (40)	1 (20)	2 (40)		
	Children	2 (100)		2 (100)		1 (50)	1 (50)	1 (50)	1 (50)	2 (100)		1 (50)	1 (50)	1 (50)		1 (50)	1 (50)		1 (50)	2 (100)		2 (100)		2 (100)		2 (100)				
	Adults	10 (100)		10 (100)		4 (44.44)	5 (55.56)	4 (40)	6 (60)	10 (100)		6 (66.67)	3 (33.33)	6 (60)		4 (40)	5 (50)		5 (50)	3 (30)	7 (70)	1 (10)	9 (90)		1 (11.11)	8 (88.89)	2 (20)	1 (10)	7 (70)	
	Elderly	15 (100)		15 (100)		7 (50)	7 (50)	4 (26.67)	11 (73.33)	14 (100)		11 (84.62)	2 (15.38)	3 (20)	1 (6.67)	11 (73.33)	4 (26.67)	3 (20)	8 (53.33)	4 (26.67)	11 (73.33)		15 (100)	1 (7.14)		13 (92.86)	3 (20)		12 (80)	
	Outpatient	12 (100)		12 (100)		3 (27.27)	8 (72.73)		12 (100)	11 (100)		6 (60)	4 (40)	1 (8.33)		11 (91.67)	1 (8.33)		11 (91.67)	1 (8.33)	11 (91.67)		12 (100)	1 (9.09)		10 (90.91)	1 (8.33)		11 (91.67)	
	Inpatient	15 (100)		15 (100)		9 (64.29)	5 (35.71)	9 (60)	6 (40)	15 (100)		12 (85.71)	2 (14.29)	9 (60)	1 (6.67)	5 (33.33)	9 (60)	3 (20)	3 (20)	6 (40)	9 (60)	1 (6.67)	14 (93.33)		1 (7.14)	13 (92.86)	4 (26.67)	1 (6.67)	10 (66.67)	
	Men	13 (100)		13 (100)		4 (36.36)	7 (63.64)	4 (30.77)	9 (69.23)	12 (100)		6 (54.55)	5 (45.45)	5 (38.46)		8 (61.54)	5 (38.46)		8 (61.54)	3 (23.08)	10 (76.92)		13 (100)	1 (9.09)		10 (90.91)	1 (7.69)		12 (92.31)	
Women	14 (100)		14 (100)		8 (57.14)	6 (42.86)	5 (35.71)	9 (64.29)	14 (100)		12 (92.31)	1 (7.69)	5 (35.71)	1 (7.14)	8 (57.14)	5 (35.71)	3 (21.43)	6 (42.86)	4 (28.57)	10 (71.43)		13 (92.86)		1 (7.14)	13 (92.86)	4 (28.57)	1 (7.14)	9 (64.29)		

AMC= Amoxicillin-clavulanic acid AMP=Ampicillin CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem ETP=Ertapenem TZP=Piperacillin-tazobactam.

Table S50: Resistances to beta-lactams (%) of *Citrobacter freundii* in 2020.

		AMC		AMP		TIC		CXM		FOX		CFM		CTX		CAZ		FEP		IPM		ETP		TZP		
		R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	I	S
2020	Total	17 (100)		17 (100)		7 (41.18)	10 (58.82)	5 (29.41)	12 (70.59)	17 (100)		13 (76.47)	4 (23.53)	6 (37.5)	10 (62.5)	4 (25)	12 (75)	2 (11.76)	15 (88.24)	17 (100)		1 (5.88)	16 (94.12)	1 (5.88)	1 (5.88)	15 (88.24)
	Permanent catheterization	2 (100)		2 (100)		1 (50)	1 (50)		2 (100)	2 (100)		2 (100)			1 (100)		1 (100)	2 (100)		2 (100)			2 (100)			2 (100)
	Clean catch midstream	12 (100)		12 (100)		6 (50)	6 (50)	5 (41.67)	7 (58.33)	12 (100)		9 (75)	3 (25)	5 (41.67)	7 (58.33)	5 (41.67)	7 (58.33)	2 (16.67)	10 (83.33)	12 (100)		1 (8.33)	11 (91.67)	1 (8.33)	1 (8.33)	10 (83.33)
	Urinary catheter	3 (100)		3 (100)			3 (100)		3 (100)	3 (100)		2 (66.67)	1 (33.33)	1 (33.33)	2 (66.67)		3 (100)		3 (100)	3 (100)			3 (100)			3 (100)
	Children	1 (100)		1 (100)			1 (100)		1 (100)	1 (100)		1 (100)		1 (100)			1 (100)	1 (100)		1 (100)			1 (100)			1 (100)
	Adults	3 (100)		3 (100)		1 (33.33)	2 (66.67)	1 (33.33)	2 (66.67)	3 (100)		2 (66.67)	1 (33.33)	1 (33.33)	2 (66.67)	1 (25)	2 (66.67)	1 (33.33)	2 (66.67)	3 (100)		1 (33.33)	2 (66.67)	1 (33.33)		2 (66.67)
	Elderly	13 (100)		13 (100)		6 (46.15)	7 (53.85)	4 (30.77)	9 (69.23)	13 (100)		10 (76.92)	3 (23.08)	4 (33.33)	8 (66.67)	3 (25)	9 (75)	1 (7.69)	12 (92.31)	13 (100)			13 (100)		1 (7.69)	12 (92.31)
	Outpatient	4 (100)		4 (100)		1 (25)	3 (75)		4 (100)	4 (100)		2 (50)	2 (50)		4 (100)		4 (100)	4 (100)		4 (100)			4 (100)			4 (100)
	Inpatient	13 (100)		13 (100)		6 (46.15)	7 (53.85)	5 (38.46)	8 (61.54)	13 (100)		11 (84.62)	2 (15.38)	6 (50)	6 (50)	4 (33.33)	8 (66.67)	2 (15.38)	11 (84.62)	13 (100)		1 (7.69)	12 (92.31)	1 (7.69)	1 (7.69)	11 (84.62)
	Men	4 (100)		4 (100)		2 (50)	2 (50)	1 (25)	3 (75)	4 (100)		2 (50)	2 (50)	1 (25)	3 (75)	1 (25)	3 (75)	1 (25)	3 (75)	4 (100)		1 (25)	3 (75)	1 (25)		3 (75)
	Women	13 (100)		13 (100)		5 (38.46)	8 (61.54)	4 (30.77)	9 (69.23)	13 (100)		11 (84.62)	2 (15.38)	5 (41.67)	7 (58.33)	3 (25)	9 (75)	1 (7.69)	12 (92.31)	13 (100)			13 (100)		1 (7.69)	12 (92.31)

AMC= Amoxicillin-clavulanic acid AMP=Ampicillin CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem ETP=Ertapenem TZP=Piperacillin-tazobactam.

Table S51: Resistances to beta-lactams (%) of *Citrobacter freundii* in 2021.

		AMC		AMP		TIC		CXM		FOX		CFM		CTX		CAZ		FEP		IPM		ETP		TZP		
		R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	I	S
2021	Total	8 (100)		8 (100)		7 (87.5)	1 (12.5)	5 (62.5)	3 (37.5)	8 (100)		6 (75)	2 (25)	5 (62.5)	3 (37.5)	5 (62.5)	3 (37.5)	3 (37.5)	5 (62.5)	7 (100)		1 (12.5)	7 (87.5)	1 (12.5)	1 (12.5)	6 (75)
	Permanent catheterization	2 (100)		2 (100)		2 (100)		1 (50)	1 (50)	2 (100)		1 (50)	1 (50)	1 (50)	1 (50)	1 (50)	1 (50)	1 (50)	1 (50)	1 (100)			2 (100)		1 (50)	1 (50)
	Clean catch midstream	6 (100)		6 (100)		5 (83.33)	1 (16.67)	4 (66.67)	2 (33.33)	6 (100)		5 (83.33)	1 (16.67)	4 (66.67)	2 (33.33)	4 (66.67)	2 (33.33)	2 (33.33)	4 (66.67)	6 (100)		1 (16.67)	5 (83.33)	1 (16.67)		5 (83.33)
	Adults	2 (100)		2 (100)		2 (100)		1 (50)	1 (50)	2 (100)		2 (100)		2 (100)		2 (100)		1 (50)	1 (50)	2 (100)		1 (50)	1 (50)	1 (50)		1 (50)
	Elderly	6 (100)		6 (100)		5 (83.33)	1 (16.67)	4 (66.67)	2 (33.33)	6 (100)		4 (66.67)	2 (33.33)	3 (50)	3 (50)	3 (50)	3 (50)	2 (33.33)	4 (66.67)	5 (100)			6 (100)		1 (16.67)	5 (83.33)
	Outpatient	4 (100)		4 (100)		3 (75)	1 (25)	3 (75)	1 (25)	4 (100)		3 (75)	1 (25)	3 (75)	1 (25)	3 (75)	1 (25)	2 (50)	2 (50)	4 (100)		1 (25)	3 (75)	1 (25)		3 (75)
	Inpatient	4 (100)		4 (100)		4 (100)		2 (50)	2 (50)	4 (100)		3 (75)	1 (25)	2 (50)	2 (50)	2 (50)	2 (50)	1 (25)	3 (75)	3 (100)			4 (100)		1 (25)	3 (75)
	Men	2 (100)		2 (100)		2 (100)		1 (50)	1 (50)	2 (100)		1 (50)	1 (50)	1 (50)	1 (50)	1 (50)	1 (50)	1 (50)	1 (50)	1 (100)		1 (50)	1 (50)	1 (50)		1 (50)
	Women	6 (100)		6 (100)		5 (83.33)	1 (16.67)	4 (66.67)	2 (33.33)	6 (100)		5 (83.33)	1 (16.67)	4 (66.67)	2 (33.33)	4 (66.67)	2 (33.33)	2 (33.33)	4 (66.67)	6 (100)			6 (100)		1 (16.67)	5 (83.33)

AMC= Amoxicillin-clavulanic acid AMP=Ampicillin CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem ETP=Ertapenem TZP=Piperacillin-tazobactam.

Table S52: Resistances to non-beta-lactams (%) of *Citrobacter freundii* in 2016.

		TOB		GEN		NAL		CIP			FOF		NIT			SXT	
		R	S	R	S	R	S	R	I	S	R	S	R	I	S	R	S
2016	Total		12 (100)		12 (100)	1 (8.33)	11 (91.67)		1 (8.33)	11 (91.67)		12 (100)		1 (8.33)	11 (91.67)	1 (8.33)	11 (91.67)
	Permanent catheterization		4 (100)		4 (100)	1 (25)	3 (75)		1 (25)	3 (75)		4 (100)		1 (25)	3 (75)		4 (100)
	Clean catch midstream		6 (100)		6 (100)		6 (100)			6 (100)		6 (100)			6 (100)	1 (16.67)	5 (83.33)
	Urinary catheter		2 (100)		2 (100)		2 (100)			2 (100)		2 (100)			2 (100)		2 (100)
	Adults		4 (100)		4 (100)		4 (100)		1 (25)	3 (75)		4 (100)		1 (25)	3 (75)		4 (100)
	Elderly		8 (100)		8 (100)	1 (12.5)	7 (87.5)			8 (100)		8 (100)			8 (100)	1 (12.5)	7 (87.5)
	Outpatient		8 (100)		8 (100)		8 (100)		1 (12.5)	7 (87.5)		8 (100)		1 (12.5)	7 (87.5)	1 (12.5)	7 (87.5)
	Inpatient		4 (100)		4 (100)	1 (25)	3 (75)			4 (100)		4 (100)			4 (100)		4 (100)
	Men		6 (100)		6 (100)	1 (16.67)	5 (83.33)			6 (100)		6 (100)			6 (100)		6 (100)
	Women		6 (100)		6 (100)		6 (100)		1 (16.67)	5 (83.33)		6 (100)		1 (16.67)	5 (83.33)	1 (16.67)	5 (83.33)

TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomycin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole

Table S53: Resistances to non-beta-lactams (%) of *Citrobacter freundii* in 2017.

		TOB		GEN			NAL		CIP			FOF		NIT		SXT	
		R	S	R	I	S	R	S	R	I	S	R	S	R	S	R	S
2017	Total	1 (5.56)	17 (94.44)	1 (5.56)	1 (5.56)	16 (88.89)	6 (33.33)	12 (66.67)	5 (27.78)	1 (5.56)	12 (66.67)	18 (100)		18 (100)		3 (16.67)	15 (83.33)
	Collection bag		1 (100)			1 (100)		1 (100)			1 (100)	1 (100)		1 (100)		1 (100)	
	Nephrostomy catheter		1 (100)			1 (100)	1 (100)			1 (100)		1 (100)		1 (100)		1 (100)	
	Permanent catheterization		2 (100)			2 (100)	1 (50)	1 (50)	1 (50)		1 (50)	2 (100)		2 (100)		1 (50)	1 (50)
	Clean catch midstream	1 (9.09)	10 (90.91)	1 (9.09)		10 (90.91)	4 (36.36)	7 (63.64)	4 (36.36)		7 (63.64)	11 (100)		11 (100)		2 (18.18)	9 (90.91)
	Urinary catheter		3 (100)		1 (33.33)	2 (66.67)		3 (100)			3 (100)	3 (100)		3 (100)		3 (100)	
	Children		2 (100)			2 (100)		2 (100)			2 (100)	2 (100)		2 (100)		2 (100)	
	Adults		2 (100)			2 (100)	2 (100)		2 (100)			2 (100)		2 (100)		1 (50)	1 (50)
	Elderly	1 (7.14)	13 (92.86)	1 (7.14)	1 (7.14)	12 (85.71)	4 (28.57)	10 (71.43)	3 (21.43)	1 (7.14)	10 (71.43)	14 (100)		14 (100)		2 (14.29)	12 (85.71)
	Outpatient		8 (100)			8 (100)	1 (12.5)	7 (87.5)		1 (12.5)	7 (87.5)	8 (100)		8 (100)		8 (100)	
	Inpatient	1 (10)	9 (90)	1 (10)	1 (10)	8 (80)	5 (50)	5 (50)	5 (50)		5 (50)	10 (100)		10 (100)		3 (100)	7 (70)
	Men	1 (14.29)	6 (85.71)	1 (14.29)		6 (85.71)	2 (28.57)	5 (71.43)	2 (28.57)		5 (71.43)	7 (100)		7 (100)		2 (28.57)	5 (71.43)
	Women		11 (100)		1 (9.09)	10 (90.91)	4 (36.36)	7 (63.64)	3 (27.27)	1 (9.09)	7 (63.64)	11 (100)		11 (100)		1 (9.09)	10 (90.91)

TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomycin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole

Table S54: Resistances to non-beta-lactams (%) of *Citrobacter freundii* in 2018.

		TOB		GEN		NAL		CIP		FOF		NIT		SXT	
		R	S	R	S	R	S	R	S	R	S	R	S	R	S
2018	Total	1 (4)	24 (96)	1 (4)	24 (96)	5 (20)	20 (80)	4 (16)	21 (84)	1 (4)	24 (96)	1 (4)	24 (96)	2 (8)	23 (92)
	Permanent catheterization		6 (100)		6 (100)		6 (100)		6 (100)		6 (100)		6 (100)		6 (100)
	Clean catch midstream		12 (100)		12 (100)	2 (16.67)	10 (83.33)	2 (16.67)	10 (83.33)	1 (8.33)	11 (91.67)		12 (100)	1 (8.33)	11 (91.67)
	Urinary catheter	1 (14.29)	6 (85.71)	1 (14.29)	6 (85.71)	3 (42.86)	4 (57.14)	2 (28.57)	5 (71.43)		7 (100)	1 (14.29)	6 (85.71)	1 (14.29)	6 (85.71)
	Adults		5 (100)		5 (100)	1 (20)	4 (80)		5 (100)	1 (20)	4 (80)		5 (100)	1 (20)	4 (80)
	Elderly	1 (5)	19 (95)	1 (5)	19 (95)	4 (20)	16 (80)	4 (20)	16 (80)		20 (100)	1 (5)	19 (95)	1 (5)	19 (95)
	Outpatient		8 (100)		8 (100)	1 (12.5)	7 (87.5)	1 (12.5)	7 (87.5)		8 (100)		8 (100)		8 (100)
	Inpatient	1 (5.88)	16 (94.12)	1 (5.88)	16 (94.12)	4 (23.53)	13 (76.47)	3 (17.65)	14 (82.35)	1 (5.88)	16 (94.12)	1 (5.88)	16 (94.12)	2 (11.76)	15 (88.24)
	Men		10 (100)		10 (100)	2 (20)	8 (80)	2 (20)	8 (80)		10 (100)		10 (100)	1 (10)	9 (90)
	Women	1 (6.67)	14 (93.33)	1 (6.67)	14 (93.33)	3 (20)	12 (80)	2 (13.33)	13 (86.67)	1 (6.67)	14 (93.33)	1 (6.67)	14 (93.33)	1 (6.67)	14 (93.33)

TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomicin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole

Table S55: Resistances to non-beta-lactams (%) of *Citrobacter freundii* in 2019.

		AMK		TOB			GEN		NAL		CIP			LVX			FOF		NIT		SXT		CST	
		R	S	R	I	S	R	S	R	S	R	I	S	R	I	S	R	S	R	S	R	S	R	S
2019	Total	2 (8)	23 (92)	5 (18.52)	2 (7.41)	20 (74.07)	6 (22.22)	21 (77.78)	7 (25.93)	20 (74.07)	6 (22.22)	1 (3.7)	20 (74.07)	5 (20)	1 (4)	19 (76)	27 (100)		1 (4.55)	21 (5.45)	8 (29.63)	19 (70.37)	3 (12)	22 (88)
	Permanent catheterization	2 (66.67)	1 (33.33)	2 (66.67)		1 (33.33)	2 (66.67)	1 (33.33)	2 (66.67)		1 (33.33)	2 (66.67)				3 (100)	3 (100)		3 (100)		1 (33.33)	2 (66.67)	1 (33.33)	2 (66.67)
	Clean catch midstream		17 (100)	1 (5.26)	2 (10.53)	16 (84.21)	2 (10.53)	17 (89.47)	4 (21.05)	15 (78.95)	4 (21.05)		15 (78.95)	3 (17.65)	1 (5.88)	13 (76.47)	19 (100)		1 (5.26)	18 (94.74)	5 (26.32)	14 (73.68)	1 (5.88)	16 (94.12)
	Urinary catheter		5 (100)	2 (40)		3 (60)	2 (40)	3 (60)	2 (40)	3 (60)	2 (40)		3 (60)	2 (40)		3 (60)	5 (100)				2 (40)	3 (60)	1 (20)	4 (80)
	Children		2 (100)			2 (100)		2 (100)		2 (100)			2 (100)			2 (100)	2 (100)		2 (100)		2 (100)			2 (100)
	Adults	1 (11.11)	8 (88.89)	2 (20)	1 (10)	7 (70)	2 (20)	8 (80)	2 (20)	8 (80)	2 (20)		8 (80)	2 (22.22)		7 (77.78)	10 (100)		8 (100)		5 (50)	5 (50)		9 (100)
	Elderly	1 (7.14)	13 (92.86)	3 (20)	1 (6.67)	11 (73.33)	4 (26.67)	11 (73.33)	5 (33.33)	10 (66.67)	4 (26.67)	1 (6.67)	10 (66.67)	3 (21.43)	1 (7.14)	10 (71.43)	15 (100)		1 (8.33)	11 (91.67)	3 (20)	12 (80)	3 (21.43)	11 (78.57)
	Outpatient	1 (9.09)	10 (90.91)	1 (8.33)	1 (8.33)	10 (83.33)	2 (16.67)	10 (83.33)	2 (16.67)	10 (83.33)	1 (8.33)	1 (8.33)	10 (83.33)	1 (9.09)		10 (90.91)	12 (100)		1 (9.09)	10 (90.91)	1 (8.33)	11 (91.67)	1 (9.09)	10 (90.91)
	Inpatient	1 (7.14)	13 (92.86)	4 (26.67)	1 (6.67)	10 (66.67)	4 (26.67)	11 (73.33)	5 (33.33)	10 (66.67)	5 (33.33)		10 (66.67)	4 (28.57)	1 (7.14)	9 (64.29)	15 (100)			11 (100)	7 (46.67)	8 (53.33)	2 (14.29)	12 (85.71)
	Men	1 (9.09)	10 (90.91)	3 (23.08)		10 (76.92)	3 (23.08)	10 (76.92)	3 (23.08)	10 (76.92)	2 (15.38)	1 (7.69)	10 (76.92)	2 (18.18)		9 (81.82)	13 (100)			11 (100)	3 (23.08)	10 (76.92)	1 (9.09)	10 (90.91)
	Women	1 (7.14)	13 (92.86)	2 (14.29)	2 (14.29)	10 (71.43)	3 (21.43)	11 (78.57)	4 (28.57)	10 (71.43)	4 (28.57)		10 (71.43)	3 (21.43)	1 (7.14)	10 (71.43)	14 (100)		1 (9.09)	10 (90.91)	5 (35.71)	9 (64.29)	2 (14.29)	12 (85.71)

AMK= Amikacin TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin LEV=Levofloxacin FOF=Fosfomycin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole

CST=Colistin

Table S56: Resistances to non-beta-lactams (%) of *Citrobacter freundii* in 2020.

		AMK	TOB			GEN		NAL		CIP			LVX			FOF	NIT		SXT			CST	
		R S	R	I	S	R	S	R	S	R	I	S	R	I	S	R S	R S	R S	R	I	S	R S	
2020	Total	17 (100)	2 (11.76)	1 (5.88)	14 (82.35)	1 (5.88)	16 (94.12)	5 (29.41)	12 (70.59)	5 (29.41)	1 (5.88)	11 (64.71)	3 (17.65)	2 (11.76)	12 (70.59)	17 (100)	17 (100)	3 (17.65)	1 (5.88)	13 (76.47)	17 (100)		
	Permanent catheterization	2 (100)	2 (100)			2 (100)	2 (100)			2 (100)			2 (100)			2 (100)	2 (100)	2 (100)			2 (100)		
	Clean catch midstream	12 (100)	2 (16.67)	1 (8.33)	9 (75)	1 (8.33)	11 (91.67)	4 (33.33)	8 (66.67)	5 (41.67)	7 (58.33)		3 (25)	2 (16.67)	7 (58.33)	12 (100)	12 (100)	3 (25)	1 (8.33)	8 (66.67)	12 (100)		
	Urinary catheter	3 (100)	3 (100)			3 (100)	1 (33.33) 2 (66.67)			1 (33.33) 2 (66.67)			3 (100)			3 (100)	3 (100)	3 (100)			3 (100)		
	Children	1 (100)	1 (100)			1 (100)	1 (100)			1 (100)			1 (100)			1 (100)	1 (100)	1 (100)			1 (100)		
	Adults	3 (100)	1 (33.33)	2 (66.67)		3 (100)	1 (33.33) 2 (66.67)			1 (33.33) 2 (66.67)			1 (33.33) 2 (66.67)			3 (100)	3 (100)	1 (33.33) 2 (66.67)			3 (100)		
	Elderly	13 (100)	1 (7.69)	1 (7.69)	11 (84.62)	1 (7.69)	12 (92.31)	4 (30.77)	9 (69.23)	4 (30.77)	1 (7.69)	8 (61.54)	2 (15.38)	2 (15.38)	9 (69.23)	13 (100)	13 (100)	2 (15.38)	1 (7.69)	10 (76.92)	13 (100)		
	Outpatient	4 (100)	4 (100)			4 (100)	1 (25) 3 (75)			1 (25) 3 (75)			1 (25) 3 (75)			4 (100)	4 (100)	1 (25) 3 (75)			4 (100)		
	Inpatient	13 (100)	2 (15.38)	1 (7.69)	10 (76.92)	1 (7.69)	12 (92.31)	4 (30.77)	9 (69.23)	4 (30.77)	1 (7.69)	8 (61.54)	2 (15.38)	2 (15.38)	9 (69.23)	13 (100)	13 (100)	2 (15.38)	1 (7.69)	10 (76.92)	13 (100)		
	Men	4 (100)	2 (50)	2 (50)		1 (25)	3 (75)	2 (50)	2 (50)	2 (50)	2 (50)		2 (100)	2 (100)			4 (100)	4 (100)	2 (50) 2 (50)			4 (100)	
Women	13 (100)	1 (7.69) 12 (92.31)			13 (100)	3 (23.08) 10 (76.92)			3 (23.08)	1 (7.69)	9 (69.23)	1 (7.69)	2 (15.38)	10 (76.92)	13 (100)	13 (100)	1 (7.69)	1 (7.69)	11 (84.62)	13 (100)			

AMK= Amikacin TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin LEV=Levofloxacin FOF=Fosfomycin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole

CST=Colistin

Table S57: Resistances to non-beta-lactams (%) of *Citrobacter freundii* in 2021.

		AMK		TOB		GEN		NAL		CIP		LVX			FOF		NIT		SXT		CST	
		R	S	R	S	R	S	R	S	R	S	R	I	S	R	S	R	S	R	S	R	S
2021	Total	1 (12.5)	7 (87.5)	1 (12.5)	7 (87.5)	8 (100)		5 (62.5)	3 (37.5)	4 (50)	4 (50)	2 (25)	1 (12.5)	5 (62.5)	2 (25)	6 (75)	8 (100)		1 (12.5)	7 (87.5)	1 (12.5)	7 (87.5)
	Clean catch midstream		2 (100)		2 (100)	2 (100)		1 (50)	1 (50)	1 (50)	1 (50)	1 (50)		1 (50)		2 (100)	2 (100)			2 (100)		2 (100)
	Urinary catheter	1 (16.67)	5 (83.33)	1 (16.67)	5 (83.33)	6 (100)		4 (66.67)	2 (33.33)	3 (50)	3 (50)	1 (16.67)	1 (16.67)	4 (66.67)	2 (33.33)	4 (66.67)	6 (100)		1 (16.67)	5 (83.33)	1 (16.67)	5 (83.33)
	Adults	1 (50)	1 (50)		2 (100)	2 (100)		2 (100)		1 (50)	1 (50)	1 (50)		1 (50)	1 (50)	1 (50)	2 (100)		1 (50)	1 (50)	1 (50)	1 (50)
	Elderly		6 (100)	1 (16.67)	5 (83.33)	6 (100)		3 (50)	3 (50)	3 (50)	3 (50)	1 (16.67)	1 (16.67)	4 (66.67)	1 (16.67)	5 (83.33)	6 (100)			6 (100)		6 (100)
	Outpatient	1 (25)	3 (75)	1 (25)	3 (75)	4 (100)		3 (75)	1 (25)	3 (75)	1 (25)	1 (25)	1 (25)	2 (50)	2 (50)	2 (50)	4 (100)		1 (25)	3 (75)		4 (100)
	Inpatient		4 (100)		4 (100)	4 (100)		2 (50)	2 (50)	1 (25)	3 (75)	1 (25)		3 (75)		4 (100)	4 (100)			4 (100)	1 (25)	3 (75)
	Men	1 (50)	1 (50)		2 (100)	2 (100)		2 (100)		2 (100)		2 (100)			1 (50)	1 (50)	2 (100)		1 (50)	1 (50)		2 (100)
Women		6 (100)	1 (16.67)	5 (83.33)	6 (100)		3 (50)	3 (50)	2 (33.33)	4 (66.67)			1 (16.67)	5 (83.33)	1 (16.67)	5 (83.33)	6 (100)			6 (100)	1 (16.67)	5 (83.33)

AMK= Amikacin TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin LEV=Levofloxacin FOF=Fosfomycin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole
CST=Colistin

Table S58: General annualized resistances (%) of *Providencia stuartii* during 2016-2021

	AMC	AMP	TIC	CXM	FOX	CFM	CTX	CAZ	FEP	IPM	ETP	TZP	AMK	TOB	GEN	NAL	CIP	LVX	FOF	NIT	SXT	CST
2016	10/10 (100)	10/10 (100)	-	4/10 (40)	0/10 (0)	-	0/10 (0)	0/12 (0)	0/10 (0)	4/12 (33.33)	-	0/12 (0)	-	12/12 (100)	12/12 (100)	8/10 (80)	6/12 (50)	-	9/10 (90)	10/10 (100)	6/12 (50)	-
2017	17/17 (100)	17/17 (100)	-	8/17 (47.06)	3/17 (17.65)	-	3/17 (17.65)	1/19 (5.26)	1/19 (5.26)	3/16 (18.75)	-	0/19 (0)	-	19/19 (100)	19/19 (100)	17/17 (100)	10/19 (52.63)	-	16/17 (94.12)	17/17 (100)	6/19 (31.58)	-
2018	13/13 (100)	13/13 (100)	-	9/13 (69.23)	2/13 (15.38)	-	5/13 (38.46)	0/13 (0)	0/13 (0)	2/9 (22.22)	-	0/13 (0)	-	13/13 (100)	13/13 (100)	12/13 (92.31)	9/13 (69.23)	-	13/13 (100)	13/13 (100)	8/13 (61.54)	-
2019	8/8 (100)	8/8 (100)	2/6 (33.33)	7/8 (87.5)	6/8 (75)	3/6 (50)	2/8 (25)	0/8 (0)	1/8 (12.5)	2/8 (25)	0/6 (0)	0/8 (0)	1/6 (16.67)	8/8 (100)	8/8 (100)	7/8 (87.5)	5/8 (62.5)	4/6 (66.67)	8/8 (100)	8/8 (100)	3/8 (37.5)	6/6 (100)
2020	6/6 (100)	6/6 (100)	0/6 (0)	6/6 (100)	-	3/6 (50)	0/6 (0)	2/6 (33.33)	0/6 (0)	0/6 (0)	0/6 (0)	0/6 (0)	0/6 (0)	6/6 (100)	6/6 (100)	5/6 (83.33)	4/6 (66.67)	4/6 (66.67)	6/6 (100)	6/6 (100)	1/6 (16.67)	6/6 (100)
2021	5/5 (100)	5/5 (100)	1/5 (20)	5/5 (100)	-	2/5 (40)	1/5 (20)	1/5 (20)	0/5 (0)	0/5 (0)	0/5 (0)	0/5 (0)	1/5 (20)	5/5 (100)	5/5 (100)	4/5 (80)	3/5 (60)	3/5 (60)	3/5 (60)	5/5 (100)	1/5 (25)	5/5 (100)
Total	59/59 (0)	59/59 (0)	3/17 (17.65)	39/59 (66.10)	11/48 (22.92)	8/17 (47.06)	11/59 (18.64)	4/63 (6.35)	2/61 (3.28)	11/56 (19.64)	0/17 (0)	0/63 (0)	2/17 (11.76)	63/63 (100)	63/63 (100)	53/59 (89.83)	37/63 (58.73)	11/17 (65.71)	55/59 (93.22)	59/59 (100)	25/63 (39.68)	17/17 (100)

AMC=Amoxicillin-clavulanic; AMP=Ampicillin; TIC=Ticarcillin; CXM=Cefuroxime; FOX=Cefoxitin; CFM=Cefixime; CTX=Cefotaxime; CAZ=Ceftazidime; FEP=Cefepime; IPM=Imipenem; ETP=Ertapenem; TZP=Piperacillin-tazobactam; AMK: amikacin; TOB=Tobramycin; GEN=Gentamicin; NAL=Nalidixic acid; CIP=Ciprofloxacin; LVX=Levofloxacin; FOF=Fosfomycin NIT=Nitrofurantoin; SXT=Trimethoprim-sulfamethoxazole; CST=Colistin

Table S59: Resistances to beta-lactams (%) of *Providencia stuartii* in 2016.

		AMC		AMP		CXM			FOX			CTX		CAZ		FEP		IPM			TZP	
		R	S	R	S	R	I	S	R	I	S	R	S	R	S	R	S	R	I	S	R	S
2016	Total	10	(100)	10	(100)	4	5	1	1	9		10	(100)	12	(100)	12	(100)	4	3	5	12	(100)
	Permanent catheterization	4	(100)	4	(100)	1	3			4		4	(100)	5	(100)	5	(100)	2		3	5	(100)
	Clean catch midstream	3	(100)	3	(100)	2		1		3		3	(100)	3	(100)	3	(100)	1	1	1	3	(100)
	Urinary catheter	3	(100)	3	(100)	1	2		1	2		3	(100)	4	(100)	4	(100)	1	2	1	4	(100)
	Adults	5	(100)	5	(100)	1	3	1		5		5	(100)	6	(100)	6	(100)	1	1	4	6	(100)
	Elderly	5	(100)	5	(100)	3	2		1	4		5	(100)	6	(100)	6	(100)	3	2	1	6	(100)
	Outpatient	7	(100)	7	(100)	3	3	1	1	6		7	(100)	7	(100)	7	(100)	2	2	3	7	(100)
	Inpatient	3	(100)	3	(100)	1	2			3		3	(100)	5	(100)	5	(100)	2	1	2	5	(100)
	Men	7	(100)	7	(100)	1	2			7		7	(100)	9	(100)	9	(100)	3	2	4	9	(100)
	Women	3	(100)	3	(100)	3	3	1	1	2		3	(100)	3	(100)	3	(100)	1	1	1	3	(100)

AMC= Amoxicillin-clavulanic acid AMP=Ampicillin CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem TZP=Piperacillin-tazobactam.

Table S60: Resistances to beta-lactams (%) of *Providencia stuartii* in 2017.

		AMC		AMP		CXM			FOX			CTX			CAZ		FEP			IPM			TZP	
		R	S	R	S	R	I	S	R	I	S	R	I	S	R	S	R	I	S	R	I	S	R	S
2017	Total	17	(100)	17	(100)	8	5	4	3	1	13	3	2	12	1	18	1	3	15	3	4	9	19	(100)
	Permanent catheterization	5	(100)	5	(100)	1	3	1	1		4	1		4		6		1	5		1	3	6	(100)
	Clean catch midstream	6	(100)	6	(100)	3	1	2	2		4	2		4	1	5	1	1	4	2	1	3	6	(100)
	Urinary catheter	6	(100)	6	(100)	4	1	1		1	5		2	4		7		1	6	1	2	3	7	(100)
	Adults	1	(100)	1	(100)	1				1				1		1			1		1		1	(100)
	Elderly	16	(100)	16	(100)	7	5	4	3		13	3	2	11	1	17	1	3	14	3	3	9	18	(100)
	Outpatient	12	(100)	12	(100)	7	2	3	3		9	3	2	7	1	13	1	3	10	2	3	8	14	(100)
	Inpatient	5	(100)	5	(100)	1	3	1		1	4			5		5			5	1	1	1	5	(100)
	Men	6	(100)	6	(100)	3	1	2	2	1	3	2		4		7		2	5		2	5	7	(100)
	Women	11	(100)	11	(100)	5	4	2	1		10	1	2	8	1	11	1	1	10	3	2	4	12	(100)

AMC= Amoxicillin-clavulanic acid AMP=Ampicillin CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem TZP=Piperacillin-tazobactam.

Table S61: Resistances to beta-lactams (%) of *Providencia stuartii* in 2018.

		AMC R S		AMP R S		CXM R I S			FOX R I S			CTX R I S			CAZ R S		FEP R I S			IPM R I S			TZP R S	
2018	Total	13 (100)		13 (100)		9 (69.23)	3 (23.08)	1 (7.69)	2 (15.38)	4 (30.77)	7 (53.85)	5 (38.46)	3 (23.08)	5 (38.46)	13 (100)		1 (7.69)	12 (92.31)		2 (22.22)	4 (44.44)	3 (33.33)	13 (100)	
	Permanent catheterization	7 (100)		7 (100)		5 (71.43)	1 (14.29)	1 (14.29)	1 (14.29)	2 (28.57)	4 (57.14)	3 (42.86)	2 (28.57)	2 (28.57)	7 (100)		1 (14.29)	6 (85.71)			4 (66.67)	2 (33.33)	7 (100)	
	Clean catch midstream	5 (100)		5 (100)		3 (60)	2 (40)		1 (20)	1 (20)	3 (60)	2 (40)		3 (60)	5 (100)			5 (100)		1 (50)		1 (50)	5 (100)	
	Urinary catheter	1 (100)		1 (100)		1 (100)				1 (100)			1 (100)		1 (100)			1 (100)		1 (100)			1 (100)	
	Adults	2 (100)		2 (100)		1 (50)	1 (50)				2 (100)		1 (50)	1 (50)	2 (100)			2 (100)				1 (100)	2 (100)	
	Elderly	11 (100)		11 (100)		8 (72.73)	2 (18.18)	1 (9.09)	2 (18.18)	4 (36.36)	5 (45.45)	5 (45.45)	2 (18.18)	4 (36.36)	11 (100)		1 (9.09)	10 (90.91)		2 (25)	4 (50)	2 (25)	11 (100)	
	Outpatient	7 (100)		7 (100)		6 (85.71)		1 (14.29)	1 (14.29)	2 (28.57)	4 (57.14)	2 (28.57)	3 (42.86)	2 (28.57)	7 (100)			7 (100)		2 (33.33)	3 (50)	1 (16.67)	7 (100)	
	Inpatient	6 (100)		6 (100)		3 (50)	3 (50)		1 (16.67)	2 (33.33)	3 (50)	3 (50)		3 (50)	6 (100)		1 (16.67)	5 (83.33)			1 (33.33)	2 (66.67)	6 (100)	
	Men	3 (100)		3 (100)		3 (100)				1 (33.33)	2 (66.67)	1 (33.33)	2 (66.67)		3 (100)			3 (100)			2 (66.67)	1 (33.33)	3 (100)	
	Women	10 (100)		10 (100)		6 (60)	3 (30)	1 (10)	2 (20)	3 (30)	5 (50)	4 (40)	1 (10)	5 (50)	10 (100)		1 (10)	9 (90)		2 (33.33)	2 (33.33)	2 (33.33)	10 (100)	

AMC= Amoxicillin-clavulanic acid AMP=Ampicillin CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem TZP=Piperacillin-tazobactam.

Table S62: Resistances to beta-lactams (%) of *Providencia stuartii* in 2019.

		AMC R S	AMP R S	TIC R S	CXM R S	FOX R S	CFM R S	CTX R I S	CAZ R I S	FEP R S	IPM R I S	ETP R S	TZP R S
2019	Total	8 (100)	8 (100)	2 4 (33.33) (66.67)	7 1 (87.5) (12.5)	6 2 (75) (25)	3 3 (50) (50)	2 2 4 (25) (25) (50)	2 6 (25) (75)	1 7 (12.5) (87.5)	2 3 3 (25) (37.5) (37.5)	6 (100)	8 (100)
	Nephrostomy catheter	1 (100)	1 (100)	1 (100)	1 (100)	1 (100)	1 (100)	1 (100)	1 (100)	1 (100)	1 (100)	1 (100)	1 (100)
	Permanent catheterization	4 (100)	4 (100)	2 2 (50) (50)	4 (100)	4 (100)	2 2 (50) (50)	1 1 2 (25) (25) (50)	2 2 (50) (50)	1 3 (25) (75)	1 2 1 (25) (50) (25)	4 (100)	4 (100)
	Clean catch midstream	2 (100)	2 (100)	1 (100)	2 (100)	1 1 (50) (50)	1 (100)	1 1 (50) (50)	2 (100)	2 (100)	1 1 (50) (50)	1 (100)	2 (100)
	Urinary catheter	1 (100)	1 (100)		1 (100)	1 (100)		1 (100)	1 (100)	1 (100)	1 (100)		1 (100)
	Adults	4 (100)	4 (100)	2 1 (66.67) (33.33)	3 1 (75) (25)	3 1 (75) (25)	3 (100)	1 2 1 (25) (50) (25)	2 2 (50) (50)	1 3 (25) (75)	1 2 1 (25) (50) (25)	3 (100)	4 (100)
	Elderly	4 (100)	4 (100)	3 (100)	4 (100)	3 1 (75) (25)	3 (100)	1 3 (25) (75)	4 (100)	4 (100)	1 1 2 (25) (25) (50)	3 (100)	4 (100)
	Outpatient	6 (100)	6 (100)	2 3 (40) (60)	6 (100)	5 1 (83.33) (16.67)	2 3 (40) (60)	2 1 3 (33.33) (16.67) (50)	2 4 (33.33) (66.67)	1 5 (16.67) (83.33)	2 2 2 (33.33) (33.33) (33.33)	5 (100)	6 (100)
	Inpatient	2 (100)	2 (100)	1 (100)	1 1 (50) (50)	1 1 (50) (50)	1 (100)	1 1 (50) (50)	2 (100)	2 (100)	1 1 (50) (50)	1 (100)	2 (100)
	Men	7 (100)	7 (100)	2 3 (40) (60)	6 1 (85.71) (14.29)	5 2 (71.43) (28.57)	3 2 (60) (40)	2 2 3 (28.57) (28.57) (42.86)	2 5 (28.57) (71.43)	1 6 (14.29) (85.71)	2 3 2 (28.57) (42.86) (28.57)	5 (100)	7 (100)
Women	1 (100)	1 (100)	1 (100)	1 (100)	1 (100)	1 (100)	1 (100)	1 (100)	1 (100)	1 (100)	1 (100)	1 (100)	

AMC= Amoxicillin-clavulanic acid AMP=Ampicillin CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem ETP=Ertapenem TZP=Piperacillin-tazobactam.

Table S63: Resistances to beta-lactams (%) of *Providencia stuartii* in 2020.

		AMC		AMP		TIC		CXM		CFM		CTX		CAZ		FEP		IPM			ETP		TZP	
		R	S	R	S	R	S	R	S	R	S	R	I	S	R	S	R	S	R	I	S	R	S	R
2020	Total	6 (100)		6 (100)		6 (100)		6 (100)		3 (50)	3 (50)	3 (50)	3 (50)	2 (33.33)	4 (66.67)	6 (100)		1 (16.67)	5 (83.33)	6 (100)		6 (100)		
	Clean catch midstream	3 (100)		3 (100)		3 (100)		3 (100)		1 (33.33)	2 (66.67)	1 (33.33)	2 (66.67)	1 (33.33)	2 (66.67)	3 (100)			3 (100)	3 (100)		3 (100)		
	Urinary catheter	3 (100)		3 (100)		3 (100)		3 (100)		2 (66.67)	1 (33.33)	2 (66.67)	1 (33.33)	1 (33.33)	2 (66.67)	3 (100)		1 (33.33)	2 (66.67)	3 (100)		3 (100)		
	Adults	2 (100)		2 (100)		2 (100)		2 (100)		1 (50)	1 (50)		2 (100)		2 (100)	2 (100)			2 (100)	2 (100)		2 (100)		
	Elderly	4 (100)		4 (100)		4 (100)		4 (100)		2 (50)	2 (50)	3 (75)	1 (25)	2 (50)	2 (50)	4 (100)		1 (25)	3 (75)	4 (100)		4 (100)		
	Outpatient	3 (100)		3 (100)		3 (100)		3 (100)		1 (33.33)	2 (66.67)	2 (66.67)	1 (33.33)	1 (33.33)	2 (66.67)	3 (100)		1 (33.33)	2 (66.67)	3 (100)		3 (100)		
	Inpatient	3 (100)		3 (100)		3 (100)		3 (100)		2 (66.67)	1 (33.33)	1 (33.33)	2 (66.67)	1 (33.33)	2 (66.67)	3 (100)			3 (100)	3 (100)		3 (100)		
	Men	1 (100)		1 (100)		1 (100)		1 (100)		1 (100)		1 (100)			1 (100)	1 (100)			1 (100)	1 (100)		1 (100)		
	Women	5 (100)		5 (100)		5 (100)		5 (100)		2 (40)	3 (60)	2 (40)	3 (60)	2 (40)	3 (60)	5 (100)		1 (20)	4 (80)	5 (100)		5 (100)		

AMC= Amoxicillin-clavulanic acid AMP=Ampicillin CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem ETP=Ertapenem TZP=Piperacillin-tazobactam.

Table S64: Resistances to beta-lactams (%) of *Providencia stuartii* in 2021.

		AMC		AMP		TIC		CXM		CFM		CTX			CAZ		FEP		IPM			ETP		TZP	
		R	S	R	S	R	S	R	S	R	S	R	I	S	R	S	R	S	R	I	S	R	S	R	S
2021	Total	5 (100)		5 (100)		1 (20)	4 (80)	5 (100)		2 (40)	3 (60)	1 (20)	1 (20)	3 (60)	1 (20)	4 (80)	5 (100)		5 (100)		5 (100)		5 (100)		
	Clean catch midstream	3 (100)		3 (100)		3 (100)		3 (100)		1 (33.33)	2 (66.67)	1 (33.33)		2 (66.67)	1 (33.33)	2 (66.67)	3 (100)		3 (100)		3 (100)		3 (100)		
	Urinary catheter	2 (100)		2 (100)		1 (50)	1 (50)	2 (100)		1 (50)	1 (50)		1 (50)	1 (50)		2 (100)	2 (100)		2 (100)		2 (100)		2 (100)		
	Adults	1 (100)		1 (100)		1 (100)		1 (100)			1 (100)			1 (100)		1 (100)	1 (100)		1 (100)		1 (100)		1 (100)		
	Elderly	4 (100)		4 (100)		1 (25)	3 (75)	4 (100)		2 (50)	2 (50)	1 (25)	1 (25)	2 (50)	1 (25)	3 (75)	4 (100)		4 (100)		4 (100)		4 (100)		
	Outpatient	1 (100)		1 (100)		1 (100)		1 (100)		1 (100)		1 (100)			1 (100)		1 (100)		1 (100)		1 (100)		1 (100)		
	Inpatient	4 (100)		4 (100)		1 (25)	3 (75)	4 (100)		1 (25)	3 (75)		1 (25)	3 (75)		4 (100)	4 (100)		4 (100)		4 (100)		4 (100)		
	Men	1 (100)		1 (100)		1 (100)		1 (100)			1 (100)			1 (100)		1 (100)	1 (100)		1 (100)		1 (100)		1 (100)		
	Women	4 (100)		4 (100)		1 (25)	3 (75)	4 (100)		2 (50)	2 (50)	1 (25)	1 (25)	2 (50)	1 (25)	3 (75)	4 (100)		4 (100)		4 (100)		4 (100)		

AMC= Amoxicillin-clavulanic acid AMP=Ampicillin CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem ETP=Ertapenem TZP=Piperacillin-tazobactam.

Table S65: Resistances to non-beta-lactams (%) of *Providencia stuartii* in 2016.

		TOB		GEN		NAL		CIP			FOF		NIT		SXT	
		R	S	R	S	R	S	R	I	S	R	S	R	S	R	S
2016	Total	12 (100)		12 (100)		8 (80)	2 (20)	6 (50)	1 (8.33)	5 (41.67)	9 (90)	1 (10)	10 (100)		6 (50)	6 (50)
	Permanent catheterization	5 (100)		5 (100)		3 (75)	1 (25)	3 (60)	1 (20)	1 (20)	3 (75)	1 (25)	4 (100)		2 (40)	3 (60)
	Clean catch midstream	3 (100)		3 (100)		2 (66.67)	1 (33.33)	1 (33.33)		2 (66.67)	3 (100)		3 (100)		1 (33.33)	2 (66.67)
	Urinary catheter	4 (100)		4 (100)		3 (100)		2 (50)		2 (50)	3 (100)		3 (100)		3 (75)	1 (25)
	Adults	6 (100)		6 (100)		4 (80)	1 (20)	4 (66.67)		2 (33.33)	5 (100)		5 (100)		4 (66.67)	2 (33.33)
	Elderly	6 (100)		6 (100)		4 (80)	1 (20)	2 (33.33)	1 (16.67)	3 (50)	4 (80)	1 (20)	5 (100)		2 (33.33)	4 (66.67)
	Outpatient	7 (100)		7 (100)		6 (85.71)	1 (14.29)	3 (42.86)		4 (57.14)	7 (100)		7 (100)		3 (42.86)	4 (57.24)
	Inpatient	5 (100)		5 (100)		2 (66.67)	1 (33.33)	3 (60)	1 (20)	1 (20)	2 (66.67)	1 (33.33)	3 (100)		3 (60)	2 (40)
	Men	9 (100)		9 (100)		5 (71.43)	2 (28.57)	5 (55.56)	1 (11.11)	3 (33.33)	6 (85.71)	1 (14.29)	7 (100)		5 (55.56)	4 (44.44)
	Women	3 (100)		3 (100)		3 (100)		1 (33.33)		2 (66.67)	3 (100)		3 (100)		1 (33.33)	2 (66.67)

TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomicin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole

Table S66: Resistances to non-beta-lactams (%) of *Providencia stuartii* in 2017.

		TOB		GEN		NAL		CIP			FOF		NIT		SXT	
		R	S	R	S	R	S	R	I	S	R	S	R	S	R	S
2017	Total	19	(100)	19	(100)	17	(100)	10	8	1	16	1	17	(100)	6	13
								(52.63)	(42.11)	(5.26)	(94.12)	(5.88)			(31.58)	(68.42)
	Permanent catheterization	6	(100)	6	(100)	5	(100)	2	4		5		5	(100)	1	5
								(33.33)	(66.67)		(100)		(100)		(16.67)	(83.33)
	Clean catch midstream	6	(100)	6	(100)	6	(100)	3	2	1	5	1	6	(100)	2	4
								(50)	(33.33)	(16.67)	(83.33)	(16.67)	(100)		(33.33)	(66.67)
	Urinary catheter	7	(100)	7	(100)	6	(100)	5	2		6		6	(100)	3	4
								(71.43)	(28.57)		(100)		(100)		(42.86)	(57.14)
	Adults	1	(100)	1	(100)	1	(100)	1			1		1	(100)	1	
								(100)			(100)		(100)		(100)	
	Elderly	18	(100)	18	(100)	16	(100)	9	8	1	15	1	16	(100)	5	13
								(50)	(44.44)	(5.56)	(93.75)	(6.25)	(100)		(27.78)	(72.22)
	Outpatient	14	(100)	14	(100)	12	(100)	1	4		11	1	12	(100)	4	10
								(20)	(80)		(91.67)	(8.33)	(100)		(28.57)	(71.43)
	Inpatient	5	(100)	5	(100)	5	(100)	9	4	1	5		5	(100)	2	3
								(64.29)	(28.57)	(7.14)	(100)		(100)		(40)	(60)
	Men	7	(100)	7	(100)	6	(100)	5	2		5	1	6	(100)	3	4
								(71.43)	(28.57)		(83.33)	(16.67)	(100)		(42.86)	(57.14)
	Women	12	(100)	12	(100)	11	(100)	5	6	1	11		11	(100)	3	9
								(41.67)	(50)	(8.33)	(100)		(100)		(25)	(75)

TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomicin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole

Table S67: Resistances to non-beta-lactams (%) of *Providencia stuartii* in 2018.

		TOB		GEN		NAL		CIP			FOF		NIT		SXT	
		R	S	R	S	R	S	R	I	S	R	S	R	S	R	S
2018	Total	13	(100)	13	(100)	12	1 (92.31) (7.69)	9	1 (69.23) (7.69)	3 (23.08)	13	(100)	13	(100)	8	5 (61.54) (38.46)
	Permanent catheterization	7	(100)	7	(100)	7	(100)	6	1 (85.71) (14.29)		7	(100)	7	(100)	5	2 (71.43) (28.57)
	Clean catch midstream	5	(100)	5	(100)	4	1 (80) (20)	2		3 (40) (60)	5	(100)	5	(100)	3	2 (60) (40)
	Urinary catheter	1	(100)	1	(100)	1	(100)	1	(100)		1	(100)	1	(100)		1 (100)
	Adults	2	(100)	2	(100)	1	1 (50) (50)	1		1 (50) (50)	2	(100)	2	(100)		2 (100)
	Elderly	11	(100)	11	(100)	11	(100)	8	1 (72.73) (9.09)	2 (18.18)	11	(100)	11	(100)	8	3 (72.73) (27.27)
	Outpatient	7	(100)	7	(100)	7	(100)	5		2 (71.43) (28.57)	7	(100)	7	(100)	3	4 (42.86) (57.14)
	Inpatient	6	(100)	6	(100)	5	1 (83.33) (16.67)	4	1 (66.67) (16.67)	1 (16.67)	6	(100)	6	(100)	5	1 (83.33) (16.67)
	Men	3	(100)	3	(100)	3	(100)	3	(100)		3	(100)	3	(100)	1	2 (33.33) (66.67)
	Women	10	(100)	10	(100)	9	1 (90) (10)	6	1 (60) (10)	3 (30)	10	(100)	10	(100)	7	3 (70) (30)

TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomicin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole

Table S68: Resistances to non-beta-lactams (%) of *Providencia stuartii* in 2019.

		AMK			TOB		GEN		NAL		CIP			LVX		FOF		NIT		SXT			CST	
		R	I	S	R	S	R	S	R	S	R	I	S	R	S	R	S	R	S	R	I	S	R	S
2019	Total	1 (16.67)	1 (16.67)	4 (66.67)	8 (100)		8 (100)		7 (87.5)	1 (12.5)	5 (62.5)	1 (12.5)	2 (25)	4 (66.67)	2 (33.33)	8 (100)		8 (100)		3 (37.5)	2 (25)	3 (37.5)	6 (100)	
	Nephrostomy catheter			1 (100)	1 (100)		1 (100)		1 (100)		1 (100)			1 (100)		1 (100)		1 (100)		1 (100)			1 (100)	
	Permanent catheterization	1 (25)	1 (25)	2 (50)	4 (100)		4 (100)		3 (75)	1 (25)	3 (75)		1 (25)	3 (75)	1 (25)	4 (100)		4 (100)		1 (25)	2 (50)	1 (25)	4 (100)	
	Clean catch midstream			1 (100)	2 (100)		2 (100)		2 (100)			1 (50)	1 (50)		1 (100)	2 (100)		2 (100)		1 (50)		1 (50)	1 (100)	
	Urinary catheter				1 (100)		1 (100)		1 (100)		1 (100)					1 (100)		1 (100)				1 (100)		
	Adults	1 (33.34)	1 (33.33)	1 (33.33)	4 (100)		4 (100)		4 (100)		4 (100)			3 (100)		4 (100)		4 (100)		2 (50)	1 (25)	1 (25)	3 (100)	
	Elderly			3 (100)	4 (100)		4 (100)		3 (75)	1 (25)	1 (25)	1 (25)	2 (50)	1 (33.33)	2 (66.67)	4 (100)		4 (100)		1 (25)	1 (25)	2 (50)	3 (100)	
	Outpatient	1 (20)	1 (20)	3 (60)	6 (100)		6 (100)		5 (83.33)	1 (16.67)	3 (50)	1 (16.67)	2 (33.33)	3 (60)	2 (40)	6 (100)		6 (100)		2 (33.33)	2 (33.33)	2 (33.33)	5 (100)	
	Inpatient			1 (100)	2 (100)		2 (100)		2 (100)		2 (100)			1 (100)		2 (100)		2 (100)		1 (50)		1 (50)	1 (100)	
	Men	1 (20)	1 (20)	3 (60)	7 (100)		7 (100)		6 (85.71)	1 (14.29)	5 (71.43)	1 (14.29)	1 (14.29)	4 (80)	1 (20)	7 (100)		7 (100)		3 (42.86)	2 (28.57)	2 (28.57)	5 (100)	
	Women			1 (100)	1 (100)		1 (100)		1 (100)				1 (100)		1 (100)	1 (100)		1 (100)				1 (100)	1 (100)	

AMK= Amikacin TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin LEV=Levofloxacin FOF=Fosfomycin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole
CST=Colistin

Table S69: Resistances to non-beta-lactams (%) of *Providencia stuartii* in 2020.

		AMK	TOB	GEN	NAL	CIP	LVX	FOF	NIT	SXT	CST					
		R	S	R	S	R	S	R	S	R	S	R	S			
2020	Total	6 (100)	6 (100)	6 (100)	5 (83.33)	1 (16.67)	4 (66.67)	2 (33.33)	4 (66.67)	1 (16.67)	1 (16.67)	6 (100)	6 (100)	1 (16.67)	5 (83.33)	6 (100)
	Clean catch midstream	3 (100)	3 (100)	3 (100)	2 (66.67)	1 (33.33)	2 (66.67)	1 (33.33)	2 (66.67)		1 (33.33)	3 (100)	3 (100)		3 (100)	3 (100)
	Urinary catheter	3 (100)	3 (100)	3 (100)	3 (100)		2 (66.67)	1 (33.33)	2 (66.67)	1 (33.33)		3 (100)	3 (100)	1 (33.33)	2 (66.67)	3 (100)
	Adults	2 (100)	2 (100)	2 (100)	2 (100)		2 (100)		2 (100)			2 (100)	2 (100)	1 (50)	1 (50)	2 (100)
	Elderly	4 (100)	4 (100)	4 (100)	3 (75)	1 (25)	2 (50)	2 (50)	2 (50)	1 (25)	1 (25)	4 (100)	4 (100)		4 (100)	4 (100)
	Outpatient	3 (100)	3 (100)	3 (100)	3 (100)		2 (66.67)	1 (33.33)	2 (66.67)	1 (33.33)		3 (100)	3 (100)		3 (100)	3 (100)
	Inpatient	3 (100)	3 (100)	3 (100)	2 (66.67)	1 (33.33)	2 (66.67)	1 (33.33)	2 (66.67)		1 (33.33)	3 (100)	3 (100)	1 (33.33)	2 (66.67)	3 (100)
	Men	1 (100)	1 (100)	1 (100)	1 (100)		1 (100)		1 (100)			1 (100)	1 (100)		1 (100)	1 (100)
	Women	5 (100)	5 (100)	5 (100)	4 (80)	1 (20)	3 (60)	2 (40)	3 (60)	1 (20)	1 (20)	5 (100)	5 (100)		5 (100)	5 (100)

AMK= Amikacin TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin LEV=Levofloxacin FOF=Fosfomycin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole
CST=Colistin

Table S70: Resistances to non-beta-lactams (%) of *Providencia stuartii* in 2021.

		AMK		TOB		GEN		NAL		CIP		LVX		FOF		NIT		SXT			CST	
		R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	I	S	R	S
2021	Total	1 (20)	4 (80)	5 (100)		5 (100)		4 (80)	1 (20)	3 (60)	2 (40)	3 (60)	2 (40)	3 (60)	2 (40)	5 (100)		1 (25)	1 (25)	3 (60)	5 (100)	
	Clean catch midstream	1 (33.33)	2 (66.67)	3 (100)		3 (100)		2 (66.67)	1 (33.33)	2 (66.67)	1 (33.33)	2 (66.67)	1 (33.33)	2 (66.67)	1 (33.33)	3 (100)		1 (33.33)		2 (66.67)	3 (100)	
	Urinary catheter		2 (100)	2 (100)		2 (100)		2 (100)		1 (50)	1 (50)	1 (50)	1 (50)	1 (50)	1 (50)	2 (100)			1 (50)	1 (50)	2 (100)	
	Adults		1 (100)	1 (100)		1 (100)			1 (100)		1 (100)		1 (100)		1 (100)	1 (100)				1 (100)	1 (100)	
	Elderly	1 (25)	3 (75)	4 (100)		4 (100)		4 (100)		3 (75)	1 (25)	3 (75)	1 (25)	3 (75)	1 (25)	4 (100)		1 (25)	1 (25)	2 (50)	4 (100)	
	Outpatient	1 (100)		1 (100)		1 (100)		1 (100)		1 (100)		1 (100)		1 (100)		1 (100)				1 (100)	1 (100)	
	Inpatient		4 (100)	4 (100)		4 (100)		3 (75)	1 (25)	2 (50)	2 (50)	2 (50)	2 (50)	2 (50)	2 (50)	4 (100)		1 (25)	1 (25)	2 (50)	4 (100)	
	Men		1 (100)	1 (100)		1 (100)		1 (100)			1 (100)		1 (100)		1 (100)	1 (100)				1 (100)	1 (100)	
	Women	1 (25)	3 (75)	4 (100)		4 (100)		3 (75)	1 (25)	3 (75)	1 (25)	3 (75)	1 (25)	3 (75)	1 (25)	4 (100)		1 (25)	1 (25)	2 (50)	4 (100)	

AMK= Amikacin TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin LEV=Levofloxacin FOF=Fosfomycin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole
CST=Colistin

Table S71: Systematic review of the resistance rates (%) of *Serratia marcescens* in urine cultures.

Author (year of publication)	Period	Place	N	CAZ	FEP	CRO	C-T	IPM	I-R	MEM	ETP	DOR	TZP	AMK	TOB	ATM	FOF	CIP	LVX	CST
H. Seifert (2018) ¹⁷	2014-2015	Germany	49	4.1	4.1	12.2	10.2			4.1	4.1	4.1	20.4	0	12.2		22.4	8.2	6.1	100
S. Lob (2020)	2015-2017	Europe	103	23.3	22.3			14.6	7.8				21.4	9.7		25.2		25.9		97.1
Weighted averages			152	17.11	16.43	12.2	10.2	14.6	7.8	4.1	4.1	4.1	21.08	6.57	12.2	25.2	22.4	20.19	6.1	98.03

CAZ=Ceftazidime FEP=Cefepime CRO=Ceftriaxone C-T=Ceftolozane-tazobactam IPM=Imipenem I-R=Imipenem-relebactam MEM=Meropenem ETP=Ertapenem DOR=Doripenem
TZP=Piperacillin-tazobactam AMK=Amikacin TOB=Tobramycin ATM=Aztreonam FOF=Fosfomycin CIP=Ciprofloxacin LVX=Levofloxacin CST=Colistin

Table S72: General annualized resistances (%) of *Serratia marcescens* during 2016-2021

	AMC	AMP	CXM	FOX	CTX	CAZ	FEP	IPM	TZP	TOB	GEN	NAL	CIP	FOF	NIT	SXT
2016	12/12 (100)	12/12 (100)	12/12 (100)	7/12 (58.33)	6/11 (54.55)	3/12 (25)	1/12 (8.33)	0/12 (0)	1/12 (8.33)	12/12 (100)	1/12 (8.33)	4/12 (33.33)	0/12 (0)	4/12 (33.33)	11/12 (91.67)	2/12 (16.67)
2017	8/8 (100)	8/8 (100)	8/8 (100)	2/8 (25)	1/7 (14.29)	0/8 (0)	0/8 (0)	0/8 (0)	0/8 (0)	8/8 (100)	0/8 (0)	0/8 (0)	0/8 (0)	0/8 (0)	8/8 (100)	0/8 (0)
2018	6/6 (100)	6/6 (100)	5/6 (83.33)	1/5 (20)	0/5 (0)	0/5 (0)	0/5 (0)	0/4 (0)	0/5 (0)	6/6 (100)	0/6 (0)	0/5 (0)	0/6 (0)	0/6 (0)	5/6 (83.33)	0/6 (0)
2019	19/19 (100)	19/19 (100)	19/19 (100)	17/19 (89.47)	8/19 (42.11)	5/19 (26.32)	1/19 (5.26)	0/10 (0)	1/19 (5.26)	19/19 (100)	0/19 (0)	2/19 (10.53)	2/19 (10.53)	1/19 (5.26)	19/19 (100)	1/19 (5.26)
2020	8/8 (100)	8/8 (100)	8/8 (100)	8/8 (100)	1/8 (12.5)	1/8 (12.5)	0/8 (0)	0/8 (0)	0/8 (0)	8/8 (100)	0/8 (0)	0/8 (0)	0/8 (0)	1/7 (12.5)	8 (100)	0/8 (0)
2021	2/2 (100)	2/2 (100)	2/2 (100)	2/2 (100)	0/2 (0)	0/2 (0)	0/2 (0)	0/2 (0)	0/2 (0)	2/2 (100)	0/2 (0)	0/2 (0)	0/2 (0)	0/2 (0)	2/2 (100)	0/2 (0)
Total	55/55 (100)	55/55 (100)	54/55 (98.18)	37/54 (68.52)	16/52 (30.77)	9/54 (16.67)	2/54 (3.70)	0/44 (0)	2/54 (3.70)	55/55 (100)	1/55 (1.8)	6/54 (11.11)	2/55 (3.64)	6/54 (11.11)	53/55 (96.36)	3/55 (5.45)

AMC=Amoxicillin-clavulanic; AMP=Ampicillin; TIC=Ticarcillin; CXM=Cefuroxime; FOX=Cefoxitin; CTX=Cefotaxime; CAZ=Ceftazidime; FEP=Cefepime; IPM=Imipenem; TZP=Piperacillin-tazobactam; TOB=Tobramycin; GEN=Gentamicin; NAL=Nalidixic acid; CIP=Ciprofloxacin; FOF=Fosfomycin NIT=Nitrofurantoin; SXT=Trimethoprim-sulfamethoxazole.

Table S73: Resistances to beta-lactams (%) of *Serratia marcescens* in 2016.

		AMC		AMP		CXM		FOX			CTX			CAZ		FEP			IPM			TZP		
		R	S	R	S	R	S	R	I	S	R	I	S	R	S	R	I	S	R	I	S	R	I	S
2016	Total	12	(100)	12	(100)	12	(100)	7	4	1	6	1	4	3	9	1	2	9	1	11		1	1	10
								(58.33)	(33.33)	(8.33)	(54.55)	(9.09)	(36.36)	(25)	(75)	(8.33)	(16.67)	(75)	(8.33)	(91.67)		(8.33)	(8.33)	(83.33)
	Nephrostomy catheter	1	(100)	1	(100)	1	(100)	1			1			1			1			1		1		
								(100)			(100)			(100)			(100)			(100)		(100)		
	Permanent catheterization	1	(100)	1	(100)	1	(100)	1				1		1		1				1			1	
								(100)			(100)			(100)		(100)			(100)				(100)	
	Clean catch midstream	9	(100)	9	(100)	9	(100)	5	3	1	4		4		9		1	8	1	8		1	8	
								(55.56)	(33.33)	(11.11)	(50)		(50)		(100)		(11.11)	(88.89)	(11.11)	(88.89)		(11.11)	(88.89)	
	Urinary catheter	1	(100)	1	(100)	1	(100)		1		1			1			1			1			1	
								(100)			(100)			(100)		(100)			(100)				(100)	
	Children	2	(100)	2	(100)	2	(100)	1	1				2		2			2		2			2	
								(50)	(50)				(100)		(100)			(100)		(100)			(100)	
	Adults	2	(100)	2	(100)	2	(100)	1	1		1			1	1			2		2			2	
								(50)	(50)		(100)			(50)	(50)			(100)		(100)			(100)	
	Elderly	8	(100)	8	(100)	8	(100)	5	2	1	5	1	2	2	6	1	2	5	1	7		1	1	6
								(62.5)	(25)	(12.5)	(62.5)	(12.5)	(25)	(25)	(75)	(12.5)	(25)	(62.5)	(12.5)	(87.5)		(12.5)	(12.5)	(75)
	Outpatient	7	(100)	7	(100)	7	(100)	5	1	1	3	1	3	2	5	1	2	4	1	6		1	1	5
								(71.43)	(14.29)	(14.29)	(42.86)	(14.29)	(42.86)	(28.57)	(71.43)	(14.29)	(28.57)	(57.14)	(14.29)	(85.71)		(14.29)	(14.29)	(71.43)
	Inpatient	5	(100)	5	(100)	5	(100)	2	3		3		1	1	4			5		5			5	
								(40)	(60)		(75)		(25)	(20)	(80)			(100)		(100)			(100)	
	Men	12	(100)	12	(100)	12	(100)	7	4	1	6	1	4	3	9	1	2	9	1	11		1	1	10
								(58.33)	(33.33)	(8.33)	(54.55)	(9.09)	(36.36)	(25)	(75)	(8.33)	(16.67)	(75)	(8.33)	(91.67)		(8.33)	(8.33)	(83.33)
	Women																							

AMC= Amoxicillin-clavulanic AMP=Ampicillin CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem TZP=Piperacillin-tazobactam.

Table S74: Resistances to beta-lactams (%) of *Serratia marcescens* in 2017.

		AMC		AMP		CXM		FOX			CTX			CAZ		FEP		IPM		TZP	
		R	S	R	S	R	S	R	I	S	R	I	S	R	S	R	S	R	S	R	S
2017	Total	8 (100)		8 (100)		8 (100)		2 (25)	2 (25)	4 (50)	1 (14.29)	1 (14.29)	5 (71.43)	8 (100)		8 (100)		8 (100)		8 (100)	
	Clean catch midstream	7 (100)		7 (100)		7 (100)		2 (28.57)	2 (28.57)	3 (42.86)	1 (16.67)	1 (16.67)	4 (66.67)	7 (100)		7 (100)		7 (100)		7 (100)	
	Urinary catheter	1 (100)		1 (100)		1 (100)				1 (100)			1 (100)	1 (100)		1 (100)		1 (100)		1 (100)	
	Children	1 (100)		1 (100)		1 (100)		1 (100)				1 (100)		1 (100)		1 (100)		1 (100)		1 (100)	
	Adults	1 (100)		1 (100)		1 (100)				1 (100)			1 (100)	1 (100)		1 (100)		1 (100)		1 (100)	
	Elderly	6 (100)		6 (100)		6 (100)		1 (16.67)	2 (33.33)	3 (50)	1 (20)		4 (80)	6 (100)		6 (100)		6 (100)		6 (100)	
	Outpatient	4 (100)		4 (100)		4 (100)			2 (50)	2 (50)			3 (100)	4 (100)		4 (100)		4 (100)		4 (100)	
	Inpatient	4 (100)		4 (100)		4 (100)		2 (50)		2 (50)	1 (25)	1 (25)	2 (50)	4 (100)		4 (100)		4 (100)		4 (100)	
	Men	4 (100)		4 (100)		4 (100)		1 (25)	1 (25)	2 (50)	1 (25)		3 (75)	4 (100)		4 (100)		4 (100)		4 (100)	
	Women	4 (100)		4 (100)		4 (100)		1 (25)	1 (25)	2 (50)		1 (33.33)	2 (66.67)	4 (100)		4 (100)		4 (100)		4 (100)	

AMC= Amoxicillin-clavulanic acid AMP=Ampicillin CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem TZP=Piperacillin-tazobactam.

Table S75: Resistances to beta-lactams (%) of *Serratia marcescens* in 2018.

		AMC		AMP		CXM		FOX			CTX		CAZ		FEP		IPM		TZP	
		R	S	R	S	R	S	R	I	S	R	S	R	S	R	S	R	S	R	S
2018	Total	6 (100)		6 (100)		5 (83.33)	1 (16.67)	1 (20)	4 (80)		5 (100)		5 (100)		5 (100)		4 (100)		5 (100)	
	Permanent catheterization	1 (100)		1 (100)		1 (100)			1 (100)		1 (100)		1 (100)		1 (100)		1 (100)		1 (100)	
	Clean catch midstream	3 (100)		3 (100)		2 (66.67)	1 (33.33)	1 (50)	1 (50)		2 (100)		2 (100)		2 (100)		2 (100)		2 (100)	
	Urinary catheter	2 (100)		2 (100)		1 (100)			2 (100)		2 (100)		2 (100)		2 (100)		1 (100)		2 (100)	
	Adults	2 (100)		2 (100)		1 (50)	1 (50)		1 (100)		2 (100)		2 (100)		2 (100)		1 (100)		2 (100)	
	Elderly	4 (100)		4 (100)		4 (100)		1 (25)	3 (75)		3 (100)		3 (100)		3 (100)		3 (100)		3 (100)	
	Outpatient	2 (100)		2 (100)		1 (50)	1 (50)		1 (100)		2 (100)		2 (100)		2 (100)				2 (100)	
	Inpatient	4 (100)		4 (100)		4 (100)		1 (25)	3 (75)		3 (100)		3 (100)		3 (100)		4 (100)		3 (100)	
	Men	4 (100)		4 (100)		3 (75)	1 (25)	1 (25)	3 (75)		3 (100)		3 (100)		3 (100)		3 (100)		3 (100)	
	Women	2 (100)		2 (100)		2 (100)			1 (100)		2 (100)		2 (100)		2 (100)		1 (100)		2 (100)	

ç AMC= Amoxicillin-clavulanic acid AMP=Ampicillin CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem TZP=Piperacillin-tazobactam.

Table S76: Resistances to beta-lactams (%) of *Serratia marcescens* in 2019.

		AMC		AMP		CXM		FOX		CTX			CAZ			FEP		IPM		TZP		
		R	S	R	S	R	S	R	S	R	I	S	R	I	S	R	S	R	S	R	I	S
2019	Total	19 (100)		19 (100)		19 (100)		17 (89.47)	2 (10.53)	8 (42.11)	1 (5.26)	10 (52.63)	5 (26.32)	1 (5.26)	13 (68.42)	1 (5.26)	18 (94.74)		10 (100)	1 (5.26)	1 (5.26)	17 (89.47)
	Permanent catheterization	4 (100)		4 (100)		4 (100)		3 (75)	1 (25)	3 (75)		1 (25)	2 (50)		2 (50)	1 (25)	3 (75)		4 (100)			4 (100)
	Clean catch midstream	10 (100)		10 (100)		10 (100)		10 (100)		2 (20)	1 (10)	7 (70)			10 (100)		10 (100)		10 (100)		1 (10)	9 (90)
	Urinary catheter	5 (100)		5 (100)		5 (100)		4 (80)	1 (20)	3 (60)		2 (40)	3 (60)	1 (20)	1 (20)		5 (100)		5 (100)	1 (20)		4 (80)
	Children	3 (100)		3 (100)		3 (100)		3 (100)		1 (33.33)		2 (66.67)	1 (33.33)		2 (66.67)		3 (100)		3 (100)			3 (100)
	Adults	11 (100)		11 (100)		11 (100)		10 (90.91)	1 (9.09)	3 (27.27)	1 (9.09)	7 (63.64)		1 (9.09)	10 (90.91)	1 (9.09)	10 (90.91)		11 (100)		1 (9.09)	10 (90.91)
	Elderly	5 (100)		5 (100)		5 (100)		4 (80)	1 (20)	4 (80)		1 (20)	4 (80)		1 (20)		5 (100)		5 (100)	1 (20)		4 (80)
	Outpatient	8 (100)		8 (100)		8 (100)		7 (87.5)	1 (12.5)	3 (37.5)	1 (12.5)	4 (50)	2 (25)	1 (12.5)	5 (62.5)		8 (100)		8 (100)	1 (12.5)	1 (12.5)	6 (75)
	Inpatient	11 (100)		11 (100)		11 (100)		10 (90.91)	1 (9.09)	5 (45.45)		6 (54.55)	3 (27.27)		8 (72.73)	1 (9.09)	10 (90.91)		11 (100)			11 (100)
	Men	10 (100)		10 (100)		10 (100)		9 (90)	1 (10)	4 (40)		6 (60)	2 (20)	1 (10)	7 (70)	1 (10)	9 (90)		10 (100)		1 (10)	9 (90)
	Women	9 (100)		9 (100)		9 (100)		8 (88.89)	1 (11.11)	4 (44.44)	1 (11.11)	4 (44.44)	3 (33.33)		6 (66.67)		9 (100)		9 (100)	1 (11.11)		8 (88.89)

AMC= Amoxicillin-clavulanic acid AMP=Ampicillin CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem TZP=Piperacillin-tazobactam.

Table S77: Resistances to beta-lactams (%) of *Serratia marcescens* in 2020.

		AMC		AMP		CXM		FOX		CTX		CAZ		FEP		IPM		TZP	
		R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S
2020	Total	8	(100)	8	(100)	8	(100)	8	(100)	1	(12.5)	7	(87.5)	1	(12.5)	7	(87.5)	8	(100)
	Nephrostomy catheter	1	(100)	1	(100)	1	(100)	1	(100)			1	(100)	1	(100)	1	(100)	1	(100)
	Permanent catheterization	2	(100)	2	(100)	2	(100)	2	(100)			2	(100)	2	(100)	2	(100)	2	(100)
	Clean catch midstream	3	(100)	3	(100)	3	(100)	3	(100)			3	(100)	3	(100)	3	(100)	3	(100)
	Urinary catheter	2	(100)	2	(100)	2	(100)	2	(100)	1	(50)	1	(50)	1	(50)	1	(50)	2	(100)
	Adults	4	(100)	4	(100)	4	(100)	4	(100)			4	(100)	4	(100)	4	(100)	4	(100)
	Elderly	4	(100)	4	(100)	4	(100)	4	(100)	1	(25)	3	(75)	1	(25)	3	(75)	4	(100)
	Outpatient	3	(100)	3	(100)	3	(100)	3	(100)			3	(100)	3	(100)	3	(100)	3	(100)
	Inpatient	5	(100)	5	(100)	5	(100)	5	(100)	1	(20)	4	(80)	1	(20)	4	(80)	5	(100)
	Men	7	(100)	7	(100)	7	(100)	7	(100)	1	(14.29)	6	(85.71)	1	(14.29)	6	(85.71)	7	(100)
	Women	1	(100)	1	(100)	1	(100)	1	(100)			1	(100)	1	(100)	1	(100)	1	(100)

AMC= Amoxicillin-clavulanic acid AMP=Ampicillin CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem TZP=Piperacillin-tazobactam.

Table S78: Resistances to beta-lactams (%) of *Serratia marcescens* in 2021.

		AMC		AMP		CXM		FOX		CTX		CAZ		FEP		IPM		TZP	
		R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S
2021	Total	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)
	Permanent catheterization	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)
	Clean catch midstream	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)
	Elderly	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)
	Outpatient	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)
	Inpatient	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)
	Men	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)

AMC= Amoxicillin-clavulanic acid AMP=Ampicillin CXM=Cefuroxime FOX=Cefoxitin CTX=Cefotaxime CAZ=Ceftazidime FEP=Cefepime IPM=Imipenem TZP=Piperacillin-tazobactam.

Table S79: Resistances to non-beta-lactams (%) of *Serratia marcescens* in 2016.

		TOB		GEN			NAL		CIP		FOF		NIT			SXT	
		R	S	R	I	S	R	S	R	S	R	S	R	I	S	R	S
2016	Total	12 (100)		1 (8.33)	1 (8.33)	10 (83.33)	4 (33.33)	8 (66.67)	12 (100)		4 (33.33)	8 (66.67)	11 (91.67)	1 (8.33)		2 (16.67)	10 (83.33)
	Nephrostomy catheter	1 (100)				1 (100)		1 (100)	1 (100)			1 (100)	1 (100)				1 (100)
	Permanent catheterization	1 (100)			1 (100)		1 (100)		1 (100)		1 (100)		1 (100)				1 (100)
	Clean catch midstream	9 (100)		1 (11.11)		8 (88.89)	3 (33.33)	6 (66.67)	9 (100)		2 (22.22)	7 (77.78)	8 (88.89)	1 (11.11)		2 (22.22)	7 (77.78)
	Urinary catheter	1 (100)				1 (100)		1 (100)	1 (100)		1 (100)		1 (100)				1 (100)
	Children	2 (100)				2 (100)		2 (100)	2 (100)			2 (100)	2 (100)				2 (100)
	Adults	2 (100)				2 (100)	1 (50)	1 (50)	2 (100)		1 (50)	1 (50)	2 (100)				2 (100)
	Elderly	8 (100)		1 (12.5)	1 (12.5)	6 (75)	3 (37.5)	5 (62.5)	8 (100)		3 (37.5)	5 (62.5)	7 (87.5)	1 (12.5)		2 (25)	6 (75)
	Outpatient	7 (100)		1 (14.29)	1 (14.29)	5 (71.43)	2 (28.57)	5 (71.43)	7 (100)		3 (42.86)	4 (57.14)	7 (100)			2 (28.57)	5 (71.43)
	Inpatient	5 (100)				5 (100)	2 (40)	3 (60)	5 (100)		1 (20)	4 (80)	4 (80)	1 (20)			5 (100)
	Men	12 (100)		1 (8.33)	1 (8.33)	10 (83.33)	4 (33.33)	6 (66.67)	12 (100)		4 (33.33)	6 (66.67)	11 (91.67)	1 (8.33)		2 (16.67)	10 (83.33)

TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomicin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole

Table S80: Resistances to non-beta-lactams (%) of *Serratia marcescens* in 2017.

		TOB		GEN		NAL		CIP		FOF		NIT		SXT	
		R	S	R	S	R	S	R	S	R	S	R	S	R	S
2017	Total	8	(100)	8	(100)	8	(100)	8	(100)	8	(100)	8	(100)	8	(100)
	Clean catch midstream	7	(100)	7	(100)	7	(100)	7	(100)	7	(100)	7	(100)	7	(100)
	Urinary catheter	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)
	Children	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)
	Adults	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)
	Elderly	6	(100)	6	(100)	6	(100)	6	(100)	6	(100)	6	(100)	6	(100)
	Outpatient	4	(100)	4	(100)	4	(100)	4	(100)	4	(100)	4	(100)	4	(100)
	Inpatient	4	(100)	4	(100)	4	(100)	4	(100)	4	(100)	4	(100)	4	(100)
	Men	4	(100)	4	(100)	4	(100)	4	(100)	4	(100)	4	(100)	4	(100)
	Women	4	(100)	4	(100)	4	(100)	4	(100)	4	(100)	4	(100)	4	(100)

TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomycin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole

Table S81: Resistances to non-beta-lactams (%) of *Serratia marcescens* in 2018.

		TOB		GEN		NAL		CIP		FOF		NIT		SXT	
		R	S	R	S	R	S	R	S	R	S	R	S	R	S
2018	Total	6	(100)	6	(100)	5	(100)	6	(100)	6	(100)	5 (83.33)	1 (16.67)	6	(100)
	Permanent catheterization	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)
	Clean catch midstream	3	(100)	3	(100)	2	(100)	3	(100)	3	(100)	2 (66.67)	1 (33.33)	3	(100)
	Urinary catheter	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)
	Adults	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	1 (50)	1 (50)	2	(100)
	Elderly	4	(100)	4	(100)	3	(100)	4	(100)	4	(100)	4	(100)	4	(100)
	Outpatient	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	1 (50)	1 (50)	2	(100)
	Inpatient	4	(100)	4	(100)	3	(100)	4	(100)	4	(100)	4	(100)	4	(100)
	Men	4	(100)	4	(100)	3	(100)	4	(100)	4	(100)	3 (75)	1 (25)	4	(100)
	Women	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)

TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomycin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole

Table S82: Resistances to non-beta-lactams (%) of *Serratia marcescens* in 2019.

		TOB		GEN		NAL		CIP		FOF		NIT		SXT		
		R	S	R	S	R	S	R	S	R	S	R	S	R	I	S
2019	Total	19 (100)		19 (100)		2 (10.53)	17 (89.47)	2 (10.53)	17 (89.47)	1 (5.26)	18 (94.74)	19 (100)		1 (5.26)	1 (5.26)	17 (89.47)
	Permanent catheterization	4 (100)		4 (100)		1 (25)	3 (75)	1 (25)	3 (75)		4 (100)	4 (100)		1 (25)		3 (75)
	Clean catch midstream	10 (100)		10 (100)		1 (10)	9 (90)	1 (10)	9 (90)	1 (10)	9 (90)	10 (100)			1 (10)	9 (90)
	Urinary catheter	5 (100)		5 (100)			5 (100)		5 (100)		5 (100)	5 (100)				5 (100)
	Children	3 (100)		3 (100)			3 (100)		3 (100)		3 (100)	3 (100)				3 (100)
	Adults	11 (100)		11 (100)		2 (18.18)	9 (81.82)	2 (18.18)	9 (81.82)	1 (9.09)	10 (90.91)	11 (100)		1 (9.09)	1 (9.09)	9 (81.82)
	Elderly	5 (100)		5 (100)			5 (100)		5 (100)		5 (100)	5 (100)				5 (100)
	Outpatient	8 (100)		8 (100)		1 (12.5)	7 (87.5)	1 (12.5)	7 (87.5)	1 (12.5)	7 (87.5)	8 (100)			1 (12.5)	7 (87.5)
	Inpatient	11 (100)		11 (100)		1 (9.09)	10 (90.91)	1 (9.09)	10 (90.91)		11 (100)	11 (100)		1 (9.09)		10 (90.91)
	Men	10 (100)		10 (100)		2 (20)	8 (80)	2 (20)	8 (80)	1 (10)	9 (90)	10 (100)		1 (10)	1 (10)	8 (80)
	Women	9 (100)		9 (100)			9 (100)		9 (100)		9 (100)	9 (100)				9 (100)

TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomicin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole

Table S83: Resistances to non-beta-lactams (%) of *Serratia marcescens* in 2020.

		TOB		GEN		NAL		CIP		FOF		NIT		SXT	
		R	S	R	S	R	S	R	S	R	S	R	S	R	S
2020	Total	8	(100)	8	(100)	8	(100)	8	(100)	1	(12.5)	7	(87.5)	8	(100)
	Nephrostomy catheter	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)
	Permanent catheterization	2	(100)	2	(100)	2	(100)	2	(100)	1	(50)	1	(50)	2	(100)
	Clean catch midstream	3	(100)	3	(100)	3	(100)	3	(100)	3	(100)	3	(100)	3	(100)
	Urinary catheter	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)
	Adults	4	(100)	4	(100)	4	(100)	4	(100)	1	(25)	3	(75)	4	(100)
	Elderly	4	(100)	4	(100)	4	(100)	4	(100)	4	(100)	4	(100)	4	(100)
	Outpatient	3	(100)	3	(100)	3	(100)	3	(100)	3	(100)	3	(100)	3	(100)
	Inpatient	5	(100)	5	(100)	5	(100)	5	(100)	1	(20)	4	(80)	5	(100)
	Men	7	(100)	7	(100)	7	(100)	7	(100)	1	(14.29)	6	(85.71)	7	(100)
	Women	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)

TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomycin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole

Table S84: Resistances to non-beta-lactams (%) of *Serratia marcescens* in 2021.

		TOB		GEN		NAL		CIP		FOF		NIT		SXT	
		R	S	R	S	R	S	R	S	R	S	R	S	R	S
2021	Total	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)
	Permanent catheterization	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)
	Clean catch midstream	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)
	Elderly	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)
	Outpatient	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)
	Inpatient	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)	1	(100)
	Men	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)	2	(100)

TOB=Tobramycin GEN=Gentamicin NAL=Nalidixic acid CIP=Ciprofloxacin FOF=Fosfomycin NIT=Nitrofurantoin SXT=Trimethoprim-sulfamethoxazole