Table 1. Baseline characchteristics

Parameter	Non-CRE n=65	CRE n=41	p value
Age	64.4 (15.1)	60.8 (15.4)	0.234
Sex, male	46 (70.8)	28 (68.3)	0.958
BMI	2.83 (1.18)	2.88 (1.29)	0.850
Hospital admission >48 h in last year	35 (53.8)	31 (75.6)	0.041
ICU admission in the last year	13 (20.0)	16 (39.0)	0.055
DM	19 (29.2)	17 (41.5)	0.278
PVD	3 (4.62)	8 (19.5)	0.021
Active hematological malignancy	5 (7.69)	4 (9.76)	0.732
Solid organ transplantation	0 (0.00)	10 (24.4)	<0.01
HIV	7 (10.8)	2 (4.88)	0.477
CVA	21 (32.3)	7 (17.1)	0.132
CKD	14 (21.5)	21 (51.2)	<0.01
Liver disease			<0.01
None	58 (90.6)	29 (70.7)	
Child Pugh A	0 (0.00)	3 (7.32)	
Child Pugh B	3 (4.69)	8 (19.5)	
Child Pugh C	3 (4.69)	1 (2.44)	
Charlson score	4.64 (4.45)	5.70 (3.95)	0.416
APACHE II*	18.6 (9.35)	20.4 (8.72)	0.465
WBC <4 cells/µL	11 (16.9)	5 (12.2)	0.701
ANC <500 cells/µL	1 (1.54)	3 (7.32)	0.296
In-hospital mortality	12 (18.5)	14 (34.1)	0.110
Index culture sites			<0.01
Blood	20 (30.8)	12 (29.3)	
Urine	5 (7.69)	4 (9.76)	
Respiratory	20 (30.8)	9 (22.0)	
Surgical wound	0 (0.00)	5 (12.2)	
Skin	1 (1.54)	4 (9.76)	
Gastrointestinal	19 (29.2)	6 (14.6)	
Others	0 (0.00)	1 (2.44)	
Hospital acquired infection	25 (38.5)	16 (39.0)	1.000
Sepsis	54 (83.1)	29 (70.7)	0.208
Index culture associated infection			0.012
UTI	0 (0.00)	3 (7.25)	
IAI	15 (23.1)	9 (22.0)	
CAP	9 (13.8)	6 (14.6)	
HAP	7 (10.8)	0 (0.00)	
VAP	5 (7.69)	5 (12.2)	
Bacteremia	29 (44.6)	13 (31.7)	
Line associated	0 (0.00)	3 (7.32)	
SSTI	0 (0.00)	1 (2.44)	
Meningitis	0 (0.00)	1 (2.44)	
Index culture Enterobacterales			<0.01
Klebsiella sp.	15 (23.1)	30 (73.2)	
Eserichia coli	34 (52.3)	5 (12.2)	
Enterobacter sp.	5 (7.69)	5 (12.2)	
Other	11 (16.9)	1 (2.4)	
Procedures in the last 30 days			
Cardiothoracic and vascular surgery	3 (4.62)	2 (4.88)	1.000
GI surgery	7 (10.8)	16 (40.0)	<0.01
Neurologic surgery	9 (13.8)	2 (4.88)	0.197
Orthopedic surgery	0 (0.00)	2 (4.88)	0.147
CVC	13 (20.0)	23 (56.1)	<0.01
TPN use	2 (3.08)	6 (14.6)	0.053
HD/CRRT	6 (9.23)	17 (41.5)	<0.01
Urinary catheter	18 (27.7)	20 (48.8)	0.046
Others	7 (10.8)	2 (4.88)	0.477
>48h antibiotic use in last 6 months			
Any antibiotic	27 (41.5)	32 (78.0)	<0.01
Anti-PSA	7 (10.8)	8 (19.5)	0.331
≥ 3rd generation cephalosporin	23 (35.4)	20 (48.8)	0.244
Carbapenem	8 (12.3)	16 (39.0)	<0.01
Polymyxin	0 (0.00)	1 (2.44)	0.387
Empiric therapy prior to positive culture^			
Aminoglycoside	2 (3.08)	3 (7.32)	0.373
Carbapenem	16 (24.6)	21 (51.2)	0.010
Polymyxin	0 (0.00)	1 (2.44)	0.387
Anti-CRE	0 (0.00)	1 (2.44)	0.387
Anti-PSA	51 (78.5)	33 (80.5)	0.996
Targeted antimicrobial therapy^			
Aminoglycoside	1 (1.54)	6 (14.6)	0.013
Polymyxin	0 (0.00)	4 (9.76)	0.020
Ceftazidime-avibactam	0 (0.00)	21 (51.2)	<0.01
Tigecycline	0 (0.00)	18 (43.9)	<0.01
Carbapenem	21 (32.3)	1 (2.44)	<0.01

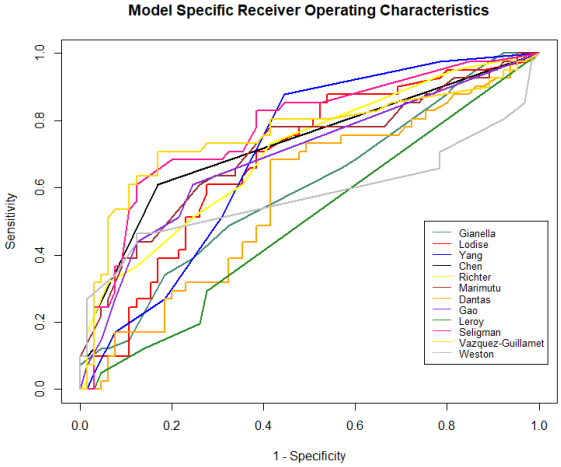
Data presented as mean (SD) or n (%). DM, diabetes mellitus; PVD, peripheral vascular disease; CVA, coronary vascular disease; CKD, chronic kidney disease; Sepsis, ≥ SIRS criteria at time of index culture; UTI, urinary tract infection; IAI, intra-abdominal infection; CAP, community acquired pneumonia; HAP, hospital acquired pneumonia; VAP, ventilator associated pneumonia; SSTI, skin and soft tissue infection; CVC, central venous catheter; PSA, *Pseudomonas aeruginosa*; * Calculated for ICU patients only; CRE, Carbapenem resistant enterobacteriales; ^ Alone or in combination with another agent;

Table 2. Model Performance

Model	FNR < 10%		FNR < 20%		FNR < 30%	
	Cutoff	FPR (%)	Cutoff	FPR (%)	Cutoff	FPR (%)
Gianella*	4.00	81.53	8.00	80.00	5.00	80.00
Lodise	0.01	69.23	0.02	50.76	0.03	38.46
Yang*	1.00	78.46	2.00	44.61	2.00	44.61
Chen	0.00	100.00	0.00	100.00	0.00	100.00
Richter*	1.00	81.53	1.00	81.53	2.00	41.53
Marimutu	0.39	81.53	0.48	67.69	0.52	41.53
Dantas	0.03	86.15	0.04	72.30	0.07	47.69
Gao	0.50	100.00	0.50	100.00	0.50	100.00
Leroy	0.50	100.00	0.50	100.00	0.50	100.00
Seligman	0.13	84.61	0.23	38.46	0.32	32.30
Vazquez-Guillamet	0.50	89.23	0.54	41.53	0.73	16.90
Weston	0.03	98.46	0.24	92.30	0.28	78.46

FNR: False Negative Rate; FPR: False Positive Rate; *: indicates a model with probabilities converted into a clinical score; Cutoff: cutoff score at and above which the case is predicted to be positive

Figure 1. AUROCs



Conclusion. Discriminative ability of the risk prediction models showed varying performance. The model by Lodise et al. appears to be most useful when a low risk level is deemed acceptable for failure rate, while at a moderate to high risk of missing a CRE case (20% and 30% FNR), the methods by Seligman and Vazquez-Guillamet et al. are most desirable as they minimize the chance of over-treatment. Additional work to increase sample size and to evaluate the models inter-rater reliability is currently on going.

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1256. Clinical Response by Minimum Inhibitory Concentrations in Carbapenem-Resistant *Pseudomonas aeruginosa* Infections under Cefiderocol Compassionate Use Program

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Background. Cefiderocol (CFDC) has been developed for the treatment of serious infections caused by drug-resistant aerobic Gram-negative pathogens, including carbapenem-resistant (CR) *Pseudomonas aeruginosa* (CRPA). The current CFDC susceptibility breakpoints for *P. aeruginosa* differ between US Food and Drug Administration (FDA) and Clinical and Laboratory Standards Institute (CLSI) (Table). Data characterizing the impact of CFDC minimum inhibitory concentrations (MICs) on the clinical responses of patients treated with CFDC for CRPA are sparse.

Methods. We reviewed patients treated with compassionate-use CFDC (2 g, q8h or renally adjusted dosages) for infections caused by CRPA with no alternative treatment options. CFDC minimum inhibitory concentrations (MICs) were evaluated according to CLSI guidelines in iron-depleted cation-adjusted Müller–Hinton broth for available CRPA isolates. We then assessed physician-reported clinical responses to CFDC therapy and stratified results by CFDC MIC.

Results. There were 71 patients overall with CRPA treated with CFDC. Treatment duration ranged from 1 to 132 days. For the subset of 33 patients for whom CFDC MIC values were available, the most common infection sites were the respiratory tract (n=15), blood (n=12), and urinary tract (n=4). Patients could have had an infection at ≥1 sites and in other locations. CFDC MIC range was ≤0.03– >64 µg/mL. The modal MIC value was 2 µg/mL (n=13; Table). CRPA isolates were susceptible to CFDC in 13/33 patients (39.4%) based on the FDA breakpoint (MIC ≤1 µg/mL) and in 31/33 patients (93.9%) based on the CLSI breakpoint (MIC ≤4 µg/mL). Clinical response was reported for 15/18 patients (83.3%) who had infections with CFDC MICs of 2–4 µg/mL, organisms that are considered susceptible by CLSI but not by FDA breakpoints (Table). Clinical response was reported in 6/13 patients (46.1%) with infections with CFDC MIC ≤1 µg/mL and in 1 of 2 patients (50.0%) with CFDC MIC ≥8 µg/mL (Table). 21 (63.6%) patients survived to Day 28 and there were no trends in mortality by CFDC MIC.

Table. Clinical response by CFDC MIC

	Response (reported by physician)	No response/ withdrawn from therapy	No report/ unknown	Day 28 all-cause mortality (reported by physician)	*FDA criteria*	*CLSI criteria*
All patients (n=33)	22/33 (66.7%)	6/33 (18.2%)	5/33 (15.2%)	10/33 (30.3%)		
MIC (µg/mL)						
≤0.03 (n=2)	–	1 (50.0%)	1 (50.0%)	1 (50%) (1 unknown)		
0.06 (n=0)	–	–	–	–		
0.12 (n=2)	1 (50.0%)	1 (50.0%)	–	1 (50%)	*Susceptible*	*Susceptible*
0.25 (n=4)	2 (50.0%)	2 (50.0%)	–	2 (50%		
0.5 (n=3)	2 (66.7%)	–	1 (33.3%)	1 (33.3%)		
1 (n=2)	1 (50.0%)	–	1 (50.0%)	0 (0%)		
2 (n=13)	10 (76.9%)	1 (7.7%)	2 (15.4%)	5 (38.5%)	*Intermediate*	
4 (n=5)	5 (100%)	–	–	0 (0%)		
8 (n=1)	1 (100%)	–	–	0 (0%)		*Intermediate*
16 (n=0)	–	–	–	–	*Resistant*	
32 (n=0)	–	–	–	–		*Resistant*
64 (n=0)	–	–	–	–		
>64 (n=1)	–	1 (100%)	–	1 unknown		

Conclusion. Clinical response rate was high for CRPA infections with CFDC MICs of 2–4 µg/mL, supporting the higher CLSI susceptibility breakpoint.

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1257. Re-Evaluation of Cefepime or Piperacillin-Tazobactam to Decrease Use of Carbapenems in ESBL-Producing Enterobacterales Urinary Tract Infections (REDUCE-UTI)

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