

Supplementary Table S1 Drug resistance in gram-negative species for patients 18 years or younger per specimen type

Urine	<i>E. coli</i>					<i>K. pneumoniae</i>					<i>E. cloacae</i>					<i>P. aeruginosa</i>					<i>P. mirabilis</i>				
	n	%R	%I	%S	n	%R	%I	%S	n	%R	%I	%S	n	%R	%I	%S	n	%R	%I	%S	n	%R	%I	%S	
AMP	702	85.2	0.3	14.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
SAM	541	57.7	15.5	26.8	92	63	6.5	30.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	34	14.7	8.8	76.5	
AMC	225	30.2	11.6	58.2	61	41	23	36.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
TZP	270	13	4.8	82.2	78	16.7	16.7	66.7	12	33.3	16.7	50	64	10.9	10.9	78.1	17	5.9	0	94.1	19	10.5	0	89.5	
CXM	387	51.2	2.1	46.8	102	61.8	2	36.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19	10.5	0	89.5	
CAZ	117	32.5	1.8	65.8	34	41.2	5.9	52.9	14	64.3	0	35.7	26	19.2	3.8	76.9	10	0	0	100	10	0	0	100	
CIP	750	45.7	2.5	51.7	151	36.4	12.6	51	36	2.8	2.8	94.4	111	17.1	5.4	77.5	40	7.5	0	92.5	40	7.5	0	92.5	
LVX	214	52.3	2.8	44.9	65	35.4	3.1	61.5	ND	ND	ND	ND	42	19	4.8	76.2	11	9.1	0	90.9	11	9.1	0	90.9	
NOR	482	41.9	3.1	55	72	19.4	1.4	79.2	24	0	0	100	51	25.5	0	74.5	23	4.3	0	95.7	23	4.3	0	95.7	
AMK	114	0.9	0	99.1	33	0	3	97	14	0	0	100	24	4.2	0	95.8	10	0	0	100	10	0	0	100	
GEN	724	30.7	1.1	68.2	150	45.3	0	54.7	36	5.6	2.8	91.7	109	14.7	0.9	84.4	40	5	7.5	87.5	40	5	7.5	87.5	
SXT	698	66.5	0	33.5	138	68.1	0	31.9	36	27.8	0	72.2	ND	ND	ND	ND	36	50	0	50	36	50	0	50	
MEM	725	3.3	0.3	96.4	153	1.3	0	98.7	35	0	2.9	97.1	113	23.9	8	68.1	39	0	0	100	39	0	0	100	
IPM	245	3.7	0	96.3	74	1.4	1.4	97.3	ND	ND	ND	ND	56	23.2	3.6	73.2	ND	ND	ND	ND	ND	ND	ND	ND	
NIT	665	4.6	4.2	91.3	128	21.1	33.6	45.3	32	6.2	46.9	46.9	19	89.5	0	10.5	ND	ND	ND	ND	ND	ND	ND	ND	
Blood	<i>E. coli</i>					<i>K. pneumoniae</i>					<i>E. cloacae</i>					<i>P. aeruginosa</i>					<i>A. baumannii</i>				
AMP	205	89	0	11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SAM	119	67	11	19	161	76	3.7	21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AMC	106	38	3.8	59	40	30	10	60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TZP	106	22	4.7	74	97	13	13	73	35	26	2.9	71	48	6.2	2.1	92	18	28	0	72	18	28	0	72	
CXM	130	64	0.8	35	91	64	0	36	34	41	18	41	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
CAZ	32	84	0	16	56	64	5.4	30	13	0	0	100	20	25	10	65	ND	ND	ND	ND	ND	ND	ND	ND	
CIP	218	51	2.3	47	201	25	14	61	65	6.2	6.2	88	97	8.2	2.1	90	44	11	0	89	44	11	0	89	
LVX	100	36	5	59	54	9.3	0	91	22	0	0	100	33	0	6.1	94	ND	ND	ND	ND	ND	ND	ND	ND	
AMK	25	0	0	100	54	9.3	5.6	85	13	0	0	100	19	0	0	100	ND	ND	ND	ND	ND	ND	ND	ND	
GEN	207	41	1.4	58	202	51	1	49	65	9.2	0	91	93	9.7	7.5	83	44	9.1	4.5	86	44	9.1	4.5	86	
SXT	199	68	0.5	32	163	60	0	41	57	19	0	81	ND	ND	ND	ND	33	6.1	0	94	33	6.1	0	94	
MEM	208	14	0	87	205	5.4	0.5	94	64	3.1	0	97	98	26	2	72	44	11	0	89	44	11	0	89	
IPM	106	15	0	85	87	4.6	0	95	34	0	0	100	49	16	0	84	20	25	0	75	20	25	0	75	

(Continued)

Supplementary Table S1 (Continued)

Urine	<i>E. coli</i>				<i>K. pneumoniae</i>				<i>E. cloacae</i>				<i>P. aeruginosa</i>				<i>P. mirabilis</i>			
	<i>n</i>	%R	%I	%S	<i>n</i>	%R	%I	%S	<i>n</i>	%R	%I	%S	<i>n</i>	%R	%I	%S	<i>n</i>	%R	%I	%S
Respiratory	<i>E. coli</i>				<i>K. pneumoniae</i>				<i>E. cloacae</i>				<i>P. aeruginosa</i>				<i>A. baumannii</i>			
SAM	ND	ND	ND	ND	34	52.9	17.6	29.4	ND	ND	ND	ND	ND	ND	ND	ND	19	21.1	0	78.9
TZP	ND	ND	ND	ND	28	7.1	14.3	78.6	ND	ND	ND	ND	63	6.3	4.8	88.9	ND	ND	ND	ND
CXM	ND	ND	ND	ND	13	61.5	0	38.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CAZ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	48	18.8	2.1	79.2	ND	ND	ND	ND
CIP	ND	ND	ND	ND	38	47.4	13.2	39.5	20	5	0	95	108	13.9	6.5	79.6	19	21.1	0	78.9
GEN	ND	ND	ND	ND	38	60.5	0	39.5	20	20	0	80	108	11.1	1.9	87	19	21.1	5.3	73.7
SXT	ND	ND	ND	ND	33	72.7	0	27.3	20	15	0	85	ND	ND	ND	ND	16	18.8	0	81.2
MEM	ND	ND	ND	ND	38	2.6	0	97.4	20	5	0	95	108	16.7	3.7	79.6	19	21.1	0	78.9
IPM	ND	ND	ND	ND	28	3.6	0	96.4	ND	ND	ND	ND	64	20.3	1.6	78.1	ND	ND	ND	ND
CSF	<i>E. coli</i>				<i>K. pneumoniae</i>				<i>E. cloacae</i>				<i>P. aeruginosa</i>				<i>A. baumannii</i>			
AMP	14	92.9	0	7.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SAM	14	85.7	7.1	7.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEP	14	92.9	0	7.1	16	62.5	25	12.5	ND	ND	ND	ND	10	0	0	100	12	33.3	33.3	33.3
CIP	14	71.4	0	28.6	16	12.5	6.3	81.2	ND	ND	ND	ND	10	0	0	100	10	20	0	80
GEN	14	35.7	0	64.3	16	31.2	0	68.8	ND	ND	ND	ND	10	0	0	100	12	50	16.7	33.3
SXT	14	28.6	0	71.4	16	62.5	0	37.5	ND	ND	ND	ND	ND	ND	ND	ND	10	0	0	100
MEM	14	0	0	100	16	0	0	100	ND	ND	ND	ND	10	0	10	90	12	16.7	16.7	66.7

Abbreviations: AMC, amoxicillin/clavulanate; AMK, amikacin; AMP, ampicillin; CAZ, ceftazidime; CIP, ciprofloxacin; CXM, cefuroxime; FEP, cefepime; GEN, gentamicin; I, intermediate; IPM, imipenem; LVX, levofloxacin; MEM, meropenem; ND, not determined; NIT, nitrofurantoin; NOR, norfloxacin; R, resistant; S, susceptible; SAM, ampicillin/sulbactam; SXT, trimethoprim-sulfamethoxazole; TZP, piperacillin/tazobactam.

Supplementary Table S2 Distribution of drug resistance for all specimens according to age group

	<i>E. coli</i>				<i>K. pneumoniae</i>				<i>E. cloacae</i>				<i>P. aeruginosa</i>			
	n	%R	%I	%S	n	%R	%I	%S	n	%R	%I	%S	n	%R	%I	%S
<i>0 to <2 years</i>																
AMP	483	91.3	0	8.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SAM	443	64.8	14.4	20.8	299	72.9	5.7	21.4	ND	ND	ND	ND	ND	ND	ND	ND
TZP	151	15.9	6	78.1	195	15.4	20	64.6	44	15.9	6.8	77.3	144	9	7.6	83.3
AMC	101	45.5	7.9	46.5	70	52.9	15.7	31.4	ND	ND	ND	ND	ND	ND	ND	ND
CXM	243	65.8	1.2	32.9	174	67.8	0.6	31.6	ND	ND	ND	ND	ND	ND	ND	ND
CAZ	108	55.6	0.9	43.5	108	63.9	5.6	30.6	25	32	0	68	77	31.2	2.6	66.2
FEP	499	63.9	4.4	31.7	362	63.5	5.8	30.8	101	5	7.9	87.1	253	13	4.7	82.2
CIP	533	56.1	2.8	41.1	366	26.2	16.1	57.7	102	3.9	4.9	91.2	258	12.8	1.9	85.3
LVX	97	62.9	0	37.1	103	16.5	1.9	81.6	22	4.5	0	95.5	71	15.5	5.6	78.9
AMK	100	1	0	99	103	7.8	4.9	87.4	25	0	0	100	68	5.9	1.5	92.6
GEN	505	37.6	0.8	61.6	367	55.6	0.8	43.6	102	12.7	1	86.3	253	10.3	7.1	82.6
SXT	475	64.2	0	35.8	302	65.9	0	34.1	95	20	0	80	ND	ND	ND	ND
MEM	509	5.5	0	94.5	373	5.9	0	94.1	100	1	1	98	262	24.8	5.3	69.8
IPM	138	3.6	0	96.4	179	5.6	0	94.4	42	2.4	0	97.6	140	20.7	4.3	75
<i>2 to <6 years</i>																
AMP	260	84.2	2.3	13.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SAM	224	50.4	19.2	30.3	57	64.9	3.5	31.6	ND	ND	ND	ND	ND	ND	ND	ND
TZP	87	21.8	4.6	73.6	28	28.6	14.3	57.1	ND	ND	ND	ND	57	3.5	14	82.5
AMC	60	40	10	50	14	35.7	14.3	50	ND	ND	ND	ND	ND	ND	ND	ND
CXM	145	55.2	1.4	43.4	31	51.6	3.2	45.2	ND	ND	ND	ND	ND	ND	ND	ND
CAZ	61	34.4	3.3	62.3	18	44.4	0	55.6	ND	ND	ND	ND	31	19.4	3.2	77.4
FEP	269	40.5	3.7	55.8	70	52.9	4.3	42.8	16	0	0	100	107	8.4	4.7	86.9
CIP	276	37.3	4.3	58.3	70	32.9	8.6	58.6	16	6.2	0	93.8	107	16.8	1.9	81.3
LVX	62	45.2	1.6	53.2	14	21.4	0	78.6	ND	ND	ND	ND	42	7.1	2.4	90.5
AMK	56	0	0	100	18	0	0	100	ND	ND	ND	ND	28	3.6	0	96.4
GEN	270	30.4	2.6	67	70	40	0	60	16	0	0	100	107	14	1.9	84.1
SXT	255	70.6	0	29.4	58	44.8	0	55.2	15	6.7	0	93.3	ND	ND	ND	ND
MEM	270	7.4	0.7	91.9	70	4.3	1.4	94.3	16	0	0	100	105	15.2	2.9	81.9
IPM	85	15.3	0	84.7	28	3.6	0	96.4	ND	ND	ND	ND	58	5.2	0	94.8
<i>6–18 years</i>																
AMP	623	82.8	0.3	16.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SAM	474	54	16.5	28.7	111	43.2	8.1	48.6	ND	ND	ND	ND	ND	ND	ND	ND
TZP	317	12	4.4	83.6	101	10.9	9.9	79.2	46	28.3	0	71.7	185	10.3	ND	8.1
AMC	214	26.2	9.3	64.5	62	33.9	14.5	51.6	ND	ND	ND	ND	ND	ND	ND	ND
CXM	373	46.9	1.9	51.2	98	53.1	1	45.9	41	65.9	9.8	24.4	ND	ND	ND	ND
CAZ	122	40.2	1.6	57.4	33	18.2	3	78.8	17	47.1	0	52.9	63	11.1	ND	6.3
FEP	673	37.3	4.5	57.1	170	35.3	10	54.7	62	11.3	8.1	80.6	293	12.6	ND	6.8
CIP	683	42.6	2.2	55.2	171	27.5	6.4	66.1	62	4.8	0	95.2	294	15.6	ND	7.5
LVX	242	47.9	5	47.1	67	26.9	1.5	71.6	26	3.8	0	96.2	124	21.8	ND	2.4
AMK	117	0	0	100	31	0	0	100	13	0	0	100	61	4.9	ND	3.3

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Supplementary Table S2 (Continued)

	<i>E. coli</i>				<i>K. pneumoniae</i>				<i>E. cloacae</i>				<i>P. aeruginosa</i>			
	<i>n</i>	%R	%I	%S	<i>n</i>	%R	%I	%S	<i>n</i>	%R	%I	%S	<i>n</i>	%R	%I	%S
GEN	673	29	1.2	69.8	171	24.6	0	75.4	62	6.5	1.6	91.9	294	18.4	ND	3.4
SXT	617	68.4	0.2	31.4	143	53.8	0	46.2	49	16.3	0	83.7	ND	ND	ND	ND
MEM	669	2.2	0.4	97.3	170	0.6	0	99.4	62	6.5	0	93.5	294	20.1	ND	5.8
IPM	304	4.3	0	95.7	99	0	1	99	43	4.7	0	95.3	182	31.3	ND	3.8
TGC	90	0	0	100	26	19.2	3.8	76.9	12	8.3	0	91.7	51	98	ND	0

Abbreviations: AMC, amoxicillin/clavulanate; AMK, amikacin; AMP, ampicillin; CAZ, ceftazidime; CIP, ciprofloxacin; CXM, cefuroxime; FEP, cefepime; GEN, gentamicin; I, intermediate; IPM, imipenem; LVX, levofloxacin; MEM, meropenem; ND, not determined; R, resistant; S, susceptible; SAM, ampicillin/sulbactam; SXT, trimethoprim-sulfamethoxazole; TGC, tigecycline; TZP, piperacillin/tazobactam.

Supplementary Table S3 Distribution of drug resistance of gram-negative species among age groups in urine samples

	<i>E. coli</i>				<i>K. pneumoniae</i>				<i>P. mirabilis</i>				<i>E. cloacae</i>				<i>P. aeruginosa</i>			
	n	%R	%I	%S	n	%R	%I	%S	n	%R	%I	%S	n	%R	%I	%S	n	%R	%I	%S
<i>0 to <2 years</i>																				
AMP	253	90.1	0	9.9	ND	ND	ND	ND	11	36.4	0	63.6	ND	ND	ND	ND	40	20	0	80
SAM	210	63.3	14.3	22.4	ND	ND	ND	ND	10	20	0	80	ND	ND	ND	ND	10	100	0	0
AMC	69	40.6	8.7	50.7	27	40.7	25.9	33.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TZP	82	19.5	2.4	78	39	23.1	15.4	61.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CXM	127	61.4	2.4	36.2	51	64.7	2	33.3	ND	ND	ND	ND	73.3	13.3	13.3	13.3	ND	ND	ND	ND
CAZ	39	33.3	2.6	64.1	22	40.9	9.1	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CIP	275	53.8	2.2	44	79	34.2	21.5	44.3	12	16.7	0	83.3	23	4.3	4.3	91.3	20	15	5	80
LVX	62	61.3	0	38.7	30	20	3.3	76.7	ND	ND	ND	ND	ND	ND	ND	ND	13	15.4	0	84.6
NOR	193	50.3	3.1	46.6	39	20.5	0	79.5	ND	ND	ND	ND	16	0	0	100	ND	ND	ND	ND
AMK	38	2.6	0	97.4	21	0	4.8	95.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
GEN	260	36.9	1.2	61.9	78	64.1	0	35.9	12	8.3	8.3	83.3	23	8.7	0	91.3	38	18.4	0	81.6
SXT	251	64.1	0	35.9	70	74.3	0	25.7	11	45.5	0	54.5	ND	ND	ND	ND	ND	ND	ND	ND
MEM	261	5.7	0	94.3	81	2.5	0	97.5	11	0	0	100	22	0	0	95.5	42	26.2	4.8	69
IPM	71	5.6	0	94.4	36	2.8	0	97.2	ND	ND	ND	ND	ND	ND	ND	ND	15	20	0	80
NIT	236	0.4	3.4	96.2	63	20.6	34.9	44.4	ND	ND	ND	ND	21	9.5	42.9	47.6	ND	ND	ND	ND
<i>2 to <6 years</i>																				
AMP	169	87.6	0	12.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SAM	141	52.5	18.4	29.1	ND	ND	ND	ND	15	13.3	0	86.7	ND	ND	ND	ND	ND	ND	ND	ND
AMC	40	32.5	12.5	55	26	50	0	50	15	20	0	80	ND	ND	ND	ND	ND	ND	ND	ND
CXM	87	49.4	2.3	48.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CAZ	30	30	3.3	66.7	24	41.7	25	33.3	11	100	0	0	ND	ND	ND	ND	10	10	10	80
CIP	177	37.9	3.4	58.8	23	69.6	0	30.4	12	0	0	100	ND	ND	ND	ND	25	28	4	68
LVX	36	44.4	0	55.6	15	60	6.7	33.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
NOR	135	36.3	2.2	61.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	16	43.8	0	56.2
GEN	172	30.2	2.3	67.4	28	0	0	100	14	0	0	100	ND	ND	ND	ND	25	24	4	72
AMK	29	0	0	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10	10	0	90
SXT	168	70.8	0	29.2	28	42.9	7.1	50	15	0	0	100	ND	ND	ND	ND	ND	ND	ND	ND

(Continued)

Supplementary Table S3 (Continued)

	<i>E. coli</i>					<i>K. pneumoniae</i>					<i>P. mirabilis</i>					<i>E. cloacae</i>					<i>P. aeruginosa</i>				
	<i>n</i>	%R	%I	%S	<i>n</i>	%R	%I	%S	<i>n</i>	%R	%I	%S	<i>n</i>	%R	%I	%S	<i>n</i>	%R	%I	%S	<i>n</i>	%R	%I	%S	
MEM	171	6.4	1.2	92.4	20	35	5	60	12	0	0	100	ND	ND	ND	ND	25	32	0	68					
IPM	44	9.1	0	90.9	28	42.9	0	57.1	15	0	0	100	ND	ND	ND	ND	ND	ND	ND	ND					
NIT	156	1.3	8.3	90.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
6–18 years																									
AMP	332	81.3	0.6	18.1	ND	ND	ND	ND	15	53.3	0	46.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SAM	232	56	15.1	28.9	24	37.5	8.3	54.2	15	20	20	60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TZP	153	10.5	5.9	83.7	37	8.1	16.2	75.7	10	10	0	90	ND	ND	ND	ND	36	11.1	13.9	75					
AMC	127	24.4	12.6	63	33	39.4	21.2	39.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
CXM	197	45.7	2	52.3	43	58.1	2.3	39.5	ND	ND	ND	ND	ND	ND	ND	ND	12	100	0	0					
CAZ	53	32.1	0	67	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10	20	0	80					
CIP	351	42.7	2.6	54.7	56	41.1	0	58.9	18	5.6	0	94.4	11	0	0	100	55	18.2	9.1	72.7					
LVX	125	50.4	4.8	44.8	34	47.1	2.9	50	ND	ND	ND	ND	ND	ND	ND	ND	24	25	8.3	66.7					
NOR	198	37.4	3	59.6	19	15.8	0	84.2	ND	ND	ND	ND	ND	ND	ND	ND	23	21.7	0	78.3					
GEN	343	26.8	0.6	72.6	56	21.4	0	78.6	18	5.6	11.1	83.3	11	0	9.1	90.9	55	16.4	0	83.6					
AMK	52	0	0	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
SXT	331	67.4	0	32.6	53	67.9	0	32.1	15	73.3	0	26.7	11	27.3	0	72.7	ND	ND	ND	ND					
MEM	343	0.6	0	99.4	56	0	0	100	18	0	0	100	11	0	0	100	55	25.5	12.7	61.8					
IPM	140	2.1	0	97.9	36	0	2.8	97.2	ND	ND	ND	ND	ND	ND	ND	ND	33	30.3	6.1	63.6					
NIT	321	8.4	3.4	88.2	51	17.6	33.3	49	ND	ND	ND	ND	10	0	60	40	7	85.7	0	14.3					

Abbreviations: AMC, amoxicillin/clavulanate; AMK, amikacin; AMP, ampicillin; CAZ, ceftazidime; CIP, ciprofloxacin; CXM, cefuroxime; GEN, gentamicin; I, intermediate; IPM, imipenem; LVX, levofloxacin; MEM, meropenem; ND, not determined; NIT, nitrofurantoin; NOR, norfloxacin; R, resistant; S, susceptible; SAM, ampicillin/sulbactam; SXT, trimethoprim-sulfamethoxazole; TZP, piperacillin/tazobactam.

Supplementary Table S4 Distribution of drug resistance in gram-positive species from all specimens by age group

	<i>S. aureus</i>				<i>E. faecalis</i>				<i>E. faecium</i>			
	n	%R	%I	%S	n	%R	%I	%S	n	%R	%I	%S
<i>0 to <2 years</i>												
AMP	23	95.7	0	4.3	113	4.4	0	95.6	32	81.2	0	18.8
PEN	38	97.4	0	2.6	33	30.3	0	69.7	ND	ND	ND	ND
OXA	159	22.6	0	77.4	ND	ND	ND	ND	ND	ND	ND	ND
CIP	147	19.7	0.7	79.6	105	16.2	4.8	79	32	28.1	37.5	34.4
LVX	123	17.9	0.8	81.3	89	13.5	0	86.5	28	25	25	50
GEN	147	7.5	0.7	91.8	ND	ND	ND	ND	ND	ND	ND	ND
CLI	158	37.3	0	62.7	24	100	0	0	ND	ND	ND	ND
ERY	159	37.7	1.3	61	98	49	38.8	12.2	30	73.3	23.3	3.3
SXT	159	5.7	0	94.3	23	91.3	0	8.7	ND	ND	ND	ND
RIF	28	0	0	100	ND	ND	ND	ND	ND	ND	ND	ND
LNZ	159	0	0	100	114	0.9	2.6	96.5	32	0	3.1	96.9
VAN	161	0	0	100	115	0	3.5	96.5	33	21.2	0	78.8
<i>2 to <6 years</i>												
AMP	ND	ND	ND	ND	28	7.1	0	92.9	18	77.8	0	22.2
PEN	32	78.1	0	15.6	ND	ND	ND	ND	ND	ND	ND	ND
OXA	73	12.3	0	87.7	ND	ND	ND	ND	ND	ND	ND	ND
CIP	54	11.1	0	88.9	23	13	0	87	14	50	21.4	28.6
LVX	45	13.3	2.2	84.4	24	8.3	4.2	87.5	16	25	37.5	37.5
GEN	52	11.5	0	88.5	ND	ND	ND	ND	ND	ND	ND	ND
CLI	72	22.2	0	77.8	ND	ND	ND	ND	ND	ND	ND	ND
ERY	71	19.7	1.4	78.9	24	37.5	45.8	16.7	13	84.6	0	15.4
SXT	75	1.3	0	98.7	ND	ND	ND	ND	ND	ND	ND	ND
RIF	15	0	0	100	ND	ND	ND	ND	ND	ND	ND	ND
LNZ	73	0	0	100	28	3.6	0	96.4	18	0	5.6	94.4
VAN	73	0	0	100	27	3.7	0	96.3	18	11.1	0	88.9
<i>6–18 years</i>												
AMP	ND	ND	ND	ND	78	5.1	0	94.9	38	86.8	0	13.2
PEN	100	86	0	14	23	26.1	0	73.9	ND	ND	ND	ND
OXA	243	17.3	0	82.7	ND	ND	ND	ND	ND	ND	ND	ND
CIP	160	16.9	12	81.9	72	30.6	4.2	65.3	34	47.1	17.6	35.5
LVX	150	14	0.7	85.3	70	25.7	2.9	71.4	31	41.9	9.7	48.4
GEN	157	10.8	1.3	87.9	ND	ND	ND	ND	ND	ND	ND	ND
CLI	239	20.5	0.4	79.1	12	100	0	0	ND	ND	ND	ND
ERY	239	24.3	0.4	75.3	65	44.6	38.5	16.9	32	84.4	12.5	3.1
SXT	243	2.9	0	97.1	14	85.7	0	14.3	ND	ND	ND	ND
RIF	45	0	0	100	ND	ND	ND	ND	ND	ND	ND	ND
LNZ	243	0	0	100	78	3.8	0	96.2	38	5.3	2.6	92.1
VAN	243	0	0	100	76	1.3	0	98.7	38	18.4	0	81.6

Abbreviations: AMP, ampicillin; CIP, ciprofloxacin; CLI, clindamycin; ERY, erythromycin; GEN, gentamycin; I, intermediate; LNZ, linezolid; LVX, levofloxacin; ND, not determined; OXA, oxacillin; PEN, penicillin; R, resistant; RIF, rifampicin; S, susceptible; SXT, trimethoprim-sulfamethoxazole; VAN, vancomycin.

Supplementary Table S5 Drug resistance patterns for relevant gram-positive species collected from blood, respiratory specimens, and cerebrospinal fluid in patients 18 years old or younger

Antibiotic	Blood												Respiratory specimens						CSF					
	<i>S. aureus</i>			<i>S. epidermidis</i>			<i>E. faecalis</i>			<i>E. faecium</i>			<i>S. aureus</i>			<i>S. aureus</i>								
	n	%R	%I	%S	n	%R	%I	%S	n	%R	%I	%S	n	%R	%I	%S	n	%R	%I	%S				
AMP	ND	ND	ND	ND	ND	ND	ND	100	27	66.7	0	33.3	ND	ND	ND	ND	ND	ND	ND	ND				
PEN	68	85.3	0	14.7	ND	ND	ND	66.7	10	60	0	40	11	81.8	0	18.2	ND	ND	ND	ND				
OXA	155	23.2	0	76.8	431	93.3	0	6.7	ND	ND	ND	ND	24	16.7	0	83.3	58	91.4	0	8.6				
CIP	106	31.1	0	68.9	442	55.9	5.2	38.9	36	22.2	8.3	69.4	23	26.1	39.1	34.8	20	0	0	100	64	65.6	4.7	29.7
LVX	91	27.5	0	72.5	403	57.6	2	40.4	36	22.2	0	77.8	20	25	20	55	13	0	7.7	92.3	64	51.6	17.2	31.2
GEN	106	12.3	1.9	85.8	432	46.5	12.7	40.7	ND	ND	ND	ND	ND	ND	ND	ND	20	0	0	100	64	43.8	20.3	35.9
CLI	154	27.9	0.6	71.4	433	76.2	0	23.8	ND	ND	ND	ND	ND	ND	ND	ND	24	16.7	0	83.3	64	87.5	0	12.5
ERY	154	29.9	0	70.1	432	87.7	0.5	11.8	43	53.5	30.2	16.3	23	78.3	17.4	4.3	24	8.3	4.2	87.5	64	90.6	0	9.4
SXT	155	4.5	0	95.5	442	58.1	0	41.9	ND	ND	ND	ND	ND	ND	ND	ND	24	4.2	0	95.8	64	56.2	0	43.8
RIF	17	0	0	100	149	3.4	0	96.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LNZ	155	0	0	100	431	0.2	0	99.8	46	2.2	2.2	95.7	27	0	0	100	24	0	0	100	64	0	0	100
VAN	157	0	0	100	450	0	0	100	48	2.1	0	97.9	28	25	0	75	24	0	0	100	64	0	0	100

Abbreviations: AMP, ampicillin; CIP, ciprofloxacin; CLI, clindamycin; ERY, erythromycin; GEN, gentamycin; I, intermediate; LVX, levofloxacin; ND, not determined; OXA, oxacillin; PEN, penicillin; R, resistant; RIF, rifampicin; S, susceptible; SXT, trimethoprim-sulfamethoxazole; VAN, vancomycin.

Supplementary Table S6 Drug resistance patterns for relevant gram-positive species collected from urine by age group

Antibiotic	0 to <2 y				2 to <6 y				6–18 years			
	<i>E. faecalis</i>				<i>E. faecalis</i>				<i>E. faecalis</i>			
	n	%R	%I	%S	n	%R	%I	%S	n	%R	%I	%S
AMP	27	7.4	0	92.6	12	16.7	0	83.3	17	5.9	0	94.1
CIP	27	29.6	3.7	66.7	12	8.3	0	91.7	17	41.2	0	58.8
LVX	21	23.8	0	76.2	11	0	9.1	90.9	16	37.5	0	62.5
GEH	20	30	0	70	ND	ND	ND	ND	ND	ND	ND	ND
ERY	19	63.2	31.6	5.3	10	40	50	10	ND	ND	ND	ND
LNZ	27	0	3.7	96.3	12	8.3	0	91.7	18	0	0	100
VAN	27	0	0	100	12	0	0	100	16	0	0	100

Abbreviations: AMP, ampicillin; AS, susceptible; CIP, ciprofloxacin; ERY, erythromycin; GEH, high-level gentamycin; I, intermediate; LNZ, linezolid; LVX, levofloxacin; ND, not determined; R, resistant; VAN, vancomycin.

Supplementary Table S7 Distribution of drug resistance for gram-negatives species from all specimens in patients 18 years old or younger by hospital Ward

Ward	<i>E. coli</i>				<i>K. pneumoniae</i>				<i>A. baumannii</i>				<i>P. aeruginosa</i>			
	n	%R	%I	%S	n	%R	%I	%S	n	%R	%I	%S	n	%R	%I	%S
Intensive care unit																
AMP	73	94.5	1.4	4.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SAM	46	65.2	17.4	17.4	64	68.8	7.8	23.4	23	47.8	0	52.2	ND	ND	ND	ND
AMC	44	70.5	4.5	25	16	68.8	12.5	18.8	ND	ND	ND	ND	ND	ND	ND	ND
TZP	52	42.3	1.9	55.8	57	14	8.8	77.2	19	47.4	0	52.6	42	9.5	4.8	85.7
CXM	54	79.6	0	20.4	53	64.2	0	35.8	ND	ND	ND	ND	ND	ND	ND	ND
CAZ	21	66.7	0	33.3	39	56.4	10.3	33.3	ND	ND	ND	ND	ND	ND	ND	ND
CIP	90	62.2	6.7	31.1	84	32.1	16.7	51.2	30	40	0	60	97	10.3	3.1	86.6
LVX	50	66	4	30	39	12.8	2.6	84.6	19	47.4	0	52.6	32	12.5	0	87.5
AMK	21	4.8	0	95.2	39	2.6	0	97.4	ND	ND	ND	ND	42	2.4	0	97.6
GEN	76	52.6	0	47.4	84	46.4	2.4	51.2	30	30	16.7	53.3	92	7.6	6.5	85.9
SXT	69	65.2	0	34.8	66	71.2	0	28.8	30	40	0	60	ND	ND	ND	ND
MEM	76	19.7	0	80.3	89	4.5	0	95.5	30	36.7	0	63.3	103	22.3	3.9	73.8
IPM	52	23.1	0	76.9	55	3.6	0	96.4	19	47.4	0	52.6	42	21.4	4.8	73.8
Neonatology																
AMP	61	100	0	0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SAM	25	64	4	32	71	81.7	5.6	12.7	ND	ND	ND	ND	ND	ND	ND	ND
AMC	36	33.3	16.7	50	15	0	60	40	ND	ND	ND	ND	ND	ND	ND	ND
TZP	54	16.7	16.7	66.7	81	3.7	25.9	70.4	ND	ND	ND	ND	54	5.6	22.2	72.2
CXM	36	83.3	8.3	8.3	15	40	0	60	ND	ND	ND	ND	ND	ND	ND	ND
FEP	61	85.2	9.8	4.9	86	82.6	0	17.4	ND	ND	ND	ND	ND	ND	ND	ND
CIP	61	82	0	18	83	60.2	14.5	25.3	ND	ND	ND	ND	61	27.9	0	72.1
LVX	48	93.8	0	6.2	66	27.3	0	72.7	ND	ND	ND	ND	51	23.5	11.8	64.7
GEN	61	49.2	0	50.8	86	59.3	0	40.7	ND	ND	ND	ND	64	17.2	7.8	75
SXT	61	39.3	0	60.7	86	74.4	0	25.6	ND	ND	ND	ND	ND	ND	ND	ND
MEM	61	4.9	0	95.1	86	3.5	0	96.5	ND	ND	ND	ND	64	20.3	6.2	73.4
IPM	54	5.6	0	94.4	81	0	0	100	ND	ND	ND	ND	54	22.2	22.2	55.6

(Continued)

Supplementary Table S7 (Continued)

Ward	<i>E. coli</i>				<i>K. pneumoniae</i>				<i>A. baumannii</i>				<i>P. aeruginosa</i>			
	n	%R	%I	%S	n	%R	%I	%S	n	%R	%I	%S	n	%R	%I	%S
Pediatrics																
AMP	153	94.1	0	5.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AMC	108	36.1	6.5	57.4	55	45.5	16.4	38.2	ND	ND	ND	ND	ND	ND	ND	ND
TZP	112	17.9	6.2	16.6	57	14	17.5	68.4	16	0	0	100	72	6.9	11.1	81.9
CXM	126	67.5	0.8	31.7	60	68.3	0	31.7	ND	ND	ND	ND	ND	ND	ND	ND
FEP	152	39.5	17.1	43.4	73	34.2	26	39.7	16	12.5	31.2	56.2	91	13.2	4.4	82.4
CIP	153	58.2	2	39.9	74	28.4	20.3	51.4	14	0	7.1	92.9	93	10.8	8.6	80.6
LVX	111	56.8	5.4	37.8	55	18.2	1.8	80	ND	ND	ND	ND	69	8.7	7.2	84.1
GEN	152	46.1	3.3	50.7	74	52.7	1.4	45.9	16	31.2	12.5	56.2	93	12.9	5.4	81.7
SXT	151	83.4	0		73	63	0	37	16	6.2	0	93.8	ND	ND	ND	ND
MEM	151	5.3	0	94.7	73	0	2.7	97.3	16	0	12.5	87.5	93	24.7	2.2	73.1
IPM	110	8.2	0	91.8	56	0	0	100	16	0	12.5	87.5	72	26.4	4.2	69.4
ATM	110	65.5	0	34.5	54	66.7	0	33.3	ND	ND	ND	ND	44	15.9	2.3	81.8
Surgery																
AMP	58	84.5	5.2	10.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SAM	52	55.8	1.9	42.3	37	89.2	0	10.8	12	83.3	0	25	ND	ND	ND	ND
TZP	31	25.8	9.7	64.5	31	9.7	51.6	38.7	10	100	0	25	22	27.3	27.3	45.5
CXM	11	54.5	0	45.5	10	90	0	10	ND	ND	ND	ND	ND	ND	ND	ND
FEP	57	52.6	0	47.4	20	80	10	10	11	90.9	0	9.1	21	33.3	14.3	52.4
CIP	57	40.4	0	59.6	41	31.7	39	29.3	12	75	0	18.2	37	32.4	0	67.6
LVX	26	57.7	0	42.3	16	37.5	0	62.5	ND	ND	ND	ND	ND	ND	ND	ND
GEN	60	28.3	0	71.7	41	78	0	22	12	75	0	25	37	35.1	8.1	56.8
SXT	58	70.7	0	29.3	26	84.6	0	15.4	11	81.8	0	0	ND	ND	ND	ND
MEM	60	6.7	0	93.3	41	0	0	100	12	75	0	25	37	37.8	5.4	56.8
IPM	31	9.7	0	90.3	31	0	0	100	10	90	0	10	22	31.8	0	68.2
Medical wards																
AMP	207	86.5	0	13.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SAM	116	53.4	17.2	29.3	70	64.3	0	35.7	31	77.4	3.2	19.4	ND	ND	ND	ND
AMC	102	18.6	21.6	59.8	34	29.4	8.8	61.8	ND	ND	ND	ND	ND	ND	ND	ND
TZP	161	9.9	1.2	88.8	63	15.9	3.2	81	39	92.3	0	7.7	86	7	18.6	74.4
CXM	133	49.6	0	50.4	56	53.6	1.8	44.6	ND	ND	ND	ND	ND	ND	ND	ND
FEP	203	50.2	4.9	44.8	92	48.9	8.7	42.4	40	62.5	30	7.5	98	22.4	1	76.5
CIP	217	55.8	1.4	42.9	104	23.1	14.4	62.5	44	84.1	0	15.9	106	27.4	4.7	67.9
LVX	140	59.3	2.1	38.6	41	17.1	0	82.9	37	97.3	0	2.7	74	32.4	1.4	66.2
GEN	217	41.5	0	58.5	104	34.6	0	65.4	44	81.8	0	18.2	106	22.6	0	77.4
SXT	207	66.2	0.5	33.3	92	48.9	0	51.1	40	92.5	0	7.5	ND	ND	ND	ND
MEM	220	3.6	0.5	95.9	104	1	0	99	44	84.1	0	15.9	105	30.5	1.9	67.6
IPM	162	1.9	0	98.1	63	0	0	100	41	87.8	0	12.2	86	36	2.3	61.6

Abbreviations: AMC, amoxicillin/clavulanate; AMK, amikacin; AMP, ampicillin; ATM, aztreonam; CAZ, ceftazidime; CIP, ciprofloxacin; CXM, cefuroxime; FEP, cefepime; GEN, gentamicin; I, intermediate; IPM, imipenem; LVX, levofloxacin; MEM, meropenem; ND, not determined; R, resistant; S, susceptible; SAM, ampicillin/sulbactam; SXT, trimethoprim-sulfamethoxazole; TZP, piperacillin/tazobactam.

Supplementary Table S8 Distribution of drug resistance for *S. aureus* from all specimens in patients 18 years old or younger by hospital ward

	Intensive care unit				Surgery				Medical				Pediatrics			
	n	%R	%I	%S	n	%R	%I	%S	n	%R	%I	%S	n	%R	%I	%S
AMP	16	37.5	0	62.5	12	100	0	0	21	100	0	0	ND	ND	ND	ND
OXA	36	19.4	0	80.6	33	42.4	0	57.6	99	30.3	0	69.7	68	10.3	0	89.7
CIP	ND	ND	ND	ND	31	45.2	0	54.8	76	30.3	1.3	68.4	30	0	3.3	96.7
LVX	10	30	0	70	19	42.1	0	57.9	55	14.5	1.8	83.6	30	0	0	100
GEN	16	0	0	100	31	12.9	0	87.1	75	28	0	72	28	0	3.6	96.4
CLI	36	16.7	0	83.3	33	51.5	0	48.5	98	36.7	0	63.3	66	30.3	0	69.7
ERY	36	16.7	0	83.3	33	51.5	0	48.5	98	34.7	0	65.3	66	30.3	1.5	68.2
SXT	36	0	0	100	33	12.1	0	87.9	99	11.1	0	88.9	68	1.5	0	98.5
LNZ	36	0	0	100	33	0	0	100	99	0	0	100	68	0	0	100
VAN	38	0	0	100	33	0	0	100	99	0	0	100	68	0	0	100
TCY	30	0	0	100	21	4.8	0	95.2	78	2.6	0	97.4	66	3	0	97

Abbreviations: AMP, ampicillin; CIP, ciprofloxacin; CLI, clindamycin; ERY, erythromycin; GEN, gentamycin; I, intermediate; LNZ, linezolid; LVX, levofloxacin; ND, not determined; OXA, oxacillin; PEN, penicillin; R, resistant; RIF, rifampicin; S, susceptible; SXT, trimethoprim-sulfamethoxazole; VAN, vancomycin.

Supplementary Table S9 Drug resistance in *E. coli* for patients 18 years or younger per ward in urine samples

	Medical				Pediatrics				Neonatal				Intensive care unit			
	n	%R	%I	%S	n	%R	%I	%S	n	%R	%I	%S	n	%R	%I	%S
AMP	90	83.3	0	16.7	74	95.9	0	4.1	38	100	0		25	96	4	0
AMC	60	21.7	30	48.3	56	37.5	12.5	50	36	33.3	16.7	50	20	55	0	45
TZP	61	16.4	0	83.6	56	14.3	3.6		36	25	8.3	66.7	17	23.5	5.9	70.6
CXM	72	55.6	0	44.4	62	67.7	0	32.3	36	83.3	8.3	8.3	22	81.8	0	18.2
FEP	86	45.3	8.1	46.5	73	42.5	19.2	82.1	38	76.3	15.8	7.9	24	79.2	4.2	16.7
CIP	90	60	0	40	74	63.5	0	36.5	38	84.2	0	15.8	33	69.7	3	27.3
LVX	57	68.4	3.5	28.1	56	58.9	1.8	39.3	33	90.9	0	9.1	16	62.5	6.2	31.2
GEN	90	43.3	0	56.7	73	42.5	1.4	56.2	38	36.8	0	63.2	26	53.8	0	46.2
SXT	90	64.4	0	35.6	73	84.9	0	15.1	38	52.6	0	47.4	22	59.1	0	40.9
MEM	90	3.3	0	96.7	74	2.7	0	97.3	38	7.9	0	92.1	27	0	0	100
IPM	60	0	0	100	55	3.6	0	96.4	36	8.3	0	91.7	17	0	0	100
NIT	82	3.7	4.9	91.5	68	2.9	1.5	95.6	38	0	7.9	92.1	19	0	0	100

Abbreviations: AMC, amoxicillin/clavulanate; AMP, ampicillin; CIP, ciprofloxacin; CXM, cefuroxime; FEP, cefepime; GEN, gentamicin; I, intermediate; IPM, imipenem; LVX, levofloxacin; MEM, meropenem; NIT, nitrofurantoin; R, resistant; S, susceptible; SXT, trimethoprim-sulfamethoxazole; TZP, piperacillin/tazobactam.

Supplementary Table S10 Drug resistance in *P. aeruginosa* for patients 18 years or younger in respiratory specimens

<i>P. aeruginosa</i>	ICU				Medical				Pediatrics			
Antibiotic	<i>n</i>	%R	%I	%S	<i>n</i>	%R	%I	%S	<i>n</i>	%R	%I	%S
TZP	30	13.3	6.7	80	11	0	0	100	22	4.5	27.3	68.2
FEP	45	11.1	8.9	80	17	0	0	100	24	8.3	4.2	87.5
CIP	51	7.8	3.9	88.2	17	11.8	17.6	70.6	24	8.3	4.2	87.5
LVX	24	12.5	0	87.5	11	9.1	0	90.9	22	13.6	4.5	81.8
GEN	51	5.9	5.9	88.2	17	11.8	0	88.2	24	4.2	0	95.8
MEM	51	23.5	5.9	70.6	17	35.3	11.8	52.9	24	20.8	0	79.2
IPM	30	26.7	3.3	70	11	27.3	9.1	63.6	22	22.7	0	77.3

Abbreviations: CIP, ciprofloxacin; FEP, cefepime; GEN, gentamicin; I, intermediate; IPM, imipenem; LVX, levofloxacin; MEM, meropenem; R, resistant; S, susceptible; TZP, piperacillin/tazobactam.