



**SASCM Laboratory Surveillance:**  
**Private Sector Jan-Dec 2013**

## ***E. coli*:URINE**

	Percentage Susceptible							
	Jhb	Pta	Dbn	CT	PE	EL	BFN	
<b>n = Total of isolates</b>	<b>28805</b>	<b>17672</b>	<b>18149</b>	<b>8173</b>	<b>3417</b>	<b>1533</b>	<b>1760</b>	
ampicillin	25	28	18	26	24	23	22	
1 <sup>st</sup> generation cephalosporins	35	24	64	63 N=1872	26	36 N=645	29 N=351	
2 <sup>nd</sup> generation cephalosporins	84	83	77	93	82	80	86	
Parenteral 3 <sup>rd</sup> generation cephalosporins	91	77	80	95 N=2332	95	88	67	
gentamicin	90	91	85	93	92	90	91	
amikacin	99	98	97	97 N=2332	100 N=3401	98	74	
Amox / clavulanate	44	72	68	85	78	64	73	
Ciprofloxacin	75	76	65	78	74	74	69	
Levofloxacin	74	75	65	78	74	74	69	
Cotrimoxazole	43	43	34	54 N=2332	45	38	37	
Ertapenem	100	99	100	100 N=2332	100 N=530	100	100	
%ESBL	10	8	18	5	5	12	8	

## ***E.coli*: BLOODCULTURE**

	Percentage Susceptible							
	Jhb	Pta	Dbn	CT	PE	EL	BFN	
<b>n = Total of isolates</b>	<b>776</b>	<b>444</b>	<b>477</b>	<b>254</b>	<b>48</b>	<b>37</b>	<b>57</b>	
Ampicillin	21	21	19	20	29	22	19	
Cefuroxime	78	81	66	87	81	78	82	
Ceftriaxone/cefotaxime	86	91	69	92	94	89	96	
Cefepime	86	92	70	94	94	89	96	
Amox / clavulanate	39	68	52	76	69	54	77	
Piperacillin/tazobactam	79	81	83	93	88	78	93	
gentamicin	85	88	79	86	92	97	82	
amikacin	94	95	52	94	98	100	100	
Ertapenem	100	100	99	100	100	100	100	
Imipenem/meropenem/doripenem	99	100	99	100	100	100	100	
Ciprofloxacin	73	77	61	80	77	97	63	
Tigecycline	98	96	100	NT	100	NT	100	
% ESBL	21	10	30	6	6	11	4	

## ***K.pneumo*: BLOODCULTURES**

	Percentage Susceptible							
<b>(Number of laboratories)</b>	<b>Jhb</b>	<b>Pta</b>	<b>Dbn</b>	<b>CT</b>	<b>PE</b>	<b>EL</b>	<b>BFN</b>	
<b>n = Total of isolates</b>	<b>712</b>	<b>436</b>	<b>270</b>	<b>133</b>	<b>32</b>	<b>24</b>	<b>61</b>	
Ampicillin	0	0	0	0	0	0	0	
Cefuroxime	38	42	41	54	69	42	43	
Ceftriaxone/cefotaxime	40	47	47	61	72	42	48	
Cefepime	40	54	44	61	72	42	48	
Amox / clavulanate	35	43	44	51	72	42	26	
Piperacillin/tazobactam	37	45	79	55	72	42	48	
Gentamicin	53	58	74	76	84	67	61	
Amikacin	86	88	94	100	100	96	97	
Ertapenem	95	98	99	100	100	100	100	
Imipenem/meropenem/doripenem	96	98	99	100	100	100	100	
Ciprofloxacin	59	63	81	84	84	83	56	
Tigecycline	86	84	93	NT	85 N=27	NT	83	
% ESBL	60	57	49	45	28	58	52	

## ***Enterobacter cloacae* &SPP: BLOODCULTURES**

	Percentage Susceptible							
	Jhb	Pta	Dbn	CT	PE	EL	BFN	
<b>n = Total of isolates</b>	<b>214</b>	<b>147</b>	<b>106</b>	<b>33</b>	<b>17</b>	<b>10</b>	<b>21</b>	
ampicillin	0	0	0	0	0	10	0	
Cefuroxime	14	16	25	3	0	70	0	
Ceftriaxone/cefotaxime	42	56	58	91	0	100	71	
Cefepime	82	75	65	94	76	100	95	
Amox / clavulanate	0	0	0	0	0	10	0	
Piperacillin/tazobactam	74	65	69	88	0	100	71	
Amikacin	96	93	92	97	100	100	95	
Gentamicin	86	84	81	94	94	100	95	
Ertapenem	94	90	96	97	88	100	86	
Imipenem/meropenem/doripenem	96	98	98	100	100	100	100	
Ciprofloxacin	92	86	83	94	100	100	86	
Tigecycline	90	87	93	NT	NT	NT	81	
% ESBL	18	25	23	9	24	0	5	

## Carbapenem Resistant *Enterobacteriaceae*

		Jhb 2 labs only	Pta	Dbn	CT 1 lab only	PE	EL	BFN
<b>n = Total of isolates</b>		54	167	126	2	17	1	6
<b>Species</b>	<i>Klebsiella pneumoniae</i>	64	39	36	100	82	0	83
	<i>Serratia marcescens</i>	26	7	19	0	6	0	0
	<i>Enterobacter cloacae</i>	6	32	27	0	0	0	17
	<i>Citrobacter freundii</i>	0	2	6	0	0	0	0
	<i>Escherichia coli</i>	4	5	5	0	6	0	0
	<i>Morganella morganii</i>	0	8	2	0	0	100	0
	Others	0	6	4	0	6	0	0
<b>Genotype</b>	OXA-48	52	5	UNABLE TO GET ACCURATE DATA	0	94 N=16	0	
	VIM	20	47		100	0	0	0
	NDM	4	13		0	0	0	33

	GES	20	12		0	6	0	67
	KPC	4	5		0	0	0	0
	IMP	0	0		0	0	100	0
<b>Source</b>	Urine	35	UNABLE TO GET ACCURATE DATA	UNABLE TO GET ACCURATE DATA	50 (1)	82	100	33
	SSTI	No data			No data	No data	No data	17
	Respiratory tract	24			0	6	0	17
	Blood	9			0	0	0	0
	Intra-abdominal	9			0	0	0	0
	Other	22			50	12	0	17
<b>Antibiotic % susceptible</b>	Imi/mero/dori	7	UNABLE TO GET ACCURATE DATA	UNABLE TO GET ACCURATE DATA	0	12	0	33
	amikacin	63			50	88	100	50
	Tigecycline	45 N=29			No data	No data	No data	50 N=2
	Colistin	59			100	100	No data	80 N=5

<b>Positive rectal screens</b>	PCR	No data	No data	UNABLE TO GET ACCURATE DATA	No data	No data	No data	NT
	Culture	No data	No data		No data	No data	No data	NT



## ***P. aeruginosa*: BLOODCULTURES**

### Percentage Susceptible

	Jhb	Pta	Dbn	CT	PE	EL	BFN	
<b>n = Total of isolates</b>	<b>311</b>	<b>211</b>	<b>153</b>	<b>59</b>	12	10	<b>16</b>	
Ceftazidime	70	65	76	83	100	80	63	
Cefepime	70	63	75	83	92	80	56	
Pip/tazobactam	66	50	63	86	83	50	50	
Gentamicin	76	68	69	64	100	80	56	
Amikacin	75	64	74	88	100	80	69	
Tobramycin	73	63	68	66	100	80	69	
Meropenem	56	54	59	64	92	70	44	
Imipenem	56	54	59	61	75	60	44	
Doripenem	58	60	61	87	100	70	44	
Ciprofloxacin	69	59	61	63	100	80	56	
Polymyxin (Colistin)	98	95	97	100(N=13)	100	100	75	
Aztreonam	45				NT	NT	83	
	N=118	NT	NT	NT			N=6	

## ***Acinetobacter baumannii*: BLOODCULTURES**

Percentage Susceptible								
	Jhb	Pta	Dbn	CT	PE	EL	BFN	
<b>n = Total of isolates</b>	<b>159</b>	<b>51</b>	<b>90</b>	<b>7</b>	<b>5</b>	<b>3</b>	<b>2</b>	
Ceftazidime	27	31	53	86	40	0	0	
Cefepime	27	39	70	86	40	33	50	
Pip/tazobactam	23	27	51	71	20	33	50	
Gentamicin	35	51	77	71	40	67	50	
Amikacin	36	67	97	86	100	100	50	
Tobramycin	43	57	100	71	100	67	50	
Meropenem	31	41	80	71	40	33	50	
Imipenem	31	41	80	71	40	33	50	
Doripenem	31	37	80	86	40	100	50	
Ciprofloxacin	39	41	63	71	40	100	50	
Polymyxin (Colistin)	99	98	100	100(N=6)	100	100	50	
Cotrimoxazole	29 N=81	32	54	33	NT	33	0	
Tigecycline	79 (N=144)	77	98	100	100	100	NT	





## ***E. faecium*: BLOODCULTURES**

Percentage Susceptible								
	Jhb	Pta	Dbn	CT	PE	EL	BFN	
<b>n = Total of isolates</b>	<b>116</b>	<b>64</b>	<b>32</b>	<b>13</b>	<b>0</b>	<b>3</b>	<b>10</b>	
Ampicillin	6	2	9	0		33	0	
Gentamicin	12	22	16	55		50	0	
Teicoplanin	75	78	91	100		100	90	
Vancomycin	73	78	91	100		100	90	
Linezolid	93	81	91	100		100	100	
Daptomycin	NT	NT	NT	NT		NT	NT	

## ***C. albicans*: BLOODCULTURES**

	Percentage Susceptible							
	Jhb	Pta	Dbn	CT	PE	EL	BFN	
No of isolates	120	84	69	14	7	2	11	
<sup>a</sup> Fluconazole	98	99	100	100	100	100	100	
Voriconazole	98	100	100	100	100	100	100	
Posaconazole	NT	100	NT	100	NT	NT	NT	
Amphotericin B	100	100	100	100	100	100	100	
*Caspofungin	99	100	100	100	100	100	100	
Anidulafungin	NT	NT	100 (N=62)	NT	NT	NT	NT	

<sup>a</sup> *Candida albicans* isolates that were fluconazole resistant may have had trailing end-points and not elevated MICs

## Candida Non-Albicans: BLOODCULTURES

<i>Candida parapsilosis</i>							
	Jhb	Pta	Dbn	CT	PE	EL	BFN
Number of Isolates	308	244	150	9	13	2	4
Fluconazole	14	12	37	44	54	0	25
Voriconazole	18	25	66	44	100	0	25
Posaconazole	NT	99	NT	NT	NT	NT	NT
Amphotericin B	100	100	100	100	100	100	100
*Caspofungin	99	95	100	100	100	100	100
Anidulafungin	NT	NT	100(N=92)	NT	NT	NT	NT
<i>Candida glabrata</i>							
	Jhb	Pta	Dbn	CT	PE	EL	BFN
Number of Isolates	38	45	31	2	2	4	7
Fluconazole	0	0	0	0	0	0	29
Voriconazole	88	94	100	100	100	100	50
Posaconazole	NT	100	NT	NT	NT	NT	NT
Amphotericin B	100	100	100	100	100	100	100
*Caspofungin	76	76	100	100	100	100	86





Anidulafungin	NT	NT	100(N=1)	NT	NT		
<b><i>Candida species</i></b>							
	<b>Jhb</b>	<b>Pta</b>	<b>Dbn</b>	<b>CT</b>	<b>PE</b>	<b>EL</b>	<b>BFN</b>
Number of Isolates	<b>5</b>	<b>18</b>	<b>0</b>	<b>42</b>	<b>0</b>	<b>0</b>	<b>1</b>
Fluconazole	20	28		38			100
Voriconazole	20	72		38			100
Posaconazole	NT	100		NT			NT
Amphotericin B	80	100		100			100
*Caspofungin	80	89		100			100
Anidulafungin	NT	NT		NT			NT

\*Caspofungin MIC's may not be reliable and resistance was not confirmed by testing another agent (e.g. anidulafungin) or by fks gene sequencing  
 NB. One of the Cape Town centres did not send candida data as per species type and these are therefore all classified as *Candida spp* (n=42)

## *S. pneumoniae*: LRTI

		Jhb	Pta	Dbn	CT	PE	EL	BFN	
<b>n = Total number of isolates</b>		<b>868</b>	<b>1269</b>	<b>277</b>	<b>499</b>	<b>83</b>	<b>4</b>	<b>115</b>	
Penicillin~	</=0.06	24	46	57	6	55	75	37	
	0.12-2	60	54	42	94	40	25	57	
	4	12		1	0	5	0	4	
	8	3		0	0	0	0	1	
Telithromycin - susceptible		100	100	99	100	100	100	96	
Erythromycin – susceptible		57	66	43	62	61	100	72	
3 <sup>rd</sup> generation cephalosporins (parenteral)*	Susceptible	97	98	100	100	99	100	99	
	IR	2		0	0	1	0	0	
	HR	1		0	0	0	0	1	
Quinolones	Levo	100	100	100	100 (N=59)	99	100	100	
	Moxi	100	100	100	100	98	100	100	

~Penicillin breakpoints (oral): CLSI S</=0.06 IR 0.12-1 HR >/=2

~ Penicillin breakpoints (parenteral non-meningitis): CLSI S</=2 IR 4 HR >/=8

\* 3<sup>rd</sup> Cephalosporins (non-meningitis): CLSI S</=1 IR 2 HR >/=4

NT: Not tested

### *Haemophilus influenzae*: RTI

	Jhb	Pta	Dbn	CT	PE	EL	BFN
No of isolates	2371	2477	1421	1389	268	52	385
Ampicillin	88	89	91	82	92	90	87
B-lactamase positive	55	11	9	19 (N=232)	8	10	11