



Antibiotic susceptibility tables for 2019: Hutt Valley and Capital and Coast DHBs community data, and combined hospital and community for Wairarapa.

The table shows the antibiotic susceptibility results for the main pathogens encountered in the community and includes Wairarapa hospital data as well. There are slight differences between the laboratories in the way bugs are worked up. For example amoxycillin is tested front line for all urine gram negatives in the Wairarapa, whereas it only tested second line at WSCL.

The data are provided for discussion, but we would not recommend any major changes to empiric antibiotic guidelines on the basis of these data alone.

The data show that there are no real differences in resistance rates between the different communities (or in the rest of NZ).

Wellington and Hutt community antibiotic susceptibilities 2019

		Routinely Reported antibiotics												Second line antibiotics							
		No. strains	Amoxycillin	Amoxycillin-clavulanate				ESBL	Erythromycin	Flucloxacillin	Nitrofurantoin	Co-trimoxazole	Trimethoprim	Penicillin	Doxycycline	Clindamycin	Ciprofloxacin	Fusidic acid	Mupirocin	Medilnam	Fosfomycin
				Amoxycillin-clavulanate: cystitis breakpoint																	
Urine																					
Escherichia coli from urine all community		10785		71	86	94	4				99		72				89			92	84
Escherichia coli from urine > 75 yrs community		7435		73	86	93	4				98		70				88			92	
Enterococcus spp from urine		548	99			IR	IR				99										
Pseudomonas aeruginosa from urine		176	IR	IR	IR	IR			IR	IR	IR						96				
Klebsiella spp from urine all community		914	IR	86	92	95						76		76			91			83	
Klebsiella spp from urine >80 yrs community		370	IR	85	91	91						78		71			89				
S. saprophyticus		631									100		93								
Others																					
Staphylococcus aureus community		8912	15	91		91			88	91		99		15	97		90		83	95	
Streptococcus pyogenes		5358	100	100		100			92	100		90		100			93	IR			
Group B strep		1062	100	100		100			77			99		100			78	IR			
Other beta haemolytic streptococci		1877	100	100		100			72	100		100		100	62			IR			
MRSA community		851	IR			IR			70	IR		98		IR	96		70		76	96	
Streptococcus pneumoniae		972		94	94	94							78		74	85					
Haemophilus influenzae		301		75	86							72				99					

HIV Hospital and Community Antiretroviral Therapy																					
		Routinely Reported antibiotics										Second line/IV antibiotics									
Organism group	No. strains	Amoxicillin-clavulanate: cystitis breakpoint																			
		Amoxicillin	Amoxicillin-clavulanate		Cephalexin	ESBL producer	Erythromycin	Flucloxacillin	Nitrofurantoin	Co-trimoxazole	Trimethoprim	Penicillin	Doxycycline	IV Cefuroxime	Gentamicin	Ceftazidime	Ceftriaxone	Clindamycin	Ciprofloxacin	Meropenem	Piperacillin-tazobactam
Non blood culture sites																					
<i>Haemophilus influenzae</i>	65	59	71						78			100						99			IR
<i>Enterococcus</i> spp	151	95	95					98	IR					IR	90						IR
<i>Staphylococcus aureus</i>	1186	17		90		88	90		99		17	98					90				100
<i>Streptococcus pyogenes</i>	464	100		100			100				100				98						100
Urine isolates																					
<i>Escherichia coli</i> from urinary sources	1591	52	72	83	97	4		98		73	IR			98				91			IR
<i>Klebsiella</i> spp from urine	137	IR	90	96	96	2		81		80	IR			98		96		90			IR
<i>Pseudomonas aeruginosa</i>	63	IR	IR		IR		IR	IR		IR			IR	86		IR		85	66	98	IR
<i>Staphylococcus saprophyticus</i>	75	96	96					99		91											
Bacteraemia																					
Gram negative bacilli major pathogens	71	46	52		1				72					83	93		98		84	100	88
<i>Escherichia coli</i>	51	52	52		5				67					86	98		88		82	100	94
Gram positive cocci major pathogens	57	37	96				96							96			96		96	96	100
<i>Staphylococcus aureus</i>	29			91		91	91	100				100		91	100	NR	NR	91			100

There have been no major shifts in resistance, with stable numbers of MRSA (9%) and ESBL-producing *E. coli* (4%).

The main take home messages are:

- Nitrofurantoin remains the most effective antibiotic for cystitis by far, and we look forward to the macrocrystalline preparation becoming available, which can be given twice daily
- Cefalexin is running a close second, but can only be reliably used for cystitis, not pyelonephritis. It may also be used for skin/soft tissue infections, but not respiratory tract infections.
- Ciprofloxacin resistance keeps creeping up, and remains an antibiotic that should be only used for pyelonephritis or when there are no other active alternatives
- Pivmecillinam and fosfomycin are available after discussion with a microbiologist and are used for difficult to treat urinary tract infections
- Chest infections need higher doses of antibiotics: 750 – 1000 mg tds of amoxicillin or amoxicillin 500 mg **and** amoxicillin-clavulanate 625 mg tds are typical adult doses for haemophilus or pneumococcus
- The 74% susceptibility of pneumococcus to penicillin increases to 94% if high dose penicillin or amoxycillin is prescribed
- Please provide clinical details: it does affect how we work up and report microbiology results