

Medicine Hat Diagnostic Laboratory

January 1 - December 31, 2013 COMMUNITY Cumulative Antimicrobial Susceptibility Report (% Susceptible)

Organism	n	Ampicillin Amoxicillin	Cefotaxime Ceftriaxone	Ceftazidime	Cephalothin Cephalexin	Ciprofloxacin	Clindamycin	Erythromycin	Gentamicin	Gentamicin Synergy Screen	Nitrofurantoin Urinary Isolates Only	Norfloxacin Urinary Isolates Only	Oxacillin Cloxacillin	Penicillin	Piperacillin	Sulfamethoxazole/ Trimethoprim	Tobramycin	Vancomycin	Penicillin - PO (Non-meningitis)	Penicillin - IM/IV (Non-meningitis)	Penicillin (Meningitis)
<i>Citrobacter</i> species*	47	R	-	-	-	96	-	-	98	-	70	96	-	-	-	94	98	-			
<i>Enterobacter</i> species*	66	R	-	-	R	100	-	-	100	-	6	100	-	-	-	98	100	-			
<i>Escherichia coli</i>	1468	41	96	-	47 ^U	85	-	-	94	-	95	85	-	-	-	81	94	-			
<i>Klebsiella oxytoca</i>	43	R	98	-	88 ^U	98	-	-	98	-	63	98	-	-	R	98	98	-			
<i>Klebsiella pneumoniae</i>	205	R	99	-	87 ^U	97	-	-	99	-	24	97	-	-	R	93	99	-			
<i>Proteus mirabilis</i>	84	63	100	-	96 ^U	89	-	-	98	-	R	96	-	-	-	61	99	-			
<i>Pseudomonas aeruginosa</i>	96	R	R	91	R	86	-	-	97	-	R	-	-	-	89	R	96	-			
<i>Enterococcus faecalis</i>	224	100	R	R	R	76 ^U	R	-	R	76	98	-	-	-	-	R	R	100			
Group A Streptococcus ¹	37	-	-	-	-	-	81 ^P	81 ^P	-	-	-	-	-	100	-	R	-	-			
Group B Streptococcus	48	-	-	-	-	-	67 ^P	67 ^P	-	-	-	-	-	100	-	R	-	-			
<i>Staphylococcus aureus</i>	382	-	-	-	84	-	77	64	-	-	95	-	84	24	-	97	-	100			
MRSA Subset (16%) ³	62	-	-	-	0	-	27	6	-	-	94	-	0	0	-	100	-	100			
MSSA Subset (84%) ³	320	-	-	-	100	-	79	75	-	-	96	-	100	29	-	96	-	100			
<i>Streptococcus pneumoniae</i> ²	31	-	-	-	-	-	94	81	-	-	-	-	-	◇	-	94	-	-	90	100	90

Extended Spectrum Beta-Lactamase (ESBL) Data

Total number of ESBL producing isolates: 29
E. coli (28): 1.9% of *E. coli* isolates
K. pneumoniae (1): 0.5% of *K. pneumoniae* isolates
P. mirabilis (0): 0.0% of *P. mirabilis* isolates

AmpC (Broad Spectrum Cephalosporinase) Data

Total number of AmpC producing isolates: 34
E. coli (29): 2.0% of *E. coli* isolates
K. pneumoniae (5): 2.4% of *K. pneumoniae* isolates
P. mirabilis (0): 0.0% of *P. mirabilis* isolates

ESBL producing organisms are resistant to all penicillins, cephalosporins and aztreonam. Beta-lactam/beta-lactamase inhibitor combinations have unpredictable activity against these enzymes and are generally not recommended.
AmpC producing organisms are resistant to all penicillins, cephalosporins, beta-lactam/beta-lactamase inhibitor combinations and aztreonam.

- Antimicrobial not tested or antimicrobial not indicated.

* These organisms usually produce inducible beta-lactamase which may cause failure of penicillin/cephalosporin therapy, despite an in-vitro susceptible result.

R Organism is intrinsically resistant to indicated antimicrobial.

¹ Superficial skin and soft-tissue isolates only.

² Due to small number of annual isolates, analysis was performed using data obtained during the 2 year period of January 1, 2012 - December 31, 2013.

³ MRSA - Methicillin Resistant *Staphylococcus aureus*; MSSA - Methicillin Susceptible *Staphylococcus aureus*.

^U Data for this antimicrobial/organism combination is applicable for use towards treatment of urinary tract infections only. Please note that results of Cephalothin/Cephalexin testing for *E. coli*, *Klebsiella* species, and *Proteus mirabilis* do not reliably predict clinical outcome when Cephalexin is used to treat superficial skin and soft-tissue infections.

^P Treatment using Macrolides (Erythromycin/Clarithromycin/Azithromycin) or Lincosamides (Clindamycin) is generally not recommended except when treatment using Penicillin is contraindicated.

<> Refer to Penicillin PO/IV/IM meningitis and non-meningitis columns.

Percent susceptible for each organism/antimicrobial combination was generated by including the first isolate only of that organism recovered from a given patient.