



ANTIBIOGRAM FOR SELECT BACTERIA OF PUBLIC HEALTH AND CLINICAL IMPORTANCE ISOLATED BY CLINICAL LABORATORIES IN MONTANA

2009

The efficacy of antimicrobial drug therapy is compromised by the emergence and spread of microbes that are resistant to economical, safe, and effective first-line drugs. Antimicrobial susceptibility data generated from testing isolates from individual patients can be very helpful to clinicians, infection control personnel, epidemiologists, and pharmacists if cumulative data from these tests are compiled and presented in a clear and consistent manner.

Thirty six Laboratories from across Montana provided aggregate antimicrobial susceptibility data from testing performed January 1, 2009 through December 31, 2009 to the Montana Department of Public Health and Human Services (DPHHS). The data were compiled to create a statewide antibiogram using the methodology described by the Clinical and Laboratory Standards Institute entitled *"Analysis and Presentation of Cumulative Antimicrobial Susceptibility Test Data; Approved Guideline"*. Specific recommendations implemented from this document include:

- include only final, verified test results
- include only diagnostic isolates (not surveillance isolates)
- eliminate duplicates by including only the first isolate of species
- include only antimicrobial agents routinely tested (not supplemental agents)
- report percent susceptible (do not include percent intermediate).

The cumulative state antibiogram is presented to provide Montana clinicians and public health practitioners with data to track antimicrobial susceptibility patterns, raise awareness of antimicrobial resistance, and to identify opportunities to reduce inappropriate antimicrobial usage. These data are intended for surveillance purposes only and should not be used for determining antimicrobial therapy for individual patients.

The tables below summarize the susceptibility patterns for select bacteria of public health and clinical importance.

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2009
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These data represent the results of individual cultures, not patient infections, and should not be used for the determination of therapy for individual patients. This antibiogram reflects data submitted by 36 clinical laboratories in Montana.

Data collection: January 1 through December 31, 2009.

Gram Positive 2009 Isolates		Penicillins		Cephems		Quinolones		Other							TOTAL Urines only	Norfloxacin	Nitrofurantoin		
		Penicillin	Oxacillin (cefoxitin disc)	Ampicillin	Cefuroxime	Cefotaxime	Ciprofloxacin	Levofloxacin	Vancomycin	Tetracycline	Linezolid	Quinupristin- dalbopristin	Clindamycin	Azithro- Clarithro- Erythromycin				Trimethoprim- sulfamethoxazole	
ORGANISM	TOTAL All Sources	(Isolates tested)														TOTAL Urines only	(Isolates tested)		
		PERCENT SUSCEPTIBLE														% SUSCEPTIBLE			
Enterococcus spp.	914	(602) 95%		(879) 92%			(696) 71%	(689) 73%	(903) 97%	(685) 20%	(643) 96%	(345) 59%					567		(567) 95%
E. faecalis	2347	(2323) 95%		(2026) 96%			(1973) 69%	(1567) 67%	(2347) 99%	(1701) 24%	(2268) 95%	(591) 8%					879		(879) 98%
E. faecium	227	(227) 22%		(138) 31%				(167) 20%	(221) 60%	(175) 73%	(222) 95%	(39) 95%					92		(92) 25%
S. aureus	10543	(9163) 7%	(9046) 63%		(2873) 87%		(9231) 71%	(7971) 70%	(10529) 100%	(9944) 97%	(9978) 100%	(5218) 100%	(8026) 73%	(9918) 47%	(10529) 99%		429	(49) 46%	(423) 98%
S. pneumoniae	755	(748) 69%			(92) 82%	(385) 93%		(528) 98%	(752) 100%	(623) 77%	(406) 100%		(97) 43%	(619) 60%	(585) 68%				

Gram Negative 2009 Isolates		Penicillins	B-lactam / B-lactamase Inhibitors		Cephems					Quinolones		Penems		Aminoglycosides			Other		TOTAL Urines only	Norfloxacin	Nitrofurantoin	Trimethoprim		
		Ampicillin	Ampicillin / sulbactam	Piperacillin / tazobactam	Cefazolin	Ceftazidime	Cefuroxime	Cefotaxime	Ceftriaxone	Cefepime	Ciprofloxacin	Levofloxacin	Imipenem	Meropenem	Amikacin	Tobramycin	Gentamicin	Trimethoprim- sulfamethoxazole					Aztreonam	
ORGANISM	TOTAL All Sources	(Isolates tested)																			TOTAL Urines only	(Isolates tested)		
		PERCENT SUSCEPTIBLE																			% SUSCEPTIBLE			
E. coli	17804	(17646) 64%	(16584) 71%	(15720) 98%	(17498) 93%	(13027) 98%	(5490) 93%	(3525) 99%	(17434) 98%	(15455) 99%	(17339) 88%	(13174) 88%	(15814) 100%	(3092) 99%	(15483) 100%	(12076) 96%	(17607) 96%	(17725) 82%	(11555) 99%	7401	(1251) 87%	(7323) 97%	(1654) 81%	
K.pneumoniae	3175		(2780) 92%	(2826) 98%	(3146) 96%	(2489) 98%	(783) 88%	(625) 99%	(2893) 98%	(2815) 98%	(2820) 96%	(2579) 97%	(2890) 100%	(641) 100%	(3175) 92%	(2088) 98%	(2956) 99%	(3175) 94%	(2093) 98%	1327	(228) 95%	(1304) 45%	(337) 93%	
P. mirabilis	968	(806) 91%	(868) 92%	(869) 99%	(943) 91%	(756) 98%	(288) 97%	(232) 99%	(919) 98%	(815) 97%	(893) 84%	(788) 86%	(631) 96%	(144) 98%	(891) 99%	(653) 94%	(946) 92%	(968) 81%	(668) 96%	131	(63) 79%		(98) 73%	
P. aeruginosa	2099			(2029) 95%		(1769) 92%		(1551) 32%	(1201) 5%	(1774) 90%	(1795) 77%	(1642) 77%	(1942) 90%	(478) 96%	(1888) 95%	(1392) 96%	(1957) 88%		(1205) 68%	161	(63) 70%		(139) 2%	