

**Antimicrobial Susceptibilities
of Selected Pathogens, 2001**



Sampling Methodology

- † all isolates tested
- ‡ ~1 isolate tested per week at MDH
- ~10% sample of statewide isolates received at MDH
- ** all isolates tested from 7-county metropolitan area
- ✓ isolates from a normally sterile site

	<i>Campylobacter</i> spp. ^{1*}	<i>Salmonella</i> Typhimurium ^{2†}	Other <i>Salmonella</i> serotypes (non-typhoidal) ²	<i>Shigella</i> spp.	<i>Neisseria gonorrhoeae</i> ³	<i>Neisseria meningitidis</i> ^{4†‡}	Group A <i>Streptococcus</i> ^{†‡}	Group B <i>Streptococcus</i> ^{5‡}	<i>Streptococcus pneumoniae</i> ^{6**}	<i>Mycobacterium tuberculosis</i> ^{7†}
No. of Isolates Tested	55	164	38	46	123	27	174	220	304	195
% Susceptible										
β-lactam antibiotics	amoxicillin	/	/	/	/	/	/	/	94	/
	ampicillin	/	67	89	17	/	100	100	/	/
	penicillin	/	/	/	/	96	100	100	77	/
	cefuroxime sodium	/	/	/	/	100	/	/	82	/
	cefotaxime	/	/	/	/	100	100	100	84	/
	ceftriaxone	/	95	95	98	100	100	/	/	/
	meropenem	/	/	/	/	/	100	/	84	/
Other antibiotics	levofloxacin	/	/	/	/	/	/	/	99	/
	ciprofloxacin	86 ¹	100	100	100	100	/	/	/	/
	chloramphenicol	/	74	97	91	/	100	/	/	/
	clindamycin	/	/	/	/	/	99	86	97	/
	erythromycin	96	/	/	/	/	98	73	80	/
	gentamicin	96	/	/	/	/	/	/	/	/
	tetracycline	40	/	/	/	/	/	/	90	/
	trimethoprim/sulfamethoxazole	/	96	97	78	/	59	/	71	/
	vancomycin	/	/	/	/	/	/	100	100	100
TB antibiotics	ethambutol	/	/	/	/	/	/	/	/	98
	isoniazid	/	/	/	/	/	/	/	/	88
	pyrazinamide	/	/	/	/	/	/	/	/	97
	rifampin	/	/	/	/	100	/	/	/	96
	streptomycin	/	/	/	/	/	/	/	/	81

Trends, Comments and Other Pathogens

1	<i>Campylobacter</i> spp.	Ciprofloxacin susceptibility was determined for all isolates received (n=882), rather than one isolate per week. Less than 52% of isolates from patients returning from foreign travel were susceptible to quinolones. Susceptibilities were determined using 2001 NCCLS breakpoints for <i>Enterobacteriaceae</i> . Susceptibility for erythromycin was based on an MIC < 4 µg/ml.
2	<i>Salmonella</i> spp.	Antimicrobial treatment for enteric salmonellosis generally is not recommended.
3	<i>Neisseria gonorrhoeae</i>	Isolates tested comprise 5% of total (2,666) cases reported. All isolates tested were susceptible to cefpodoxime, cefixime and spectinomycin. No decreased susceptibility to azithromycin was detected in 132 MN isolates tested through another surveillance system (GISP) using a CDC provisional breakpoint of 1.0 µg/ml.
4	<i>Neisseria meningitidis</i>	Provisional breakpoints from CDC. MIC ≤ 0.06 µg/ml to penicillin considered susceptible. In 2001, one isolate had intermediate susceptibility to penicillin (MIC of 0.12 µg/ml).
5	Group B <i>Streptococcus</i> (GBS)	95% (21/22) of early-onset infant, 100% (17/17) of late-onset infant, 50% (7/14) of maternal, and 80% (175/218) of other invasive GBS cases were tested. 89% (40/45) of infant and maternal case isolates were susceptible to clindamycin and 80% (36/45) were susceptible to erythromycin. All 220 isolates had an MIC of <0.5 µg/ml to ceftazolin.
6	<i>Streptococcus pneumoniae</i>	7% (21/304) had intermediate susceptibility and 16% (48/304) were resistant to penicillin. In 2002 NCCLS cefotaxime and ceftriaxone breakpoints are changing for nonmeningitis pneumococcal isolates; reported above is the proportion of 2001 case isolates susceptible by meningitis breakpoints (intermediate=1.0 µg/ml, resistant ≥ 2.0 µg/ml); by nonmeningitis breakpoints (intermediate=2.0 µg/ml, resistant ≥ 4.0 µg/ml) 95% (288/304) of these isolates were susceptible. Isolates were screened for high-level resistance to rifampin at a single MIC; all were ≤ 2 µg/ml.
7	<i>Mycobacterium tuberculosis</i> (TB)	National guidelines recommend initial four drug therapy where resistance to isoniazid (INH) exceeds 4%. In MN, 12% of <i>M. tuberculosis</i> isolates were INH-resistant. Four cases of multi-drug resistant TB (resistant to INH and rifampin) were identified, all among foreign-born persons. However, the percentage of U.S.-born cases resistant to at least one drug increased from an average of 7% over the past 4 years to 26% in 2001. Eight of 10 drug-resistant U.S.-born cases in 2001 were resistant to streptomycin.
	<i>Bordetella pertussis</i>	All 117 isolates received were susceptible to erythromycin using provisional CDC breakpoints.
	<i>Escherichia coli</i> O157:H7	Antimicrobial treatment for <i>E. coli</i> O157:H7 infection is not recommended.
	Methicillin Resistant <i>Staphylococcus aureus</i> (MRSA)	MRSA infections continue to be reported via 12 sentinel laboratories. Patients are interviewed to determine whether they have healthcare-associated risk factors. Of 107 known community-onset MRSA isolates from 2000 (data pending from 2001), 44% were susceptible to erythromycin, 82% to clindamycin, 79% to ciprofloxacin, 93% to tetracycline, 95% to trimethoprim/sulfamethoxazole, 97% to rifampin and 100% to vancomycin. Of healthcare-associated MRSA isolates collected in 2000 at these laboratories, 8% were susceptible to erythromycin, 20% to clindamycin, 15% to ciprofloxacin, 92% to tetracycline, 87% to trimethoprim/sulfamethoxazole, 94% to rifampin and 100% to vancomycin.

Reportable Diseases, MN Rule #4605.7040

Foodborne, Vectorborne and Zoonotic Diseases

Amebiasis (*Entamoeba histolytica*)
Anthrax (*Bacillus anthracis*) **a**
Babesiosis (*Babesia* spp.)
Botulism (*Clostridium botulinum*)**a**
Brucellosis (*Brucella* spp.)**g**
Campylobacteriosis (*Campylobacter* spp.) **b**
Cat scratch disease (infection caused by *Bartonella* spp.)
Cholera (*Vibrio cholerae*) **a,b**
Cryptosporidiosis (*Cryptosporidium parvum*)
Dengue virus infection
Diphyllobothrium latum infection
Ehrlichiosis (*Ehrlichia* spp.)
Encephalitis (caused by viral agents)**g**
Enteric *E. coli* infection (*E. coli* O157:H7 and other pathogenic *E. coli* from gastrointestinal infections) **b**
Giardiasis (*Giardia lamblia*)
Hantavirus infection**g**
Hemolytic uremic syndrome
Leptospirosis (*Leptospira interrogans*)
Listeriosis (*Listeria monocytogenes*) **b**
Lyme disease (*Borrelia burgdorferi*)
Malaria (*Plasmodium* spp.)
Plague (*Yersinia pestis*)**g**
Psittacosis (*Chlamydia psittaci*)
Q fever (*Coxiella burnetii*)**g**
Rabies (animal and human cases and suspects) **a**
Rocky Mountain spotted fever (*Rickettsia* spp., *R. canada*)
Salmonellosis, including typhoid (*Salmonella* spp.) **b**
Shigellosis (*Shigella* spp.)**b**
Toxoplasmosis
Trichinosis (*Trichinella spiralis*)
Tularemia (*Francisella tularensis*)**g**
Typhus (*Rickettsia* spp.)
Yellow fever
Yersiniosis (*Yersinia* spp.) **b**

Invasive Bacterial Diseases

Haemophilus influenzae disease (all invasive disease) **b,c**
Meningitis caused by *Haemophilus influenzae* **b**, *Neisseria* other bacterial agents, *Streptococcus pneumoniae* **b**, or viral or
Meningococemia (*Neisseria meningitidis*) **b,g**
~~Streptococcal disease (all invasive disease caused by~~
S. pneumoniae) **b,c**
Toxic shock syndrome **b**

Vaccine Preventable Diseases

Diphtheria (*Corynebacterium diphtheriae*) **b**
Hepatitis (all primary viral types including A,B,C,D, and E)
Influenza (unusual case incidence or lab confirmed cases) **d**
Measles (Rubeola) **a**
Mumps **a**
Pertussis (*Bordetella pertussis*) **a,b**
Poliomyelitis **a,d**
Rubella and congenital rubella syndrome
Tetanus (*Clostridium tetani*)

Sexually Transmitted Diseases and Retroviral Infections

Chancroid (*Haemophilus ducreyi*) **a,e**
Chlamydia trachomatis infections **e**
Gonorrhea (*Neisseria gonorrhoeae*) **e**
Human immunodeficiency virus (HIV) infection, including Acquired Immunodeficiency Syndrome (AIDS) **f**
Retrovirus infection (other than HIV)
Syphilis (*Treponema pallidum*) **a,e**

Other Conditions

Agents of bioterrorism **g**
Blastomycosis (*Blastomyces dermatitidis*)
Histoplasmosis (*Histoplasma capsulatum*)
Increased incidence of any illness beyond expectations
Kawasaki disease
Legionellosis (*Legionella* spp.)**d**
Leprosy (*Mycobacterium leprae*)
Reye syndrome
Rheumatic fever (cases meeting the Jones Criteria only)
Staphylococcus aureus (only death or serious illness due to methicillin-resistant *S. aureus*) **b**
Vancomycin Intermediate/Resistant *Staphylococcus aureus* **d**
Unexplained deaths **b** and serious illness **d** (possibly due to infectious cause)
Tuberculosis (Mycobacterium tuberculosis and M. bovis) **b**

a Report immediately by telephone 612-676-5414 or 877-676-5414

b Submit isolates to the MDH. If a rapid, non-culture assay is used for diagnosis, we request that positives be cultured, and isolates submitted. If not possible, please send specimens, enrichment broth, or other appropriate material. Please call the MDH Public Health Laboratory at 612-676-5938 for instructions.

c Isolates are considered to be from invasive disease if they are isolated from normally sterile sites, e.g. blood, CSF, joint fluid, etc.

d Submission of isolates to MDH is requested, but not required by rule

e Report on separate Sexually Transmitted Disease Report Card

f Report on separate HIV Report Card

g Requested to report immediately by telephone; reporting rule change expected in 2002

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Minnesota Department of Health
717 Delaware Street SE
Minneapolis, MN 55414
www.health.state.mn.us

To Report a Case:

Fill out a Minnesota Department of Health case report form and mail to the above address. For diseases that require immediate reporting, or for questions about reporting, call the Acute Disease Investigation and Control Section at: 612-676-5414 or 877-676-5414 or fax form to 612-676-5743.

To Send an Isolate to MDH:

Send isolates by U.S. mail using approved containers to the above address. If using a courier, isolates should be sent to 717 Delaware Street SE, Minneapolis, MN 55414. To order pre-paid etiologic agent mailers, or for other assistance, call the Public Health Laboratory Specimen Handling Unit at: 612-676-5396.

The MDH Antibiogram is available on the MDH Web site (<http://www.health.state.mn.us>). Laminated copies can be ordered from: Antibiogram, Minnesota Dept. of Health, Acute Disease Investigation and Control Section, 717 Delaware St. SE, Minneapolis, MN 55414.