

SUMMARY OF CONFIRMED INFECTIONS

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The March 2009 issue presents the laboratory diagnosis of some of the infectious diseases and the reference microbiology work done in this laboratory during February 2009 and new cases of syphilis in Milwaukee during January 2009. Information on the laboratory diagnosed mycobacterial infections in Wisconsin during January 2009 is also included.

Legionnaires Disease

Patient		Test		
Age	Sex	Urine Antigen	Culture	DFA
61 yr	M	+	-	-

ND = Not done

Syphilis

Test	Total	Test	Total
RPR Reactive	1	TPPA Reactive	11
VDRL Reactive	17	Darkfield Positive	0

New Cases of Syphilis:

Stage	Number of Cases	
	January 2009	January 2008
Primary syphilis	2	0
Secondary syphilis	2	5
Early latent	8	8
Late latent	0	2
Total	12	15

Median age: 22 yr; Age range: 18-63 yr
Source: Wisconsin Division of Health

Gonorrhea Antimicrobial Susceptibility Testing

Number Tested	Decreased Susceptible (DS) / Resistant (R) Antibiotics			
	Ciprofloxacin	Ceftriaxone	Spectinomycin	Azithromycin
37	1 (R)	0	0	0

Isolates Other Than *N. gonorrhoeae*

Organism	Site	Number Isolates	Organism	Site	Number Isolates
<i>Ureaplasma urealyticum</i>	Genital	0	<i>Mycoplasma hominis</i>	Genital	2

Enteric Parasites Identified

Age	Sex	Parasite
13	M	<i>Blastocystis hominis</i>
15	M	<i>Blastocystis hominis</i>
22	M	<i>Blastocystis hominis</i> <i>Entamoeba coli</i>
19	M	<i>Blastocystis hominis</i> <i>Entamoeba coli</i>
25	F	<i>Blastocystis hominis</i> <i>Endolimax nana</i>
39	F	<i>Blastocystis hominis</i> <i>Entamoeba</i> species
23	F	<i>Iodamoeba buetschlii</i>

Mycobacterial Infections

Age	Sex	Test Results			Identification
		Sputum Smear	Culture	DNA Probe	
30	M	-	+	+	<i>M. avium</i> complex
73	M	-	+	+	<i>M. avium</i> complex
54	M	-	+	+	<i>M. avium</i> complex
52	M	-	ND	+	<i>M. kansasii</i>
35	M	-	ND	+	<i>M. tuberculosis</i>
22	M	-	+	-	<i>M. xenopi</i>
50	M	-	+	-	<i>M. xenopi</i>

Reference Cultures

Age	Sex	Source	Identification
73	M	Sputum	<i>Bacillus</i> species, NOT <i>Bacillus anthracis</i>
82	F	Blood	<i>Capnocytophaga</i> species
61	F	Sputum	<i>Citrobacter youngae</i> <i>Escherichia coli</i>
11	F	Blood	<i>Gluconobacter</i> species
25	F	Genital	<i>Neisseria gonorrhoeae</i>
19	F	Genital	<i>Neisseria gonorrhoeae</i>

19	M	Throat	<i>Neisseria meningitidis</i>
47	F	Stool	<i>Salmonella</i> Enteritidis
45	M	Stool	<i>Salmonella</i> Enteritidis
24	F	Stool	<i>Salmonella</i> Hadar
12	F	Stool	<i>Salmonella</i> Schwarzengrund
63	F	Stool	<i>Salmonella</i> Typhimurium
47	F	Stool	<i>Salmonella</i> Typhimurium
59	F	Blood	<i>Salmonella</i> Typhimurium
8	F	Stool	<i>Shigella sonnei</i>
3	F	Stool	<i>Shigella sonnei</i>
11	M	Stool	<i>Shigella sonnei</i>
4	F	Stool	<i>Shigella sonnei</i>
11	F	Stool	<i>Shigella sonnei</i>
3	M	Stool	<i>Shigella sonnei</i>
5	F	Stool	<i>Shigella sonnei</i>
11	M	Stool	<i>Shigella sonnei</i>
7	F	Stool	<i>Shigella sonnei</i>
10	F	Stool	<i>Shigella sonnei</i>

Clinical Enteric Pathogens

Age	Sex	Pathogen
6	M	<i>Shigella sonnei</i>

PFGE Activity - January to March 2009

Pathogen	Number of clinical isolates received	Number of clinical isolates subtyped by PFGE	Number of local clusters detected by PFGE	Number of isolates part of local cluster	Number of clinical isolates received
<i>E. coli</i> O157:H7	0	0	0	0	0
Non O157 STEC	0	0	0	0	0
<i>Salmonella</i> serotype Typhimurium	5	5*	0	0	5
<i>Salmonella</i> serotype Enteritidis	4	4	0	0	4
All other <i>Salmonella</i>	8	7	1	2	8
<i>Shigella sonnei</i>	33	22	3	21	33
Other <i>Shigella</i>	1	1	0	0	1
Totals	51	39	4	23	51

*One *Salmonella* serotype Typhimurium was part of national Peanut-butter outbreak.

Laboratory Diagnosed Mycobacterial Infections in Wisconsin during the Month of January 2009

<i>Mycobacterium</i> species		Brown	Dane	Eau Claire	Fond du Lac	Kenosha	La Crosse	Manitowoc	Marathon	Milwaukee	Outagamie	Racine	Rock	Sheboygan	Washington	Waukesha	Winnebago	Wood	TOTALS	
<i>M. tuberculosis</i> complex	Pulm	1	3																	4
	Extra																			0
Total <i>M. tuberculosis</i> complex		1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
<i>M. avium</i> complex	Pulm		5	2	3	3	1	1	2	61		1		1	1	3	2	1		87
	Extra		2							1										3
<i>M. gordonae</i>	Pulm		4	1					3	5		1	2	1		1	1			19
	Extra																			0
<i>M. chelonae-abscessus</i>	Pulm		1			1				2						2		1		7
	Extra						1										1	2		4
<i>M. fortuitum</i> group	Pulm		2							4										6
	Extra									2										2
<i>M. kansasii</i>	Pulm																1			1
	Extra																			0
<i>M. marinum</i>	Pulm																			0
	Extra										1		1							2
<i>M. mucogenicum</i>	Pulm									3	1									4
	Extra									1										1
<i>M. xenopi</i>	Pulm									7										7
	Extra									1										1
<i>M. nebraskense</i>	Pulm		1																	1
<i>M. scrofulaceum</i>	Pulm									1										1
<i>M. smegmatis</i>	Pulm									1										1
TOTALS		0	15	3	3	4	2	1	5	89	2	2	3	2	1	6	5	4		147

Extra-Pulmonary Sources of Isolation:

<i>M. avium</i> complex Extra-pulmonary:	1 neck mass, 1 parotid, 1 stool
Other <i>Mycobacterium</i> species	<i>M. chelonae/abscessus</i> : 1 toe wound, 1 foot, 1 leg, 1 parotid; <i>M. fortuitum</i> group: 1 toenail, 1 breast; <i>M. marinum</i> : 1 skin, 1 face; <i>M. mucogenicum</i> : 1 blood; <i>M. xenopi</i> : 1 tissue

***M. tuberculosis* complex First-Line Drug Susceptibility Testing*:**

Drug Resistance	Number of Isolates
Susceptible to all first-line drugs	3
Resistant to PZA, PZA indeterminant, or PZA pending	1#
TOTAL	4

(*) Drugs tested: isoniazid=INH (0.2 ug/ml and 1.0 ug/ml), rifampin (1.0 ug/ml), ethambutol (5.0 ug/ml), and pyrazinamide=PZA (100 ug/ml).

isolate was PZA indeterminant.

Source: Mycobacteriology Laboratory Network Data Report, WI State Laboratory of Hygiene, Madison, WI.

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Virus Isolations from Clinical Specimens

Age	Sex	Source	Symptoms	Agent
20	M	Throat swab	Cough, sore throat, fever, myalgia	Influenza A (H1)
25	M	Throat swab	Cough, sore throat, fever	Influenza A (H1)
18	M	Throat swab	Cough, sore throat, fever, headache, myalgias	Influenza A (H1)
21	F	Throat swab	Cough, fever	Influenza A (H1)
23	F	Throat swab	Cough, fever	Influenza A (H1)
20	M	Throat swab	Cough, fever, myalgias	Influenza A (H1)
20	M	NP swab	Influenza confirmation	Influenza A (H1)
7	M	NP swab	Influenza confirmation	Influenza A (H1)
36	F	NP swab	Influenza confirmation	Influenza A (H1)
25	F	NP swab	Influenza confirmation	Influenza A (H1)
21	F	NP swab	Influenza confirmation	Influenza A (H1)
33	F	NP swab	Influenza confirmation	Influenza A (H1)
41	F	NP swab	Influenza confirmation	Influenza A (H1)
18	M	Throat swab	Fever, headache	Influenza A (H1)
24	F	NP swab	Influenza confirmation	Influenza A (H1)
21	F	Throat swab	URI, cough, sore throat, fever, headache	Influenza A (H1)
20	F	Throat swab	ARD, cough, fever, headache, myalgias	Influenza A (H1)
34mo	M	NP swab	Influenza confirmation	Influenza A (H1)
20	F	Throat swab	URI, cough, sore throat, fever, headache	Influenza A (H1)
21	F	Throat swab	Cough, fever, headache	Influenza A (H1)
22	M	Throat swab	ARD, cough, sore throat, fever, headache	Influenza A (H1)
44	M	NP swab	Possible influenza	Influenza A (H1)
22	M	Throat swab	Cough, fever, headache	Influenza A (H1)
20	F	Throat swab	Cough, sore throat, fever	Influenza A (H1)
19	F	Throat swab	Bronchitis, cough, fever	Influenza A (H1)

20	F	Throat swab	Cough, fever 103°, myalgias	Influenza A (H1)
28	F	NP swab	Influenza A confirmation	Influenza A (H1)
21	F	Throat swab	Cough, sore throat, fever	Influenza A (H1)
19	M	Throat swab	URI, cough, sore throat, fever, headache	Influenza A (H1)
18	M	Throat swab	URI, cough, sore throat, fever	Influenza A (H1)
20	M	Throat swab	ARD, sore throat, fever, headache	Influenza A (H1)
21	M	Throat swab	Cough, sore throat, fever, headache	Influenza A (H1)
21	F	Throat swab	Cough, fever, headache	Influenza A (H1)
19	F	Throat swab	Cough, fever	Influenza B
66	F	NP swab	Influenza confirmation	Influenza B
16	M	NP swab	Influenza confirmation	Influenza B
20	F	Throat swab	ARD, cough, fever, headache	Influenza B
14	F	NP swab	Influenza confirmation	Influenza B
19	M	Throat swab	Cough, fever, headache	Influenza B
26	F	Throat swab	Bronchitis, cough, sore throat, fever, headache	Influenza B
24	M	Throat swab	ARD, URI, cough, sore throat, headache	Influenza B
18	F	Throat swab	ARD, cough, sore throat, fever	Influenza B
20	M	NP swab	Influenza B confirmation	Influenza B
76	M	NP swab	Possible influenza	Respiratory Syncytial Virus (RSV)
22	F	Throat swab	Influenza-like illness	Respiratory Syncytial Virus (RSV)
3mo	M	NP swab	Referred isolate	Rhinovirus
19	F	Hip lesion swab	Vesicular rash	Varicella Zoster Virus (VZV)
22	M	Oral mucosa swab	Lymphadenopathy	Herpes simplex type-1
20	M	Throat swab	Sore throat, fever	Herpes simplex type-1
18	F	Throat swab	Sore throat, fever, lymphadenopathy	Herpes simplex type-1
18	M	Throat swab	Sore throat	Herpes simplex type-1

Herpes Simplex Virus Isolations

Agent	Number of Isolates
Herpes Simplex type 1	7
Herpes Simplex type 2	10

Molecular Amplification and PCR

Agent	Method	Tested	Positive	% Positive
<i>Chlamydia trachomatis</i>	ProbeTec	623	92	14.8%
<i>Neisseria gonorrhoeae</i>	ProbeTec / GenProbe	781	68	8.7%
Adenovirus	Real-time PCR	1	0	0%
Herpes Simplex Virus	Real-time PCR	1	1	100%
Influenza A/B	Real-time RT-PCR	93	57	61.3%
Parainfluenza Virus	Real-time RT-PCR	1	0	0%
Respiratory Syncytial Virus	Real-time RT-PCR	2	2	100%

The MHD laboratory is currently performing DNA sequence-based microbial identification for selective reference bacteria and fungal isolates. This rapid, high throughput molecular assay targets 16S rRNA and the D2 region of the 26S rRNA genes for the detection of bacteria and fungal species. Please call the laboratory at (414) 286-3526 for further detail.

DNA Sequencing

Reference Microbe	Target gene	Final Identification
Bacteria	16S rRNA	<i>Bacillus simplex</i>
Bacteria	16S rRNA	<i>Capnocytophaga</i> species
Bacteria	16S rRNA	<i>E. coli/Shigella dysenteriae</i>
Bacteria	16S rRNA	<i>Klebsiella</i> species
Bacteria	16S rRNA	<i>Lactococcus lactis</i>
Bacteria	16S rRNA	<i>Sporocinia</i> species
Bacteria	16S rRNA	<i>Stenotrophomonas maltophilia</i>
Fungus	D2/26S	<i>Aspergillus fumigatus</i>
Fungus	D2/26S	<i>Aspergillus versicolor</i>
Fungus	D2/26S	<i>Paecilomyces lilacinus</i>
Fungus	D2/26S	<i>Trichophyton</i> species

City of Milwaukee Outbreak Investigations Updates:

- Salmonella serotypes associated with the Pistachios recall were isolated from patients from various states: AZ, CA, NJ, NE, NY, MO, MN, MT, FL, PA, TN, WA and WY. No case from WI has been associated with this outbreak so far. Mainly Salmonella Montevideo (PFGE Xba pattern JIXX01.0011) is linked to this outbreak but Salmonella Newport (JJPX01.2265) and Salmonella Senftenberg (JMPX01.0256) are also being considered. A Salmonella Montevideo isolate confirmed in our lab on 1/30/09 has a different PFGE XbaI pattern from the outbreak strain.
- Several small clusters of Norovirus have been identified in our community in recent weeks.
- Influenza Update - A total of 24 H1N1 isolates from MHDL were further analyzed and characterized at CDC by hemagglutination-inhibition using post-infection ferret antisera and sequence analysis. A total 19 of 24 reported back as A/BRISBANE/59/2007-LIKE (H1N1), which is one of the recommended Northern Hemisphere trivalent influenza vaccine strains for 2009-10.
- From SurvNet for the week of April 4th:

Vaccine Match Information

	A/H3	A/H1	B
Match Notes	86 tests, 86 related=100% related	549 tests,549 related=100% related	211 tests, 44related=21% related

**'related' means similar to the vaccine strain*

Labs Data To-Date

Lab	Number Tested to date	Number Positive	Most Recent Week Percent Positive	Predominant A Subtype and Strain	Predominant B Strain	Predominant Type (A or B)
CDC	87,331	12,180	17	(H1), Brisbane	Victoria	A
WSLH	8,542	1,604	23	(H1)	NA	A
MHD	281	110	8	(H1)	NA	NA