

SUMMARY OF CONFIRMED INFECTIONS

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

Syphilis

Test	Total	Test	Total
RPR Reactive	3	TPPA Reactive	10
VDRL Reactive	28	Darkfield Positive	0

New Cases of Syphilis:

Stage	Number of Cases	
	August 2009	August 2008
Primary syphilis	1	0
Secondary syphilis	6	2
Early latent	2	1
Late latent	1	2
Total	10	5

Median age: 31 yr; Age range: 21-39 yr

 Source: Wisconsin Division of Health

Isolates Other Than *N. gonorrhoeae*

Organism	Site	Number Isolates	Organism	Site	Number Isolates
<i>Ureaplasma urealyticum</i>	Genital	13	<i>Mycoplasma hominis</i>	Genital	1

Enteric Parasites Identified

Age	Sex	Parasite
36	M	<i>Blastocystis hominis</i>
36	F	<i>Entamoeba histolytica/Entamoeba dispar</i>
14	F	<i>Entamoeba coli</i>
25	F	<i>Entamoeba histolytica/Entamoeba dispar</i>
17	F	<i>Entamoeba coli</i>
		<i>Endolimax nana</i>
14	M	<i>Giardia lamblia</i>

Mycobacterial Infections

Age	Sex	Test Results			Identification
		Sputum Smear	Culture	DNA Probe	
70	F	-	+	+	<i>M. avium</i> complex
44	M	-	+	+	<i>M. avium</i> complex
32	F	-	+	+	<i>M. avium</i> complex
		-	+	ND	<i>M. fortuitum</i> group

Reference Cultures

Age	Sex	Source	Identification
24	M	Abscess	<i>Achromobacter</i> group
63	M	Blood	<i>Aeromonas</i> species
6	M	Thigh	<i>Bacillus</i> species, NOT <i>Bacillus anthracis</i>
43	F	NP swab	<i>Bacillus</i> species, NOT <i>Bacillus anthracis</i>
82	F	Urine	<i>Bacillus thuringiensis</i>
59	M	Blood	<i>Corynebacterium amycolatum</i>
3m	F	Urine	<i>Escherichia coli</i>
89	F	Blood	<i>Haemophilus influenzae</i> Biotype III
87	M	Sputum	<i>Nocardia asteroides</i>
70	M	Stool	<i>Salmonella</i> Enteritidis
43	F	Stool	<i>Salmonella</i> Hvitittingfoss
3	M	Stool	<i>Salmonella</i> I 4,[5],12:i:-
52	F	Stool	<i>Salmonella</i> I 4,[5],12:i:-
37	M	Stool	<i>Salmonella</i> Java
4m	M	Stool	<i>Salmonella</i> Newport
82	F	Stool	<i>Salmonella</i> Newport
10m	M	Stool	<i>Salmonella</i> Typhimurium
34	F	Stool	<i>Salmonella</i> Typhimurium
39	M	Stool	<i>Salmonella</i> Typhimurium

63	M	Stool	<i>Shigella flexneri</i> type 1
33	M	Stool	<i>Shigella flexneri</i> type 2
34	F	Stool	<i>Shigella flexneri</i> type 2
13m	F	Stool	<i>Shigella sonnei</i>
6	M	Stool	<i>Shigella sonnei</i>
24	M	Stool	<i>Shigella sonnei</i>
6	M	Stool	<i>Shigella sonnei</i>
27m	M	Stool	<i>Shigella sonnei</i>
21m	F	Stool	<i>Shigella sonnei</i>
12m	M	Stool	<i>Shigella sonnei</i>
4	F	Stool	<i>Shigella sonnei</i>
22m	F	Stool	<i>Shigella sonnei</i>
31m	M	Stool	<i>Shigella sonnei</i>
4	M	Stool	<i>Shigella sonnei</i>
9	M	Stool	<i>Shigella sonnei</i>
5	M	Stool	<i>Shigella sonnei</i>

Antimicrobial Susceptibility of *Shigella sonnei*

Number Tested	Decreased Susceptibility (DS) / Resistant (R) Antibiotics		
	Ampicillin	Norfloxacin	Sulfamethoxazole-Trimethoprim (SXT)
19	7 (R)	0	1 (DS)

Laboratory Diagnosed Mycobacterial Infections in Wisconsin during July 2009

<i>Mycobacterium</i> species		Barron	Brown	Dane	Eau Claire	Fond du Lac	Kenosha	La Crosse	Marathon	Milwaukee	Outagamie	Racine	Rock	Waukesha	Winnebago	Wood	TOTALS
<i>M. tuberculosis</i> complex	Pulm									2				1			3
	Extra							1									1
Total <i>M. tuberculosis</i> complex		0	0	0	0	0	0	1	0	2	0	0	0	1	0	0	4
<i>M. avium</i> complex	Pulm	1	1	9	1		2			40	3	1		4	1	3	66
	Extra			2													2
<i>M. gordonae</i>	Pulm			4	1	1	1			11		3	1		1	3	26
<i>M. chelonae-abscessus</i>	Pulm		2	2					1	3				2			10
	Extra				2					2							4
<i>M. fortuitum</i> group	Pulm					1				9	1						11
	Extra									2							2
<i>M. kansasii</i>	Pulm									1							1
<i>M. mucogenicum</i>	Pulm									5							5
	Extra									2							2
<i>M. xenopi</i>	Pulm			1						5							6
<i>M. nebraskense</i>	Pulm							1									1
TOTALS		1	3	18	4	2	3	1	1	80	4	4	1	6	2	6	136

Extra-Pulmonary Sources of Isolation:

<i>M. tuberculosis</i> Extra-pulmonary:	1 lymph node (neck)
<i>M. avium</i> complex Extra-pulmonary:	1 neck, 1 middle turbinate
Other <i>Mycobacterium</i> species	<i>M. chelonae/abscessus</i> : 1 foot, 1 synovia, 1 commisure fold, 1 skin <i>M. fortuitum</i> group: 1 mouth, 1 blood; <i>M. mucogenicum</i> : 1 urine, 1 blood

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

Drug Resistance	Number of Isolates
Susceptible to all first-line drugs	1
Multi-drug resistant	1 (CA) [‡]
Out of State (susceptible to all first line drugs)	1 (OK) [¶]
Susceptibility testing 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)

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
32	M	Throat/NP swabs	Bronchitis, cough, vomiting, fever (103°F)	Novel Influenza A (H1N1)
20	F	NP swab	Cough, sore throat, fever	Adenovirus
25	M	Buttock lesion	Vesicular rash	Varicella Zoster Virus

Influenza Real-time RT-PCR Testing

Samples Tested	Novel Influenza A (H1N1) Positive
115	6

Herpes Simplex Virus Isolations

Agent	Number of Isolates
Herpes Simplex type 1	10
Herpes Simplex type 2	8

DNA Sequencing

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.

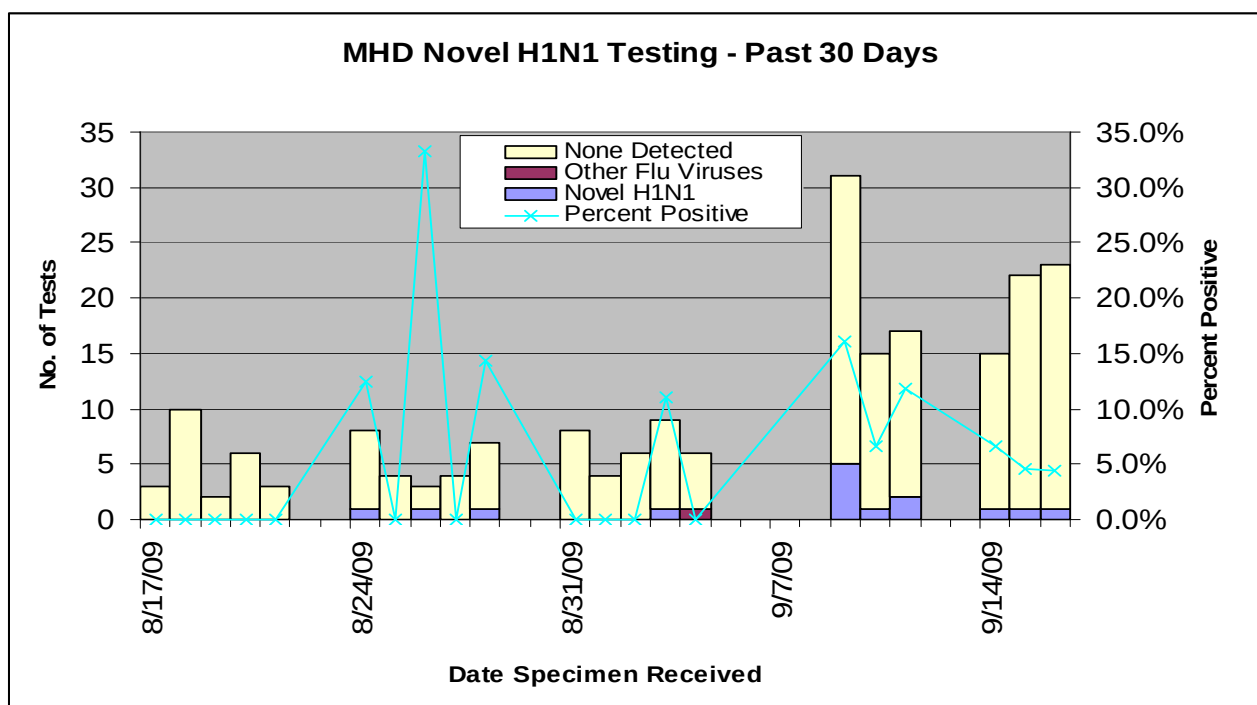
Reference Microbe	Target gene	Final Identification
Bacteria	16S rRNA	<i>Achromobacter</i> species
Bacteria	16S rRNA	<i>Aeromonas</i> species
Bacteria	16S rRNA	<i>Bacillus</i> species
Bacteria	16S rRNA	<i>Corynebacterium</i> species
Bacteria	16S rRNA	<i>Nocardia asteroides</i>
Bacteria	16S rRNA	<i>Shigella</i> species/ <i>E. coli</i>
Fungus	D2/26S rRNA	<i>Aureobasidium pullulans</i>
Fungus	D2/26S rRNA	<i>Irpex/Ceriporiopsis</i> species
Fungus	D2/26S rRNA	<i>Penicillium</i> species
Fungus	D2/26S rRNA	<i>Trametes versicolor</i>

Molecular Amplification and PCR

Agent	Method	Tested	Positive	% Positive
Adenovirus	RT-PCR	1	1	100.0%
<i>Chlamydia trachomatis</i>	ProbeTec	796	96	12.1%
<i>Neisseria gonorrhoeae</i>	ProbeTec / GenProbe	1008	84	8.3%

Special Influenza Report from MHDL (2009)

Cumulative Flu Data from MHDL (04/24/2009 – 10/15/2009)			
Total Specimens Received	Total FluA Positive/ %	Total Novel Influenza A (H1N1) Positive/ %	Total FluA/H1+H3* Positive/ %
4278	1227 (28.68%)	1213 (28.35%)	14 (0.35%)
Milwaukee residents: 837 (19.56%)			
Non-Milwaukee residents: 376 (8.78%)			
* As of now, we have 6 FluA/H1 (last detected 5/13/09), 8 FluA/H3 (last detected 09/02/09) and 2 FluB (last detected 06/18/09)			



This graph demonstrates the total number of specimens at MHD lab tested for influenza by date, the number of tests that came back positive or negative, and the percentage of the total tests that were positives for Novel Influenza A (H1N1)