

SUMMARY OF CONFIRMED INFECTIONS

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

Syphilis

Test	Total	Test	Total
RPR Reactive	3	TPPA Reactive	15
VDRL Reactive	40	Darkfield Positive	0

New Cases of Syphilis:

Stage	Number of Cases	
	September 2009	September 2008
Primary syphilis	1	1
Secondary syphilis	2	1
Early latent	2	7
Late latent	3	0
Total	8	9

Median age: 23yr; Age range: 20-43yr

 Source: Wisconsin Division of Health

Gonorrhea Antimicrobial Susceptibility Testing

Number Tested	Decreased Susceptible (DS) / Resistant (R) Antibiotics			
	Ciprofloxacin	Cefixime	Spectinomycin	Azithromycin
3	0	0	0	0

Isolates Other Than *N. gonorrhoeae*

Organism	Site	Number Isolates	Organism	Site	Number Isolates
<i>Ureaplasma urealyticum</i>	Genital	19	<i>Mycoplasma hominis</i>	Genital	4

Enteric Parasites Identified

Age	Sex	Parasite
19	M	<i>Blastocystis hominis</i>
27	M	<i>Blastocystis hominis</i>
41	M	<i>Entamoeba coli</i>
35	M	<i>Entamoeba coli</i>
45	M	<i>Entamoeba coli</i>
29	F	<i>Entamoeba coli</i>
29	M	<i>Entamoeba coli</i>
36	F	<i>Endolimax nana</i>
26	M	<i>Giardia lamblia</i>
9	F	<i>Iodamoeba buetschlii</i>

Mycobacterial Infections

Age	Sex	Test Results			Identification
		Sputum Smear	Culture	DNA Probe	
16	F	+	+	+	<i>M. avium</i> complex
49	M	-	+	+	<i>M. avium</i> complex
60	M	-	+	+	<i>M. avium</i> complex
53	M	-	+	+	<i>M. avium</i> complex
55	M	-	+	+	<i>M. avium</i> complex

Reference Cultures

Age	Sex	Source	Identification
66	M	Other	<i>Aeromonas caviae</i>
3	M	Wound	<i>Bacillus circulans</i>
49	M	Other	<i>Bacillus</i> species, NOT <i>Bacillus anthracis</i>
58	M	Urine	<i>Enterobacter cloacae</i>
26	M	Stool	<i>Escherichia coli</i>
14	M	Stool	<i>Escherichia coli</i>
14	F	Wound	Gram negative bacillus possibly <i>Masilia timonae</i>
6	F	Ankle, L	<i>Moraxella osloensis</i>
16	F	Genital	<i>Neisseria gonorrhoeae</i>
22	F	Genital	<i>Neisseria gonorrhoeae</i>
18	F	Genital	<i>Neisseria gonorrhoeae</i>
35	F	Stool	<i>Salmonella Agona</i>
21	M	Stool	<i>Salmonella Braenderup</i>
30	F	Stool	<i>Salmonella Enteritidis</i>
48	F	Urine	<i>Salmonella Havana</i>

35	F	Stool	<i>Salmonella</i> Itami
4	M	Stool	<i>Salmonella</i> I 4,[5],12:i:-
46	M	Stool	<i>Salmonella</i> Montevideo
21	M	Stool	<i>Salmonella</i> Sandiego
11	F	Stool	<i>Salmonella</i> Typhi
16	F	Urine	<i>Salmonella</i> Typhi
16	F	Whole Blood	<i>Salmonella</i> Typhi
8	F	Stool	<i>Salmonella</i> Typhi
20m	M	Stool	<i>Salmonella</i> Typhimurium
21	F	Stool	<i>Salmonella</i> Typhimurium
62	M	Whole Blood	<i>Salmonella</i> Typhimurium
57	M	Stool	<i>Shigella flexneri</i> type 1
37	F	Stool	<i>Shigella flexneri</i> type 2
51	M	Stool	<i>Shigella sonnei</i>
19m	M	Stool	<i>Shigella sonnei</i>
4	F	Stool	<i>Shigella sonnei</i>
4	F	Stool	<i>Shigella sonnei</i>
16	M	Stool	<i>Shigella sonnei</i>
8m	F	Stool	<i>Shigella sonnei</i>
27	F	Stool	<i>Shigella sonnei</i>
62	F	Stool	<i>Shigella sonnei</i>
25	M	Stool	<i>Shigella sonnei</i>
32	M	Stool	<i>Shigella sonnei</i>
17m	F	Stool	<i>Shigella sonnei</i>
41	F	Stool	<i>Shigella sonnei</i>
49	M	Forearm, L	<i>Streptomyces</i> species

Antimicrobial Susceptibility of *Shigella sonnei*

Number Tested	Decreased Susceptibility (DS) / Resistant (R) Antibiotics		
	Ampicillin	Norfloxacin	Sulfamethoxazole-Trimethoprim (SXT)
2	0	0	0

Laboratory Diagnosed Mycobacterial Infections in Wisconsin during August 2009

<i>Mycobacterium</i> species		Brown	Dane	Eau Claire	Fond du Lac	Kenosha	La Crosse	Lincoln	Marathon	Milwaukee	Outagamie	Racine	Rock	Sheboygan	Waukesha	Winnebago	TOTALS
<i>M. tuberculosis</i> complex	Pulm		1			1				2							4
	Extra									1							1
Total <i>M. tuberculosis</i> complex		0	1	0	0	1	0	0	0	3	0	0	0	0	0	0	5
<i>M. avium</i> complex	Pulm	2	4		1	4				40	1	2	1	2	3	5	65
	Extra		1						1	3						1	6
<i>M. chelonae-abscessus</i>	Pulm									1			1				2
	Extra		1							3							4
<i>M. fortuitum</i> group	Pulm									1		2	1				4
<i>M. marinum</i>	Pulm																0
	Extra	1															1
<i>M. mucogenicum</i>	Pulm									3							3
	Extra									1							1
<i>M. xenopi</i>	Pulm		1							1					1		3
<i>M. bovis</i> BCG	Extra									1							1
<i>M. fortuitum</i> complex	Pulm						1										1
	Extra										1						1
<i>M. neoaurum</i>	Extra								1								1
<i>M. smegmatis</i>	Extra										1						1
TOTALS		4	13	1	1	5	2	1	2	58	3	5	4	2	5	7	113

Extra-Pulmonary Sources of Isolation:

<i>M. tuberculosis</i> Extra-pulmonary:	1 mandibular mass
<i>M. avium</i> complex Extra-pulmonary:	1 neck tissue, 1 lymph node, 1 thoracic, 1 ear, 1 urine, 1 neck abscess
Other <i>Mycobacterium</i> species	<i>M. bovis</i> BCG: 1 fatty mass; <i>M. chelonae/abscessus</i> : 1 gastric, 1 blood, 1 eye, 1 stool; <i>M. fortuitum</i> complex: 1 chest wall; <i>marinum</i> : 1 wrist; <i>M. mucogenicum</i> : 1 blood; <i>M. neoaurum</i> : 1 hip; <i>M. smegmatis</i> group: 1 breast

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

Drug Resistance	Number of Isolates
Susceptible to all first-line drugs	4
Out of State (susceptible to all first line drugs)	1
TOTAL	5

(*) 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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 Laboratory Director

September 2009 Vol. 14, No. 9

Sanjib Bhattacharyya, PhD

 Chief Molecular Scientist

Virus Isolations from Clinical Specimens

Age	Sex	Source	Symptoms	Agent
20	M	Throat/NP swabs	ARD, cough	2009 Influenza A H1N1
21	F	Throat/NP swabs	URI, sore throat, fever	2009 Influenza A H1N1
21	M	Throat/NP swabs	Abrupt onset cough, sore throat, 103.5° fever, headache	2009 Influenza A H1N1
23	M	Throat swab	Sore throat, fever, headache	Adenovirus
66	M	Throat/NP swabs	Cough, nasal congestion/discharge, fever, headache	Parainfluenza type-3
6 wk	M	NP swab	Autopsy	Rhinovirus
4 mo	M	NP swab	Autopsy	Rhinovirus
18	F	Swab	ARD, cough	Rhinovirus
26	F	CSF	Aseptic meningitis	enterovirus
21	F	Swab	Vesicular rash	Varicella Zoster Virus
18	F	Swab	Chest lesions	Varicella Zoster Virus

Influenza Real-time RT-PCR Testing

Samples Tested	2009 Influenza A (H1N1) Positive	Seasonal Influenza A (H3N2)
313	20	1

Herpes Simplex Virus Isolations

Agent	Number of Isolates
Herpes Simplex type 1	8
Herpes Simplex type 2	11

Molecular Amplification and PCR

Agent	Method	Tested	Positive	% Positive
Enterovirus	RT-PCR	1	1	100.0%
<i>Chlamydia trachomatis</i>	ProbeTec	815	83	10.2%
<i>Neisseria gonorrhoeae</i>	ProbeTec / GenProbe	1062	70	6.6%

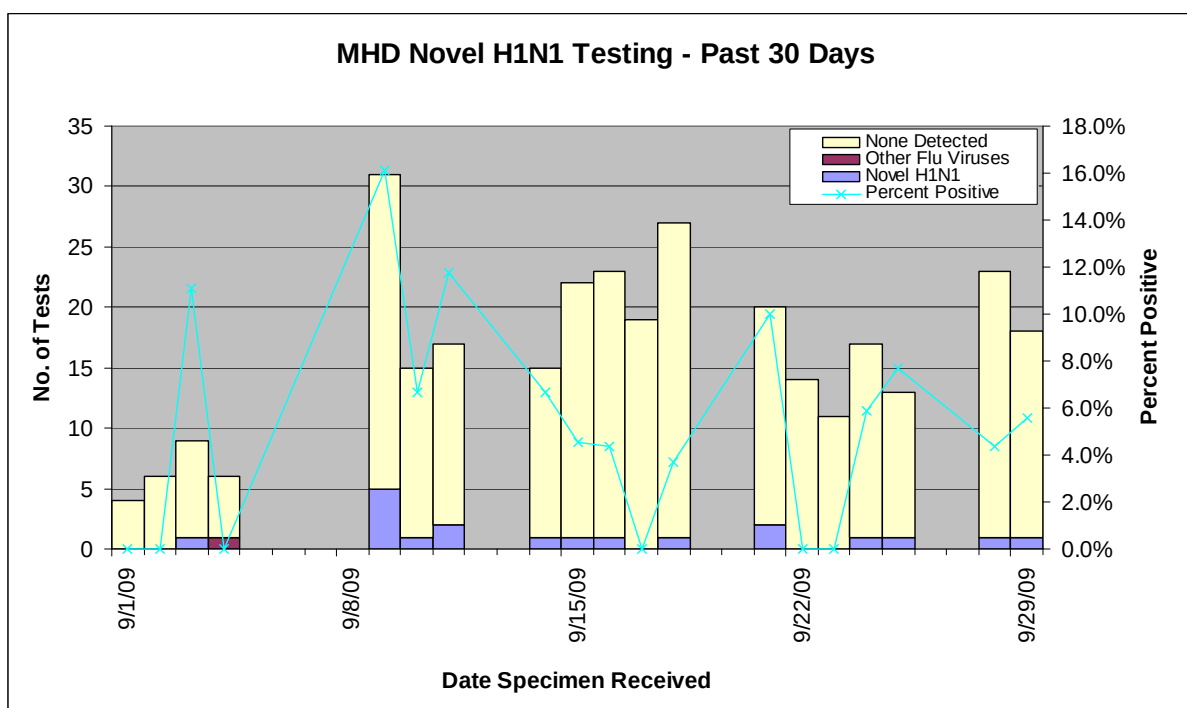
DNA Sequencing

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.

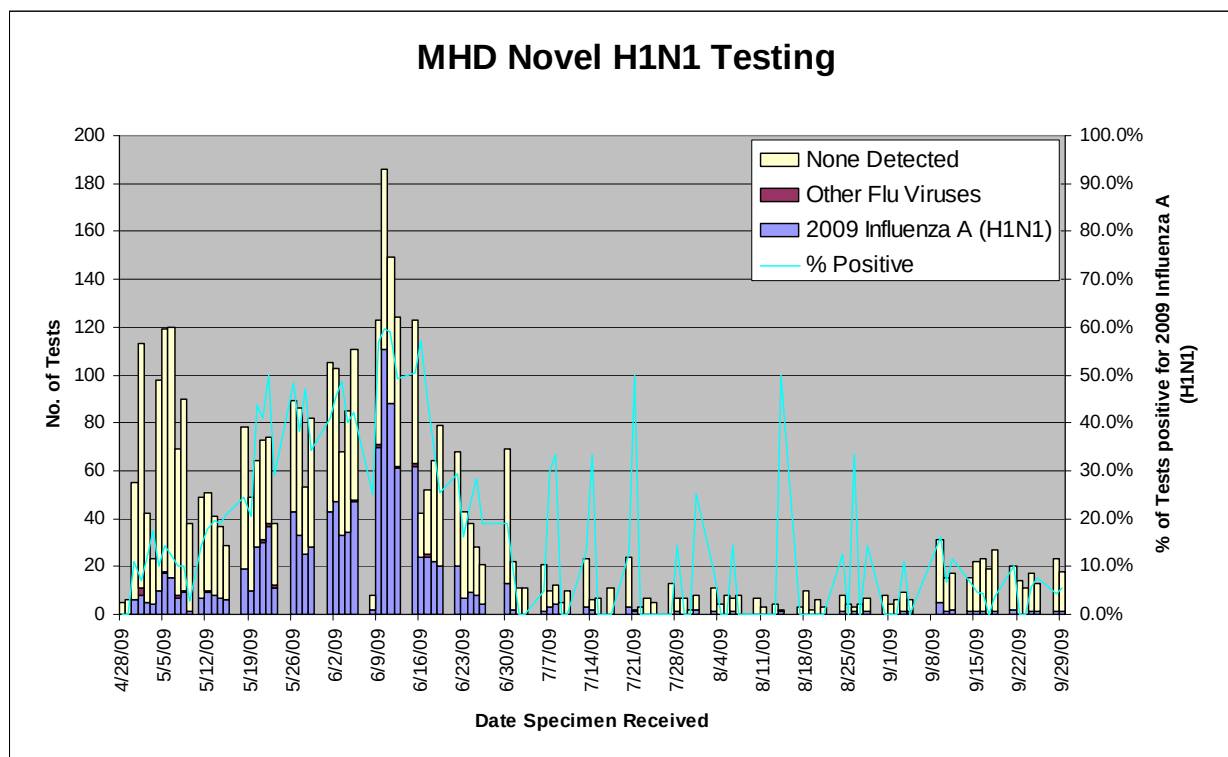
Reference Microbe	Target gene	Final Identification
Bacteria	16S rRNA	<i>Actinobaculum schaalii</i>
Bacteria	16S rRNA	<i>Bacillus</i> sp.
Bacteria	16S rRNA	<i>Enterobacter</i> sp.
Bacteria	16S rRNA	<i>Massilia timonae</i>
Bacteria	16S rRNA	<i>Moraxella</i> sp.
Bacteria	16S rRNA	<i>Streptomyces</i> sp.

Special Influenza Report from MHDL (2009)

Cumulative Flu Data from MHDL (04/24/2009 – 10/15/2009)			
Total Specimens Received	Total FluA Positive/ %	Total 2009 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 2009 Influenza A (H1N1).



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 positive for 2009 Influenza A (H1N1) since the beginning of the pandemic.