

SUMMARY OF CONFIRMED INFECTIONS

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August 2009 Vol. 14, No. 7

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

Syphilis

Test	Total	Test	Total
RPR Reactive	0	TPPA Reactive	9
VDRL Reactive	22	Darkfield Positive	0

New Cases of Syphilis

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

Median age: 21 yr; Age range: 20-63 yr

 Source: Wisconsin Division of Health

Isolates Other Than *N. gonorrhoeae*

Organism	Site	Number Isolates	Organism	Site	Number Isolates
<i>Ureaplasma urealyticum</i>	Genital	14	<i>Mycoplasma hominis</i>	Genital	4

Enteric Parasites Identified

Age	Sex	Parasite
19m	M	<i>Ascaris lumbricoides</i>
10	F	<i>Blastocystis hominis</i>
18	F	<i>Blastocystis hominis</i>
9	F	<i>Entamoeba coli</i>
		<i>Entamoeba histolytica/Entamoeba dispar</i>
		<i>Giardia lamblia</i>
		<i>Trichuris trichiura</i>
39	M	<i>Entamoeba species</i>
		<i>Giardia lamblia</i>
		<i>Trichuris trichiura</i>
27	F	<i>Entamoeba hartmanni</i>
46	M	<i>Entamoeba hartmanni</i>
7	F	<i>Entamoeba histolytica/Entamoeba dispar</i>
		<i>Giardia lamblia</i>
28	F	<i>Entamoeba coli</i>
		<i>Giardia lamblia</i>
		Hookworm
12	M	<i>Giardia lamblia</i>
7	M	<i>Giardia lamblia</i>
12	M	<i>Giardia lamblia</i>
3	F	<i>Giardia lamblia</i>
5	F	<i>Giardia lamblia</i>
3	F	<i>Giardia lamblia</i>
		<i>Cryptosporidium species</i>

Mycobacterial Infections

Age	Sex	Test Results			Identification
		Sputum Smear	Culture	DNA Probe	
70	M	-	+	NT	<i>M. abscessus</i>
		-	+	+	<i>M. avium complex</i>
41	M	-	+	NT	<i>M. abscessus</i>
		-	+	+	<i>M. avium complex</i>
62	F	-	+	+	<i>M. avium complex</i>
49	M	-	+	+	<i>M. avium complex</i>
44	M	-	+	+	<i>M. tuberculosis</i>
47	F	-	+	+	<i>M. tuberculosis</i>
60	M	-	+	NT	<i>M. fortuitum</i>

Reference Cultures

Age	Sex	Source	Identification
52	M	Abscess	<i>Actinomyces meyeri</i>
74	F	Wound	<i>Aggregatibacter aphrophilus</i>
32	M	Tissue	<i>Bacillus</i> species
42	M	Fluid	<i>Campylobacter fetus</i>
24	M	Blood	<i>Campylobacter fetus</i>
83	F	Urine	<i>Escherichia coli</i>
NA	F	Urine	<i>Escherichia coli</i>
49	M	Fluid	<i>Escherichia coli</i>
74	F	Wound	<i>Moraxella osloensis</i>
4	F	Wound	<i>Neisseria weaveri</i>
83	F	Cornea	<i>Propionibacterium acnes</i>
77	F	Blood	<i>Roseomonas</i> species
48	M	Stool	<i>Salmonella</i> Braenderup
81	F	Blood	<i>Salmonella</i> Enteritidis
29	M	Stool	<i>Salmonella</i> Enteritidis
41	M	Stool	<i>Salmonella</i> Enteritidis
15	M	Stool	<i>Salmonella</i> Enteritidis
3	F	Stool	<i>Salmonella</i> Heidelberg
27	F	Stool	<i>Salmonella</i> I 4,[5],12:i:-
40	F	Stool	<i>Salmonella</i> I 4,[5],12:i:-
34	M	Stool	<i>Salmonella</i> Newport
81	M	Stool	<i>Salmonella</i> Panama
11	M	Stool	<i>Salmonella</i> Subspecies IV (Houtenae)
3	M	Stool	<i>Salmonella</i> Typhimurium
50	M	Stool	<i>Salmonella</i> Typhimurium
39	F	Stool	<i>Salmonella</i> Typhimurium
11m	F	Stool	<i>Salmonella</i> Typhimurium
3	M	Stool	<i>Salmonella</i> Typhimurium
17m	F	Stool	<i>Shigella sonnei</i>
18m	M	Stool	<i>Shigella sonnei</i>
9	M	Stool	<i>Shigella sonnei</i>
7	M	Stool	<i>Shigella sonnei</i>
4	F	Stool	<i>Shigella sonnei</i>
21m	F	Stool	<i>Shigella sonnei</i>
4	M	Stool	<i>Shigella sonnei</i>

32m	M	Stool	<i>Shigella sonnei</i>
3	F	Stool	<i>Shigella sonnei</i>
3	F	Stool	<i>Shigella sonnei</i>
5	F	Stool	<i>Shigella sonnei</i>
32m	M	Stool	<i>Shigella sonnei</i>
3	F	Stool	<i>Shigella sonnei</i>
85	F	Stool	<i>Shigella sonnei</i>
8	F	Stool	<i>Shigella sonnei</i>
17m	M	Stool	<i>Shigella sonnei</i>
7	F	Urine	<i>Shigella sonnei</i>
60	M	Fluid	<i>Staphylococcus capitis</i>
71	M	Blood	<i>Stenotrophomonas species</i>

PFGE Activity April-July 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
<i>E. coli</i> O157:H7	0	0	0	0
Non O157 STEC	0	0	0	0
<i>Salmonella</i> Typhimurium	17	17	3	8
<i>Salmonella</i> Enteritidis	7	7	2	4
All other <i>Salmonella</i>	19	17	1	2
<i>Shigella sonnei</i>	63	51	4	42
Other <i>Shigella</i>	1	1	0	0
Totals	106	93	10	56

Laboratory Diagnosed Mycobacterial Infections in Wisconsin during June 2009

<i>Mycobacterium</i> species		Brown	Dane	Eau Claire	Fond du Lac	Kenosha	La Crosse	Milwaukee	Outagamie	Racine	Rock	Vernon	Washington	Waukesha	Winnebago	Wood	TOTALS
<i>M. tuberculosis</i> complex	Pulm		2					3								1	6
	Extra							2									2
Total <i>M. tuberculosis</i> complex		0	2	0	0	0	0	5	0	0	0	0	0	0	0	1	8
<i>M. avium</i> complex	Pulm	1	1		1	2	1	48		4	2		1	3	2	1	67
	Extra						1		1								2
<i>M. gordonae</i>	Pulm	5	3			1	1	8		1	1		1		2	1	24
<i>M. chelonae-abscessus</i>	Pulm		2				1	8									11
	Extra							1	1								2
<i>M. fortuitum</i> group	Pulm							4	1	2				1			8
<i>M. kansasii</i>	Pulm											1					1
<i>M. mucogenicum</i>	Pulm							2									2
	Extra		1					1									2
<i>M. xenopi</i>	Pulm		1					3									4
<i>M. bohemicum</i>	Pulm			1													1
<i>Mycobacterium</i> species not TB	Pulm						1										1
TOTALS		6	8	1	1	3	5	75	3	7	3	1	2	4	4	2	125

Extra-Pulmonary Sources of Isolation:

<i>M. tuberculosis</i> Extra-pulmonary:	2 lymph node
<i>M. avium</i> complex Extra pulmonary:	1 lymph node, 1 finger
Other <i>Mycobacterium</i> species	<i>M. chelonae/abscessus</i> : 2 urine; <i>M. mucogenicum</i> : 1 blood, 1 arm

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

Drug Resistance	Number of Isolates
Susceptible to all first-line drugs	6
Out of State (susceptible to all first line drugs)	1
Susceptibility testing pending	1
TOTAL	8

(*) 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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Sanjib Bhattacharyya, PhD

 Chief Molecular Scientist

Influenza Real-time RT-PCR Testing

Samples Tested	Novel Influenza A (H1N1) Positive
252	37

Herpes Simplex Virus Isolations

Agent	Number of Isolates
Herpes Simplex type 1	5
Herpes Simplex type 2	13

Molecular Amplification and PCR

Agent	Method	Tested	Positive	% Positive
<i>Chlamydia trachomatis</i>	ProbeTec	784	122	15.6%
<i>Neisseria gonorrhoeae</i>	ProbeTec / GenProbe	970	98	10.1%

DNA Sequencing

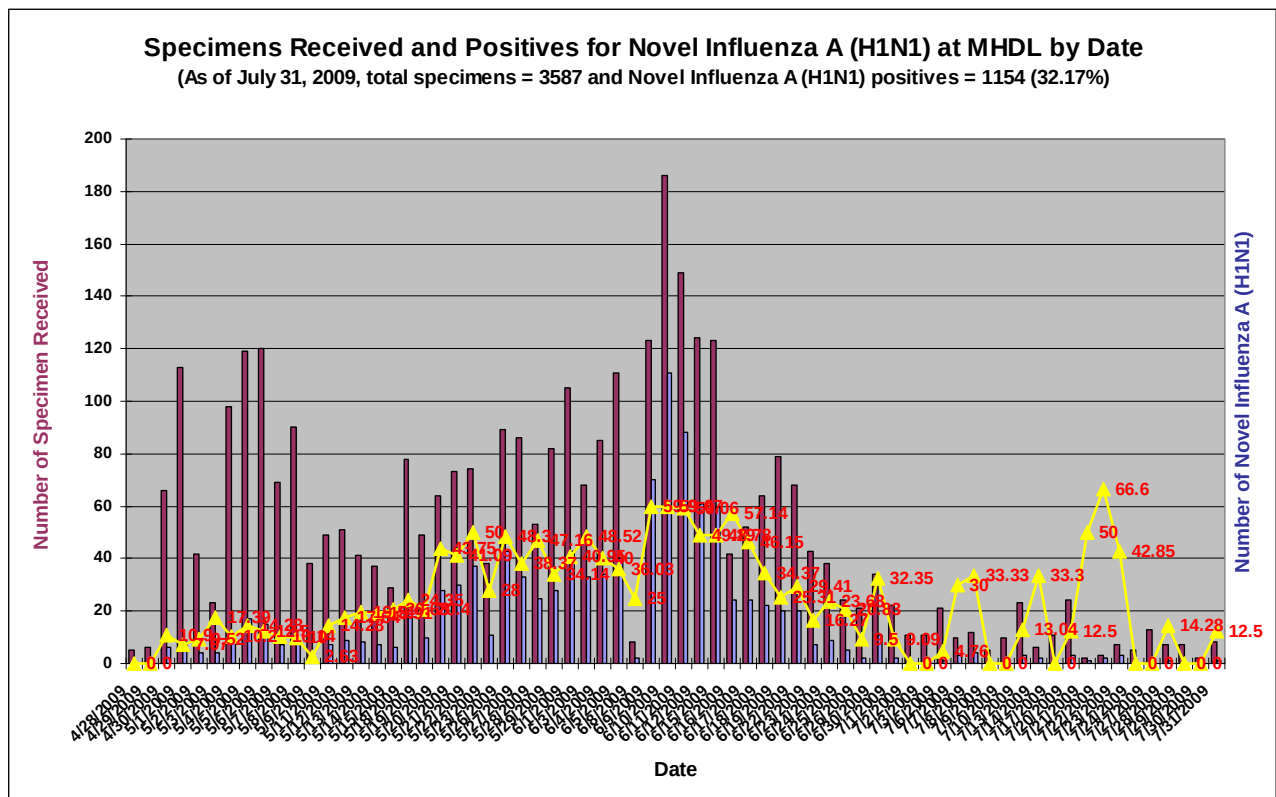
The MHD laboratory is currently performing DNA sequence-based microbial identification for selective reference bacteria and fungal isolates. This rapid, high throughput molecular assay targets 16S rRNA and the D2 region of the 26S rRNA genes for the detection of bacteria and fungal species. Please call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

Reference Microbe	Target gene	Final Identification
Bacteria	16S rRNA	<i>Actinomyces meyerii</i>
Bacteria	16S rRNA	<i>Aggregatibacter aphrophilus</i>
Bacteria	16S rRNA	<i>Campylobacter fetus</i>
Bacteria	16S rRNA	<i>Campylobacter rectus</i>
Bacteria	16S rRNA	<i>Haemophilus paraphrophilus</i>
Bacteria	16S rRNA	<i>Helicobacter canis</i>
Bacteria	16S rRNA	<i>Lautropia species</i>

Bacteria	16S rRNA	<i>Moraxella</i> species
Bacteria	16S rRNA	<i>Neisseria weaverii</i>
Bacteria	16S rRNA	<i>Propionibacterium</i> species
Bacteria	16S rRNA	<i>Roseomonas</i> species.
Bacteria	16S rRNA	<i>Stenotrophomonas</i> species

Special Influenza Report from MHDL (2009)

Cumulative Flu Data from MHDL (04/24/2009 – 07/31/2009)			
Total Specimens Received	Total FluA Positive/ %	Total Novel FluA (H1N1) Positive/ %	Total FluA/H1+H3* Positive/ %
3587	1167 (32.5%)	1154 (32.17%)	13 (0.36%)
Milwaukee residents: 804 (22.4%)			
Non-Milwaukee residents: 350 (9.75%)			
* So far we have 6 FluA/H1 (last detected 05/13/09), 7 FluA/H3 (last detected 06/12/09) and 2 FluB (last detected 06/18/09)			



Through the week of August 3, 2009 Novel Influenza A (H1N1) case counts were as follows:

City of Milwaukee:	3,304 (3 deaths) (through 08-16-09)
Milwaukee County:	4,051
Wisconsin:	6,322 (4 deaths)
US:	28,210 (436 deaths) (through 08/07/09)
WHO:	177,457 (1462 deaths) (through 08/06/09)

While case counts have significantly dropped at the local level, laboratory testing and outbreak investigations continue and upcoming flu season planning is in progress at the Milwaukee Health Department.