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CITY OF MILWAUKEE
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Bevan K. Baker,
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Clinical and Environmental Microbiology
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SUMMARY OF CONFIRMED INFECTIONS

Steve Gradus, PhD, D(ABMM)
Laboratory Director

May 2010, Vol. 15, No. 5

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Chief Microbiologist

The May 2010 issue presents the laboratory diagnosis of some of the infectious diseases and the reference microbiology work done in this laboratory during April 2010 and new cases of syphilis in Milwaukee during April 2010. Information on the laboratory diagnosed mycobacterial infections in Wisconsin during March 2010 is also included.

Syphilis

Test	Total	Test	Total
RPR Reactive	0	TPPA Reactive	4
VDRL Reactive	18	Darkfield Positive	0

New Cases of Syphilis:

Stage	Number of Cases	
	April 2010	April 2009
Primary syphilis	0	1
Secondary syphilis	1	2
Early latent	0	3
Late latent	0	0
Total	1	6

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	2 (DS)

Isolates Other Than *N. gonorrhoeae*

Organism	Site	Number Isolates	Organism	Site	Number Isolates
Ureaplasma urealyticum	Genital	6	*Mycoplasma hominis*	Genital	1

Enteric Parasites Identified

Age	Sex	Parasite
27	M	*Blastocystis hominis*
57	M	*Blastocystis hominis*
18	M	*Blastocystis hominis*
32	F	*Blastocystis hominis*
26	M	*Endolimax nana*
30	F	*Endolimax nana*
39	M	*Entamoeba coli*
9	M	*Entamoeba coli*
29	M	*Entamoeba coli*
17	M	*Entamoeba coli*
		Iodamoeba buetschlii
42	M	*Giardia lamblia*
6	M	*Giardia lamblia*
29	M	*Giardia lamblia*
19	F	*Giardia lamblia*
25	M	*Giardia lamblia*
16	M	*Giardia lamblia*
20m	F	*Giardia lamblia*

Mycobacterial Infections

Age	Sex	Test Results			Identification
		Sputum Smear	Culture	DNA Probe	
60	M	-	+	ND	*M. abscessus*
		-	+	+	*M. avium* complex
48	F	-	+	+	*M. avium* complex
46	M	-	+	+	*M. avium* complex

ND = Not done

Reference Cultures

Age	Sex	Source	Identification
56	M	Whole Blood	*Bacillus species*, NOT *Bacillus anthracis*
75	M	Whole Blood	*Bacillus species*, NOT *Bacillus anthracis*
68	M	Lung Tissue	*Bacillus species*, NOT *Bacillus anthracis*
62	F	Whole Blood	*Campylobacter jejuni*
20	M	Throat	*Neisseria gonorrhoeae*
25	M	Throat	*Neisseria gonorrhoeae*
25	M	Urethra	*Neisseria gonorrhoeae*
20	M	Rectum	*Neisseria meningitidis*

20	M	Urethra	*Neisseria meningitidis*
21	M	Throat	*Neisseria meningitidis*
30	F	Whole Blood	*Propionibacterium avidum*
60	M	Whole Blood	*Salmonella* Braenderup
22	F	Stool	*Salmonella* Braenderup
20	F	Stool	*Salmonella* Enteritidis
51	F	Stool	*Salmonella* Enteritidis
65	M	Stool	*Salmonella* Enteritidis
41	F	Stool	*Salmonella* Enteritidis
5	F	Stool	*Salmonella* Gaminara
24m	M	Stool	*Salmonella* Gaminara
61	F	Whole Blood	*Salmonella* Saintpaul
28	M	Stool	*Salmonella* Saintpaul
33	F	Stool	*Salmonella* Typhimurium
5	M	Stool	*Salmonella* Typhimurium
52	M	Whole Blood	*Streptococcus constellatus*
85	F	Stool	*Vibrio cholerae*

PFGE activity: January through April, 2010

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
E. coli O157:H7	0	0	0	0
Non O157 STEC	0	0	0	0
Salmonella ser Typhimurium	4	4	0	0
Salmonella ser Enteritidis	6	6	2*	6
All other Salmonella	10	10	0	0
Shigella sonnei	4	4	0	0
Other Shigella	2	2	0	0
Totals	26	26	2	6

* Under investigation by local and state epidemiologists

Laboratory Diagnosed Mycobacterial Infections in Wisconsin during March, 2010

***Mycobacterium* species**		**Brown**	**Dane**	**Eau Claire**	**Kenosha**	**La Crosse**	**Marathon**	**Milwaukee**	**Outagamie**	**Racine**	**Rock**	**Washington**	**Waukesha**	**Winnebago**	**Wood**	**TOTALS**
M. tuberculosis complex	Pulm	1	2					1								**4**
	Extra		1													**1**
Total *M. tuberculosis* complex		**1**	**3**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**
***M. avium* complex**	Pulm	1	3	2	3	1		52	1	1	3			5	1	**73**
	Extra						1								2	**3**
M. gordonae	Pulm		3		3	1		6			1					**14**
	Extra												1			**1**
M. chelonae-abscessus	Pulm		3	1				6							1	**11**
	Extra							4	1				1		1	**7**
M. fortuitum group	Pulm		1					2				1				**4**
	Extra															**0**
M. kansasii	Pulm		1													**1**
	Extra															**0**
M. mucogenicum	Pulm							3	1	1						**5**
	Extra							1								**1**
M. xenopi	Pulm							2								**2**
	Extra															**0**
M. goodii	Extra		1													**1**
M. lentiflavum	Pulm						1	1								**2**
M. malmoense	Pulm										1					**1**
M. terrae complex	Pulm		1													**1**
TOTALS		***1***	**13**	**3**	**6**	**2**	**2**	**77**	**3**	**2**	**5**	**1**	**2**	**5**	**5**	**127**

Extra-Pulmonary Sources of Isolation:

M. tuberculosis Extra-pulmonary:	1 CSF
M. avium complex Extra-pulmonary:	1 salivary gland, 1 axilla, 1 cyst
M. gordonae Extra-pulmonary:	1 pleural fluid
Other *Mycobacterium* species	*chelonae/abscessus*: 2 scalp, 1 buttock, 2 foot, 1 abdomen, 1 wrist *goodii*: 1 knee fluid; *mucogenicum*: 1 blood

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

Drug Resistance	**Number of Isolates**
Susceptible to all first-line drugs	3
Out of State (susceptible to all first line drugs)	2
TOTAL	5

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

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

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Laboratory Director

May Vol. 15, No. 5

Sanjib Bhattacharyya, PhD
Chief Molecular Scientist

Virus Isolations from Clinical Specimens

Age	Sex	Source	Symptoms	Agent
38	F	Swab	N/A	2009 Influenza A H1N1
29	F	Throat/NP	N/A	2009 Influenza A H1N1
18	M	Throat/NP	ARD, cough, fever, vomiting	2009 Influenza A H1N1
18	F	Throat/NP	Fever, cough, sore throat, headache	2009 Influenza A H1N1
20	F	Throat	Fever, URI, cough, sore throat	2009 Influenza A H1N1
21	F	Throat	Fever, cough, sore throat	Adenovirus
25	M	Throat/NP	Fever, cough, sore throat	Adenovirus
5 Mo	M	NP	Autopsy	Rhinovirus
19	F	Throat	ILI	Rhinovirus
20	F	Thigh	Vesicular rash	Varicella Zoster Virus
18	F	Buttock/perianal	R/O herpes versus shingles	Varicella Zoster Virus
21	F	Groin	Vesicular rash, lymphadenopathy	Varicella Zoster Virus

Herpes Simplex Virus Isolations

Agent	Number of Isolates
Herpes Simplex type 1	13
Herpes Simplex type 2	11

Influenza Real-time RT-PCR Testing

Samples Tested	2009 Influenza A (H1N1) Positive
32	5

Molecular Amplification and PCR

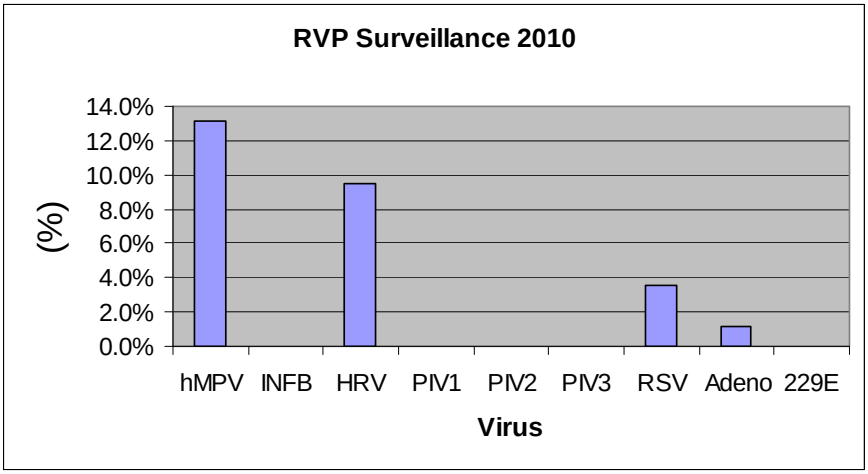
Agent	Method	Tested	Positive	% Positive
Norovirus	RT-PCR	1	0	0%
Chlamydia trachomatis	ProbeTec	620	92	14.8%
Neisseria gonorrhoeae	ProbeTec / GenProbe	864	46	5.3%

DNA Sequencing: The MHD laboratory uses 16S rRNA and the D2 region of the 26S rRNA genes for DNA sequence-based microbial identification of selective reference bacteria and fungal isolates

Reference Microbe	Target gene	Final Identification
Bacteria	16S rRNA	*Bacillus megaterium*
Bacteria	16S rRNA	*Bacillus simplex*
Bacteria	16S rRNA	*Campylobacter sp.*
Bacteria	16S rRNA	*Haemophilus influenzae*
Bacteria	16S rRNA	*Propionibacterium avidum*
Bacteria	16S rRNA	*Streptococcus constellatus*

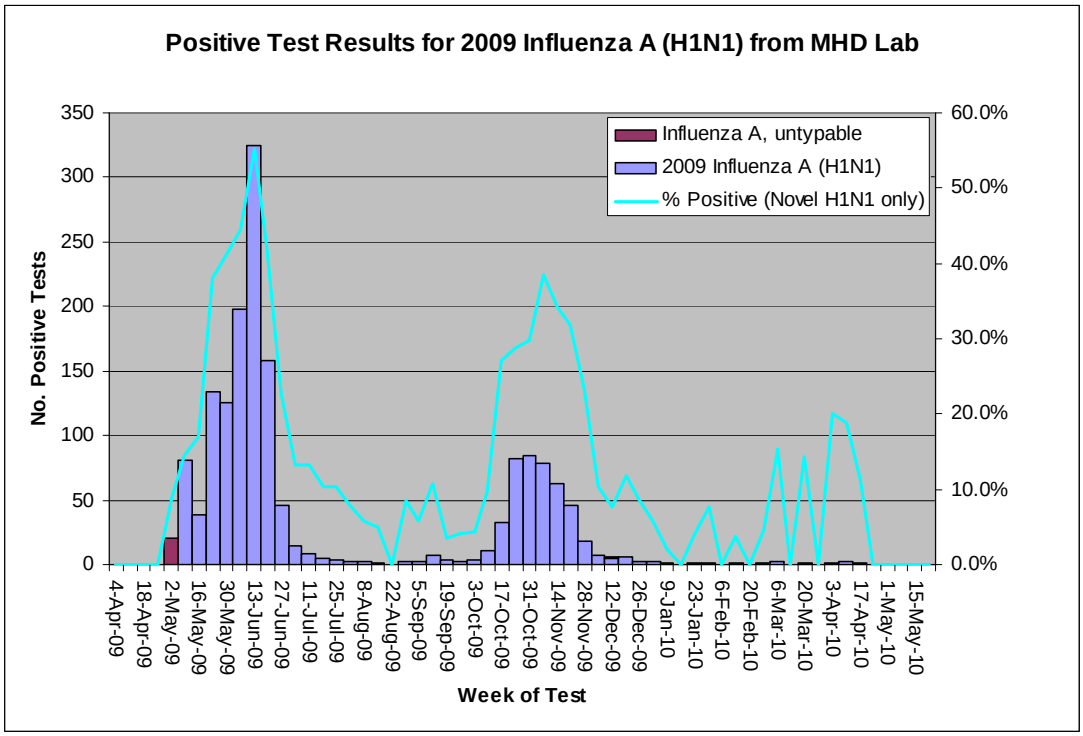
Respiratory Viral Surveillance: **Total 84 samples tested since January 2010. Since April 2009 a total of 566 samples were tested** (*Updated: 4/22/2010)*

Detection to date: 4-22-2010		
Virus	**Positives**	**Percent**
Human Metapneumovirus (hMPV)	**11**	**13.1%**
Influenza B (INFB)	0	0.0%
Human Rhinovirus (HRV)	**8**	**9.5%**
Parainfluenza virus 1 (PIV1)	0	0.0%
Parainfluenza virus 2 (PIV2)	0	0.0%
Parainfluenza virus 3 (PIV3)	0	0.0%
Respiratory Syncitial Virus (RSV)	**3**	**3.6%**
Adenovirus Type E (Adeno E)	**1**	**1.2%**
Coronavirus 229E	0	0.0%



Influenza Report from MHDL (2009- 10)

1. The City of Milwaukee has had 1,328 cases of 2009 Influenza A (H1N1) since September 1, 2009
2. The City of Milwaukee Health Laboratory detected 1,637 cases of 2009 Influenza A (H1N1) since April 2009
3. Milwaukee County has had 2,113 cases of 2009 Influenza A (H1N1) since September 1st, 2009



This graph demonstrates the total number of specimens tested at MHDL for influenza, number positive or negative, and percentage of total positives for 2009 Influenza A (H1N1) since April 2009

****** IMPORTANT NOTES ******

MHDL will be closed on Friday, May 28 as a furlough day for City of Milwaukee government and Monday, May 31 for the Memorial Day Holiday. However, abbreviated staff will be on duty in the laboratory over the weekend.

Please contact the laboratory at (414) 286-3526 or mhdlab@milwaukee.gov during regular hours with any questions.

In case of emergency or beyond regular work hours please call 414-286-2150.

After almost 20 years of service we say a fond farewell to Dr. Ajaib Singh who retired from the laboratory in April. Dr. Singh will be missed.