

## The Buzz Surrounding West Nile

By Katie Dix  
 WSLH Public Affairs

Bug spray is an essential item at most summer picnics and barbecues. But for many Wisconsinites this summer, the common pest repellent took on new meaning because of the rapid advance of West Nile virus (WNV) throughout the state.

Although WNV was detected in Wisconsin birds during the fall of 2001, it was not until this past summer that the first human infections took place in the state. Between June and October 14 of 2002, 328 birds, 131 horses and 33 humans tested positive for the infection. Two people also died from West Nile encephalitis, an inflammation of the brain caused by the virus.

The same trend was felt nationwide, as 42 states and the District of Columbia reported animal or human cases. And over 3,000 people tested positive for WNV through mid-October, causing 173 human deaths.

In Wisconsin, the Wisconsin State Laboratory of Hygiene played a critical role in helping to track the spread of the infection in birds and humans by performing most of the state's WNV testing. Partnering with the Division of Public Health, the Department of Natural Resources, the Wisconsin Veterinary

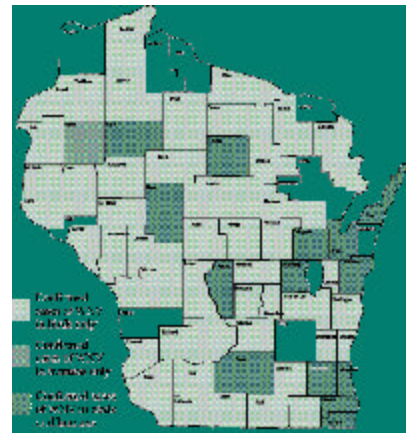


Diagnostic Laboratory and the Marshfield Clinic, the WSLH tested over 500 birds and 1,000 humans for the virus.

"Throughout summer and fall, the WSLH accurately and rapidly tested birds and people for WNV and promptly relayed the test results to the DPH," said Linda Glaser, WNV Surveillance Coordinator for the DPH. "This allowed us to get reliable WNV positive reports back to physicians and local health departments quickly, allowing them to provide information to the public as well as conduct follow-up investigations with WNV human cases."

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### WNV Cases in Wisconsin



**Top:** Erik Reisdorf prepares a bird specimen for WNV testing. **Above:** Map of confirmed West Nile virus cases in Wisconsin during 2002.

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# Back to Business as Usual?



**WSLH Associate Director Peggy Hintzman** has worked for the State Laboratory of Hygiene nearly 20 years. Her interest in quality management and systems improvements resulted in her participation as a member of the Steering Committee for Wisconsin's State Health Plan for 2000-2010. Hintzman is an active member of the Wisconsin Public Health Association, serving as president in 1999-2000. Currently, she is working with the National Model Public Health Statutes Collaborative project, serving on the Medical College of Wisconsin's public and community health oversight advisory committee and co-chairing a technical advisory committee for the information technology elements of the CDC grant for bioterrorism preparedness. She holds a Masters of Business Administration degree from the University of Wisconsin-Madison.

For Wisconsin's public and environmental health laboratory, responding to public health emergencies is a way of life. The Wisconsin State Laboratory of Hygiene often receives samples from local health departments, the Division of Public Health or the Wisconsin Department of Natural Resources to assist them in investigating potential or confirmed outbreaks. For example, between July 11, 2002 and September 13, 2002, the WSLH worked on 17 outbreaks, including investigation of a Norwalk-like virus outbreak at a camp site, testing of people exposed to a potentially rabid kitten, analysis of organic compounds from a fire at a business and testing of restaurant employees for Hepatitis A. This is what we do everyday. In this regard, nothing has changed: it's business as usual.

But we are not the same as we were before September 11, 2001. I hear it in the conversations of my friends, and I see it in the faces of my colleagues at the WSLH. Perhaps you have noticed it too. Perhaps you and your colleagues, like the hard-working staff of the WSLH, have felt a need to "kick it up another notch." We seem to be working with a greater sense of purpose and a heightened sense of urgency. This may not feel like business as usual: it may feel like stress.

Even though we know that stress can be good, such as when we become more energized, more creative or more heroic, we need relief on occasion--as both good stress and bad stress can have harmful effects on our health. However, what may be stressful to one person may not be stressful to another. This is especially true in the way in which we handle change. In the workplace, stressors can be ameliorated by enhanced communications and sharing responsibility for planning and decision making within workgroups. Stress caused by uncertainty can be reduced, and trust can increase through improved communication.

Now, with cooler weather and the natural beauty of fall signalling change, take a moment to take measure of the stress in your life and the productive ways in which you can respond to it. Break out from business-as-usual; take a break from today's stressors by allowing yourself some down-time. Take a walk during lunch time; read a book on your break; tell a joke to a friend. Get plenty of rest, eat well and exercise. Check-in with your workgroup, celebrate your year's successes and plan together for the opportunities of the next few months. As partners in public health, you are important to us: we want you to stay healthy.

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# Anthrax: One year later

By Katie Dix  
WSLH Public Affairs

Last fall the anthrax outbreaks on the East Coast shook the entire nation. Public health laboratories across the country began testing suspicious white powders for the presence of the infectious bacteria.

In Wisconsin, microbiologists at the State Laboratory of Hygiene tested over 650 samples for anthrax—all of which tested negative. Although Wisconsin did not experience an actual outbreak, the anthrax scare taught every public health professional a lesson in bioterrorism preparedness.

"When I received the first call about a possible anthrax specimen, I can't say I was surprised," WSLH Communicable Disease Division Director Dr. Pete Shult says. "But then we started receiving samples on a daily basis, and we never anticipated getting hit with hundreds of these over a several week

period. We had to learn quickly how to handle all of the samples."

Shult believes that the WSLH and all public health partners adjusted quickly to the ever changing situations last fall, allowing the response effort to run smoothly and effectively. Nevertheless, he says that the events added a sense of urgency to further the Lab's capability and capacity by acquiring new tests and methods along with continuing to improve the national bioterrorism laboratory response network established in 2000.

In an effort to prepare for the next terrorism event, the WSLH will receive a portion of a \$19 million Centers for Disease Control and Prevention grant. The funds are being used to upgrade technology, increase staff expertise and provide training to partner laboratories.

As part of the grant, two State Lab employees recently were named to the WSLH terrorism response team.

Environmental Health Division Supervisor David Degenhardt will help coordinate laboratory preparedness efforts in the areas of environmental, radiological and chemical terrorism. While Virology Network Coordinator Carol Kirk will focus on bioterrorism.

Both Degenhardt and Kirk will work directly with Shult, who also acts as the WSLH Terrorism Response Director. Shult says that even though public health partners handled the events of last fall very well, the state and the WSLH have to prepare for the next event.

"I don't know what the next terrorism agent will be or when the attack will occur," he explains. "It may not be exactly like the last time, but we need to be ready. With help from the CDC and our public health partners we are working hard to become even more prepared for the next event."

## Register for Upcoming WSLH Teleconferences

The WSLH will be providing the following audio conferences. There is no fee for the conferences, but you must register to receive connection instructions and handout materials. To find out more information or to register, log onto <http://www.slh.wisc.edu/outreach/index.html>. To register by FAX, send the following information to Carol Kirk at (888) 329-5748 or in the Madison area at (608) 265-9091: contact's name, institution's name, delivery address, telephone number and FAX number. *All participants must register at least 10 days prior to the conference date.*

### "Smallpox Update 2002: The Clinical Laboratory"

Wednesday, December 18, 2002

12:00 p.m. to 1:00 p.m.

Presented by: Pete Shult, Ph.D.

This presentation will provide an update on concerns about smallpox, focusing on the current status of preparedness and the role of the clinical laboratory in response activities.

### "Use and Interpretation of Rapid Tests in the Clinical Laboratory"

Wednesday, January 15, 2003

12:00 p.m. to 1:00 p.m.

Presented by: Carol Kirk, Bobbie McDonald, B.S., and David Warshauer, Ph.D.

This presentation will use chlamydia, cryptosporidia and influenza tests as examples to describe issues and provide guidance in the use of rapid tests.

# Real-Time PCR Assay Enhances Diagnosis Of *Bordetella pertussis* (Whooping Cough) Infection

By David Warshauer, Ph.D.  
WSLH Chief Bacteriologist

*Bordetella pertussis* is the causative agent of pertussis or "whooping cough." Pertussis incidence has gradually increased since the early 1980s, with 7,867 cases reported in 2000, the largest number since 1967.

Fifty-four percent of cases occur in children less than 5 years of age; however, there has been an increased incidence among adolescents and adults in the last several years. Classical pertussis is usually easily diagnosed clinically. However, atypical pertussis in adults or previously vaccinated children can be difficult to diagnose and may go unrecognized.

The increase in pertussis in the United States highlights the need for rapid and accurate laboratory diagnostic methods to guide therapy and to implement preventive measures to stop transmission.

Culture has been considered the "gold standard" for pertussis diagnosis, but requires special media, incubation up to 7 days and is optimal only in the initial catharral phase of the disease. Culture sensitivity decreases in older or previ-

ously vaccinated patients and from patients treated with antibiotics. In addition, *B. pertussis* is a very labile organism and may die in transport to the laboratory. Transport time can have a large impact on the recovery rate of *B. pertussis* from nasopharyngeal specimens, especially for a public health laboratory where specimens may take several days to reach the laboratory via mail.

Recently, the Wisconsin State Laboratory of Hygiene implemented a sensitive and specific real-time polymerase chain reaction (PCR) assay using the LightCycler. This assay detects an insertion sequence, IS481, of which 50 to 100 copies are present in each bacterial genome. The sensitivity is less than one bacterium. In this method, the amount of PCR product is monitored cycle-by-cycle using fluorescent signals, enabling a microbiologist to detect the presence of *B. pertussis* in a processed specimen in less than one hour.

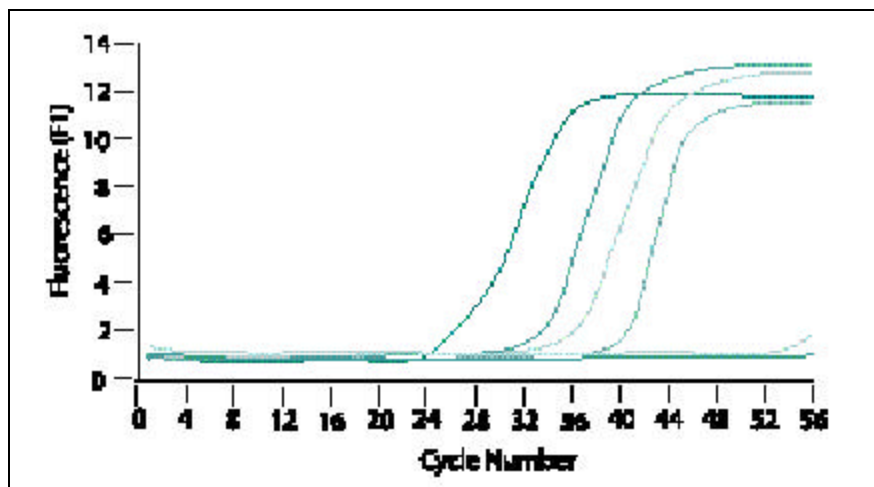
Studies have shown PCR to be superior to culture and direct fluo-

rescent antibody (DFA) detection of *B. pertussis*. One study performed in a public health lab setting demonstrated a sensitivity of 93.5% for PCR as compared to 15.2% for culture and 52.2% for DFA.

The WSLH recommends PCR as the test of choice for the laboratory diagnosis of pertussis. It should be used in conjunction with culture, as it is important to isolate the organism for antimicrobial resistance monitoring and for epidemiologic purposes. The IS481 target is also present in the genome of *Bordetella holmesii*; therefore, specimens containing *B. holmesii* may yield false-positive results.

In a recently published study of patients suspected of having pertussis, *B. holmesii* was isolated from 0.3% of nasopharyngeal specimens as compared to 7% with *B. pertussis*. A positive reaction in this PCR reaction should be considered as only presumptive evidence of *B. pertussis* infection and should be interpreted in conjunction with the patient history and clinical presentation.

Below is an example of a PCR run printout. The curves that spike are positive for pertussis, while the lines that remain flat are negative.



## Test Information

Use collection kit #30

Tests Offered:

-*Bordetella pertussis* PCR  
Test Code 623PCR

-*Bordetella pertussis* Culture  
Test Code 623C

-*Bordetella pertussis* DFA  
Test Code 637

## West Nile Virus... from page 1

One of the testing techniques the WSLH utilized to help analyze bird tissue samples was the real-time PCR assay. The LightCycler used to perform the PCR assays was acquired with funds from a Centers for Disease Control and Prevention grant to quickly identify possible bioterrorism agents.

"We are able to use the LightCycler for a wide range of testing for infectious and communicable diseases including West Nile virus," explains Chief Bacteriologist Dave Warshauer. "It is a great example of the dual use of the bioterrorism funds, where technology can be used for multiple types of public health purposes."

To analyze human specimens, the WSLH performed serology tests.

Microbiologists used the IgM capture EIA method on spinal fluid and serum, which tests for the presence of antibody to WNV.

PCR assays are not currently performed on human specimens because the Centers for Disease Control do not recognize PCR as a valid method of testing on humans. However, Warshauer hopes more research will be done in the area and soon the LightCycler will be able to be used to detect WNV in human patients.

Although the mosquito season is over for Wisconsin, experts say the virus has established itself in the state and will continue to return in subsequent summers. Public health officials remind people that although humans cannot carry and spread the infection, they play a

major role in helping to continue the cycle of the virus by providing mosquitoes with ideal breeding habitats on their property. Standing water in flower pots, buckets, clogged rain gutters, swimming pools and birdbaths that are not cleaned regularly combine stagnant water and organic material to create the perfect conditions for a mosquito breeding habitat.

"Although we can't predict how much viral activity to expect from year to year, we know WNV is established in Wisconsin and will most likely recur on a yearly basis," Glaser says. "Identifying mosquito breeding habitats on your property and eliminating it before the start of the mosquito season next year is an important task to accomplish if we want to lessen the hold of WNV on Wisconsin."

## WSLH Associate Director Named to Oversight Committee

The Medical College of Wisconsin has appointed WSLH Associate Director Peggy Hintzman to its Public and Community Health Oversight and Advisory Committee. Hintzman will serve on the committee as the statewide public health advocate.

Hintzman, a nominee of the Wisconsin Public Health Association, brings 20 years of public health experience to the committee as it oversees the use of the Blue Cross & Blue Shield United of Wisconsin's multi-million dollar conversion fund. The money will be allocated to Wisconsin's two medical schools, 35% of which each school must be used for public health initiatives. Both the Medical College of Wisconsin and the University of Wisconsin Medical School were required to create nine

member advisory committees.

The chairman of the Medical College's Board of Trustees, John F. Bergstrom says he is looking forward to working with Hintzman and the other committee members.

"The eight members selected to serve on this committee reflect the diversity of health care interests and issues affecting the people of Wisconsin," he says. "The Medical College believes their collective experience and insights will be translated into innovative and effective programs that will benefit Wisconsin citizens today and for generations to come."

The other eight members of the Medical College Committee include three community health advocates, Tasha Jenkins, Randall S. Lambrecht, Ph.D. and Paula A. Lucey, along with four Medical

College administrators, T. Michael Bolger, J.D., Douglas R. Campbell, Michael J. Dunn, M.D. and Cheryl A. Maurana, Ph.D. A ninth member, Terry Brendenburg, a health officer for the City of West Allis, was appointed by the Wisconsin Commissioner of Insurance.

Members appointed to the University of Wisconsin-Madison Public and Community Health Oversight Committee are: Margaret MacLeod Brahm, Nancy Miller-Korth, Douglas N. Mormann, Gregory Nycz, Philip Farrell, M.D., Ph.D., Patricia Kokotailo, M.D., M.P.H., Patrick E. McBride, M.D., M.P.H., Patrick L. Remington, M.D., M.P.H., and Insurance Commissioner Representative Mary Lauby.

# WSLH Employees Give Hope for Life

By Katie Dix  
WSLH Public Affairs

Employees at the Wisconsin State Laboratory of Hygiene are accustomed to working with gloves, needles and blood. But for two days in September many employees found a different way to put these common lab items to use—by donating blood at the first WSLH blood drive.

“There was an overwhelming enthusiasm to help out by many employees,” WSLH Human Resources Director and Blood Drive Coordinator Sandy Prisbe said. “Donating blood is closely related to our business, and we have some very dedicated blood donors at the State Lab. So many in fact, that we had to turn some away.”

During the two-day drive held at the WSLH’s Agriculture Drive location, the Red Cross collected over 50 pints of blood from State Lab employees.

Doris Anderson, who works in the Radio Chemistry department, gladly took time out of her day to give blood. She says she is a regular blood donor but loves the convenience of being able to give right at work.

“It is so easy to give blood right at



State Lab employees filled every chair during the first American Red Cross Blood Drive sponsored by the WSLH.

the WSLH,” she says. “And so many people at the Lab are very caring and want to help people in a time of need.”

Director of the School of Cytology, John Shalkham, also knows how important this blood drive and others are to the health of the public.

“Medical personnel are constantly in need of blood,” Shalkham explains. “The WSLH blood drive is a great way for us to participate in public health by supporting the health of citizens.”

Because of the overwhelmingly positive support for the first blood drive and the eagerness of many employees to continue donating, Prisbe hopes to make the WSLH blood drive into a semiannual event. The next drive is already in the planning stages for the end of January.

“Employees at the WSLH make a difference every day in Wisconsin,” Prisbe says. “But donating blood and saving a life is a truly special job that we need to continue.”

## State Lab Researcher Wins National Award

WSLH Air Quality Director Jamie Schauer recently received a \$225,000 Health Effects Institute award to further his research on the impact of air pollution on human health.

The Health Effects Institute grants one Walter A. Rosenblith New Investigator Award to an “outstanding investigator” each year. According to the HEI, the organization offers the award in “hopes to encourage highly qualified individuals to undertake research on the health effects of air pollution.”

Schauer says he will use the award money to develop chemical analy-

sis tools to better measure the chemical composition of direct samples of human exposed pollutants.

“This research is critically important to understand the link between human exposure to particulate matter and health effects,” he says. “It also is important in developing control strategies to protect human health.”

# WSLH Announces Genetics Laboratory Merger

By John Shalkham  
WSLH School of Cytotechnology

New discoveries related to the Human Genome Project have made genetics one of the hottest areas in medicine. Expanded understanding of the molecular basis of inherited diseases such as Down's syndrome as well as the basis of mutation based diseases, such as many of the forms of cancer, is of increasing importance to the health of Wisconsin's citizens.

Several laboratories on campus recognized the need for a laboratory facility that could respond to the increasing knowledge in the field of genetics, and thus the idea of a merged genetics laboratory to serve the entire UW campus and state was born.

In July 2002 the genetics laboratory services from the Waisman Center and the Wisconsin State Laboratory of Hygiene were merged into a single laboratory. The mission of the new laboratory is "to create an environment that promotes research, integrates and disseminates knowledge and provides quality testing to the citizens of Wisconsin."

The goal of the new laboratory is to provide the best genetic services to the citizens of Wisconsin and to support and participate in research and education throughout the state and beyond.

The combined efforts of the Comprehensive Cancer Center, the Waisman Center and the Wisconsin State Laboratory of Hygiene formed the new laboratory, which has yet to be named. The merged laboratory is located in the Wisconsin State Lab of Hygiene and has been operating since mid-summer.

One of the first tasks of the merger committee was to recruit a director for this new laboratory. On July 1, 2002, Jinwei Yu, M.D., Ph.D. joined the University of Wisconsin-Madison as the Director of the newly merged laboratory. Dr. Yu comes from Denver, where he worked at the University of Colorado and at the Eleanor Roosevelt Institute for Cancer Research.

Dr. Yu's research is related to genetic basis of Down's syndrome and the genetics of ovarian cancer. He will work at both the Waisman center and the Wisconsin State Laboratory of Hygiene facilities.

Since July, Dr. Yu has worked with WSLH Senior Cytogeneticist Dr. Lorraine Meisner to lay the groundwork for the newly merged laboratory along with beginning to focus

on what can be done to improve its services in the future.

"I am very excited to be a part of this great laboratory," Dr. Yu says. "This new laboratory provides me with a great opportunity to develop my own career and further my research, but it also allows me to share my knowledge with the people of the state."

In the next few months, the merged laboratory will be given a name reflecting its role as a center for diagnostic testing and research. More information about the new genetics laboratory can be obtained by contacting Jim Panella in the Cytogenetics Department at (608) 262-0402 or by e-mail at [panella@mail.slh.wisc.edu](mailto:panella@mail.slh.wisc.edu)



*Dr. Yu consults with cytogeneticist Eric Johnson about a chromosome evaluation in the newly merged genetics laboratory located at the Wisconsin State Laboratory of Hygiene.*

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# Protecting our Water Supply

WSLH Director of Environmental Health Dr. William Sonzogni is joining forces with a statewide initiative to improve the quality of Wisconsin's water.

The campaign, entitled Waters of Wisconsin, is organized by the Wisconsin Academy of Sciences, Arts and Letters. Waters of Wisconsin aims to analyze the current and long-term state of Wisconsin's water.

Sonzogni strongly believes in the program's purpose. In an editorial to *The Capital Times*, he expressed the importance behind the Waters of Wisconsin campaign.

"Wisconsin's waters are essential not only to the natural communi-

ties that share our landscape, but, on an even more fundamental level, to our well-being and health," he wrote in the article published in September. "To continue to enjoy our quality of life, we must protect our water."

In addition to advocating better water quality through his guest editorial, Sonzogni also appeared as a panelist for the Waters of Wisconsin Forum held in October. During the forum he discussed the importance of ensuring the quality of Wisconsin's surface and groundwater in order to protect human health.

**For more information about Waters of Wisconsin, log onto [www.wisconsinacademy.org/wow](http://www.wisconsinacademy.org/wow).**

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# Learning from Experience

WSLH Proficiency Testing Coordinator Barb Burmeister is bringing her national committee experience back to the State Lab. In 1996, she began attending proficiency testing sessions at the National Environmental Laboratory Accreditation Conference (NELAC). Burmeister began a five year term on the committee in 1997, and in 1999 was appointed chair of the Proficiency Testing Committee.

The NELAC is a voluntary association of state and federal agencies established to develop uniform laboratory accreditation standards for environmental laboratories. The Proficiency Testing Committee is one of eight standing committees in the NELAC.

Burmeister says the experience of serving on the national committee

helped in determining the future of the WSLH Environmental Proficiency Testing program.

"Since the WSLH has had an environmental PT program since 1985, we wanted to explore the possibility of becoming a national provider of proficiency testing in the environmental field like we are in the clinical field," she explains. "Being involved at the national level allowed us to collect the data needed to make an informed decision."

Burmeister's position also provided valuable information to the WSLH Environmental Health Division, the Wisconsin Department of Natural Resources Laboratory Certification Program and the Wisconsin Department of Agriculture, Trade and Consumer Protection Laboratory Certification Program.

## WSLH

### Toxicologist to Teach National Alcohol Course

WSLH Toxicologist Pat Harding will begin teaching the "Robert F. Borkenstein Course on Alcohol and Highway Safety: Testing, Research and Litigation" at Indiana University this December.

The course is an intense, week-long study of alcohol related traffic safety issues for police officers, scientists, criminologists and attorneys. Harding's portion of the course is entitled "Analysis of Defense Challenges to Breath-Alcohol Testing."

The Borkenstein Course is the only one of its kind in the country, and the instructors are among the most recognized and accomplished practitioners in the field. Harding says it is a high honor to be asked to join the faculty and is looking forward to teaching the course. He also hopes the experience will allow him to bring information back to the State Lab to help improve an already strong WSLH toxicology program.

"This faculty appointment recognizes that Wisconsin has one of the best alcohol testing programs in the country, and the WSLH plays a significant role in that," he says. "The interaction with faculty and students will enhance our program's capabilities by way of exposure to the latest developments in the field."

# Flu Season Sure to Stop in Wisconsin

By Carol Kirk  
WSLH Virology Program Coordinator

It's time for our annual warning that influenza & RSV season is around the corner. These viruses, and the widespread illnesses they cause, are the cornerstone of the winter respiratory virus season.

## Influenza

No, it isn't the so-called "stomach flu" that concerns us. We are concerned with the sudden fever, severe aches (one article described it as "aching from your hair to your toenails"), sore throat and other respiratory symptoms that disrupt our lives every winter. Whether we suffer through the symptoms ourselves, care for family members or compensate for stricken co-workers, we are all likely to be affected by influenza every year. The elderly, those with certain chronic medical conditions and very young children are at highest risk of

severe complications from influenza infection.

The CDC reported one influenza A(H1) isolate from North Carolina during the week ending October 12, 2002. During September, one influenza A(H3N2) and one influenza A (subtype unknown) were reported from Hawaii and Louisiana; influenza B viruses were reported from Hawaii (1 isolate) and Tennessee (2 isolates).

In Wisconsin, we can expect the first culture-confirmed influenza isolates to be detected in mid- to late November, with activity reaching peak levels between late December and late February, based on historical data.

Influenza activity will be monitored in Wisconsin through the voluntary reporting by virology laboratories and rapid test sites and Wisconsin's sentinel physicians, who provide

weekly reports of the proportion of patients with influenza-like illness.

The influenza A(H1N1) and A(H3N2) components of this year's vaccine are unchanged from the 2001-2 vaccine, but the influenza B component has been changed. The 2002-3 influenza vaccine contains viruses that represent influenza A/Moscow/10/99 (H3N2), A/New Caledonia/20/99 (H1N1), and B/Hong Kong/330/2001 strains.

## Respiratory Syncytial Virus (RSV)

RSV is often detected sporadically through the fall, increasing during the winter months to reach peak levels in mid- to late February. RSV also causes annual outbreaks and is the leading cause of bronchiolitis and pneumonia in infants and young children. Re-infections with RSV occur throughout our lives, causing moderate to severe respiratory illnesses.

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## 2001-2002 Influenza Season at a Glance

	United States	Wisconsin
Number of influenza isolates reported	15,671	1,922
Percentage of isolates identified as influenza A	87%	89%
Percentage of influenza A isolates subtyped as H1	2%	2%
Percentage of influenza A isolates subtyped as H3	98%	98%
Percentage of isolates identified as influenza B	13%	11%
Week of highest positivity	February 23, 2002	February 23, 2002
Level of highest positivity	26%	30%
Level of highest positivity in previous three years	23-31%	22-41%

\* U.S. data provided by World Health Organization Collaborating Laboratories and National Respiratory and Enteric Virus Surveillance System.

\*\* Wisconsin data provided by Wisconsin Virology Laboratory Information Network.

# Rapid Influenza Test Sites Enhance WI's Surveillance

By Carol Kirk  
WSLH Virology Program Coordinator

The WSLH is again enlisting the assistance of sites that use rapid influenza tests to enhance Wisconsin's laboratory-based influenza surveillance during the coming season. We are asking rapid test sites to provide weekly testing reports and confirm their first positives with viral culture. Both the Rapid Test Site Network and the Virology Laboratory Information Network (LIN) provided valuable information and specimens during the 2001-2 season.

The first three influenza isolates of the 2001-2 season in Wisconsin were recovered during the weeks of November 17 and November 24, 2001, from culture confirmations of rapid test site positive specimens that had been forwarded to three separate virology laboratories. In addition, culture confirmation of a positive rapid test site lead to the

first detection of an influenza A (H1N2) virus (a recombination of the circulating influenza A (H1N1) and influenza A (H3N2) strains). The peak number of respiratory specimens tested by both networks occurred during the week of February 23, 2002, and the last influenza A positives from both networks were reported during the week ending April 27, 2002.

Sporadic cases of influenza B were reported throughout the season by LIN laboratories, and both LIN and Rapid Test Site laboratories reported a late season peak in influenza B activity. The last influenza B positive was reported by the Rapid Test Site network during the week ending May 25, 2002, and the last influenza B reported by the LIN laboratories one week later.

The week of peak detection of influenza, based on the number of positives detected, was February 23, 2002, according to data provid-

ed by both networks. The positivity of testing for influenza during that peak week reached 30% for LIN laboratories (comparing the number positive for influenza to the number of total respiratory specimens tested) and nearly 35% for rapid test sites.

### Receive Updates of Influenza Activity

Influenza updates are available from the Wisconsin State Laboratory of Hygiene. Updates can be sent via e-mail or FAX. For more information or to subscribe, contact Carol Kirk at (608) 262-1021 or [cjk@mail.slh.wisc.edu](mailto:cjk@mail.slh.wisc.edu). When requesting updates, please provide your name, institution's name, city, telephone number and e-mail or FAX number.

## WSLH Recommendations for Interpretation of Rapid Influenza Tests

● During periods of low or no influenza prevalence:

- Positive results should be confirmed by viral culture
- Negative results are more likely to be accurate.

● During periods of high influenza prevalence:

- Positive results are more likely to be accurate
- Negative results are more likely to be inaccurate.

● Confirm the first positive specimens by rapid influenza tests with viral culture testing, which can be performed by any of the clinical virology laboratories in Wisconsin. Note that culture confirmation testing may

require collection of a second specimen.

- Limited fee-exempt transport and testing at the Wisconsin State Laboratory of Hygiene can be arranged until two consecutive specimens from your institution test positive. A customized WSLH requisition form and shipping instruction are available by contacting Carol Kirk at (608) 262-1021 or [cjk@mail.slh.wisc.edu](mailto:cjk@mail.slh.wisc.edu).

- Rapid testing sites in Milwaukee may forward positive specimens to the Milwaukee Health Department Laboratory for fee-exempt culture-confirmation.

● Use WSLH reports of laboratory-based influenza surveillance in Wisconsin to assess influenza

prevalence in Wisconsin.

- Ongoing reports of influenza prevalence will be posted on the WSLH web site (<http://www.slh.wisc.edu> under "What's in the news at the State Lab of Hygiene"). To receive FAX or e-mail reports, contact Carol Kirk at (608) 262-1021 or [cjk@mail.slh.wisc.edu](mailto:cjk@mail.slh.wisc.edu) with your name, institution's name, city, telephone number and e-mail address or FAX number.

● Provide clients with the context and the means for result interpretation through educational mailings, presentations or comments provided with the test results.

## Enterovirus Season Update

Judging by the reports of the Wisconsin Virology Laboratory Information Network (LIN), this has been a very mild enterovirus season. Traditionally, enterovirus detections in the state increase through July and August, reaching peak levels in September. While we may assume that we are past the peak of enterovirus activity, the overall size of the peak may have been impacted by changes in testing patterns which we are unable to assess.

While influenza and respiratory syncytial virus activity correlate with specific illnesses in the winter, the summer through fall enterovirus season does not provide such a straightforward clinical correlation. This group of viruses is commonly associated with illnesses ranging from non-specific febrile illness to meningitis and encephalitis.

The association with meningitis and encephalitis, the shared season with the mosquito-borne arboviruses, and the occasional predominance of specific enterovirus serotypes that show a proclivity for outbreaks or CNS illnesses account for the public health interest in this group of viruses.

Of the 91 enteroviruses which have been reported by LIN laboratories in 2002, 59 have been serotyped at the WSLH and the Milwaukee Health Department Laboratory. These 59 isolates represent 15 different serotypes; the predominant serotypes this season appear to be Coxsackievirus B-1 and Echovirus types 3 and 7 (approximately 19 percent, 14 percent, and 14 percent of serotyped isolates, respectively).

## Change in Virology Laboratory Procedures

The Virology Laboratory of the WSLH will no longer be processing routine clinical specimens on Saturdays; virology specimens that are received on Saturdays will be refrigerated and processed on Mondays. Laboratory staff will, of course, continue to be available on weekends to respond to public health outbreaks.

This change results from the need to utilize staff more effi-

ciently as the laboratory moves toward a public health program oriented focus. The Virology laboratory work being performed on Saturdays was largely directed toward processing of incoming specimens for routine clinical testing, which is available at other laboratories in the state.

If you have questions about the availability of clinical virology testing, please contact the laboratory at (608) 262-3185.

Influenza...

from page 9

### A Look Back at the 2001-2 Influenza Season

The CDC classified the 2001-2 influenza season in the U.S. as "mild to moderate". Although influenza A(H3N2) viruses predominated overall, influenza B viruses were detected more frequently toward the end of the season.

All of the 393 influenza A(H3N2) viruses characterized by the CDC were similar to the H3N2 component of the 2001-2 vaccine. All of the thirty influenza A(H1) viruses characterized by the CDC had an H1 component that was similar to the H1 component of the 2001-2 vaccine. However, 16 of the 30 isolates (including several from Wisconsin) were influenza A(H1N2) viruses.

Influenza A(H1N2) viruses were also reported from Hawaii, Massachusetts, New York, Pennsylvania, Canada, Egypt, Hong Kong, India, Israel, Malaysia, Romania, Singapore and the United Kingdom. The influenza A(H1N2) viruses resulted from gene reassortment among the circulating influenza A(H1N1) and A(H3N2) subtypes, so the vaccine should have provided protection against them. Although we don't know if the new A(H1N2) viruses will persist, there is no evidence that they cause either more severe illness or an increase in activity.

Of the 267 influenza B viruses characterized by CDC, 61 were of the B/Yamagata lineage represented in the 2001-2 vaccine and 206 were of a B/Victoria lineage which had not circulated outside Asia between 1991 and 2001. The B/Victoria lineage of influenza viruses is represented in the 2002-3 vaccine by influenza B/Hong Kong.



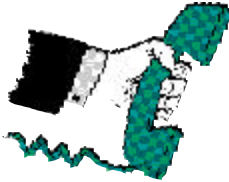
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**Be Sure to Register  
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See page 3 for details.



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