

THE PUBLIC'S HEALTH

Newsletter for Medical Professionals in Los Angeles County

Volume 2 • Number 9

October 2002

West Nile Virus: First Confirmed Case in Los Angeles

In mid-September, the Los Angeles County Department of Health Services (DHS) announced confirmation of the first known case of West Nile virus (WNV) infection obtained in California. The case, a

As of early October, no additional cases have been identified with exposure unique to the Los Angeles area.

resident in the southwest section of the county, was hospitalized with aseptic meningitis in August and has since fully recovered. Investigation of known WNV risk factors revealed that the case had not

recently traveled to a WNV endemic region, had no history of blood transfusion and was not an organ transplant recipient. As of early October, no additional cases have been identified with exposure unique to the

Los Angeles area. Furthermore, the virus has not been identified by any of the statewide mosquito-borne encephalitis surveillance methods which includes monitoring sentinel chicken flocks, dead birds and trapped mosquitoes for evidence of arbovirus infections, as well as investigating all known cases of viral encephalitis and meningitis. State and county public health officials have been preparing for the eventual spread of the virus to the west coast. Nonetheless, this first case occurred earlier than expected since no cases have been identified in any of the contiguous states.

Since the county's first case of WNV, the statewide mosquito-borne encephalitis surveillance has been enhanced. Clinicians, infection control practitioners, laboratory directors and all other health care providers are reminded that all cases

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Invasive Pneumococcal Disease Reporting Now Required in Los Angeles County

As of October 1, 2002, all health care providers and laboratories in Los Angeles County are required to report all cases of invasive pneumococcal disease (IPD) as mandated by the California Code of Regulations, Title 17, Section 2500. Cases should be reported to the county's Department of Health Services (DHS) within 7 days of identification (as described on page 2). IPD (*Streptococcus pneumoniae* isolated from a sterile site such as blood or CSF) is a significant cause of infectious disease morbidity and mortality across the United States; infection control practitioners and laboratories already have been reporting IPD cases to DHS since 1995. However, this practice only captures an estimated 40% of all IPD cases. By adding physicians and other healthcare

Currently, 29 states require reporting of drug-resistant *S. pneumoniae*.

providers to the group of those that are required to report, DHS hopes to obtain a more accurate picture of the true incidence of IPD in addition to the patterns of antimicrobial susceptibility in the county.

The reduction of IPD is a priority of the Centers for Disease Control and Prevention (CDC) and is among the Healthy People 2010 objectives set by the United States Surgeon General. Nationally, more than 23 states require reporting of IPD and 29 require reporting of drug-resistant *S. pneumoniae*. *S. pneumoniae* is a leading cause of illness in young children and causes substantial illness and death in the elderly. In

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Invasive Pneumococcal Disease Reporting (from page 1)

the United States, *S. pneumoniae* causes an estimated 3,000 cases of meningitis, 60,000 cases of bacteremia, over 125,000 hospitalizations for pneumonia, and 10,000–15,000 deaths annually. In addition, antimicrobial resistance has increased rapidly over the last decade, posing a serious public health concern. From 1997 to 2000, the proportion of penicillin nonsusceptible *S. pneumoniae* increased 10% in the United States to 27.5% according to the CDC's Active Bacterial Core Surveillance project.

Enhanced reporting of IPD will allow DHS to more efficiently monitor the disease, and as a consequence, will improve our ability to minimize the morbidity and mortality of this disease. DHS plans to determine the incidence and epidemiologic characteristics of IPD, track emerging antimicrobial resistance and distribute this information to physicians in the county so they can make appropriate antibiotic treatment choices. Enhanced surveillance will also permit the evaluation of the pneumococcal conjugate vaccine's (PCV, Prevnar®) impact on IPD in children and the pneumococcal polysaccharide vaccine's (PPV) effect on the elderly. ☐

How to Report IPD

- Use the IPD reporting form to report cases of IPD including antibiotic susceptibility results and vaccine history (do **not** use the Confidential Morbidity Report form). For a copy of the IPD form, you may call the Acute Communicable Disease Control Unit (ACDC) at (213) 240-7941 or download it at: <http://lapublichealth.org/acd/procs/pneumo/spfrm4.pdf>
- Attach a copy of antibiotic susceptibility results or you may transcribe the results to the form.
- Send completed IPD forms to DHS via the Communicable Disease Reporting System toll-free faxline (1-888-397-3778) or mail to the Morbidity Central Reporting Unit, 313 N. Figueroa Street, Room #117, Los Angeles, CA, 90012.

If you have any questions, please contact ACDC at (213) 240-7941.



ANTIBIOTIC RESISTANCE INFORMATION CORNER

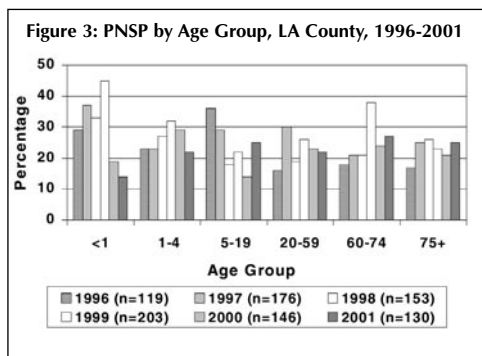
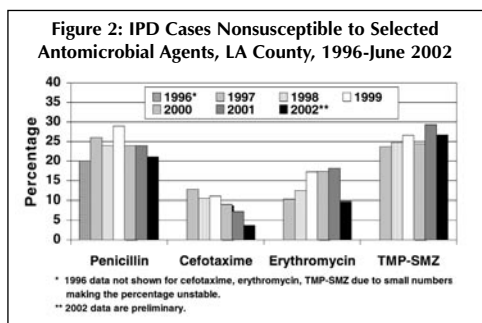
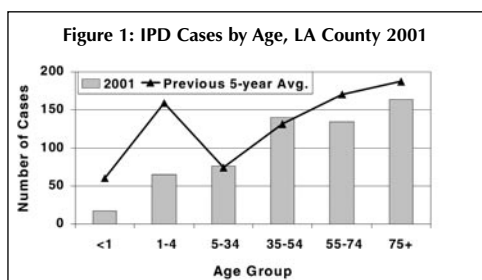
While much is known about penicillin resistance in *Streptococcus pneumoniae*, little is known about its resistance to fluoroquinolones (FQ). This is important because FQ are recommended for treatment of community acquired pneumonia (CAP) likely to be multi-drug resistant to commonly prescribed antibiotics. A recent report in the *New England Journal of Medicine* discusses four patients with CAP who were treated with levofloxacin but had *S. pneumoniae* resistant to levofloxacin; one died. The authors suggest that *S. pneumoniae* can acquire resistance quickly to FQ and that patients should not be treated for CAP with FQ if they have recently received any FQ or if they do not improve promptly on FQ. The authors also encourage more FQ susceptibility testing for *S. pneumoniae*.

Davidson R, Cavalcanti R, Brunton J, et al. Resistance to levofloxacin and failure of treatment of pneumococcal pneumonia. *N Engl J Med* 2002;346:747-750.

The Los Angeles County Department of Health Services conducts surveillance for antibiotic resistance in *S. pneumoniae* including FQ resistance (see accompanying article, page 3).

CURRENT STATISTICS ON INVASIVE PNEUMOCOCCAL DISEASE IN LOS ANGELES COUNTY

The Acute Communicable Disease Control Unit of the Los Angeles County Department of Health Services currently maintains a selective surveillance system for invasive pneumococcal disease (IPD: *Streptococcus pneumoniae* isolated from a sterile site such as blood or CSF). The number of reported IPD cases decreased 21% from year 2000 to 2001 (760 cases versus 603 cases respectively). As shown in Figure 1, the 2001 decrease was primarily due to the drop in cases among children <5 years and might be attributed to use of the recently licensed pneumococcal conjugate vaccine (Prevnar®). The less dramatic decrease among adults older than 55 years also may be related to the pediatric decrease, as children are less of a source of infection to older adults such as grandparents. Prevnar® was first licensed for use in February of 2000.¹



During 2001, the mean reported age for cases was 51 years with a range from 1.5 months to 103 years. The highest age group-specific incidence rate occurred among adults 75 years and over, and the case fatality rate for IPD among this age group was 24% (20/83), a rate higher than

the overall case fatality rate of 15% (39/252). Incidence follows a seasonal pattern, peaking in late winter then gradually declining through spring.

Treatment for IPD continues to be a serious issue here and nationwide since antibiotic resistance is becoming more common. Surveillance data for the county shows an increase in penicillin-nonsusceptible* *S. pneumoniae* (PNSP) from 20% to 29% in 1996-1999 and stabilization to 24% in 2000 and 2001 (Figure 2); a similar pattern was seen in the United States for the same period.^{2,3} Mortality was not significantly associated with penicillin nonsusceptibility. The percent of cases nonsusceptible to erythromycin and trimethoprim-sulfamethoxazole (TMP-SMZ) increased from 1997 to 2001 while cefotaxime nonsusceptibility decreased. Of the 212 cases with data on levofloxacin resistance in 2001, only 1% were nonsusceptible, compared to 0.3% seen in 2000 from a nationwide population-based IPD surveillance system.² Preliminary data for the first half of 2002 shows a decrease in resistance to all four antimicrobial agents listed (Figure 2).

In the county, nonsusceptibility to penicillin varies by age, with the highest overall percent of PNSP cases among infants (Figure 3). From 1996 to 2001, the average percent of PNSP by age group ranged from 23% to 30%. In 2001 as compared to 1999, the percentage of PNSP decreased among children less than five years. This may be due to the use of Prevnar® since the vaccine contains pneumococcal serotypes that are the most penicillin-resistant.⁴

Additional information on IPD in the county is available at: <http://www.lapublichealth.org/acd/pneumo.htm>

*Nonsusceptible is defined as having intermediate or high-level resistance toward an antimicrobial agent by Kirby-Bauer or the minimum inhibitory concentration (MIC) methods.

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1. CDC. Prevention of pneumococcal disease among infants and young children: Recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2000;49:1-35.
2. Active Bacterial Core Surveillance data from 1996 to 2000 from the Center of Disease Control and Prevention's Division of Bacterial and Mycotic Diseases. Reports available at: <http://www.cdc.gov/ncidod/dbmd/abcs/survreports.htm>.
3. Whitney CG, Lynfield R, Hadler J, et al. Conjugate vaccine impact on antimicrobial resistance in pneumococci in the U.S.A. 3rd International Symposium, Pneumococci and Pneumococcal Diseases in 2002 [Abstract], 108-109.
4. Whitney CG, Farley MM, Hadler J, et al. Increasing prevalence of multidrug-resistant *Streptococcus pneumoniae* in the United States. New Engl J Med 2000;343:1917-24.

West Nile Virus in Los Angeles County (from page 1)

of acute encephalitis and meningitis (including viral, bacterial, fungal, and parasitic etiologies) are reportable to DHS within 1 working day by telephone (888-397-3993), fax (888-397-3778), or mail.

Referring cases for WNV testing:

Prior to submitting any specimens to the county's Public Health Laboratory for WNV testing, clinicians are required to first contact an Acute Communicable Disease Control physician for testing approval (213-240-7941). Because of limited laboratory capacity, cases for testing will be prioritized according to the following syndromes and epidemiologic history:

Refer hospitalized patients with any of the following clinical symptoms:

1. Viral encephalitis (patients ≥ 17 years of age) characterized by:
 - encephalopathy (depressed or altered level of consciousness, lethargy, or personality change), and
 - one or more of the following: fever ($T \geq 38^\circ\text{C}$), seizure(s), focal neurologic findings, CSF pleocytosis, abnormal EEG, or normal neuroimaging.
2. Aseptic meningitis (patients ≥ 17 years of age) characterized by:
 - fever ($T \geq 38^\circ\text{C}$),
 - headache, stiff neck and/or other meningeal signs, and
 - an abnormal CSF profile suggesting a viral etiology (e.g., negative bacterial stain and culture with pleocytosis and/or elevated total protein).
3. Acute atypical Guillain-Barré Syndrome characterized by:
 - motor nerve paralysis with retention of sensation,
 - fever ($T \geq 38^\circ\text{C}$),
 - altered mental status, and/or
 - CSF pleocytosis

Case History:

Significant epidemiologic history that would warrant possible WNV investigation includes a history of mosquito exposure, travel to an area documented to be endemic with WNV (e.g., southeast United States), and a history of blood transfusion or organ transplant in the month prior to onset with clinical symptoms as noted above.


To arrange testing, clinicians must first consult with DHS (as discussed above). Specimens should include CSF (~1-2cc. stored frozen) and serum [20cc. whole blood (~10cc. serum) in red top tube, spun, separated and refrigerated]. Label all specimens with the patient's name, date of birth, date of specimen collection and specimen type.

Prevention is key.

Health care providers with patients concerned regarding their possible exposure to WNV should advise that the likelihood of exposure and infection in the county is extremely remote - especially without the concurrent clinical symptoms and epidemiologic history as described above. In addition, while WNV infection is sometimes fatal, particularly among the elderly, the large majority of those exposed to the virus never become sick or exhibit only mild symptoms. The West Nile Virus Fact Sheet can assist with answering questions (page 5).

For WNV as for all other mosquito-borne diseases, prevention should be stressed. Remind patients to reduce their potential exposure to mosquitoes. This includes:

- avoiding mosquito infested areas, especially at dawn and dusk,
- wearing long sleeved pants and shirts when outdoors,
- using insect repellants containing DEET,
- ensuring windows have protective screens, and
- removing items that allow water to collect and harbor mosquitoes (e.g., old tires, flower pots, bird baths, etc.). Similarly, ponds and swimming pools should be properly maintained.

Additional information about West Nile Virus, surveillance activities, testing and prevention is available at: <http://lapublichealth.org/acd/westnile.htm> 

Clinicians, infection control practitioners, laboratory directors and all other health care providers are reminded that all cases of acute encephalitis and meningitis (including viral, bacterial, fungal, and parasitic etiologies) are reportable to LAC DHS within 1 working day by telephone (888-397-3993), fax (888-397-3778), or mail.

What is West Nile Virus?

West Nile Virus is a flavivirus commonly found in Africa, West Asia and the Middle East. It is closely related to the St. Louis Encephalitis virus found in the United States. The virus can infect humans, birds, mosquitoes, horses, and some other mammals.

How do people get infected with WNV?

People can get WNV from the bite of infected mosquitoes. A mosquito is infected by biting a bird that carries the virus. WNV is not spread by person-to-person contact, or from contact with birds or animals.

I recently had a mosquito bite. Should I be tested for WNV infection?

No, most mosquitoes are not infected with WNV. See a physician if you develop the symptoms below.

What are the symptoms of WNV?

Most people who are infected have no symptoms or may experience mild illness such as fever and headache before fully recovering. In less than 1% of infected persons, particularly the elderly, WNV can cause serious disease that affects the central nervous system. At its most serious, it can cause permanent brain damage and death. Symptoms generally occur 5-15 days following the bite of an infected mosquito, and range from a slight fever, headache, rash, and swollen glands to the rapid onset of severe headache, high fever, stiff neck, disorientation, muscle weakness, coma and death.

Can animals be infected with WNV?

Yes. Horses may be harmfully affected by WNV, about 30% of those with encephalitis die. Other domestic animals are rarely affected.


Where has WNV been found and where is it going?

WNV is commonly found in Africa, Eastern Europe, West Asia, and the Middle East. It was first detected in the United States in 1999, during which time there was an outbreak of it in New York. Since then, it has spread west to most of the U.S. The first case in California was identified in Los Angeles in September 2002.

Can it be treated?

There is no specific treatment for WNV infection. In a serious case, a person may have to be hospitalized and given supportive treatment along with good nursing. Experimental treatments are being studied.

How can I reduce my chances of being infected?

1. Stay indoors at dawn, dusk, and in the early evening.
2. Wear long-sleeved shirts and long pants whenever you are outdoors.
3. Use insect repellent products with no more than 35 percent DEET for adults and less than 10 percent for children.
4. If you leave your house windows open, make sure window screens do not have tears or holes.
5. Do not allow water to stagnate in old tires, flowerpots, trash containers, swimming pools, bird baths, pet bowls, etc.
6. Clean and chlorinate swimming pools; drain water from pool covers.
7. Stock garden ponds with goldfish or “mosquito fish” to eat the mosquito eggs and larvae. 

PERTUSSIS ALERT:

LOS ANGELES COUNTY PUBLIC HEALTH WARNS OF INCREASED PERTUSSIS (WHOOPIING COUGH) ACTIVITY

This health alert is to inform health care providers about a marked increase in pertussis activity in Los Angeles County. The number of pertussis suspect cases reported so far this year is more than 50% above what was reported for the same time period last year. An increased number of pertussis cases has also been reported nationally as well as state-wide.


Health care providers are encouraged to increase their suspicion for pertussis among patients of all age groups, especially infants in the first year of life, and adolescents and adults. Persons who were immunized against pertussis as children may still be susceptible to infection as adolescents and adults because immunity from immunization wanes after five to ten years. Infants who get pertussis have the highest rate of complications which include pneumonia, seizures, encephalopathy, and death.

The majority of cases reported this year have been in infants one to three months of age, most of whom were infected by a coughing adolescent or adult. Bordetella pertussis has been estimated to account for 7% of cough illness per year in older adults and should be considered in any adolescent or adult with a persistent cough illness of 2 weeks or more, associated with or without coughing paroxysms. An attempt should be made to confirm all suspect pertussis cases by culture (special culture media required; see

The number of pertussis suspect cases so far this year is more than 50% above what was reported last year.

attached). PCR is also acceptable for lab confirmation in patients meeting the clinical criteria (see attached).

Prompt reporting of suspect pertussis cases (don't wait until culture results are back) is vital to prevent secondary spread to other susceptible persons. Report suspect cases in Los Angeles County immediately (within one working day of identification) to the Los Angeles County Department of Health Services by calling or faxing information to the Morbidity Central Reporting Unit at: phone 888-397-3993, fax 888-397-3778. Report residents of other health jurisdictions to their local health departments.

On page 7 there is a flyer with additional information about diagnosing pertussis. You can also obtain more information from the Immunization Program web site at: www.lapublichealth.org/ip. Please feel free to call the Immunization Program at 213-351-7800 if you need additional information. 

Report suspect cases in Los Angeles County immediately (within one working day of identification) to the Los Angeles County Department of Health Services by calling or faxing information to the Morbidity Central Reporting Unit: phone 888-397-3993 • fax 888-397-3778.

Pertussis (Whooping Cough)

Clinical Criteria (not affected by immunization history):

A cough lasting at least 14 days with one of more of the following and without other apparent cause*: 1) Paroxysms of coughing; 2) Inspiratory whoop; and/or 3) Post-tussive vomiting.

- * Infants (under 6 months of age) may have cough, choking, cyanosis, without “whoop” or paroxysms. Adults/teenagers/immunized children have milder illness, hacking cough, usually with mucus production and occasional paroxysms. Post-tussive vomiting or gagging can occur without “whoop”. Mimics bronchitis.

Case Classification

- **Probable:** A case that meets clinical criteria but has not been laboratory confirmed or epidemiologically linked to a laboratory-confirmed case.
- **Confirmed:** A clinically compatible case that is laboratory-confirmed (positive culture or positive PCR) or epidemiologically linked to a laboratory confirmed case.

Differential Diagnosis:

Infections caused by Mycoplasma, Chlamydia adenovirus, RSV; foreign body aspiration, and chronic/acute bronchitis cause by other agents.

Laboratory Testing:

Laboratory confirmation of the diagnosis by culture for *B. pertussis* should be attempted. A specimen obtained by nasal pharyngeal aspiration or swab must be immediately inoculated onto Bordet-Gengou or Regan-Lowe media. The organism is most likely to be isolated during catarrhal stage and first 1-2 weeks of paroxysmal cough stage. Collect nasopharyngeal culture before starting antibiotics. (Cultures can often still be positive up to 5 days after start of antibiotics.)


DFA has variable sensitivity and specificity, therefore, a positive result suggests the diagnosis, but is not confirmatory; a negative result does not rule out pertussis.

Lymphocytosis (absolute lymphocyte count >12,000; or WBC >20,000 with >60% lymphs) suggests pertussis. Milder lymphocytosis is seen in infants. Adults and immunized children have minimal or no lymphocytosis. Serological testing is not helpful in diagnosing individual cases.

Treatment of Cases and Preventive Treatment of Contacts:

All cases, their household members and other close contacts, regardless of age and immunization status, should receive erythromycin for 14 days, or an alternative antibiotic. The goal of treatment is to reduce spread of infection within the household and the community at large.

Report to Public Health:

Report suspected and confirmed cases to the County of Los Angeles Department of Health Services, Morbidity Central Reporting Unit. Report by telephoning, electronically transmitting, or mailing report within one working day of identification of a case or suspected case (Telephone: 888- 397-3993 or 213- 351-7440; Fax: 888-397-3); MCRU, 313 N. Figueroa, Rm 117, Los Angeles, 90012). 

SENTINEL PHYSICIANS NEEDED FOR INFLUENZA SURVEILLANCE

Every year the CDC relies on the assistance of sentinel physicians to help monitor influenza trends by reporting weekly the percentage of patients who present with influenza-like illness. This year, the CDC is attempting to expand the number of participating physicians in Los Angeles County in order to obtain a more accurate picture of local trends and to keep pace with the rapid growth of the population. This expansion is especially important considering the frequent international travel and arrival of international visitors to the Los Angeles area. In addition, in light of current influenza-related events, such as the rising reliance on antiviral medications, monitoring influenza trends has become more important than ever.

If you are interested in becoming a sentinel physician or would like more information, please contact

**Dr. Sadina Reynaldo or Dr. David Dassey at:
213-240-7941 or acdc2@dhs.co.la.ca.us**

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DEPARTMENT OF HEALTH SERVICES
Public Health

313 North Figueroa Street, Room 212
Los Angeles, California 90012

Selected Reportable Diseases (Cases)¹ - June 2002

Disease	THIS PERIOD July 2002	SAME PERIOD LAST YEAR July 2001	YEAR TO DATE		YEAR END TOTALS		
			2002	2001	2001	2000	1999
AIDS ²	182	109	1,018	716	1,415	1,652	1,876
Amebiasis	12	14	66	63	136	116	142
Campylobacteriosis	118	123	552	615	1,084	1,332	1,100
Chlamydial Infections	2796	2,850	19,965	19,397	32,784	30,642	27,561
Encephalitis	8	3	38	28	44	51	7
Gonorrhea	563	661	4,229	4,583	7,800	7,212	6,053
Hepatitis Type A	18	57	294	320	517	1,025	1,258
Hepatitis Type B, Acute	0	4	15	27	44	65	61
Hepatitis Type C, Acute	0	0	0	0	1	28	2,168
Measles	0	0	0	8	8	5	1
Meningitis, viral/aseptic	50	74	321	293	534	491	390
Meningococcal Infections	3	1	32	44	53	53	49
Mumps	2	1	9	10	17	29	24
Non-gonococcal Urethritis (NGU)	89	105	786	835	1,423	1,575	1,742
Pertussis	5	12	71	49	103	102	238
Rubella	0	0	0	0	0	3	0
Salmonellosis	94	89	505	465	893	1,119	1,027
Shigellosis	58	70	337	273	596	878	687
Syphilis, primary & secondary	17	24	169	107	184	136	88
Syphilis, early latent (<1 yr.)	14	24	176	105	209	194	335
Tuberculosis	105	80	507	419	1,046	1,065	1,170
Typhoid fever, Acute	7	0	18	13	24	25	16

1. Case totals are provisional and are subject to change following publication.

2. Case totals are interim and may vary following periodic updates of the database.