CONNECTICUT EPIDEMIOLOGIST

State of Connecticut Department of Public Health
Stephen A. Harriman, Commissioner

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THIS ISSUE

HUMAN RABIES CASE - CONNECTICUT

In October 1995, a fatal case of human rabies in a 13-year-old girl from Greenwich, Connecticut was reported to the Connecticut Department of Public Health (DPH); this was the first indigenously acquired case involving a Connecticut resident since 1932.

The rabies virus variant identified in this case, and in a New York case in 1993 (1), is associated with the silver-haired bat (*Lasionycteris noctivagans*), a solitary, migratory species, with a preferred habitat of old-growth forest. This species is infrequently submitted for rabies diagnosis. In neither the Greenwich nor the New York case was there a clear history of exposure to a bat or any other animal.

Bat rabies is enzootic in the United States, and cases have been reported from all of the 48 contiguous states (1). Since the 1950s, bats increasingly have been implicated as wildlife reservoirs for variants of rabies virus transmitted to humans. In Connecticut, we have identified an average of seven rabid bats per year since 1980. Of the 671 bats submitted to the state laboratory for testing in the past 5 years, 47 (7%) were positive for rabies.

According to a recent report from the Centers for Disease Control and Prevention (CDC)(2), variants of rabies virus associated with bats have been identified from 12 of the 25 cases of human rabies diagnosed in the United States since 1980. A clear history of animal bite exposure was documented for only six of these 25 cases. Of the 19 cases with no clear history of animal bite exposure, eleven were due to a bat strain of the rabies virus. This finding suggests that even apparently limited contact with bats or other animals infected with a bat variant of rabies virus may be associated with transmission.

Because the size of bites or scratches from bats may be very small, individuals may not recognize that an exposure has occurred. Thus, bat bites may go unnoticed, or be mistaken for an insect bite or sting. **Postexposure treatment** should be given in any situation where a bat is physically present and a **bite**, or any **other contact, cannot be ruled out** (e.g. waking up and finding a bat in the same room). This is particularly important when the situation involves a young **child** who may not be able to tell an adult reliably what happened.

The case in Connecticut and reports of similar cases (1-3) underscore the national recommendation that, **in situations in which a bat is physically present and the person(s) cannot reasonably exclude the possibility of a bite, postexposure treatment should be considered unless prompt testing of the bat has ruled out rabies infection.** Ideally, a bat involved in such a situation should be captured and tested. If the bat is not available for testing, postexposure treatment is indicated. This recommendation should be used in conjunction with the 1991 rabies prevention recommendations of the Advisory Committee on Immunization Practices (4).

A copy of a new fact sheet on bat rabies for the general public is available through the DPH by calling (860) 566-5058. Please feel free to copy and distribute it as appropriate.

Medical professionals with additional questions concerning rabies postexposure prophylaxis can contact either their local health department or the Epidemiology Program, DPH [(860) 566-5058, 8:30-4:30 during weekdays, or (860) 566-4800 during evenings and weekends].

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HUMAN EHRLICHIOSIS - CONNECTICUT

In 1994, Connecticut was one of four states to be awarded federal funding by the Centers for Disease Control and Prevention to establish an Emerging Infections Program (EIP). The Connecticut EIP is a joint effort involving the Department of Public Health (DPH) and the Yale School of Medicine. Human ehrlichiosis is one of six projects being conducted by the EIP.

Within the last decade, several hundred cases of human *Ehrlichia* infections (both human monocytic ehrlichiosis [HME] and human granulocytic ehrlichiosis [HGE]) have been recognized in the U.S. Human ehrlichiosis is now considered an emerging disease. The infection is transmitted through the bite of an infected tick. Recent evidence suggests that the black-legged tick, *Ixodes scapularis*, the vector of the Lyme disease agent, is a probable vector of *Ehrlichia*.

This past summer, the Connecticut EIP initiated a program to assist clinicians in identifying cases of human ehrlichiosis by providing, at no charge, serologic testing for antibodies against *E. chaffeensis* and *E. equi*, as markers of HME and HGE infection respectively. The purpose of this study was to determine the extent to which ehrlichiosis occurs in Connecticut and to document its clinical spectrum. These results should have both immediate and future clinical value.

During the initial study period (July - September, 1995), 234 serum submissions were received. Of these, 98 (42%) met the screening criteria for ehrlichiosis (fever, headache, malaise, and thrombocytopenia or leukocytopenia). Both acute and convalescent phase sera were collected from 41 of these 98 patients. Sixteen probable cases were identified based on symptoms and at least one positive antibody titer to an *Ehrlichia* species. Of these, four had antibodies to *E. chaffeensis*, nine to *E. equi* and three to both *Ehrlichia* species. The mean age of case patients was 59 years (range: 31-81 years). Nine were male.

These results support previous findings that one or more *Ehrlichia* species may be present and causing disease in Connecticut. Surveillance and case finding are necessary to increase our understanding of *Ehrlichia* infections in the state. As adult ticks remain active throughout the fall, transmission of *Ehrlichia* species may continue. Serum samples from patients meeting the screening criteria (see below) should continue to be submitted to DPH for free *Ehrlichia* testing. For additional information concerning this study, please contact Dr. Mark Wilson at (203) 785-2904 or Dr. Elizabeth Hilborn at (860) 566-5058.

Potential case-patients must have an unexplained acute febrile illness associated with all of the following signs/symptoms. Patients who do not meet these criteria are **not** eligible for this study.

- Fever $\geq$ 38° C
- Headache
- Malaise
- Thrombocytopenia or leukopenia

(Other signs/symptoms may include chills/rigor, nausea/vomiting, myalgia, or anorexia.)

INFLUENZA AND PNEUMOCOCCAL VACCINATION COVERAGE LEVELS

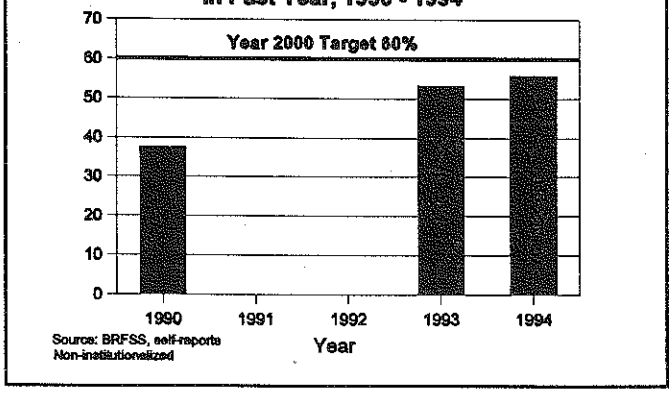
Recommendations to provide annual influenza vaccination and one dose of pneumococcal vaccine to all persons aged 65 years or older(1,2) are intended to reduce the high morbidity and mortality associated with influenza and pneumococcal disease (3). One of the national health objectives for the year 2000 is to increase influenza and pneumococcal vaccination levels to at least 60% for persons at high risk for influenza and pneumococcal disease, including those aged 65 years or older (objective 20.11) (4).

This report summarizes estimates of influenza vaccination coverage levels among persons aged 65 years or older for 1990, 1993, and 1994 and pneumococcal vaccination coverage levels for 1993 based on data from the Behavioral Risk Factor Surveillance System (BRFSS) (5). In Connecticut, the survey is coordinated by the Division of Chronic Disease and Injury Prevention of the Department of Public Health and conducted by a contractor who interviews 150 randomly selected, non-institutionalized adults aged 18 years or older each month.

In 1990 and 1993-1994, all respondents were asked if they had received a flu shot in the past 12 months. In 1993, respondents were also asked if they ever had a pneumonia vaccination. Results are reported only for those aged 65 and older, who constitute a segment of the high-risk population (Figure 1). In 1994, 56% of respondents reported getting a flu shot in the past year. This was an improvement over the 38% rate reported in 1990 and near the objective of 60%. In 1993, the only year it was measured, 19% of respondents reported they had received a pneumonia vaccination, far below the objective of 60%.

Editorial Note: The Connecticut BRFSS findings are similar to national figures recently reported by the Centers for Disease Control and Prevention (CDC) (3). Based on data from the United States Immunization Survey (USIS) and the National Health Interview Survey (NHIS), influenza vaccination levels among elderly persons in the United States increased from 1989 (33%) through 1993 (52%) (3,5,7). Based on NHIS data, from 1989 through 1993, the cumulative pneumococcal vaccination coverage level increased from 15% to 28%.

Figure 1. Connecticut Adults 65 and Older Who Had Flu Shot In Past Year, 1990 - 1994



Increases in influenza vaccination levels may reflect 1) greater acceptance of preventive medical services by practitioners and 2) increased delivery and administration of vaccine by health-care providers and sources other than physicians (e.g., visiting-nurse and home-health agencies). In addition, the initiation of Medicare reimbursement for influenza vaccination in 1993 also may have contributed to increased rates (8).

Although pneumococcal vaccine is at least 57% effective against invasive pneumococcal disease (9), some physicians have expressed persistent uncertainty regarding the effectiveness of this vaccine against pneumococcal pneumonia (10). In addition, while campaigns for influenza vaccine occur annually before the influenza season, many providers and patients may not be routinely reminded about the need for pneumococcal vaccination among older persons, underscoring the need to educate providers and patients about the benefits of pneumococcal vaccination and current recommendations.

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[Adapted from MMWR 1995;44:506-7,513-5.]

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PUBLIC HEALTH EMERGENCIES
AFTER 4:30 P.M. AND ON WEEKENDS
CALL THE
DEPARTMENT OF PUBLIC HEALTH AT
566-4800.

INFLUENZA TESTING

Isolation and identification of influenza virus is an important part of Connecticut's influenza surveillance system. The Connecticut Department of Public Health encourages physicians to submit throat swabs for virus isolation to the Department's Virology Laboratory from patients with a typical influenza syndrome (abrupt onset of fever, myalgia, and cough). Specimens should be collected no later than 3 days after onset of symptoms and sent immediately to the Virology Laboratory, on wet ice if possible.

Throat swab kits (VRCs) may be obtained from the State Laboratory (566-2824). Throat swabs submitted by a health care provider for influenza will be exempt from fees effective November 1, 1995 through January 31, 1996. To be eligible for the fee exemption, the health care provider must specify "FLU STUDY" in Section #1 of the Virology request form. All requested information on the form should be provided as well. For questions on specimen collection and submission, call the Virology Laboratory at 566-4776.

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