



**Communicable Disease and Epidemiology News**

Published continuously since 1961  
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**IN THE OCTOBER 1998 ISSUE:**

**VOL 38, NO. 10**

- **Fair Outbreak: Few *E. coli* Cases Found**
- **HIV – Associated TB: Cluster in Seattle Apartment Building**
- **Hepatitis B Vaccine and Neurological Diseases: No Link Found**

***E. coli* Outbreak**

Following reports of a possible *E. coli* O157:H7 outbreak at the Puyallup Fair in September, with a confirmed *E. coli* case in Seattle-King County and one in Thurston County, the Seattle-King County Department of Public Health (SKCDPH), in conjunction with Thurston and Tacoma-Pierce County Health Departments and the Washington State Department of Health, initiated an investigation. Of the 27 King County residents who were reported to have developed diarrhea after visiting the fair, an interview was conducted with 22 individuals, including an intensive food questionnaire. The age range was 9 months to 62 years; 13 (59%) were female. Thirteen (59%) of 22 reported consuming hamburger at the fair and 13 (65%) of 20 reported animal exposure at the fair. Five (23%) of 22 reported blood in their stools. Of 17 stool samples submitted for culture, one (6%) tested positive for *E. coli* O157:H7 (in addition to the previously confirmed case). One individual screened was found to be negative for *E. coli* but positive for *Campylobacter*. Of the five individuals who did not submit stool specimens, one had been given antibiotics previously, and another was admitted for emergency laparotomy for suspected diverticular abscess.

Statewide, four confirmed cases were epidemiologically linked to the fair. In addition to the two King county cases (a 7 year-old male and a 15 year-old female) and the Thurston County case (a 21 month-old female), Pierce county reported one case (a 20 month-old female). All four cases had exposure to animals at the fair and all but one (King County) case reported eating hamburger at the fair. Environmental sampling of water, animals and hamburger meat found no *E. coli* O157:H7.

However, Pulse Field Gel Electrophoresis (PFGE) and Restriction Fragment Length Polymorphism (RFLP), DNA

fingerprinting tests, performed on the two King County *E. coli* isolates suggested two separate clusters. The second King County case was thought to be part of another cluster unrelated to the fair. The initial King and Thurston County isolate matched, but the Pierce County isolate differed slightly on the RFLP and PFGE tests.

The Centers for Disease Control and Prevention (CDC) plans to test the convalescent sera of selected suspect cases (those individuals with bloody diarrhea and negative stool culture) for *E. coli* O157:H7 antibodies.

*E. coli* O157:H7 is a reportable disease. Health care providers (rather than laboratories) are mandated to report cases to the local health department within 7 days. You can submit a case report by mail or by calling the SKCDPH 24-hour report line: 206-296-4782. Rapid reporting of suspect or confirmed cases enables the Health Department to initiate an investigation and institute outbreak control measures when necessary. Health care providers seeing patients with diarrhea (with or without blood) who have a possible *E. coli* exposure or patients with bloody diarrhea of unknown etiology should specifically request a culture for *E. coli* O157:H7 when submitting stool specimens to their laboratories.

**HIV and TB**

In late July 1998, SKCDPH TB clinic staff evaluated a downtown apartment building when one tenant was found to have pulmonary TB. The tenants are those who would otherwise be homeless, with high rates of HIV infection, chemical dependency and mental illness. The building was found to have excellent ventilation characteristics, and the risk of spread was initially thought to be low. In mid-August, however, a second HIV-infected tenant was diagnosed with pulmonary TB. An investigation was undertaken to determine the extent of TB transmission in that setting and to

find other possible cases. All tenants and staff of the apartment building were offered TB skin tests and clinical interviews. All tenants were offered chest x-rays. HIV-positive tenants with a cough were asked to submit sputum for AFB testing. PPD-positive staff were offered chest x-rays. A third HIV-positive tenant was found to have pulmonary TB as a result of this initial screening.

At about the same time, three other homeless, HIV-positive men with no apparent connection to each other or to the apartment building were diagnosed to have TB. The annual number of Seattle-King County TB cases co-infected with HIV has been about six, so finding six cases of HIV-associated TB in a two-month period was alarming. Extensive local and national consultation confirmed the potentially explosive nature of TB transmission in an HIV-infected community. Efforts were then intensified to complete the apartment investigation. The investigation was broadened to heighten awareness of TB among providers who care for HIV-infected persons in our area, especially those who share risk factors of homelessness and chemical dependency.

All six TB isolates from this group are fully susceptible to standard TB medications. Subcultures are being sent to a reference lab for DNA fingerprinting to help evaluate the epidemiology of this cluster.

Of the 66 persons who were registered as tenants of the apartment building in June, July and August, 58 are HIV-infected. All but a few were fully evaluated. PPD skin testing revealed only one new positive skin test (5mm) among tenants. About 20 HIV-positive tenants were found to have a cough with a normal chest x-ray; sputum samples on these tenants are AFB smear-negative and culture-negative to date. One tenant died of a wasting illness and was found on autopsy to have a necrotic paratracheal lymph node;

cultures of the node and lung tissue are smear and culture-negative to date. Of 6 prior PPD-negative staff who were tested, two were found to have positive skin tests, although only one of these was large enough to consider a "conversion" ( $\geq 10$  mm increase in size within 2 years).

No further cases of TB have been found in this setting. Although the evidence of extensive TB transmission was not strong in this apartment building, the decision was made to offer preventive therapy to all potentially exposed tenants, in coordination with their primary providers. A choice of preventive therapy regimens was offered: one year of isoniazid or a new, alternative regimen of two months of rifampin and pyrazinamide, following a soon-to-be published recommendation from the CDC. This regimen has been shown in HIV-TB co-infected persons to be as effective as one year of isoniazid and to have an acceptable rate of side effects. One potential problem with the rifampin-pyrazinamide regimen that needs close attention and appropriate adjustments, is the interaction between rifampin and several of the new anti-retroviral agents.

Thanks to Stefan Goldberg, MD, Medical Director, SKCDPH TB Clinic for this report.

### HBV Vaccine

Each year in the U.S., an estimated 200,000 people are newly infected with hepatitis B (HB) virus, of whom 20,000 remain chronically infected. Overall, an

estimated 1.25 million people in the U.S. have chronic HB infection and 4,000-5,000 people die each year from HB-related chronic liver disease or liver cancer.

In September 1998, the Viral Hepatitis Prevention Board of the World Health Organization (WHO) called a technical consultation on the safety of HB vaccines to review the available data. Participants included representatives from national public health and regulatory agencies, academia, the hospital sector, the pharmaceutical industry, the WHO and experts in public health, epidemiology, immunology, neurology, and pharmacology.

Participants reviewed data on the epidemiology of HB and of MS, as well as data from several sources, including national reporting systems of the USA, Italy and Canada; an active surveillance system using pediatric hospitals in Canada; pharmacovigilance sources including post-marketing surveillance and clinical studies; published studies of HB safety; and a smaller number of recent and still unpublished studies conducted in France, the U.K. and the U.S. (preliminary data).

The group concluded that **"the available data, although limited, does not demonstrate a causal association between HB immunization and CNS demyelinating disease including MS. No evidence presented at this meeting indicates a need to change public health practice with respect to HB immunization. Therefore, based on**

**demonstrated important benefits – including prevention of cirrhosis and cancer, and a hypothetical risk, the group supports the WHO recommendations that all countries should have universal infant and/or adolescent immunization programs and continue to immunize adults at increased risk of HB as appropriate."**

In addition, an expert panel assembled by the CDC in 1997, and the Medical Advisory Board of the National MS Society have concluded that there is no scientific evidence of a link between HB vaccine and MS. Because of public concern regarding this issue, CDC is undertaking additional studies, including a computerized Vaccine Safety Datalink project which will include data from approximately 5 million persons.

Additional information on hepatitis B vaccine safety is available at the following internet sites: <http://www.cdc.gov/nip/vacsaf/> (choose hot topics) and <http://hgins.uia.ac.be/esoc/VHPB/statement.html>.

**To Report: (area code 206)**  
**AIDS .....296-4645**  
**Tuberculosis .....296-4747**  
**STDs.....731-3954**  
**Communicable Disease 296-4774**  
**24-hr Report Line.....296-4782**  
**Disease Alert:**  
**CD Hotline .....296-4949**  
**After hours .....682-7321**  
<http://www.metrokc.gov/health/>

## REPORTED CASES OF SELECTED DISEASES SEATTLE-KING COUNTY 1998

	CASES REPORTED IN SEPTEMBER		CASES REPORTED THROUGH SEPTEMBER	
	1998	1997	1998	1997
<b>VACCINE-PREVENTABLE DISEASES</b>				
Mumps	0	0	2	4
Measles	0	0	0	1
Pertussis	21	13	127	151
Rubella	0	0	1	1
<b>SEXUALLY TRANSMITTED DISEASES</b>				
Syphilis	3	0	30	0
Gonorrhea	100	82	768	641
Chlamydial infections	358	216	2684	2229
Herpes, genital	55	60	517	501
Pelvic Inflammatory Disease	24	19	184	222
Syphilis, late	5	0	26	32
<b>ENTERIC DISEASES</b>				
Giardiasis	34	31	188	191
Salmonellosis	20	29	166	176
Shigellosis	14	11	76	82
Campylobacteriosis	15	30	183	257
E.coli O157:H7	8	8	29	35
<b>HEPATITIS</b>				
Hepatitis A	10	37	342	351
Hepatitis B	1	1	38	30
Hepatitis C/non-A, non-B	0	0	2	2
AIDS	17	38	189	248
TUBERCULOSIS	6	8	82	100
<b>MENINGITIS/INVASIVE DISEASE</b>				
Haemophilus influenzae	0	0	1	1
Meningococcal disease	1	1	12	16