



Communicable Disease and Epidemiology News

Published continuously since 1961
Edited by Sherry Lipsky, P.A.-C, M.P.H.



Seattle-King County
Department of Public Health
Epidemiology
First Interstate Building
999 Third Avenue, Ste. 900
Seattle, WA 98104 - 4039

BULK RATE
U.S. Postage
PAID
Seattle, WA
Permit No. 1619

Return Service Requested

IN THE MARCH 1999 ISSUE:

VOL 39, NO. 3

- **Pertussis Epidemic Percolates**
- **Keeping an Eye on Influenza: From Local to International Surveillance**
- **Cryptosporidium Clusters: True or False?**
- **Erratum: C. botulinum Not What We Thought**

Pertussis Percolates

Between January 1 and March 11, 1999 there have been 109 laboratory confirmed cases of pertussis reported in King County with over 80 additional probable cases under investigation compared to 52 cases reported during this time frame in 1998. This represents another dramatic increase in pertussis incidence beyond the 600% increase that occurred in Seattle-King County in 1995. Pertussis rates per 100,000 population rocketed from an average of 2.5 for the years 1990-94 to 15.5 in 1995 where they have remained relatively stable until this year. If current trends continue we may experience another doubling or greater of pertussis reports in 1999.

Approximately 75% of cases are in school-age children 5 to 18 years of age, 10% in children under age 5, and 15% in adults over 18 years. This contrasts with the early 1990s when three-fourths of reported cases were in the birth to four year-old age group.

Pertussis is a potentially severe disease for children under one year of age who may experience complications including pneumonia, hospitalization and death if not vaccinated. Treatment and prevention of the spread of pertussis in the community is done primarily to protect these young children. For this reason, the Seattle-King County Department of Public Health (SKCDPH) considers disease investigation and control activities based on early identification of pertussis cases and contacts a priority.

Unfortunately, pertussis can occur among older children and adults even if fully vaccinated because 10 to 20 percent of vaccines may not develop an effective immune response, or because of waning vaccine induced immunity. In these settings the disease is often milder and less easily recognized, which undoubtedly facilitates transmission

to family, school, and other contacts.

Pertussis vaccine is included in the DtaP/DTP vaccine formulations. Children less than 7 years of age should get five doses of this vaccine at ages 2, 4, 6, and 12 to 15 months, and at age 4 to 6 years. Vaccination and booster doses are not licensed for use in persons over age 7 years. Evaluation of a cellular pertussis vaccine for booster doses in older children and adults is underway.

Pertussis should be considered in any person with a cough illness lasting two weeks or longer, regardless of immunization status. Although an inspiratory whoop, post-tussive vomiting, and paroxysmal cough are characteristic, *these features are often absent in persons who have been previously immunized and their absence does not rule-out pertussis infection.* Older children and adults with pertussis may have a mild cough illness and are capable of transmitting the infection. Early in the disease pertussis symptoms include nasal congestion and rhinorrhea, malaise, and possibly low-grade fever with or without a cough. Therefore, persons with cold symptoms or cough illness who are known contacts of a pertussis case should be presumed to have pertussis. These individuals should receive diagnostic testing and treatment and be reported to the Health Department. Diagnosis and treatment of pertussis is especially critical for persons who have contact with children under 1 year of age. Providers may get additional information on pertussis diagnosis and treatment by calling the Communicable Disease Section at 206-296-4774. Materials for pertussis DFA and culture are available from the SKCDPH Laboratory at 206-731-8950.

Eye on Influenza

Each influenza season approximately 10 to 20 percent of the population is infected.

Approximately one percent of those infected require hospitalization and up to eight percent of those hospitalized will die. It is estimated that, on average, 20,000 people die each year in the United States from influenza related complications.

Information on influenza activity in Seattle-King County is collected from several sources. The SKCDPH Laboratory performs cultures for viral respiratory pathogens including influenza A and B, RSV, parainfluenza virus, adenovirus and enterovirus on about 300 samples of respiratory secretions each year. These specimens are submitted by sentinel physicians, SKCDPH providers, and other providers (e.g. nursing homes) in King County, mostly during the influenza season. Influenza virus isolates are routinely identified as influenza type A(H1N1), type A (H3N2), or type B by hemagglutination inhibition. From October through May, the number of specimens tested and the number positive for influenza are reported weekly to the SKCDPH, the State Department of Health (DOH), and the Centers for Disease Control and Prevention (CDC). For situations where rapid influenza testing is indicated (e.g. nursing home outbreaks), the SKCDPH can also perform rapid (10 minutes) influenza A antigen testing to help guide prophylaxis with amantadine or rimantadine.

From the end of December, 1998 through March 10, 1999, 43% (64 of 149) of the specimens tested at the SKCDPH Laboratory were positive for influenza virus. Of these 64 viruses, 86% (55) were influenza A(H3N2) and 14% (9) were type B. Since the week ending February 20th, the number of influenza B isolates (6) has surpassed type A (3).

The CDC performs antigenic subtyping on a sample of influenza isolates from around the country. This year all 142 influenza A (H3N2) isolates characterized by

the CDC have been similar to A/Sidney/5/97, the component of the 1998-99 influenza vaccine. Two influenza A (H1N1) isolates were characterized as A/Bayern/7/95-like which is antigenically distinct from the vaccine strain A/Beijing/262/95, although the vaccine strain does produce high antibody titers that cross-react with A/Bayern/7/95-like viruses. All influenza B viruses characterized at CDC are similar to B/Beijing/184/93, the vaccine strain.

In addition to the laboratory-based surveillance described above, SKCDPH monitors school absenteeism in schools in King County. Schools are asked to voluntarily report when absenteeism exceeds 10% of the student body. Absenteeism peaked in mid-February and has decreased since that time.

The outbreak of H5N1 (avian) flu in Hong Kong last summer highlighted the potential for the sudden, unanticipated emergence of a highly lethal strain of influenza. Sensitive and timely influenza surveillance systems are critically important in allowing early recognition and effective response to a potential influenza pandemic. The CDC is developing a preparedness plan for pandemic influenza that will focus on improving the public health and community emergency response to this potentially devastating, yet inevitable, biological disaster. SKCDPH will be working with the State DOH to increase preparedness in accordance with

the National Influenza Pandemic Preparedness Plan. Health care providers who are interested in participating in influenza surveillance in coming seasons are encouraged to call us at 296-4774.

Cryptosporidium

Apparent clusters and/or increases in the number of positive test results for *Cryptosporidium* in late 1997 and early 1998 in six states (Washington not included) resulted in an investigation which found false-positive tests in certain lots from one company. The CDC reported on the investigation (MMWR 1999;48(1)) and provided guidelines that should decrease such occurrences.

In laboratories that rely solely on antigen tests of stool specimens for parasites and that do not routinely retain stool specimens or make permanent slides, management should consider monitoring the rate of positive test results and, when this rate noticeably increases above a certain level (e.g. two or more times the laboratory's mean positivity rate for an organism), implement confirmatory testing by microscopic methods and/or begin archiving stool specimens. Alternatively, all stool specimens could be split before testing so that an aliquot of a specimen positive by ELISA could be sent to a reference diagnostic laboratory for confirmation. Another advantage of retaining stool specimens is its availability for polymerase chain reaction-based genotyping, which would be useful in an outbreak.

In the event of an apparent outbreak, these steps will facilitate

confirmation of the diagnosis and reduce the likelihood that limited resources will be redirected to an unnecessary community-wide epidemiologic investigation on the basis of false-positive laboratory results. When evidence suggests a commercial laboratory diagnostic kit is yielding inaccurate test results, this information should be forwarded to the kit manufacturer and the appropriate local and state health authorities.

Erratum

In the February issue of the *Epi-Log*, we reported on the isolation of *Clostridium botulinum* from an abscess in an otherwise asymptomatic heroin user. The State DOH Laboratory subsequently determined that the organism was *C. sporogenes*, not *C. botulinum*.

Broadcast Fax

The SKCDPH maintains a list of health care providers who wish to receive urgent public health messages. If you would like to be added to our fax list, please call 206-296-4774 or fax 206-296-4803.

Report: (area code 206)

AIDS296-4645
 Tuberculosis731-4579
 STDs.....731-3954
 Communicable Disease 296-4774
 24-hr Report Line.....296-4782
 CD Hotline296-4949
 After hours682-7321
<http://www.metrokc.gov/health/>

REPORTED CASES OF SELECTED DISEASES SEATTLE-KING COUNTY 1999

	CASES REPORTED IN FEBRUARY		CASES REPORTED THROUGH FEBRUARY	
	1999	1998	1999	1998
VACCINE-PREVENTABLE DISEASES				
Mumps	0	0	0	0
Measles	0	0	0	0
Pertussis	81	28	97	47
Rubella	0	0	2	0
SEXUALLY TRANSMITTED DISEASES				
Syphilis	6	3	12	3
Gonorrhea	69	76	164	150
Chlamydial infections	278	300	589	554
Herpes, genital	49	52	115	106
Pelvic Inflammatory Disease	21	14	43	36
Syphilis, late	3	5	5	8
ENTERIC DISEASES				
Giardiasis	13	14	29	26
Salmonellosis	12	5	28	15
Shigellosis	3	6	7	11
Campylobacteriosis	15	16	32	34
E.coli O157:H7	3	0	5	0
HEPATITIS				
Hepatitis A	6	56	14	100
Hepatitis B	2	6	4	16
Hepatitis C/non-A, non-B	0	1	0	1
AIDS	13	20	24	47
TUBERCULOSIS	10	11	22	17
MENINGITIS/INVASIVE DISEASE				
Haemophilus influenzae	0	0	0	0
Meningococcal disease	0	3	2	6