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Prevention is Our Business

Notifiable Conditions Summary, Yakima County, 1999-2002

Condition	Year-to-Date Jan-Feb			Total		
	2002	2001	2000	2001	2000	1999
Campylobacteriosis	22	12	33	134	115	170
Cryptosporidiosis	0	0	0	10	--	--
E. coli O157:H7	0	1	0	7	6	4
Giardiasis	10	10	11	48	54	48
Salmonellosis	8	2	10	30	61	65
Shigellosis	2	11	26	26	157	43
Hepatitis A	1	5	4	17	20	8
Hepatitis B acute	0	0	0	3	5	6
Hepatitis B chronic	6	6	2	40	--	--
Hepatitis C acute	1	2	1	3	5	1
Hepatitis C chronic	47	65	60	230	--	--
Meningococcal	1	0	3	2	9	7
Pertussis	18	0	13	2	27	29
Tuberculosis	1	1	3	15	10	9
HIV New	Data not yet available			18	32	3
HIV Deaths				2	4	4
HIV Cumulative Living				105	98	53
Chlamydia	176	231	182	875	808	668
Genital Herpes—Initial	15	38	30	121	113	89
Gonorrhea	6	17	11	74	92	55
Primary and Secondary Syphilis	0	2	0	4	3	1

Asymptomatic HIV infection became reportable in 1999.
Chronic hepatitis B and chronic hepatitis C infection became reportable in 2000.

Yakima Health District BULLETIN

Volume 1, Number 2 April 2002

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Public Health Websites

Centers for Disease Control
www.cdc.gov

Wa State Dept of Health
http://www.doh.wa.gov/

Immunizations
http://www.doh.wa.gov/cfh/immunize

Breast Health Websites

US Preventive Services Task Force
http://www.ahcpr.gov/clinic/uspstfix.htm

Screening for Breast Cancer
http://www.ahcpr.gov/clinic/3rduspstf/breastcancer/

Acknowledgements:

Neil Barg, MD, for his review and comments upon the previous edition of the Bulletin. Marianne Patnode, Denny Fodin-Hursh, and Carolyn Jensen for their investigative and editorial contributions to this edition. Barbara Andrews, for production assistance.

Pertussis Resurfaces in Yakima County

After only two pertussis case reports in calendar year 2001, eight probable and 11 confirmed cases in 7 household clusters have been reported to the Health District from January 1-April 1, 2002. Four of these clusters came to light when infants, aged 11-37 days, were hospitalized (2 probable and 2 confirmed cases). All four infants were later determined to have had a household contact with an adult or adolescent who had a compatible clinical syndrome with onset 10-18 days prior to onset in the infant. In three of the cases, the source of infection was an ill mother. Fortunately, no severe complications (e.g. encephalopathy, seizures) have been reported in these children. Ages of the 15 non-infant cases were as follows: 1-10 years, 5 cases; 11-18 years, 4 cases; >18 years, 6 cases (range 24-39 years). All nine children over one year of age had received at least four doses of pertussis-containing vaccine; most of the adults had unknown or undocumented, but probably adequate, vaccination histories. Cases have occurred in both the upper and lower Yakima Valley.

All 19 cases had paroxysmal cough with a median duration of 24 days (range: 15-67) at the time of investigation. All infant cases also had post-tussive apnea, vomiting, cyanosis, and inspiratory whoop. However, these accessory symptoms were less common in older children and adults. Ten of fifteen, though, did have either post-tussive apnea or vomiting. Median interval from onset of paroxysms to testing for pertussis was five days (range: 0-25). Eight cases were either never tested or refused testing but still had a compatible clinical illness and epidemiologic linkage to a confirmed case. Median interval from onset of paroxysms to initiation of effective treatment was seven days (range: 0-30). Three cases were detected too late for treatment to be of clinical or disease control benefit.

Taken together, these cases indicate that pertussis transmission is occurring in Yakima County and remind us of the challenges we face in controlling its spread. First, unimmunized infants face the greatest risk of hospitalization, complications, and death. This reinforces the Health District's recommendation during the current vaccine shortage to focus immunization efforts upon giving infants their first three doses during the first six months of life. Second, vaccine-induced immunity is neither perfect nor is it sustainable over time. Furthermore, adults and adolescents have been shown here and elsewhere to be the primary source of infection for young children. While pertussis is known to be circulating in the community, all patients with a compatible clinical syndrome should be offered testing for pertussis, as well as empiric therapy with a macrolide, regardless of immunization history or age. Strong consideration also should be given to providing prophylactic therapy to household contacts while awaiting laboratory results—especially when young children live in the home. Because the sensitivity of currently available testing is limited, most clinically compatible cases and their contacts should complete their macrolide (erythromycin, clarithromycin, or azithromycin) regimen even when laboratory testing is negative.

Your prompt testing, treatment, and reporting of suspected cases should help to dampen the transmission of this difficult-to-control condition. For more information on diagnosis, treatment and prevention of pertussis, please refer to our update of January 10, 2002, or call (509) 249-6541 to have a copy faxed to you.

References:

- Yakima Health District. Health Care Provider Update: Limited Supply of DTaP—Defer 4th and 5th Doses in the Interim; Recall and Revaccinate Deferred Patients Later; Pertussis Recognition and Management. January 10, 2002.
- Washington State Department of Health. A Primer on Pertussis: Outbreaks in Health Care Facilities Require Prompt Measures. EpiTrends 2002;7(2).
- CDC. Notice to Readers: Update: Supply of Diphtheria and Tetanus Toxoids and Acellular Pertussis Vaccine. MMWR, January 4, 2002;50(51):1159.
- American Academy of Pediatrics. Pertussis. In Pickering LK, ed.In 2000 Red Book: Report of the Committee on Infectious Diseases. Elk Grove Village, IL: American Academy of Pediatrics; 2000:[435-448].

Chemical Agents of Terrorism and Warfare

Chemical weapons are divided into four basic classes: nerve agents, cyanides, vessicants ("mustards"), and pulmonary intoxicants. The following table provides summary information on typical agents in each class. For a more comprehensive review of the recognition and management of chemical weapons exposures, please refer to the references listed below.

Class	Agents	Mode of Action	Presentation	Management
Nerve agents	Alkyl alkyl phosphonates: Sarin (GB) Tabun (GA) Soman (GD) VX VR Others	Inhibition of acetylcholinesterase (similar to organophosphate poisoning)	Cholinergic crisis: nausea, vomiting, salivation, bronchorrhea, bronchospasm, miosis, diaphoresis, fasciculations, convulsions, confusion, central apnea, coma	• Atropine 2-4 mg iv q5-10 min (pediatric: 0.5-1.0 mg) • 2-pralidoxime chloride 1-2 gm/100ml NS iv over 15-30 min (pediatric: 10mg/kg up to 1-2 g) • Disrobe* and wash • Benzodiazepines iv prn for seizure management
Cyanides	Hyrdogen cyanide Cyanongen chloride	• Uncoupling of oxidative phosphorylation • Histiotoxic anoxia	• Initial hyperventilation followed by central apnea • Convulsions • Obtundation • Coma	• Amyl nitrate inhaler • Sodium nitrite 300mg/10ml iv over 5-15 min (pediatric: 0.33ml/kg up to 10 ml) • Sodium thiosulfate 12.5g/50ml iv (pediatric: 1.65ml/kg up to 50 ml)
Vessicants	Nitrogen mustard Sulfur mustard Lewisite	• Not well understood • Alkylation of DNA? • Reactions with glutathione?	Skin (minutes to hours): superficial erythema, vesicles, bullae, desquamation Occular (minutes to hours): conjunctivitis, photophobia, corneal scarring Respiratory (hours to days): Bronchospasm,airway pseudomembranes, secondary pulmonary infections Hematologic (days to weeks): Cytopenias Opportunistic infections	• Disrobe* and wash • Irrigate eyes • Anti-inflammatory agents • Topical antibiotics • Debridment prn • Prednisolone/antibiotic optic drops, or • Subconjunctival injection of steroid/ antibiotic mixture • Respiratory monitoring • Lymphocyte monitoring
Pulmonary Intoxicants	Central Ammonia Chlorine gas Mustards Phosgene	Direct large airway irritation, edema, and pseudomembrane formation	Cough Bronchospasm Stridor Laryngospasm	• Observation • Supportive care • If dyspnea onset occurs within 4 hours of exposure, high risk of lethal dose. Strongly consider need for endotracheal intubation and mechanical ventilation. • Steroids might be helpful with peripheral agents or in reducing fibrotic sequelae.
	Peripheral Phosgene gas Oxides of Nitrogen Perfluoroisobutylene** HC smoke ($ZnCl_2$) Mustards	Alveolar-capillary membrane damage with fluid leak	Dyspnea Interrupted gas exchange ARDS Respiratory failure	

* Vapor sequesters in fabric matrix. Get clothes off as soon as possible and place in sealed plastic bags away from closed spaces and ventilation intakes

**generated by fires involving teflon, electronics insulation, plastics, conventional explosives

References:

Medical Management of Chemical Casualties Handbook. Third edition, 1999: United States Army Research Institute for Chemical Defense, 2001.

Textbook of Military Medicine: Medical Aspects of Chemical and Biological Weapons. Office of the Army Surgeon General, 2001.

Websites:

CDC Bioterrorism
www.bt.cdc.gov

Army Chemical Casualty Care
http://ccc.apgea.army.mil/

Johns Hopkins Biodenfense
www.hopkins-biodefense.org

Wa StateDept of Health
http://www.doh.wa.gov/bioterr/default.htm

Mammography in Women 40-49 Years of Age Gets A Boost from U.S. Preventive Services Task Force

Breast cancer is the leading cause of cancer in women, accounting for 37% of new cancer diagnoses in Washington State in 1999. It is also the second leading cause of cancer deaths (14%); 722 Washington women died of breast cancer in 1999 [editorial note: almost 10x the total number of AIDS deaths]. Age-adjusted breast cancer incidence in Washington State (184/100,000 women) is higher than nationally (166); however, mortality is lower (24 vs. 28/100K women, respectively). The current incidence figure represents an increase over the past decade (up from about 150/100K), while mortality rates have declined (down from about 30/100K) during the same period.

Since the cause of most breast cancer is multifactorial or unknown and most of the known risk factors are not easy to modify, the best strategy for prevention of breast cancer mortality remains early detection and treatment, as the following table indicates.

Stage	Percent in WA	National 5-year Survival
In situ	17	100
Local	54	96
Regional	24	77
Distant	3	21
Unstaged	2	52
Overall	Not published	87

Regular breast cancer screening with mammography clearly reduces the number of deaths from breast cancer for women between 50 and 69 years of age. However, experts have disagreed over whether the benefits of routine mammography in women 40-49 years of age exceed the risks of false positive results (e.g., anxiety, unnecessary biopsies). In January 2002, the Department of Health and Human Services' U.S. Preventive Services Task Force released updated recommendations, giving an additional boost to calls for routine mammography in women 40-49 years of age. Specifically, it now recommends screening mammography, with or without clinical breast examination, every 1-2 years for women aged 40 and older. This updated recommendation is based upon analyses of breast cancer screening and treatment trials that have occurred since the Task Force last published guidelines in 1996.

The USPSTF also concluded that the evidence is also generalizable to women aged 70 and older (who face a higher absolute risk of breast cancer) if their life expectancy is not compromised by comorbid disease. The Task Force did not find sufficient evidence to specify the optimal screening interval for women aged 40-49. The Task Force concludes that the evidence is insufficient to recommend for or against routine clinical breast examination (CBE) alone or for or against teaching or performing routine breast self-examination (BSE) to screen for breast cancer. Few, if any, trials have addressed these interventions in isolation from mammography, making their individual benefits and risks difficult to assess. It is generally agreed, though, that CBE and BSE are insufficient in the absence of routine mammography. Regardless of its objective clinical benefits, many advocates of teaching BSE point to the value it provides as a tool for helping women take an active role in maintaining their overall health, including participation in mammography. To read the full text of the Task Force's updated recommendations, view the websites listed below.

Nearly all North American medical organizations support mammography screening, although groups vary in the recommended age to begin screening, the interval for screening, and the role of CBE: The American Medical Association (AMA), the American College of Radiology (ACR), and the American Cancer Society (ACS), all support screening with mammography and CBE beginning at age 40. The American College of Obstetricians and Gynecologists (ACOG) supports screening with mammography beginning at age 40 and CBE beginning at age 19. The Canadian Task Force on Preventive Health Care (CTFPHC), the American Academy of Family Physicians (AAFP), and the American College of Preventive Medicine (ACPM) recommend beginning mammography for average-risk women at age 50. AAFP and ACPM recommend that mammography in high-risk women begin at age 40, and AAFP recommends that all women aged 40-49 be counseled about the risks and benefits of mammography before making decisions about screening.

The 1999 Washington State Behavioral Risk Factor Surveillance System indicated that approximately 57% of women in Washington age 40 and older reported having had a mammogram in the past year and approximately 72% reported a having had mammogram within the last two years. Approximately 61% and 76% of women age 40 and older reported a clinical breast exam in the past one and two years, respectively. We have a long way to go in seeing that all women have access to recommended services for early breast cancer detection.

YHD's Breast and Cervical Health Program, funded through the State Department of Health by the Centers for Disease Control and Prevention, provides education and referral to women =40 years of age for mammography and cervical cancer screening. For more information about the program or to link a patient with the program, please call Suzanne Lang at (509) 249-6519 or (800) 535-5016 ext 519.