QUARTERLY REPORT

MARION COUNTY HEALTH DEPARTMENT
Health & Services Building
3180 Center Street NE
Salem OR 97301-4592

3rd Quarter

September 2001

Vital Statistics Quarter Ending: September 2001	3rd Quarter		Year to Date	
	2001	2000	2001	2000
BIRTHS				
TOTAL DELIVERIES	1277	1061	3650	3475
Delivery in Hospital	1220	1015	3477	3297
Teen Deliveries (10-17 years)	57	46	173	178
DEATHS				
TOTAL	570	553	1841	1788
Medical Investigation	41	61	131	140
Homicide	03	03	07	06
Suicide	07	12	23	25
Accident - MVA	07	16	21	23
Accident – Other	09	08	29	23
Natural/Undetermined/Pending	15	22	51	63
Non-Medical Investigation (All Natural)	529	492	1710	1648
Infant Deaths	01	04	09	13
Fetal Deaths	03	07	11	15
COMMUNICABLE DISEASES				
E-Coli: 0157	05	37	12	39
Hepatitis A	01	03	06	10
Acute Hepatitis B	07	05	20	09
Chronic Hepatitis B	14	06	36	17
Meningococcus	01	02	12	08
Pertussis	02	07	09	08
Tuberculosis	05	03	11	11
SEXUALLY TRANSMITTED DISEASE				
PID (Pelvic Inflammatory Disease)	03	25	15	47
Chlamydia	182	204	566	616
Gonorrhea	14	10	48	51
AIDS	0	0	02	09

Bioterrorism: The Public Health Challenge

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Health Officer

According to Centers for Disease Control and Prevention (CDC) there have been four cases of anthrax identified and four exposures in Florida and New York. Reports of mail contaminated with anthrax spores have also been received from Washington and Nevada. These events and the media coverage that has accompanied them have raised fears about possible bioterrorism acts across the country.

Doctors and health departments are receiving large numbers of calls for testing and treatment.

The following is intended to provide some assistance in determining whether testing and post-exposure prophylaxis are indicated in order to use laboratory services and antibiotics as effectively as possible.

A list of resources on bioterrorism and its response is provided at the end of this newsletter.

Continued

ANTHRAX

Persons with signs/symptoms of anthrax

Evaluate by collection of specimens appropriate for the form of anthrax suspected.

Inhalational
Nasopharyngeal (NP)swab, sputum, blood, CSF for gram stain and culture.
Cutaneous
Vesicular fluid or lesion discharges, blood for gram stain and culture.
Gastrointesintal
Vomitus, stool, or blood for gram stain and culture.
Anthrax bacteria do not produce spores while growing in infected persons; therefore anthrax is NOT communicable from person to person.

REPORT SUSPECTED CASES OF ANTHRAX IMMEDIATELY TO YOUR LOCAL HEALTH DEPT.SO THAT AN INVESTIGATION CAN BE INITIATED.
CALL (503) 588-5621
M-F 8:30am-5pm
OR (503) 731-4030
After 5 pm, on weekends or on holidays.

Asymptomatic persons with exposure to anthrax spores (confirmed by environmental testing)

Screen with nasopharyngeal swab (negative test does not rule out exposure) and initiate post-exposure prophylaxis for positive NP swab or high-risk (aerosolized powder, direct physical contact) exposure.

Although data is limited, the risk of secondary aerosolization from spores which have settled onto the ground or other surfaces is believed to be very low. Washing skin surfaces which may have come directly into contact with anthrax spores thoroughly with soap and water is recommended.

Asymptomatic persons calling for testing after receipt of unusual mail/packages

Instruct persons to notify (if not done already) law enforcement for recommendations on environmental testing.
If environmental testing of material is being conducted, consider screening for infection (NP swab).

Nasopharyngeal swabs, blood tests, or post-exposure prophylaxis are NOT RECOMMENDED for persons WITHOUT KNOWN exposure to anthrax.

The anthrax vaccine is an inactivated cell-free product licensed as a 6 dose series given over 18 months in persons aged 18-65 years. Currently it is being required for U.S. military personnel and is not recommended for general use.
(For anthrax treatment and post-exposure prophylaxis guidelines see JAMA Vol 281 No 18 5/12/99 or Marion County Health Dept. (MCHD) web page listed under resources at end of newsletter)

SMALLPOX

Endemic smallpox was declared globally eradicated in 1980 by the World Health Organization.
Routine vaccination for this viral disease was discontinued in the U.S. in 1972.
In 1998, the U.S. Census reported that 114 million persons or 42% of the population was 29 years of age or younger.
The immune status of persons who were vaccinated 27 or more years ago remains unclear.
The presence of neutralizing antibodies, believed to reflect protection, have been shown to decline substantially after a 5-10 year period.
At this time, most of the U.S. population is expected to be highly susceptible to smallpox infection.
Currently emergency supplies of smallpox vaccine (sufficient to vaccinate 6 and 7 million persons) are being held in storage at CDC.
Because of the low risk of infection and the risk of significant vaccine side effects (including eczema vaccinatum, vaccinia necrosum, and postvaccinial encephalitis) vaccination is not recommended for the general population.
In the event of a smallpox outbreak, vaccination would be recommended for household and face-to-face contacts.
Vaccination administered within 4 days of exposure has been shown to offer some protection against acquiring infection and significant protection against a fatal outcome.

Those who have been vaccinated in the past will normally exhibit an accelerated immune response.
(Case fatality of smallpox is estimated at 30% in unvaccinated persons)
Widespread dissemination of smallpox by aerosol poses a serious threat in the hospital setting; persons diagnosed with smallpox should be isolated in the home or nonhospital facility whenever possible.

PLAGUE

The epidemiology of plague following its use as a biological weapon would differ substantially from that of naturally occurring infections

Intentional dissemination of plague would most probably occur via an aerosol and a pneumonic plague outbreak would result in symptoms initially resembling those of other severe respiratory diseases.
Pneumonia progresses over 2-4 days and may cause septic shock and death.
There are no widely available rapid diagnostic tests for plague.

REPORT SUSPECTED CASES IMMEDIATELY TO YOUR LOCAL HEALTH DEPT. TO RULE OUT PLAGUE

Cultures of sputum, blood, or lymph node aspirate (bubonic form) should demonstrate growth in 24-48 hours.

Early treatment of plague is essential.
Several antibiotics are effective including streptomycin, tetracycline, and chloramphenicol.
Person-to-person transmission of pneumonic plague occurs via respiratory droplets occurring in close face-to-face contact.
Prophylactic antibiotics for 7 days will protect persons who have had exposure via close personal contact.
(For treatment and post-exposure recommendations see JAMA Vol 283 No 17 5/3/00 or MCHD web page).
Currently, there is no vaccine for plague.

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The following are resources to provide additional information on agents which may be used as weapons of bioterrorism

(Marion County Health)
www.open.org/mhealth/whatsnew/bt.htm

(Oregon State Health Dept)
www.ohd.hr.state.or.us/acd/bioterr/home

(U.S Army Medical Research Institute of Infectious Diseases)
www.bt.cdc.gov/bioagents.asp
www.hopkins-id.edu/bioterror/index.htlm
www.usamriid.army.mil/

The table located on the next page summarizes the characteristics of the most likely agents to be used in bioterrorism acts.
Any suspected/rule out cases of these diseases should be promptly reported to the local/state health department.

Appendix C: BW Agent Characteristics

Disease	Transmit Man to Man	Infective Dose (Aerosol)	Incubation Period	Duration of Illness	Lethality (approx. case fatality rates)	Persistence of Organism	Vaccine Efficacy (aerosol exposure)
Inhalation anthrax	No	8,000-50,000 spores	1-6 days	3-5 days (usually fatal if untreated)	High	Very stable - spores remain viable for > 40 years in soil	2 dose efficacy against up to 1,000 LD_{50} in monkeys
Brucellosis	No	10 -100 organisms	5-60 days (usually 1-2 months)	Weeks to months	<5% untreated	Very stable	No vaccine
Cholera	Rare	10-500 organisms	4 hours - 5 days (usually 2-3 days)	≥ 1 week	Low with treatment, high without	Unstable in aerosols & fresh water; stable in salt water	No data on aerosol
Glanders	Low	Assumed low	10-14 days via aerosol	Death in 7-10 days in septicemic form	> 50%	Very stable	No vaccine
Pneumonic Plague	High	100-500 organisms	2-3 days	1-6 days (usually fatal)	High unless treated within 12-24 hours	For up to 1 year in soil; 270 days in live tissue	3 doses not protective against 118 LD_{50} in monkeys
Tularemia	No	10-50 organisms	2-10 days (average 3-5)	≥ 2 weeks	Moderate if untreated	For months in moist soil or other media	80% protection against 1-10 LD_{50}
Q Fever	Rare	1-10 organisms	10-40 days	2-14 days	Very low	For months on wood and sand	94% protection against 3,500 LD_{50} in guinea pigs
Smallpox	High	Assumed low (10-100 organisms)	7-17 days (average 12)	4 weeks	High to moderate	Very stable	Vaccine protects against large doses in primates
Venezuelan Equine Encephalitis	Low	10-100 organisms	2-6 days	Days to weeks	Low	Relatively unstable	TC 83 protects against 30-500 LD_{50} in hamsters
Viral Hemorrhagic Fevers	Moderate	1-10 organisms	4-21 days	Death between 7-16 days	High for Zaire strain, moderate with Sudan	Relatively unstable - depends on agent	No vaccine
Botulism	No	0.001 µg/kg is LD_{50} for type A	1-5 days	Death in 24-72 hours; lasts months if not lethal	High without respiratory support	For weeks in nonmoving water and food	3 dose efficacy 100% against 25-250 LD_{50} in primates
Staph Enterotoxin B	No	0.03 µg/person incapacitation	3-12 hours after inhalation	Hours	< 1%	Resistant to freezing	No vaccine
Ricin	No	3-5 µg/kg is LD_{50} in mice	18-24 hours	Days - death within 10-12 days for ingestion	High	Stable	No vaccine
T-2 Mycotoxins	No	Moderate	2-4 hours	Days to months	Moderate	For years at room temperature	No vaccine