
A Publication of the Genesee County Health Department

Smallpox Vaccination Update

On December 13th 2002, President George Bush announced a plan to protect the American people against a potential threat of smallpox attack. Although there is no evidence that smallpox presents an imminent threat to the U.S, the events of 9/11 and the still unsolved anthrax mailings that followed have heightened concerns that terrorists may have access to the smallpox virus and may attempt to use it against Americans. Under the proposed plan, the Department of Health and Human Services (HHS) will work with state and local governments to form volunteer Smallpox Response Teams. These response teams will be comprised of health care workers and other critical first responders who will be asked to volunteer to receive the smallpox vaccine. Pre-vaccination of Smallpox Response Teams will allow them, in the event of a smallpox attack, to immediately administer the vaccine to others and care for victims. The President also announced that the Department of Defense (DOD) will vaccinate certain military and civilian personnel who are or may be deployed in high threat areas. Although the U.S currently has sufficient quantities of the vaccine for every American citizen, the federal government is not recommending vaccinating the general public at this time.

Smallpox is caused by the variola virus and is a contagious and sometimes fatal infectious disease. Mortality due to smallpox is estimated to be 30%. There is no specific treatment for smallpox and vaccination is the only method of prevention. The last case of smallpox in the United States was in 1949 and the last naturally occurring case in the world was in Somalia in 1977. Smallpox transmission occurs from person to person by direct face to face contact. Smallpox can also be spread through direct contact with infected bodily fluids or contaminated objects such as bedding or clothing. Rarely, smallpox has been spread by virus carried in

the air in enclosed settings such as buildings, buses, airplanes and trains. Humans are the only natural hosts of the variola virus. Smallpox is not known to be transmitted by insects or animals.

Incubation period averages about 12 to 14 days, but can range from 7 to 17 days. During this time, cases are not contagious. The first symptoms of smallpox (prodrome) include fever, malaise, head and body aches, and sometimes vomiting. The fever usually ranges between 101 and 104 degrees Fahrenheit. This prodrome phase lasts for 2-4 days. A rash emerges first as small red spots on the tongue and in the mouth. These spots develop into sores that break open and spread large amounts of the virus into the mouth and throat. This phase lasts about 4 days and is the most infectious. Around this time, a rash appears on the skin, starting on the face and spreading to the arms and legs and then to the hands and feet. The rash spreads to all parts of the body within 24 hours. By the third day of the rash, the rash becomes raised bumps and by the fourth day, the bumps fill with a thick, opaque fluid and often have a depression in the center. The bumps become pustules and form a crust and then a scab. By the end of the second week after the rash appears, most of the sores have scabbed over. The scabs fall off, leaving marks on the skin that eventually become pitted scars. The infected person is contagious until the last smallpox scab falls off.

The purpose of this quarterly newsletter is to inform the community and health care providers in Genesee County about disease trends in the county. We welcome any comments or questions. Contact: Priya Nair, MPH, MSc, Epidemiologist, at (810) 768-7971, or email pnair@co.genesee.mi.us Visit our website at <http://health.co.genesee.mi.us>

Smallpox vaccine (Dryvax) is made from the “live” vaccinia virus (a pox virus related to the smallpox virus) and vaccination confers high level immunity for 3 to 5 years and decreasing immunity thereafter. Revaccination results in immunity that lasts longer. The vaccine has been effective in preventing smallpox in 95% of those vaccinated against the disease. In addition, the vaccine can also prevent or lessen the severity of the disease when given within a few days of exposure. The smallpox vaccine is given using a bifurcated (two-pronged) needle. The vaccine usually is given in the upper arm. If the vaccination is successful, a red and itchy bump develops at the vaccine site in three or four days. In the first week, the bump becomes a large blister and fills with pus. The blister begins to dry and a scab forms during the second week. The scab falls off in the third week, leaving a small scar. People who are vaccinated for the first time have a stronger reaction than those who have been vaccinated previously. After vaccination, the vaccination site must be well cared for to prevent the spread of the virus to other parts of the body, or to other people. The vaccinia virus may cause rash, fever, and head and body aches. The smallpox vaccine will not cause smallpox infection in the vaccinee.

There are side effects and risks associated with the smallpox vaccine. Most people experience mild reactions that include a sore arm with fever and body aches. Rarely, the vaccine can cause serious and life-threatening reactions. People who

should not receive the vaccine include those with weakened immune systems (including HIV positive individuals), people who have eczema or atopic dermatitis or a history of these conditions, those with other skin conditions such as burns, impetigo, contact dermatitis or varicella zoster, those who have allergy to polymyxin B, streptomycin, chlortetracycline or neomycin, and those who are moderately or severely ill at the time of vaccination. In addition, pregnant or breastfeeding women should not get the vaccine because of the risk it poses to the fetus/baby. Anyone who has close personal contact with a person who has any of the above conditions also should not be vaccinated. Severe vaccine reactions may be adequately treated with Vaccinia Immune Globulin (VIG). Non-emergency use of smallpox vaccine in children younger than 18 years of age is not recommended at this time.

The Genesee County Health Department (GCHD) is currently completing the final phase of smallpox vaccination plans with the Michigan Department of Community Health, other local health departments and hospital partners. Volunteers for the Smallpox Public Health Response teams and Smallpox Healthcare teams have been identified and vaccinations may begin in early February. Please contact the GCHD if you have any questions or concerns about this vaccination program. You may also find additional information on smallpox, smallpox vaccine and vaccine adverse reactions on the CDC’s website at: www.bt.cdc.gov/agent/smallpox/index.asp.

Selected Reportable Communicable Diseases in Genesee County

Disease	Week ending 11/1/02	Reported cases to date FY* 2002-03	Same week reported cases to date FY 2001-02	Total reported cases FY 2001-02
Chicken Pox	10	22	33	318
Pertussis	0	0	0	3
Flu-like illness	793	4111	6115	49,047
TB-New cases	0	1	1	15
Chlamydia	112	203	140	2142
Gonorrhea	69	133	166	1794
Hepatitis B (Acute)	0	0	5	11
Hepatitis C (Acute)	0	4	2	11
Campylobacter	1	1	7	29
Giardiasis	2	5	4	29
Hepatitis A	1	3	2	9
Salmonellosis	0	1	6	33
Shigellosis	0	0	0	4
Meningitis-Viral	1	10	43	106
Meningitis-Bacterial	1	1	0	10

*FY – Fiscal Year, October 1-September 30

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