MONTANA PUBLIC HEALTH

March, 2010
Vol. 5, Issue 3
www.dphhs.mt.gov/PHSD

PREVENTION OPPORTUNITIES UNDER THE BIG SKY

SYPHILIS ELIMINATION IN THE U.S. AND MONTANA: NOT YET ACHIEVED

Syphilis is a sexually transmitted disease caused by a bacterium, *Treponema pallidum*. The disease can be diagnosed at primary, secondary, latent or late stages. In the United States the rate of primary and secondary (P&S) syphilis cases decreased dramatically during the 1990s (from 20 cases per 100,000 in 1990 to 2.5 cases per 100,000 in 1999) and a national objective was established to eliminate syphilis transmission. [Elimination was defined as a P&S case rate less than 0.4 cases per 100,000.] However, during the last decade the P&S case rate increased (to 4.5 per 100,000 in 2008); the increase was particularly notable among men who have sex with men.

In Montana no cases of syphilis were reported from January through August 2009, but from September through December five cases were reported. All five cases were in men ranging in age from 29 to 36. Four of the five were in men who have sex with men all of whom also had HIV infection. Two of the five cases were diagnosed at the primary stage, two at the secondary and one at a latent (neurosphylis) stage of syphilis. This issue of *Montana Public Health* will describe the characteristics of P&S syphilis cases in the U.S. and in Montana in recent years, and offer recommendations for assessment and screening of men.

Syphilis in the U.S. The total number of syphilis cases reported in the U.S. increased from 33,120 in 2000 to 46,277 in 2008. In 2008, 13,500 of the cases were P&S; the remaining cases were late, latent or congenital cases. The rate of P&S syphilis is higher in men than in women and increasing in both sexes. (Table) The P&S syphilis rate ratio for men-to-women has risen since 1996 from 1.2 (20% higher in men than in women) to 5.1 (five times higher in men) in 2008. This has been due, at least in part, to an increase in P&S syphilis in men who have sex with men. The Centers for Disease Control and Prevention now estimates the rate of P&S syphilis among men who have sex with men is between 46 and 89 times that of other men and between 71 and 135 times that of women.[1]

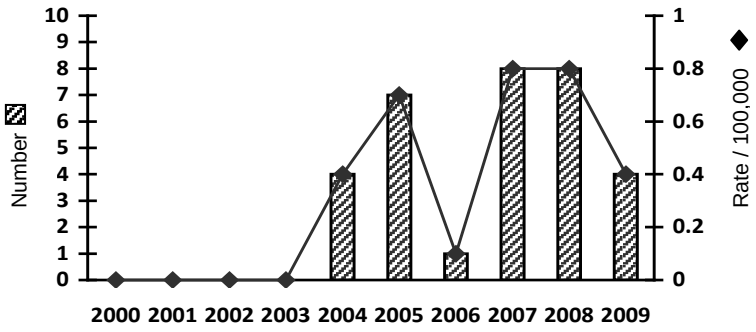
It is important to determine the HIV status of persons diagnosed with syphilis. Genital sores (chancres) caused by syphilis make it easier to transmit and acquire HIV infection. There is a 2-5 fold increased risk of acquiring HIV when syphilis is present.[2]

Syphilis in Montana. From 2000 through 2003, no syphilis cases were reported in Montana. Since 2004, however, 35 cases have been reported; 32 of these were P&S cases. (Figure) Of the P&S syphilis cases, 26 were in men (ranging in age from 22 to 61) and 5 were in women (ranging in age from 18 to 25).

TABLE: Rate and increase in rate of P&S syphilis in the U.S., by sex, 2008

Sex	Rate (per 100,000)	Increase from 2007 to 2008
Men	7.6	15% (from 6.6 to 7.6)
Women	1.5	36% (from 1.1 to 1.5)

FIGURE. Number of P&S syphilis cases reported and rate, Montana, 2000-2009



Diagnosis and treatment of P&S Syphilis in men. The primary stage of syphilis is typically marked by the appearance of a single lesion, but there may be multiple lesions. The lesion (chancre) is usually firm, round, 1 to 2 cm in diameter, and painless. If not treated, it lasts 3 to 6 weeks and heals. The infection then progresses to the secondary stage which is characterized by skin rash and mucous membrane lesions. The skin rash may appear as rough, red or

reddish-brown spots on the palms of hands and soles of feet. Signs and symptoms may also include fever, lymphadenopathy, sore throat, patchy hair loss or weight loss. These signs and symptoms will resolve with or without treatment, but without treatment the disease progresses to latent and late stages which can appear many years in the future.

When syphilis is suspected, laboratory tests can be used to confirm a diagnosis. Some health care providers can diagnose syphilis by examining material from the chancre using a dark-field microscope. If syphilis bacteria are present, they will show up when observed through this microscope.

In addition, syphilis can be detected by inexpensive blood tests. Screening with a non-treponemal assay (VDRL, RPR) requires quantitation of the positive reaction, and confirmation by a treponemal assay (FTA, TPPA). Newer treponemal assays (EIAs) have also been developed for screening. Every patient for whom syphilis (or other sexually transmitted infections) is suspected should also be tested for HIV infection.

Syphilis is readily treated in its early stages. More intense treatment regimens are necessary to treat syphilis during latent stages. For complete information about diagnosis and treatment of syphilis at all stages of the infection, see http://www.cdc.gov/std/treatment/default-2002.htm

Recommendations for Syphilis risk assessment and screening in men

Risk assessment

- Inquire about the number and sex of the patient's partner(s)
- Document the patient's history of sexually transmitted infections, and the patient's HIV status
- Ask sexually active men who have sex with men specifically about urethral discharge, dysuria, genital or perianal ulcers, skin rash, and anorectal symptoms consistent with proctitis.

Screening

- Conduct a thorough physical examination
- For sexually active men who have sex with men, at least annual laboratory screening: **HIV serology** (if patient's HIV status is unknown or previously HIV negative but not tested within the past year); **syphilis serology**; **a test for urethral infection** with *N. gonorrhoeae* and *C. trachomatis* (in men who have had insertive intercourse) and **for rectal infection** (in men who have had receptive anal intercourse); **a test for pharyngeal infection** with *N. gonorrhoeae* (in men with acknowledged receptive oral intercourse)
- More frequent screening may be indicated for men who have sex with men who have multiple or anonymous sexual partners, or in conjunction with illicit drug use.

For more information, contact Laurie Kops, STD Prevention Program, 406-444-2457, lkops@mt.gov, http://www.dphhs.mt.gov/PHSD/STD-HIV/std-hiv-index.shtml

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1. Centers for Disease Control and Prevention. CDC Analysis provides new look at disproportionate impact of HIV and syphilis among U.S. gay and bisexual men (Press Release). http://www.cdc.gov/nchhstp/Newsroom/msmpre ssrelease.html Updated March 10, 2010. Accessed March 22, 2010.
2. Centers for Disease Control and Prevention. Syphilis – CDC Fact Sheet (Web Page). www.cdc.gov/std/syphilis/STDFact-Syphilis.htm#HIV Updated January 4, 2008. Accessed March 22, 2010.

2,300 copies of this public document were published at an estimated cost of $0.419 per copy, for a total of $1,328.70, which includes $365.00 for printing and $963.70 for distribution.
March 2010 Vol 5 Issue 3

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