



## PREVENTION OPPORTUNITIES UNDER THE BIG SKY

### Prevention and Control of Cervical Cancer: A 20th Century Success Story

Cervical cancer deaths are rare in Montana. Since the 1950s, when the use of the Papanicolaou (Pap) test to screen for cancer or precancerous lesions of the cervix became widespread, there has been a sharp decrease in the incidence of, and a corresponding dramatic decrease in mortality from invasive cervical cancer. (Figure 1) [NOTE: Unfortunately, lung cancer mortality has crescendoed in Montana women during this period.] Today, the age-adjusted incidence of cervical cancer in Montana is less than 10 per 100,000 women each year and the mortality rate is 2 per 100,000. The American College of Obstetricians and Gynecologists has described the Pap test as the single most effective public health screening tool ever implemented. A recently licensed vaccine may help make cervical cancer even rarer. This issue of *Montana Public Health* describes cervical cancer prevention and control efforts in Montana.

#### Control of Cervical Cancer: Pap Test Screening is Essential.

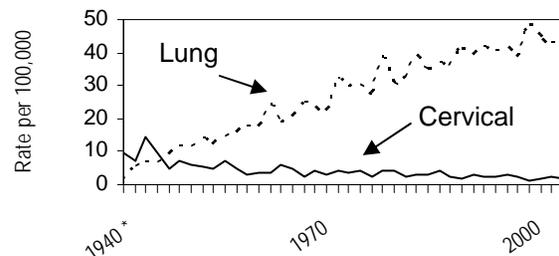
Approximately half of the cervical cancers diagnosed in the U.S. are in women who have never had a Pap test; another 10% occur in women who have not been screened within the past five years. Women who are screened regularly may have precancerous lesions discovered and treated before these lesions progress to cancer. Regular Pap test screening should begin within three years of the initiation of vaginal intercourse. Each case of invasive cervical cancer represents a failure of the system to provide adequate outreach for screening, early detection, and treatment of pre-cancerous conditions.

#### What are the Risk Characteristics for Cervical Cancer?

The risk for cervical cancer varies substantially by age and race. In the U.S., the rate of invasive cervical cancer is more than 50% higher for Hispanic and African American women than for white women. In Hispanic and African American women, the rate of cervical cancer increases markedly by age, while in white women the rate is higher in women aged 40 to 49 years than in older women (Table).<sup>1</sup> In Montana, where more than 90% of women are white, the age distribution of invasive cervical cancer is consistent with that of white women in the U.S.

More than 95% of women who have cervical cancer also have persistent infections with one of several strains of Human Papilloma Virus (HPV), a virus transmitted by sexual contact. Most women encounter HPV within a few years of becoming sexually active. Most women who are exposed to HPV get over it spontaneously and never develop cervical lesions. A small minority of women have persistent HPV infections that increase their risk for cervical cancer. Smoking cigarettes, high parity, long-term use of oral contraceptives, and history of some other sexually transmitted diseases are also risk factors for cervical cancer, independent of HPV infection.

Figure 1: Cervical and lung cancer mortality in Montana women, 1940-2004



\* Cases for 1940-41, 1945-46 and 1950-51 were identified by a hand review of all death records for those years. Electronic death record files were used to identify cases for years beginning in 1954.

TABLE: Incidence rate (per 100,000) of invasive cervical cancer for white women, by age, U.S., 1998-2002

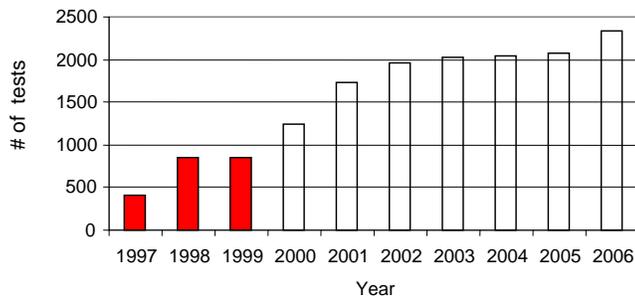
AGE (years)	All	0-19	20-29	30-39	40-49	50-64	65+
RATE	8.9	0.1	4.7	14.1	15.7	14.1	12.6

**Are Women in Montana Being Screened?** Eighty-five percent of Montana women participate in Pap screening in accordance with recommendations.<sup>2</sup> Nearly three-quarters (72%) of precancerous lesions of the cervix are discovered in women between the ages of 20 and 39 in Montana. In contrast, two-thirds (64%) of invasive cervical cancer is diagnosed between the ages of 30 and 64, and a quarter (26%) is diagnosed at age 65 and older. Montana BRFSS results for 2000, 2002, and 2004 indicate that 13% of women younger than 65 and 22% of women age 65 and older have not had a Pap test within three years.

Low income and lack of insurance coverage are major barriers to screening. The Montana Breast and Cervical Health Program (MBCHP), a cooperative agreement between Montana and the national Centers for Disease Control and Prevention, offers cervical screening to women age 35 to 64 who are uninsured or underinsured

and whose income is less than 200% of the federal poverty level. The program provides Pap tests, pelvic exams, and diagnostic and follow-up services as needed. Since 1997, the MBCHP has provided Pap screening services to more than 10,500 women in all 56 counties and seven American Indian Reservations in the state; 2,335 Pap tests were done in 2006. (Figure 2)

Figure 2: Pap tests provided to women eligible for the Montana Breast and Cervical Health Program, 1997-2006



**Prevention of cervical cancer: A vaccine to augment the ongoing benefit of screening.** In June, 2006, the FDA licensed a vaccine that protects against infection by two types of HPV that cause about 70% of cervical cancers. (This vaccine also protects against two other types of HPV that cause about 90% of genital warts.) The Advisory Committee on Immunization Practices (ACIP) has recommended that this vaccine be routinely given to girls when they are 11-12 years old. The ACIP noted that the vaccine, which is given in a three-dose series, can be started as early as nine years old and can be given to girls and women 13 to 26 years old. Because the vaccine is intended to prevent HPV infections, it should, ideally, be administered before girls or young women have initiated sexual activity.

Several types of HPV not included in this vaccine have been associated with cervical cancer, and there may be additional causes of cervical cancer not yet identified. Therefore, whether or not women have received HPV vaccine, it is very important that they continue regular Pap test screening.

### Recommendation: Cervical Cancer Screening and Prevention Guidelines<sup>3,4</sup>

- Pap screening should begin within three years of the initiation of vaginal intercourse, or by age 21.
- Pap screening with conventional dry-mount preparation should occur annually for three years and thereafter every two to three years for women with prior negative screening and no risk factors.
- Pap screening with liquid-based preparation should occur every two years; the interval may be extended after consecutive negative results for women with no risk factors.
- Pap screening may be discontinued for women who do not have a cervix if removal was for benign indications.
- Routine HPV vaccination is recommended for girls aged 11 to 12 years.
- Pap screening for cervical cancer should continue for both vaccinated and unvaccinated women according to current early detection guidelines.

For more information about MBCHP, including phone numbers of MBCHP sites in areas all over Montana, call 1-888-803-9343 or see [www.cancer.mt.gov](http://www.cancer.mt.gov)

#### References:

1. Saraiya M, et al. Cervical cancer incidence in a prevaccine era in the United States, 1998-2002. *ObGyn* 2007; 109:360-370.
2. Montana Behavioral Risk Factor Surveillance System, 2004
3. [www.cancer.org/docroot/NWS/content/NWS\\_1\\_1x\\_New\\_Cervical\\_Cancer\\_Early\\_Detection\\_Guidelines\\_Released.asp](http://www.cancer.org/docroot/NWS/content/NWS_1_1x_New_Cervical_Cancer_Early_Detection_Guidelines_Released.asp)
4. Saslow D, et al. American Cancer Society guideline for Human Papillomavirus (HPV) vaccine use to prevent cervical cancer and its precursors. *CA Cancer J Clin* 2007; 57:7-28.



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