

## **Frequently Asked Questions About Cancer Among American Indians in Montana**

### **1. Are American Indians accurately represented in the Montana Central Tumor Registry? Are American Indian patients misclassified as belonging to some other race? Are American Indians living on Reservations and urban areas well covered?**

All American Indian patients who are treated by physicians or hospitals or diagnosed by pathology labs in Montana are reported to the Montana Central Tumor Registry the same way all other patients are: physicians, hospitals, and pathology labs are required by state statute to report cases of cancer to the MCTR. The Indian Health Service is a federal agency and does not fall under the state reporting requirements, but the IHS refers most American Indians patients with cancer to hospitals, labs, and treatment centers that are required to report. Patients diagnosed and treated exclusively at an IHS facility (this is rare) might not be reported.

The MCTR participates in records linkage with the IHS every year to make sure racial classification is accurate. The MCTR recodes 25 to 30 patients from some other race to American Indian each year through the linkage process. As a result, Montana has excellent ascertainment of American Indian race in the MCTR.

### **2. Is there adjustment in the cancer statistics for the fact that American Indians have lower life expectancies than Whites, and experience different causes of death?**

All incidence and mortality rates reported from the MCTR are age-adjusted so rates for different races, different counties, and Montana vs. the US as a whole are directly comparable regardless of differences in age structures of the groups or different life expectancies. Survivorship (the flip side of mortality) is reported as relative survivorship, taking into account the effects of other causes of death.

### **3. How and why are Montana American Indian cancer data different than national data sources, and how is the Montana American Indian cancer experience different from that of American Indians in other parts of the country?**

National estimates of American Indian cancer incidence come from the SEER cancer system, using data from 11 states and 3 metropolitan areas around the country that are assumed to represent the US as a whole. However, only 40% of the American Indian residents of the US live in SEER reporting areas. Montana is not a SEER state. National cancer mortality data comes from the National Center for Health Statistics, which receives death certificate data from all states. All deaths in the United States are tabulated by NCHS. However, death certificate data have been consistently shown to misidentify American Indian race, while the MCTR performs regular records linkage to ensure accurate race assignment.

The most accurate and up-to-date cancer incidence and mortality data about American Indian residents of Montana come from the MCTR.

### **4. Do American Indians in Montana have higher cancer incidence and mortality than White residents? Why?**

The incidence of cancer at all sites among American Indians in Montana is slightly higher than that of White residents. The main difference is a substantially higher incidence of lung cancer among American Indian men and women, compared to White residents of Montana, and moderately

higher incidence rates of stomach cancer and liver cancer. For most other kinds of cancer, the incidence rates are not different by race.

Mortality from cancer is also somewhat higher among American Indian than White residents of Montana, especially for lung, stomach, and liver cancers. Overall, some of this difference may be due to later stage at diagnosis, with corresponding poorer prognosis, among American Indians. However, for the four most common types of cancer (lung, 20% of all cancers among American Indians; breast, 12%; prostate, 11%; and colorectal, 11%; for a total of 54% of all cancers among American Indians in Montana), there are no differences in stage at diagnosis between American Indians and Whites. For some cancers, American Indians have a slightly poorer survival experience at each stage of diagnosis than Whites. We do not know why this is, although some people speculate that it is due to less access to treatment and follow-up care.

#### **5. What causes cancer in American Indian residents of Montana?**

The same things that cause cancer in everybody else. One third of all cases of cancer in Montana are caused by smoking cigarettes and other forms of tobacco use. Tobacco-related cancers are not limited to the lungs and other parts of the respiratory tract: tobacco causes cancer throughout the body. Infection with the bacterium *Helicobacter pylori* is associated with an increased risk of stomach cancer. Alcohol abuse and hepatitis are associated with increased risk of liver cancer. The causes of most other kinds of cancer are not known on a site-by-site basis.

#### **6. Why are American Indian and White incidence rates for colorectal cancer statistically significantly different in 2003-2007 when they weren't different in 2002-2006? Are American Indians getting more colorectal cancer now?**

American Indian cancer incidence rates at all sites fluctuate a lot, even across five-year intervals, because the number of cases is very small, while the number of cases among White residents is very large. Rates based on small numbers of cases are always unstable statistically. In the next reporting interval, American Indians may very well appear to have a statistically significantly *lower* incidence of colorectal cancer than Whites. For American Indians, a case more or less can make the incidence rate change greatly, while a difference 50 or even 100 cases among whites would have only a small effect of the incidence rate.

#### **7. Are there differences in cancer incidence or mortality by tribe in Montana?**

Probably not, but the number of cases is very small and it is not possible to perform reliable statistical tests on this

#### **8. Are there differences in cancer risk factors by race in Montana?**

As a gross generalization, smoking and other forms of tobacco use are more common among American Indian residents of Montana (Montana Adult Tobacco Survey, 2006), and tobacco causes one third of all cancers in Montana. Certainly not every American Indian smokes, and many white people smoke, but the prevalence of smoking is nearly twice as high among American Indian as among White residents of Montana. In addition, American Indians are more likely to have *Helicobacter pylori* infections of the stomach. They are also more likely to have chronic hepatitis infection, which is in itself a risk factor for liver cancer. When hepatitis infections is combined with even moderate alcohol use, the risk of liver cancer increases substantially.