



# Cancer Risk Factors and Risk Reduction



## **Target Audience:**

- *Community members*
- *Staff of Indian health programs, including Community Health Representatives*

## **Contents of Learning Module:**

- *Instructor’s Guide with Pre/Post Self-Assessment*
- *PowerPoint presentation*
- *Glossary*
- *References*

## **Length:**

- *Introduction of session/module overview (:05)*
- *Pre self-assessment (:07)*
- *Presentation of module including interactive activity (:30)*
- *Post self-assessment (:05)*
- *Closing (:03)*

## **Goals**

In this session, participants will gain an understanding of cancer risk factors and how to reduce risks associated with cancer.

## **Objectives**

At the completion of Learning Module 5, participants will be able to demonstrate the following:

### **Section 1**

- a) Describe the meaning of “risk factor.”
- b) Describe two risk factors that influence the development of cancer.

### **Section 2**

Describe two ways to take personal action to reduce risk for cancer.

## **Measures of Objective Accomplishment**

The presenter will administer a pre self-assessment and a post self-assessment to measure participants’ knowledge of the module’s objectives. The pre self-assessment measures existing knowledge and the post self-assessment measures what was gained through the learning module.

## **NOTE**

- Each major learning point is clearly identified by **boldface** type throughout the guide and emphasized in the PowerPoint presentation.
- See the glossary (at the end of the module) for words that are in ***bold italics*** throughout the module.

## Pre/Post Self-Assessment

### Cancer Risk and Risk Reduction

**Do you agree (A) or disagree (D) with these statements, or are you not sure (NS)? Circle Choice A, D, or NS.**

1.	A	D	NS	Everyone is at risk for developing cancer in his or her lifetime.
2.	A	D	NS	Risk factors that increase our chance for developing cancer include the type of lifestyle we lead and the environment we live in.
3.	A	D	NS	There is little we can do personally to reduce our risk for cancer.
4.	A	D	NS	Environmental exposures account for most of the cancer diagnosed in American Indian and Alaska Native communities.
5.	A	D	NS	Eating a high fat, low fiber diet will help prevent cancer.

## Section 1

## What is a Risk Factor



**Risk factors** are conditions that increase the chance that cancer might occur. The conditions that influence the development of cancer are related to lifestyle, environment, and heredity. Although research is ongoing, there is a lack of specific *data* for cancer risk factors among American Indians and Alaska Natives (AI/AN). A century ago, cancer was thought to be a rare disease among AI/AN. However, changes in lifestyle and environment have placed many AI/AN at increased risk for cancer.

**Lifestyle: Some types of cancer are related to lifestyle (how we live and the choices we make).** What we eat and drink, how much we exercise, and whether or not we smoke influences our risk for developing cancer. For many AI/AN, the shift from a traditional way of living to a more Western lifestyle (more processed foods, less exercise) has had a dramatic effect on health. In the past, AI/AN lifestyles included many of the practices thought to reduce cancer risk such as a diet rich in natural foods and daily exercise. A shift from ceremonial use of tobacco to regular use has had a devastating effect on the health of many AI/AN. Smoking rates among the Northern Plains Indians and Native Alaskans have increased dramatically over the last few decades along with a rising incidence of lung cancer (Cobb, 1996).

**Environment: Some types of cancer are related to where we work and live.** For example, exposure to *carcinogens* (cancer-causing agents) such as asbestos, uranium, nickel, radon, cadmium, vinyl chloride and benzene in the workplace may increase a person's risk for developing cancer. Carcinogens have also been identified in the air, water and soil. For example, pesticides that are known carcinogens have been found in sources of food and drinking water. Although several pesticides have been shown to cause cancer in animals, the relationship with human exposure remains under study. Even





though the environment has undergone many changes considered to be unhealthy, some researchers suggest that environmental exposure (which may account for only 1 to 5%) is not the major source of cancer in the AI/AN population (Cobb, 1996).

***Heredity:*** This refers to genes that control cell growth and death that are passed from parent to child. Some types of cancer (including melanoma and cancer of the breast, ovary, prostate, and colon) tend to occur more often in some families than in the rest of the population. This may be due to an alteration in the genes that increases a person’s chance to develop cancer. It is often unclear whether a pattern of cancer in a family is primarily due to heredity, factors in the family’s environment or lifestyle, or just a matter of chance.

**Certain forms of cancer disproportionately affect AI/AN when compared to the whole U.S. population.** These cancers include stomach, gallbladder, kidney, cervix, and liver cancers (Kaur, 1999; Cobb, 1996; Baquet, 1996). Although more research needs to be done to determine the cause of the excess *incidence* and *mortality* associated with these cancers, some researchers believe that heredity, environment, lifestyle and infection may play a role.



## Note

For a list of risk factors for specific cancer sites, please refer to the “Cancer Site Worksheet” at the end of Module 3.

## Section 2 Risk Reduction



According to scientific evidence, approximately one-third of all cancers diagnosed in 2000 were expected to be related to nutrition and other lifestyle factors and could have been prevented (American Cancer Society, 2000). The lifestyle we lead today has an influence on our health as we age. It takes many years for a single cancer cell to develop into a cancer that is detectable and requires treatment. So when an individual is diagnosed with cancer at age 50, the stimulus for that cancer may have occurred many years before. **Although some cancers are unavoidable such as those linked to heredity, the burden of many cancers can be reduced through education, taking personal action to reduce cancer risk, and participating in routine screening for early detection.**



### Reducing Cancer Risk\*

**Maintain a healthy weight** - Being overweight (weighing 20% or more than recommended for normal range) may increase the risk for certain forms of cancer (colon, rectum, uterus, and breast). Balancing the amount of food we eat with daily exercise will help us maintain a healthy weight and reduce our risk of cancer. Maintaining a healthy weight also reduces risk for other chronic diseases such as diabetes and heart disease.



**Get at least 30 minutes of physical activity each day** - This can be as simple as a brisk walk 15 minutes twice a day. Any amount of physical activity is better than none. Being physically active lowers the risk for colon cancer and may lower the risk of breast cancer.



**Don't Smoke** - Smoking accounts for at least 87 % of all cancers of the lung (Cobb, 1996). If you smoke, consider seeking help to quit (See Cancer 101 Resources for a list of resources that provide assistance in smoking cessation). In addition to cancer of the lung, smoking has been linked to cancers of the throat, pancreas, kidney, bladder, cervix, prostate, colon, and rectum.



**Eat a healthy diet** - A healthy diet is one that includes generous amounts of foods that are high in fiber, vitamins, and minerals, and low in fat. This means eating more fruits and vegetables, whole-grain breads and cereals, and avoiding high fat meat and dairy products. Eating a healthy diet may lower the risk of cancers of the prostate, breast, lung, colon, rectum, stomach, and pancreas.



**Limit alcohol consumption** - Heavy drinking increases the risk for cancer. People who smoke and drink heavily have a particularly high risk for certain types of cancer. Choosing non-alcoholic beverages (juices, sodas) at parties, avoiding occasions centered around alcohol, and seeking professional help to limit alcohol (if needed) will help reduce the risk for cancer. Limiting alcohol to one beverage per day may lower the risk of cancer of the breast, colon, rectum, mouth, throat, and esophagus.



**Protect yourself from the sun** - *Ultraviolet radiation (UV)* from the sun causes premature aging of the skin and skin damage that can lead to skin cancer. To avoid skin damage from the sun, limit your midday sun exposure (from 10 a.m. to 4 p.m.). Wearing protective clothing (long sleeves, long pants, and broad brimmed hat) and use of sunscreen with a sunscreen protection factor (SPF) of 15 or higher is advised.

**Protect yourself and your partner from sexually transmitted diseases** - Some sexually transmitted diseases are linked to cancers of the cervix, vagina, anus, and liver. For example, women infected with the *human papilloma virus (HPV)* are at greater risk for developing cervical cancer. Certain forms of *Hepatitis (B and C)* have been linked to cancer of the liver. If you are sexually active, follow safe sexual practices to protect yourself and your partner.

\*Adapted from the Center for Cancer Prevention, Harvard School of Public Health.

## Glossary of Terms

**Carcinogens** Cancer causing agents.

**Data** Collection of observations.

**Genes** Basic unit of heredity.

**Hepatitis B** A virus that causes hepatitis (an inflammation of the liver). It is carried and passed to others through blood or sexual contact.

**Hepatitis C** A virus that causes hepatitis (an inflammation of the liver). It is carried and passed to others through blood or sexual contact.

**Heredity** Refers to genetic traits passed from parent to offspring.

**Human Papillomavirus** Viruses that generally cause warts. Some papillomaviruses are sexually transmitted. Some of these sexually transmitted viruses cause wartlike growths on the genitals. Some human papillomaviruses (HPV's) cause abnormal changes in cells of the cervix that can lead to the development of cancer.

**Incidence** The number of new events or cases of disease that develop in a population of individuals at risk during a specified period of time.

**Mortality** An expression of the incidence of death in a particular population during a period of time.

**Risk factors** Conditions related to lifestyle, environment, and/or heredity that increase the chance that cancer might occur.

**Ultraviolet Radiation (UV)** Invisible rays that are part of the energy that comes from the sun. UV radiation that reaches the earth's surface is made up of two types of rays, called UVA and UVB. Both types are thought to increase risk for cancers of the skin.

For more detailed information about the glossary terms, please refer to the Dictionary on [www.cancer.gov](http://www.cancer.gov) OR call the Cancer Information Service at 1-800-4-CANCER (1-800-422-6237)

## References

American Cancer Society, (2000). Cancer Facts & Figures 2000.

Baquet, C. R. (1996). Native Americans' cancer rates in comparison with other peoples of color. Cancer Supplement, 78(7), 1538-1544.

Cobb, N. (1996). Environmental causes of cancer among Native Americans. Cancer Supplement, 78(7), 1603-1606.

Harvard School of Public Health (2000). Center for Cancer Prevention. Seven ways to prevent cancer [On-line]. [www.hsph.harvard.edu/cancer](http://www.hsph.harvard.edu/cancer)

Kaur, J. S. (1996). The potential impact of cancer survivors on Native American cancer prevention and treatment. Cancer Supplement, 78 (7), 1578-1581.

Kleinsmith, L. J., Kerrigan, D., Spangler, S. (2001). Understanding cancer. [CD-ROM]. National Cancer Institute.

National Cancer Institute (2000). What you need to know about cancer. (NIH Publication No. 00-1566).

National Cancer Institute (1996). Cancer rates and risks (NIH Publication No. 96-691).



## Please Note—



- ✓ Use the Curriculum/Training Evaluation located in the Evaluation section, to get valuable participant feedback.



- ✓ The Health Change Checklist, located in the Evaluation section, directs the participants new attitudes towards new actions and may be used as a take home exercise.



- ✓ Please Complete the “Trainer Activity Report” in the Evaluation section of the curriculum. Your feedback allows us to track usage of the curriculum for reporting purposes and ensures you receive any updates to the material.

We look forward to hearing from you.  
Thank You.

