

North Dakota Burden of Cancer Summary



2013

North Dakota Burden of Cancer Summary

2013



NORTH DAKOTA
DEPARTMENT *of* HEALTH

**North Dakota
Cancer Coalition**

Planning for a cancer-free future.

This booklet was produced by the North Dakota Cancer Coalition and the North Dakota Department of Health Division of Cancer Prevention and Control.

This publication is available on the North Dakota Department of Health's Division of Cancer Prevention and Control website at www.ndhealth.gov/cancer.

This publication was supported with funding from U.S Centers for Disease Control and Prevention cooperative agreement 1U58DP003934-01.

Cover photo of hay bales and a butte provided by the North Dakota Department of Commerce.

Table of Contents

Introduction	3
Cancer: Definition and Causes	3
Cancer Facts and Myths	4
Cancer in North Dakota	5
Overview	5
North Dakota Cancer Coalition Priority Cancers.....	9
Breast Cancer	9
Cervical Cancer	11
Lung Cancer	12
Prostate Cancer	15
Colorectal Cancer	16
Melanoma	17
Oral-Pharyngeal Cancer	18
Cancer Survivorship	19
Who Are Cancer Survivors?.....	19
Promoting Health After a Cancer Diagnosis.....	19
Resources	21
References	22
Acknowledgements	23

Voice Against Cancer



"I fight this disease we call cancer by being a voice for those who are unable or no longer can, until I no longer can. Together we can make a difference."

Bev Berger, Richardton, N.D.
Wife, mother and daughter of
family members affected by cancer

Introduction

Half of all men and one-third of all women in the U.S. will develop cancer during their lifetime.¹ Cancer is the second leading cause of death behind cardiovascular (heart and blood vessel) disease in North Dakota.² With numbers like these, it is likely that you or someone you love has or will be affected by cancer.

This summary on the burden of cancer is a look at the impact that cancer currently has on the citizens of North Dakota, what you can do to reduce the effects of cancer and resources for cancer survivors.

Cancer: Definition and Causes

Cancer is not a single disease, but a group of diseases that are characterized by the uncontrolled growth and spread of abnormal cells. There are more than 100 different types of cancer. Many types of cancer form a lump or mass called a tumor. Cancer cells are able to travel through the blood and lymph systems and can invade other tissues. The spread of cancer is called metastasis and may result in death if not controlled.

While the exact cause of why someone develops cancer may not always be known, there are certain risk factors that increase the chance that a person will develop cancer. The most common risk factors of cancer are¹:

- Growing older.
- Tobacco use.
- UV (ultraviolet) exposure.
- Some viruses and bacteria.
- Alcohol use.
- Family history of cancer.
- Poor diet.
- Lack of physical activity and/or being overweight.

Many of these risk factors can be avoided. Others, such as age or family history, cannot be avoided. People can help protect themselves by staying away from known risk factors whenever possible and getting cancer tests.

Cancer Facts and Myths

Many factors act together to cause normal cells to develop into cancer. However, it is important to understand certain considerations about a person's risk for cancer¹:

- Not everything causes cancer.
- Not all tumors are cancer.
- Cancer is not caused by an injury.
- Cancer is not contagious. You cannot “catch” it from another person.
- Some people are more sensitive to risk factors than others.
- Having one or more risk factors does not mean that you will get cancer. Most people who have risk factors never develop cancer.

If you think you may be at risk for cancer, you should discuss this concern with your doctor. You may want to ask about reducing your risk and scheduling checkups and appropriate cancer screenings.

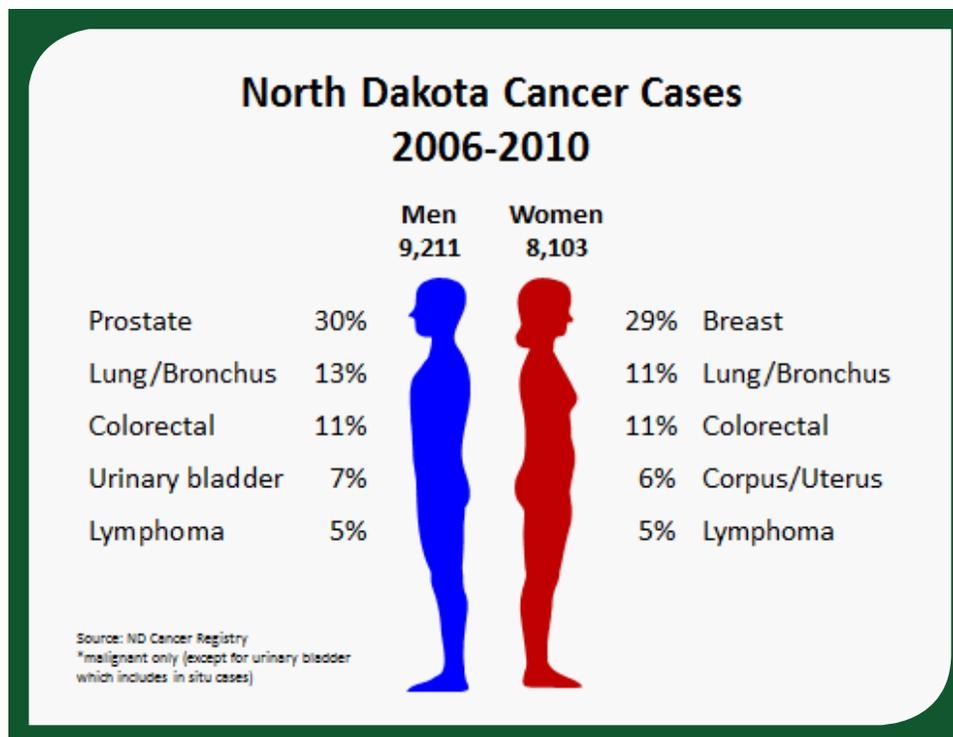


Cancer in North Dakota

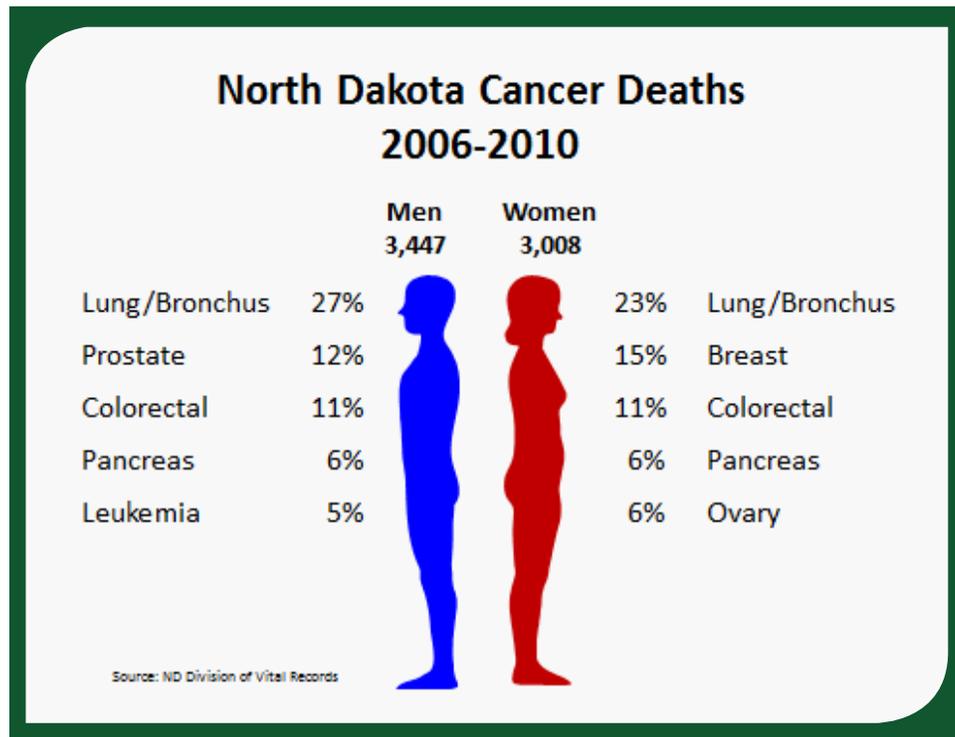
Overview

According to the North Dakota Statewide Cancer Registry (program that tracks cancer information in North Dakota) from 2005-2009, there was an average of 3,377 new cases of cancer diagnosed each year. In the same time period there was an average of 1,310 deaths per year.

The most commonly diagnosed cancers for the years 2006-2010 were prostate cancer for men and breast cancer for women. Lung and colorectal cancers came in as the second and third most common for both men and women. Coming in fourth was urinary bladder cancer for men and uterine cancer for women. Lymphoma (cancer of the lymph cells) was the fifth most common cancer for both men and women.

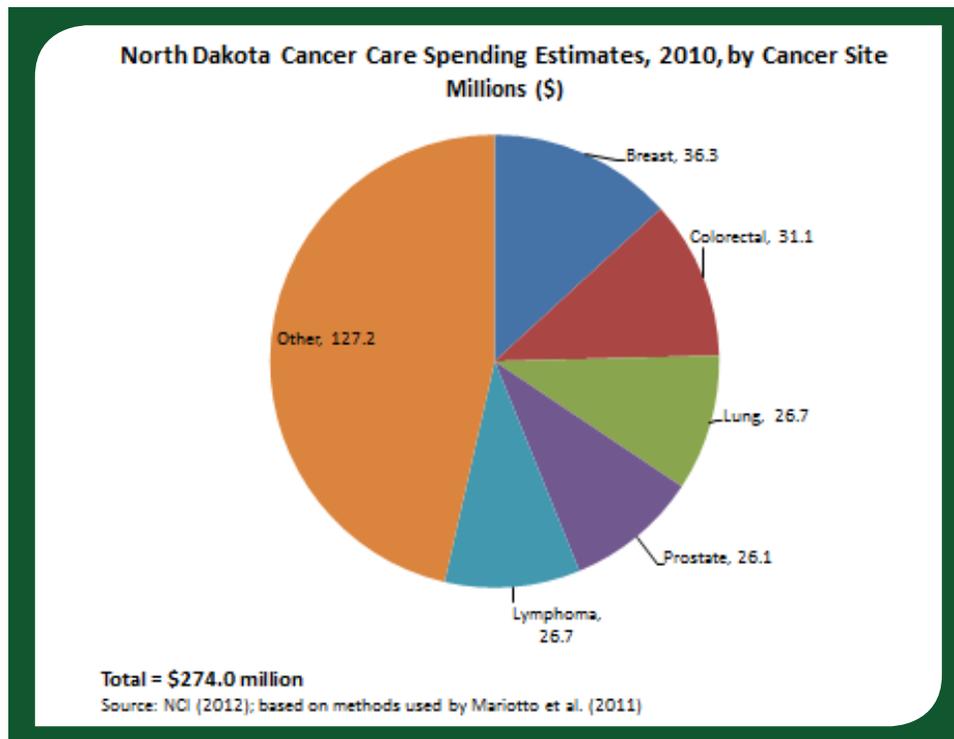


While prostate cancer for men and breast cancer for women are more commonly diagnosed, cancer of the lung has a much higher death rate. One of the reasons for this is that while there are screening tests for both prostate and breast cancer, there is no routine screening for lung cancer, which often leads to a delay of diagnosis and treatment.



Financial Cost of Cancer

The financial costs of cancer affect not only the patients and their families, but society as a whole. In 2010, an estimated \$274 million was spent on cancer-related care in North Dakota. The North Dakota Cancer Coalition's priorities of breast, cervical, colorectal, lung, prostate, melanoma and oral-pharyngeal cancers accounted for 54 percent of cancer care spending.



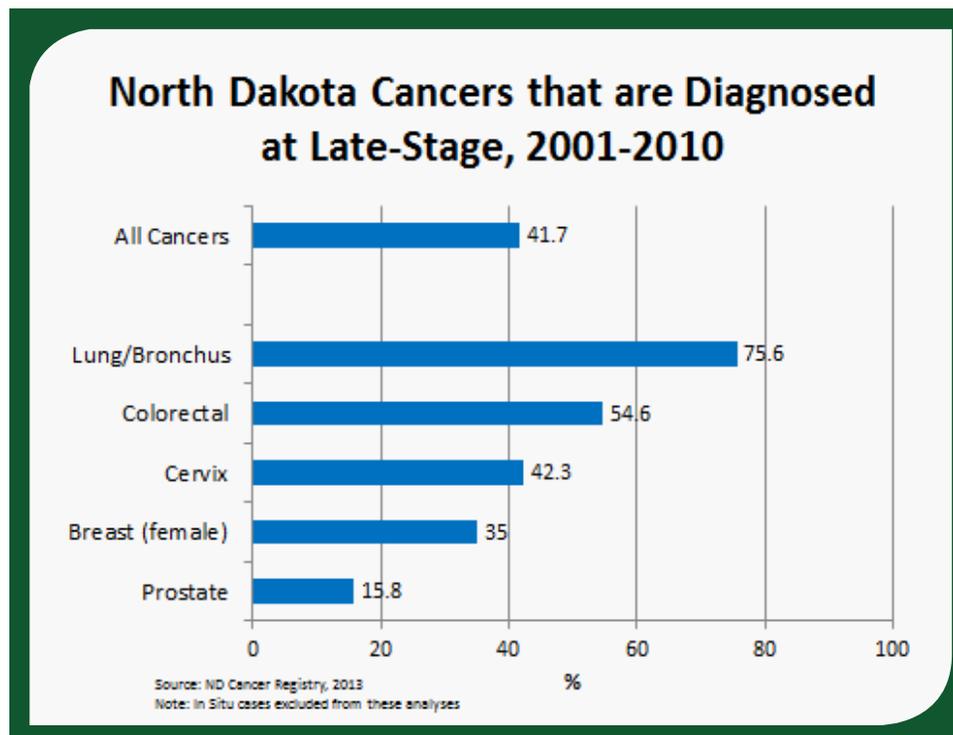
Cancer Staging

There are several ways to describe the growth and spread of cancer, more commonly known as staging. The most common method is called “summary staging” and includes the following five categories:¹:

- **In situ:** Abnormal cells are present only in the layer of cells in which they developed.
- **Localized:** Cancer is limited to the organ in which it began, without evidence of spreading.
- **Regional:** Cancer has spread beyond the primary site to nearby lymph nodes or tissues and organs.
- **Distant:** Cancer has spread from the primary site to distant tissues or organs or to distant lymph nodes.
- **Unknown:** There is not enough information to determine the stage.

Late-stage cancer refers to cancer that is far along in its growth and has spread to the lymph nodes or other places in the body¹. When a cancer goes undiagnosed until it reaches a late stage, the prognosis will be worse than if the cancer was found early. Survival rates can be severely impacted by the stage at diagnosis. For example, if breast cancer is found in the local stage, approximately 98 out of 100 women will survive over a five-year period of time. If breast cancer is found in the distant stage, only 24 out of 100 women will be expected to survive over a five-year period of time.

In North Dakota, lung cancer has the highest rate of diagnosis at a late stage. Lung cancer is also the cancer with the highest death rate in North Dakota. While there is no standard screening test for lung cancer, other cancers with high rates of late-stage diagnosis such as colorectal cancer can be screened for. Colorectal cancer is the second in late-stage diagnosis in North Dakota. It is important to get screened for those cancers for which screening tests are available.



North Dakota Cancer Coalition

Priority Cancers

The North Dakota Cancer Coalition is made up of partners from across the state who works together with the common goal of reducing the effects of cancer among North Dakotans. There are seven different cancers which the North Dakota Cancer Coalition has identified as priorities: breast, cervical, lung, colorectal, prostate, melanoma (type of skin cancer) and oral-pharyngeal (mouth and throat). These cancers have been given priority based on several factors including the numbers of cancers diagnosed, death rate, screening tests that are available, and controllable risk factors.

Breast Cancer

Definition

Breast cancer forms in tissues of the breast, usually the ducts (tubes that carry milk to the nipple) and lobules (glands that make milk). It occurs in both men and women, although male breast cancer is rare.

Incidence and Mortality

In the United States, breast cancer is the most common non-skin cancer and the second leading cause of cancer-related death in women. In 2010 alone, there were 478 new cases of breast cancer diagnosed in North Dakota, while 107 people lost their lives to the disease. Over the five-year period of time from 2006-2010 there was a total of 2,388 diagnoses and 465 deaths in North Dakota due to breast cancer.

Risk Factors and Prevention

Many risk factors have been identified for breast cancer including increasing age, personal or family history of breast cancer, reproductive and menstrual history, the presence of certain genetic changes, history of radiation therapy to the chest, long-term use of hormone therapy for menopause, increased breast density, overweight and lack of exercise.¹

Factors that may reduce the risk of breast cancer include being physically active, reducing alcohol intake, breastfeeding, and treatments that reduce estrogen (female hormone) levels or block its activity for women who are at high risk of breast cancer.¹

Screening tests such as mammography (breast x-ray) can help find a lump in the breast before symptoms appear. A woman should visit with her doctor about when to start regular breast screening.

Healing At All Levels

"I encourage everyone to get regular screenings. As a cancer patient, I learned all I could about my type of cancer and became an active participant in my treatment plan. Family support is important. My husband Terry was my strength and he educated himself about my condition and care. Healing from cancer occurs at all levels. The spiritual outcome from shared prayers was a healing of my spirit that completed my physical healing."

Antonette Halsey, Fort Totten,
N.D.

Spirit Lake Dakota – Arikara
Ovarian Cancer Survivor



Cervical Cancer

Definition

Cervical cancer forms in tissues of the cervix (the organ connecting the uterus and vagina). It is usually a slow-growing cancer that may not have symptoms but can be found with regular Pap tests (a procedure in which cells are scraped from the cervix and looked at under a microscope). Cervical cancer is almost always caused by human papillomavirus (HPV) infection. It is preventable and curable if detected early.

Incidence and Mortality

During the five-year time period of 2006-2010, there were 92 new cases of cervical cancer diagnosed. There was an average of six deaths per year due to cervical cancer over the years 2005-2009.

Risk Factors and Prevention

The most common cause of cervical cancer is infection of the cervix with human papillomavirus (HPV).¹ HPV infections that cause cervical cancer are spread mainly through sexual contact. Women who become sexually active at a young age and who have many sexual partners are at a greater risk of HPV infection and developing cervical cancer.

Smoking cigarettes and breathing in secondhand smoke increase the risk of cervical cancer. Among women who are current or former smokers and infected with HPV, cancer occurs two to three times more often than women who have never smoked.¹ Secondhand smoke causes a smaller increase in risk.

HPV may be prevented by avoiding genital contact and sexual activity. The use of a condom or gel that kills sperm help protect against the transmission of HPV infection between sexual partners. HPV vaccine has been shown to prevent infection by protecting against the four most common types of HPV, including the two types that cause most cervical cancers.

A woman can reduce her risk for cervical cancer by getting an HPV vaccine before becoming sexually active (between the ages of 9 and 26). A women's risk of cervical cancer can also be reduced by getting regular cervical cancer screening tests.

Lung Cancer

Definition

Lung cancer forms in tissues of the lung, usually in the cells lining air passages.

Incidence and Mortality

During the time period of 2006-2010, there were 2,791 total new cases of lung cancer and 1,650 total deaths in North Dakota. There was an average of 407 new lung cancer cases and 330 deaths per year in this period. The diagnosis and death rates are much higher for men than for women, because of the higher rates of smoking among men. Late-stage diagnosis often happens with lung cancer because there is no screening test available. When diagnosed at a late stage, only four out of 100 people are expected to survive over a five-year period of time.

Risk Factors and Prevention

Tobacco smoking is the most important risk factor for lung cancer. Tobacco smoking causes about nine out of 10 cases of lung cancer in men and about eight out of 10 cases of lung cancer in women.¹ People who smoke have about 20 times the risk of lung cancer compared to those who do not smoke. Being exposed to secondhand tobacco smoke is also a risk factor for lung cancer.

The best way to prevent lung cancer is to not smoke. Smokers can decrease their risk of lung cancer by quitting. In smokers who have been treated for lung cancer, quitting smoking lowers the risk of new lung cancers. After a person has quit smoking for 10 years, the risk of lung cancer decreases 30 percent to 50 percent. For information and resources on quitting smoking, contact North Dakota's free tobacco cessation (quitting) service – NDQuits.



Having a family history of lung cancer is another risk factor for lung cancer. People with a relative who has had lung cancer may be twice as likely to have lung cancer as people who do not have a relative who has had lung cancer.

Studies show that high levels of radon gas inside homes and other buildings increase the number of new cases of lung cancer and the number of deaths caused by lung cancer. Radon is a radioactive gas that comes from the breakdown of uranium in rocks and soil which can enter homes through cracks in floors, walls or the foundation.

Lowering radon levels may lower the risk of lung cancer, especially among cigarette smokers. High levels of radon in homes may be reduced by taking steps to prevent radon leakage, such as sealing basements.

Home testing kits to check radon levels are inexpensive and readily available from hardware stores, online, local public health units and the American Lung Association. There are steps to reduce the radon levels in the home and the process is relatively inexpensive.





Family First



"Cancer is a scary situation. One thing is for sure, if I knew how the several years of smoking would affect me and my family, I never would have picked up my first cigar."

Verle Marsaa, Tappen, N.D.
Lip and Skin Cancer Survivor



Prostate Cancer

Definition

Prostate cancer forms in tissues of the prostate (a gland in the male reproductive system found below the bladder and in front of the rectum). Prostate cancer usually occurs in older men.

Incidence and Mortality

During the time period of 2006-2010 there were 2,791 new diagnoses of prostate cancer and 398 deaths. There was an average of 558 new cases and 80 deaths per year for this period.

Risk Factors and Prevention

Prostate cancer is rare in men younger than 50. The chance of developing prostate cancer increases as men get older. Family history also plays a role. A man whose father, brother or son has had prostate cancer has a higher-than-average risk of prostate cancer.

Overweight men diagnosed with prostate cancer may be more likely to have advanced disease that's more difficult to treat. Eating a diet high in fat or drinking alcoholic beverages may also increase your risk for prostate cancer.

Men with a high risk of prostate cancer may consider medications or other treatments to reduce their risk, in addition to eating healthy and exercising.



Colorectal Cancer

Definition

Colorectal cancer forms in the tissues of the colon (the longest part of the large intestine) and the rectum (the last several inches of the large intestine closest to the anus. Most colon cancers are adenocarcinomas (cancers that begin in cells that make and release mucus and other fluids).

Incidence and Mortality

During the time period of 2006-2010 there were 1,934 total new cases and 699 total deaths. There was an average of 387 new diagnoses and 140 deaths per year during this period. From 2006-2010 the incidence of colorectal cancer for men also was much higher than women.

Risk Factors and Prevention

The risk of colorectal cancer increases after age 50. Having a parent, brother, sister or child with colorectal cancer doubles a person's risk of colorectal cancer. Having a personal history of inflammatory bowel disease also increases risk. Drinking three or more alcoholic beverages per day increases the risk of colorectal cancer. Cigarette smoking is linked to an increased risk of colorectal cancer and death from colorectal cancer. Being overweight is linked to an increased risk of colorectal cancer and death from colorectal cancer.

A lifestyle that includes regular physical activity is linked to a decreased risk of colorectal cancer. Removing colorectal polyps during a colonoscopy screening test may prevent cancer from developing.

Melanoma

Definition

Melanoma is a form of cancer that begins in melanocytes (cells that make the pigment melanin). It may begin in a mole, but can also begin in other pigmented (colored) tissues, such as in the eye or in the intestines.

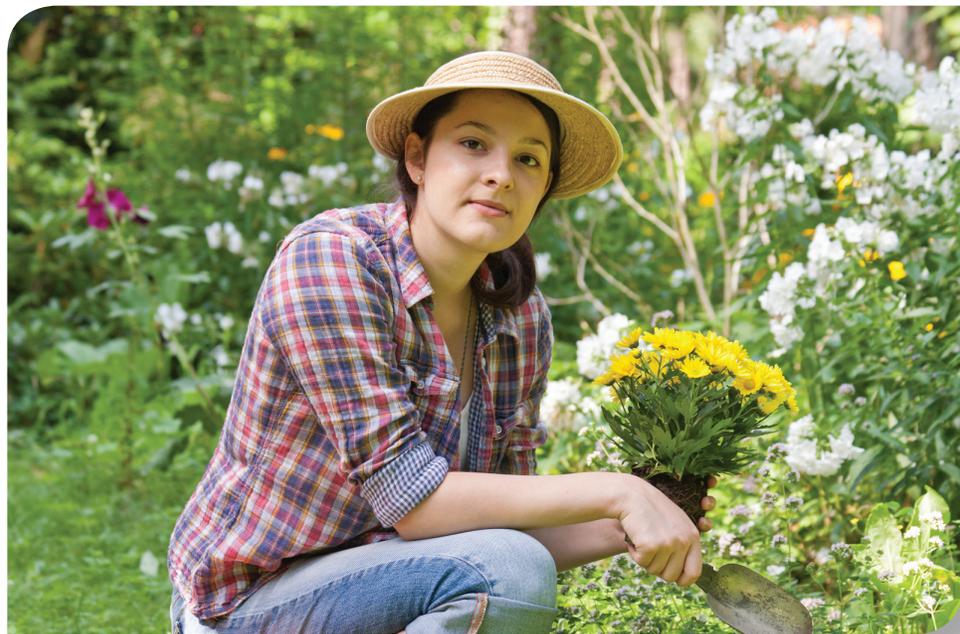
Incidence and Mortality

The incidence of melanoma in North Dakota has risen dramatically over the past several years. The rate of incidence has risen 40 percent during the time period of 2006 to 2010. There were a total of 695 new cases of melanoma from 2006-2010. There was an average of 16 deaths per year in North Dakota from 2005-2009.

Risk Factors and Prevention

Having fair skin and/or being exposed to natural sunlight or artificial sunlight (such as from tanning beds) over long periods of time increases your risk of developing melanoma. A history of many blistering sunburns, especially as a child or teenager, is a risk factor, as well as having several large or many small moles. Having a family or personal history of melanoma also increases your risk.

Limiting ultraviolet (UV) exposure is the best method of prevention. Use sunscreen that protects against UV radiation. Do not stay out in the sun for long periods of time, especially when the sun is at its strongest. Wear long sleeve shirts, long pants, sun hats and sunglasses when outdoors.



Oral-Pharyngeal Cancer

Definition

Oral-pharyngeal cancer forms in tissues of the oral cavity (the mouth) or the oropharynx (the part of the throat at the back of the mouth).

Incidence and Mortality

From 2006-2010 there were a total of 385 new cases of oral-pharyngeal cancer. This is an average of 77 new cases per year. In the same time period, there were a total of 90 deaths due to oral-pharyngeal cancer. The incidence rate for men is nearly triple that of women.

Risk Factors and Prevention

Alcohol and tobacco use (including smokeless tobacco) are the two most important risk factors. At least 75 percent of these cancers are caused by tobacco and alcohol use.¹ People who use both tobacco and alcohol are at greater risk of developing these cancers than people who use either tobacco or alcohol alone.

Infection with cancer-causing types of HPV is also a risk factor for some types of these cancers, particularly cancers that involve the tonsils or the base of the tongue.

Avoiding oral HPV infection may reduce the risk of HPV-associated cancers. Completion of the HPV vaccination series for males and females ages nine to 26 can prevent infection with the HPV virus.

Cancer Survivorship

Who are Cancer Survivors?

A cancer survivor is any person who has been diagnosed with cancer, from the time of diagnosis through the end of their life. There are at least three phases of cancer survival: the time from diagnosis to the end of initial treatment, the transition from treatment to extended survival, and long-term survival. In North Dakota, there are approximately 30,140 cancer survivors.

Promoting Health after a Cancer Diagnosis

Cancer survivors are at greater risk for the cancer to return and for developing other new cancers due to the effects of treatment, unhealthy lifestyle behaviors, underlying family history or risk factors that contributed to the first cancer. The factors such as quitting tobacco use, being physically active, and maintaining a healthy body weight can help maintain health and improve survival and quality of life after a cancer diagnosis.³



Strength From My Journey



“When I was first diagnosed with breast cancer, I was a stay-at-home mom who did not have insurance. Women’s Way helped me get the care I needed. Through my journey, my family and I found strength we never knew we had.”

**Renae Byre, Minot, N.D.
Breast Cancer Survivor**

Resources

Support for Cancer Survivors North Dakota specific support services

There are resources to assist patients, families and others with the physical, emotional, psychosocial, spiritual and financial challenges of cancer.

- The North Dakota American Cancer Society provides information about cancer support resources available in the state.
www.cancer.org/treatment/supportprogramsservices/index
- Cancer support services may also be available from a number of North Dakota health-care facilities. A good place to start to determine what is available locally is with the health-care facility social services office.

Online support services

- The Centers for Disease Control and Prevention (CDC) link provides a listing of nationally recognized organizations that provide a variety of support and education to survivors, caregivers and health-care professionals.
www.cdc.gov/cancer/survivorship/links.htm
- The National Coalition for Cancer Survivorship (NCCS) advocates for quality cancer care for all people touched by cancer and provides tools that empower people to advocate for themselves. The NCCS was founded by and for cancer survivors.
www.canceradvocacy.org
- The American Society of Clinical Oncology provides a wide variety of information on cancer survivorship for patients, families, caregivers and others.
www.cancer.net
- The Livestrong Foundation addresses insurance challenges, treatment concerns, emotional support, fertility preservation and clinical trials.
www.livestrong.org
- Cancer Cares is a patient and family services organization. The following services are available:
 - Counseling with an oncology social worker by phone
 - Support groups by phone, on-line and in-person
 - Educational sessions on a variety of cancer-related topics for patients, family members and health-care professionals
 - Limited financial assistance for cancer-related costs or referrals to other resourceswww.cancercare.org

References

1. National Cancer Institute (NCI). <http://www.cancer.gov>.
2. North Dakota Department of Health, Division of Vital Records. North Dakota Fast Facts 2010. <http://www.ndhealth.gov/vital/pubs/ff2010.pdf>.
3. Centers for Disease Control and Prevention (CDC). Basic Information about Cancer Survivorship. http://www.cdc.gov/cancer/survivorship/basic_info/index.htm.

Acknowledgements

Thank you to everyone who provided their input and expertise for this report.

Advisory Committee

Judy Beck	North Dakota Health Care Review, Inc.
Julie Ferry	Nelson-Griggs District Health
Cindy Gohner	Blue Cross Blue Shield of North Dakota
Robin Iszler	Central Valley Health District
Jenene Kittleson	Trinity Health
Nancy Klatt	Altru Health Systems
Dr. John Leitch	Sanford Health
Stefanie Meyer	North Dakota State University
Susan Mormann	North Dakota Department of Health
Kevin Pavlish	Southwestern District Health Unit
Liz Rindel	Crosby Clinic
Geneal Roth	North Dakota Health Care Review, Inc.
Tracy Wildeman	Bismarck Cancer Center
Karen Workman	Great Plains Tribal Chairman's Health Board

Writing Team

Deanna Askew	North Dakota Department of Health
Joyce Saylor	North Dakota Department of Health
Jesse Tran	North Dakota Department of Health

Future Cancer Care



"As we learn more about cancer and technology and treatment improves, we will be able to minimize side effects and have better results."

Diane Prudhomme, BSRT(R)T,
Grand Forks, N.D.
Radiation Therapist,
Altru Cancer Center



For more information, contact:

Division of Cancer Prevention and Control

North Dakota Department of Health

600 E. Boulevard Ave., Dept. 301

Bismarck, N.D. 58505-0200

www.ndhealth.gov/cancer

701.328.2306

800.280.5512 (toll-free)



NORTH DAKOTA
DEPARTMENT *of* HEALTH

**North Dakota
Cancer Coalition**

Planning for a cancer-free future.