Wyoming Cancer Control Plan

2006-2010

WYOMING COMPREHENSIVE CANCER CONTROL CONSORTIUM

The mission of the Wyoming Comprehensive Cancer Control Consortium is to develop and implement a comprehensive approach to address cancer prevention, early detection, diagnosis and treatment, and quality of life services to lessen the impact of cancer in Wyoming.

Message from the Wyoming Department of Health

Dear Wyoming Citizenry:

Cancer remains the second leading cause of death in Wyoming. An estimated 2,380 Wyoming people will be diagnosed with cancer in 2005. Many of us have experienced cancer or watched a love one battle cancer. Reducing the burden of cancer in Wyoming will take a collaborative and comprehensive approach.

The Wyoming Comprehensive Cancer Control Consortium (WCCCC) has taken a tremendously large step in combating cancer for the people of our state. With over 100 stakeholders advocating for cancer prevention and control in Wyoming—priority goals, objectives, and strategies to fight the number two killer in Wyoming have been identified in this plan.

Wyoming has accomplished great things in the past several years in bringing the public health vision to the forefront. Wyoming faces unique barriers with its rural geography, lack of access to specialty cancer care, health-related disparities, and underserved populations. With projected population increases in the future, addressing these issues now is necessary to maintain healthy Wyoming communities.

This document is only the beginning of what will come from this initiative. Through the implementation of this plan, it is our hope that we will see increased early detection of many cancers and have the ability to provide resources and information to the public about what is available in the State of Wyoming and how to overcome barriers to cancer treatment in Wyoming.

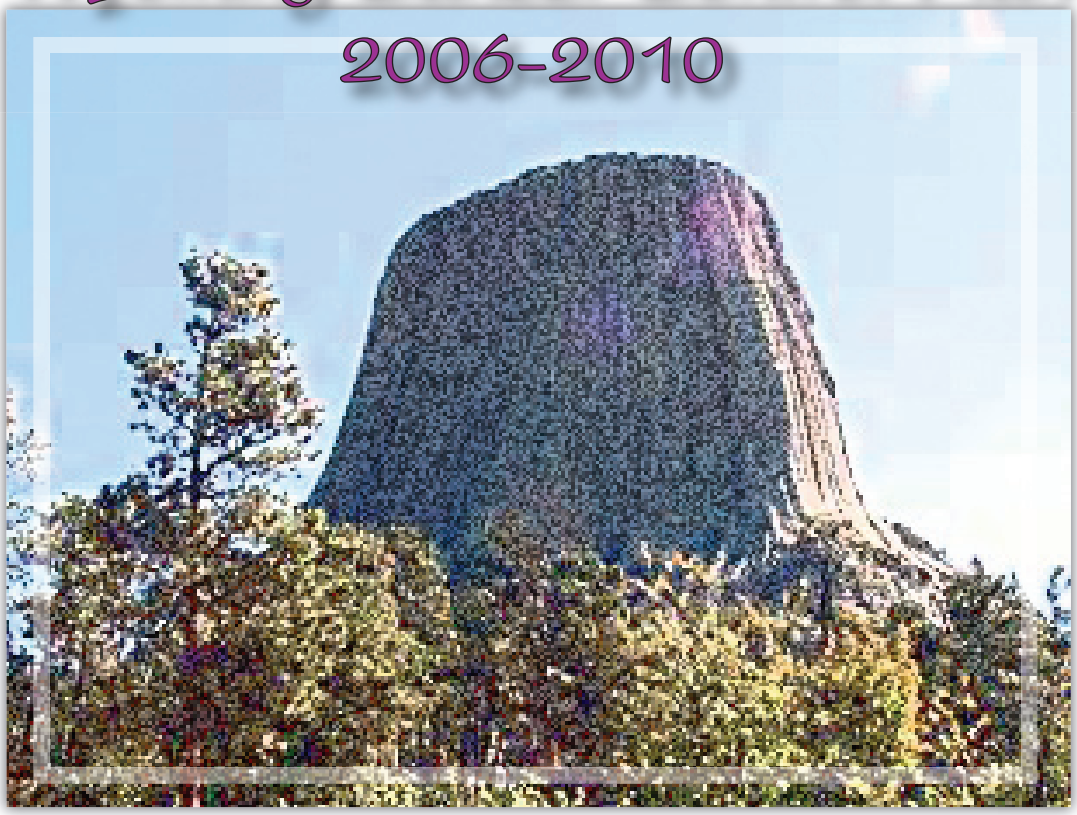
We urge you to become involved and advocate for public health by supporting the WCCCC.

Sincerely,

Brent D. Sherard, M.D., M.P.H.
Director and State Health Officer
Wyoming Department of Health

Kimberly Rogers
Program Coordinator
Comprehensive Cancer Control Program

Wyoming Cancer Control Plan 2006-2010



Published October 2005
Dave Freudenthal, Governor

Brent D. Sherard, M.D., M.P.H., Wyoming Department of Health Director &
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The Wyoming Cancer Control Plan 2006-2010 is dedicated to all Wyoming people who have been affected by cancer, including those who have lost their lives to the disease. Through this plan, we honor you.

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Acknowledgements

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We wish to acknowledge those who participated in the creation of the 2006-2010 Wyoming Cancer Control Plan.

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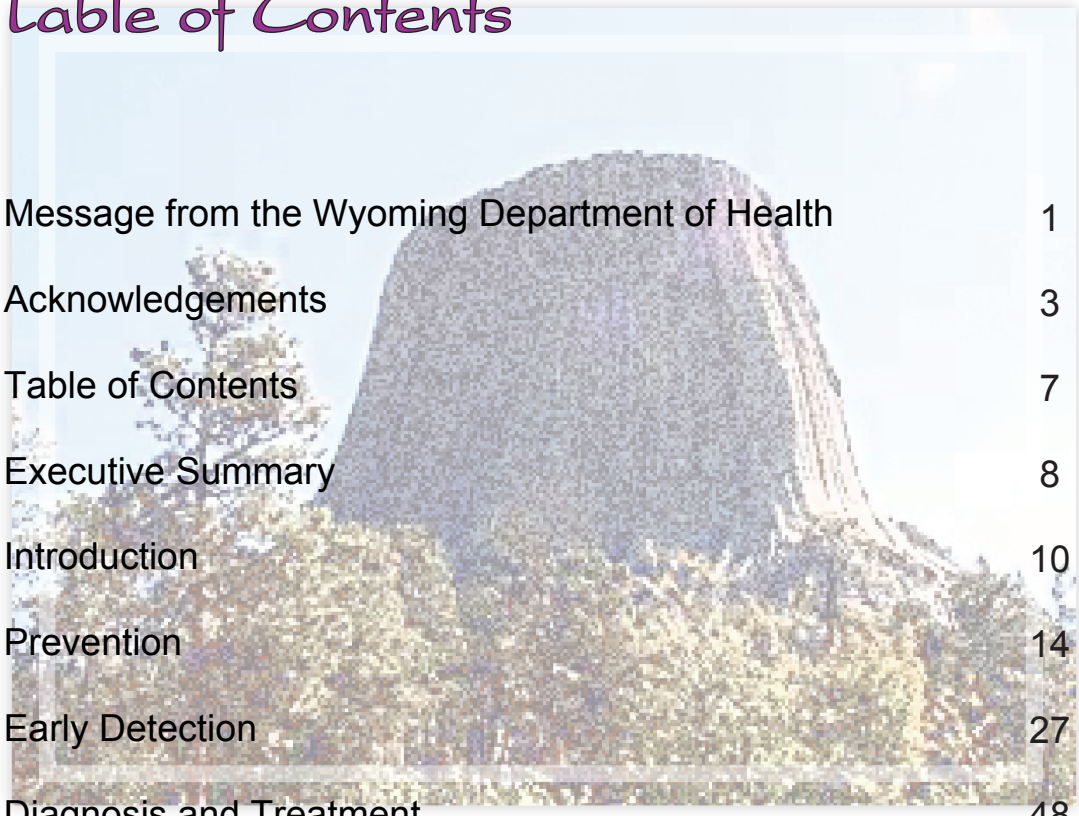

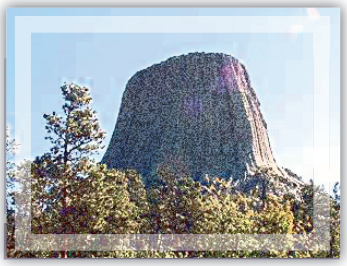

Executive Summary

Cancer is the second leading cause of death in the nation, and in Wyoming. [1,2] The probability that cancer will affect every member of our citizenry, either directly or indirectly is a reality. The American Cancer Society (ACS) estimates 2380 new cancer cases will be diagnosed in Wyoming in 2005. Additionally, ACS estimates that 990 Wyoming citizens will die from cancer in 2005. [1]

The initial concept for the development of a 2006-2010 Wyoming Cancer Control Plan was devised and, in part, funded by the National Comprehensive Cancer Control Program (NCCCP) with the Centers for Disease Control and Prevention (CDC). This Federal agency, in partnership with the Wyoming Department of Health (WDH), then created the Wyoming Comprehensive Cancer Control Consortium (WCCCC) as the vehicle to carry out the work outlined below.

WCCCC is a varied collection of individuals--physicians, other health care providers, national and statewide cancer resource organizations, state agencies, pharmaceutical companies, education representatives, faith-based organizations, policymakers, cancer survivors, and other cancer prevention and control advocates—from all of the regions of the state of Wyoming.

The WCCCC was formed with one goal in mind, decreasing the burden of cancer on Wyoming. The group has worked to develop a comprehensive, collaborative approach to increase cancer prevention initiatives, promote early detection and screening, coordinate diagnosis and treatment efforts, and improve quality of life for all Wyoming people. The first undertaking of the Consortium was to develop the 2006-2010 Wyoming Cancer Control Plan modeled on prior work completed through the CDC. The CDC defines comprehensive cancer control as “an integrated and coordinated approach to reducing cancer incidence, morbidity, and mortality through prevention, early detection, treatment, rehabilitation, and palliation.” [3]

After evaluating existing cancer-related services and resources, then identifying missing, under or over-utilized components in the State, the 2006-2010 Wyoming Cancer Control Plan was written. The plan is the result of a group of enthusiastic and dedicated Wyoming citizens who voluntarily joined and participated in the WCCCC.

It is the hope of the WCCCC that this comprehensive plan will be used as a guide by Wyoming’s healthcare professionals, public health representatives, and cancer control advocates, policymakers, and ultimately cancer patients, survivors, and their families, in confronting the number two killer in our state. The *Wyoming Cancer Control Plan 2006-2010* was devised for implementation. It is a working document that strives to define, shape, and carry out optimal cancer prevention, screening, diagnosis, treatment, and supportive care. Ultimately, the

WCCCC vision is to better serve the people of Wyoming with regard to cancer-related issues and create healthier communities utilizing a collaborative statewide approach.

Using the model of a comprehensive continuum of care, the authors of the 2006-2010 Wyoming Cancer Control Plan have distilled the objectives of the project into two main goals. The first goal is to reduce the numbers of people affected by cancer with improved prevention and education. Second, for those individuals who are diagnosed with cancer, the goal is to provide diagnostic, therapeutic, and palliative interventions that are evidence based, scientifically proven best of care, including the option of participating in national clinical trials.

To these ends, the plan will also address disparities in the levels of healthcare access in rural communities, minority populations, and children with cancer, as well as specific carcinogenic environmental and lifestyle concerns. The 2006-2010 Wyoming Cancer Control Plan will attempt to define meaningful measurements, end-points, and methods to be used to monitor current practices. One task to meet this goal is to enrich existing databases available through the Department of Health that access and analyze tumor registry data.

With a better understanding of Wyoming's resources, the WCCCC will begin to assess how Wyoming can better define future interventions and improvements in the area of cancer prevention and control.

Although the 2006-2010 Wyoming Cancer Control Plan cannot address all issues relating to cancer, it is a very good starting point. The plan is structured to be dynamic and must remain flexible and responsive to changes and innovations that arise in the rapidly changing environment of modern cancer medicine.

References:

1. American Cancer Society (2005). Cancer Facts & Figures 2005.

2. Wyoming Department of Health, Vital Records (2003). 2003 Data Tables. Accessed at http://wdh.state.wy.us/vital_records/pdf/data/2003tables.pdf on August 22, 2005.

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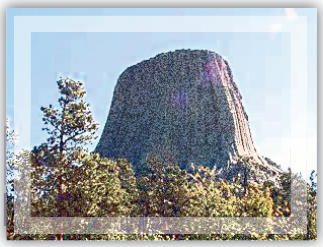


Introduction

Cancer is a term that defines a group of diseases characterized by uncontrolled cellular growth and spread of these abnormal cells throughout the body of the host. If the spread of abnormal cells is not controlled, death can be the result. [1] Many common cancers are preventable and have the potential for cure if detected early and treated effectively.

While there is no one cause of cancer, it is believed that some forms of cancer may be caused by environmental exposure to chemicals, radiation or viruses, as well as hormone levels, lifestyle choices, genetics, and immune status. Still today, the causes of the majority of cancers have yet to be determined.

Formalized cancer prevention and control efforts began in Wyoming in 1997. The Wyoming Cancer Advisory Committee was formed that year with the goals of identifying the burden of cancer in the state of Wyoming and subsequently, creating a plan for preventing cancer in the state. From these efforts, a report, *Cancer in Wyoming: A Blueprint for Action,* was created. The document, updated in 1999, was limited in scope and was primarily focused on prevention efforts.

In 2002, the CDC provided the Wyoming Department of Health (WDH) with a Public Health Prevention Service (PHPS) Fellow in order to aid the state in laying the framework for comprehensive cancer control in Wyoming.

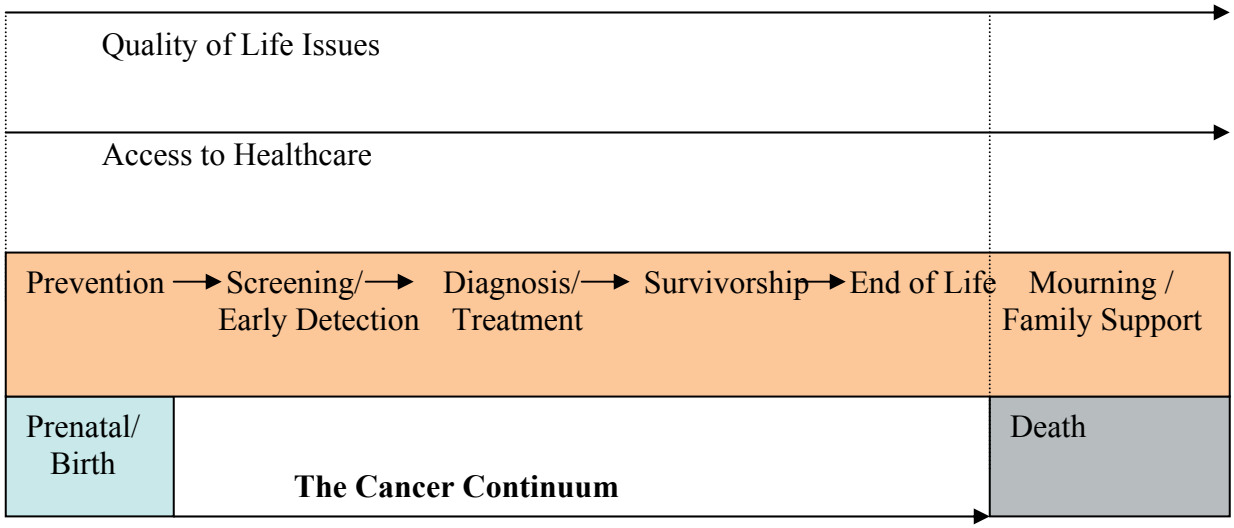
By January 2003, a new effort at cancer control began with the formation of a group of individuals now known as the Comprehensive Cancer Control (CCC) "Steering Committee". This group formed for the sole purpose of increasing awareness of the need to combat cancer in the state. In February 2004, the WDH submitted an application for National Comprehensive Cancer Control Program (NCCCP) funds through the CDC. In July 2004, the Wyoming Department of Health received the Cooperative Agreement award to move this effort forward to create a statewide "cancer control plan" using a broader, more diverse, collaborative and coordinated approach.

Once the Wyoming Department of Health received these funds, the planning phase of creating a cancer plan began. A CCC kick-off meeting was held on September 8, 2004 to identify and bring together key stakeholders in cancer-related initiatives that already existed statewide. The result of that meeting was the creation of the Wyoming Comprehensive Cancer Control Consortium (WCCCC).

The WCCCC brought together representatives from multiple health agencies, organizations, and individuals for the purpose of assessing the current state of cancer care in the state. The Consortium members also provided leadership and

expertise in the planning process, which was critical in the drafting of a plan for reducing cancer incidence, morbidity, and mortality throughout Wyoming. The ambition of the Wyoming five-year plan was ultimately to decrease the health and economic burden of cancer in the state. However, the Consortium has, through this process, expanded and addressed goals in each of the separate areas of cancer prevention, early detection and screening, diagnosis and treatment, rehabilitation, and palliation thus creating a continuum of care for our cancer patients and their families, as well as cancer survivors. These areas include access to quality healthcare as well as issues relating to quality of life which span the continuum of care from conception through death.

Wyoming Comprehensive Cancer Control Continuum of Care



The WCCCC prevention workgroup identified several top priorities relating to cancer prevention. The plan addresses known and other potential environmental issues linked to carcinogenesis within the state. Additionally, extensive research has shown that healthier lifestyles such as avoiding tobacco, increasing physical activity, improving nutrition, and avoiding sun exposure, can and will significantly reduce the individuals' risk for cancer. [1] However; it is important to remember that often times cancer develops through no fault of the diagnosed individual. Cancer patients often blame themselves for the diagnosis. This type of guilt may lead mental distress and is not helpful to the treatment process.

Through education of the public, using marketing and various community-driven strategies, WCCCC will begin to lay the foundation for healthier Wyoming communities. Promotion of these healthier ways of living—through tobacco prevention and control, improved nutrition and physical activity, and decrease of ultraviolet ray exposure—are all components of the five-year plan.

Early detection methods, such as access to healthcare and screening modalities are also priorities for the state cancer plan. The use of patient advocates will be essential in connecting Wyoming people to important and necessary cancer resources. Screening can detect some cancers at the early stages where treatment is more likely to be successful.[1] In our smaller Wyoming communities there is a lack of access to various screening opportunities. When not screened for, cancers of the cervix, breast, prostate, skin, head and neck, and colon may be more advanced at the time of diagnosis and the opportunities for successful treatment, improved function, and ultimate cure will be diminished. Identifying existing early detection services and resources, as well as working to increase the access to and use of such services, are imperative in the five-year plan.

Wyoming, with approximately 97,914 square miles, is the 9th largest geographical state in the USA. The 2004 Census estimate for Wyoming is 506,529 people—the smallest population of any state with approximately 5.2 people per square mile compared to 79.6 nationally. [2]

As with many of the Western Plain states, Wyoming's population is aging. Also, due to favorable tax situations, retirees are relocating to Wyoming. It is estimated that by the year 2020, Wyoming is projected to increase its population by 36%, while the population 65 and over is projected to increase 113%. [3] These facts have serious implications for the future with regard to healthcare access and the economy of Wyoming.

In Wyoming, cancer diagnostic and therapeutic resources are few, and those that currently exist are sparse and widespread geographically. Many counties have no internal cancer therapeutic resources such as oncologic specialists. Certain oncology surgical sub-specialists are not available anywhere in the state. Currently, there are few, if any, formal mechanisms to expand and coordinate existing resources.

It is imperative that all Wyoming residents have access to screening, specialist physicians, and appropriate healthcare facilities. The 2006-2010 Wyoming Cancer Control Plan addresses physician needs, as well as patient needs, quality assurance of cancer diagnosis and therapy, and evidence-based maximally effective cancer care in Wyoming. While the bulk of efforts will address the common cancers of the adult population, health-care disparities in the less common presentations (including our lack of resources for children who are diagnosed with cancer) will be addressed appropriately. The plan will address communication barriers such as physician isolation, lack of multimodality input in therapeutic planning, and other compromises in care that result from rural geography and sparse population.

Palliative care and end of life support throughout the state is also addressed in the plan. Identifying needs of patients, families and caregivers, as well as health care providers, are imperative. By utilizing successful programs used in other

rural states, educating our medical community about available resources, and filling gaps in palliative services, the five-year plan will serve as the stepping stone to providing quality palliative care to all in need. The plan will also direct efforts to develop a curriculum for patient advocates to expand the population of skilled palliative care providers.

In order to measure successes in providing quality cancer care in Wyoming, data collection and evaluation is essential. Wyoming has a unique set of barriers with regard to data collection since obtaining an adequate sample size for various populations that can be analyzed is often a challenge. Reports such as the Annual Report on Cancer in Wyoming, the Behavioral Risk Factor Surveillance Survey (BRFSS), and the Youth Risk Behavior Survey (YRBS), are instrumental in providing the Consortium with data to identify cancer-specific incidence and mortality rates, as well as cancer-related risk factor behaviors in Wyoming adults and youth. For more information on these data sources, please see the Data Collection and Evaluation Chapter.

It is the hope of the Wyoming Comprehensive Cancer Control Consortium that the efforts outlined in this document will result in declines in cancer incidence due to coordinated prevention efforts. Similarly, it is hoped that enhanced and coordinated education, screening, and diagnosis will increase Wyoming's numbers of cancer survivors. Coordinated care both during the therapeutic phase and in the palliative phase of the cancer patient's experience should ultimately reduce suffering, decreased loss of function, and provide our population with a more hopeful healthcare future.

The 2006-2010 Wyoming Cancer Control Plan represents public health and many risk factors that contribute to cancer also play a role in other chronic or terminal illnesses in Wyoming, such as cardiovascular disease, diabetes, and mental illness. The task set forth by the WCCCC is only to address the burden of cancer in Wyoming, and work to decrease that burden; however, as you read through the plan, please keep in mind the public health vision for Wyoming. Ultimately, our goal is to live as healthy individuals, families, and communities while decreasing the current barriers that exist with Wyoming's rural geography.

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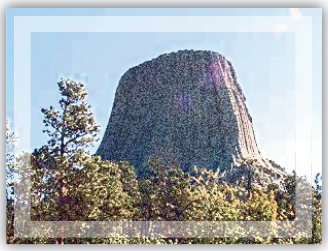
1. American Cancer Society (2005). Cancer Facts & Figures 2005, Page 1.

2. U.S. Census Bureau (2005). State and County Quick Facts: Wyoming.

3. Health Resources and Services Administration (HRSA). The Wyoming Health Workforce: Highlights from the Health Workforce Profile. U.S. Department of Health and Human Services.

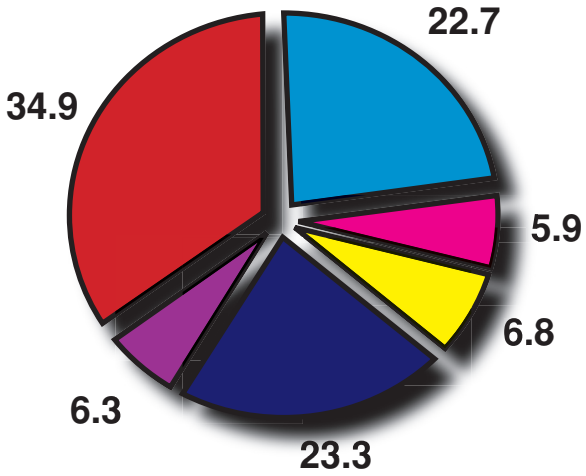


Prevention

It is estimated that 570,280 Americans—1,500 people a day—will die of cancer in 2005. [1] One in every four U.S. deaths is due to cancer and over 1.3 million new cases will be diagnosed in 2005. [2]

Cancer was the second leading cause of death in Wyoming, accounting for over 20% of all deaths in 2003. [3] (See graph below)

Percentage of Deaths By Leading Cause, Wyoming 2003



- **Cancer**
- **Cerebrovascular Disease**
- **Chronic Lower Respiratory Disease**
- **Heart Disease**
- **Unintentional Injuries**
- **All Other**

The cost attributed to combating cancer is tremendous. Cancer treatment in the United States accounted for about $41 billion in 1995. [4] In just one decade (1985 to 1995), the cost of treating cancer doubled. [4]

The costs of treatment and direct cancer care are only one aspect of the financial burden relating to cancer in the United States. Losses in work time and economic productivity resulting from cancer-related illness must also be considered. Based on 1990 data, the total economic burden of cancer in 1996 was a projected $143.5 billion. [4]

Although there are no current reports on the cost of cancer in Wyoming, the WCCCC will be working to identify those costs and relay them to members of the Consortium as well as stakeholders involved directly or indirectly in Wyoming's Comprehensive Cancer Control initiative.

Prevention strategies and services offer an opportunity to decrease cancer incidence and mortality rates in Wyoming. If nothing is done, Wyoming rates are likely to stay about the same or steadily increase. Adopting healthier lifestyles, avoiding tobacco use, increasing physical activity, improving nutrition, and avoiding ultraviolet exposure can reduce a person's risk of developing cancer in the future. These are the areas of concern for cancer control in Wyoming based on data and evaluation.

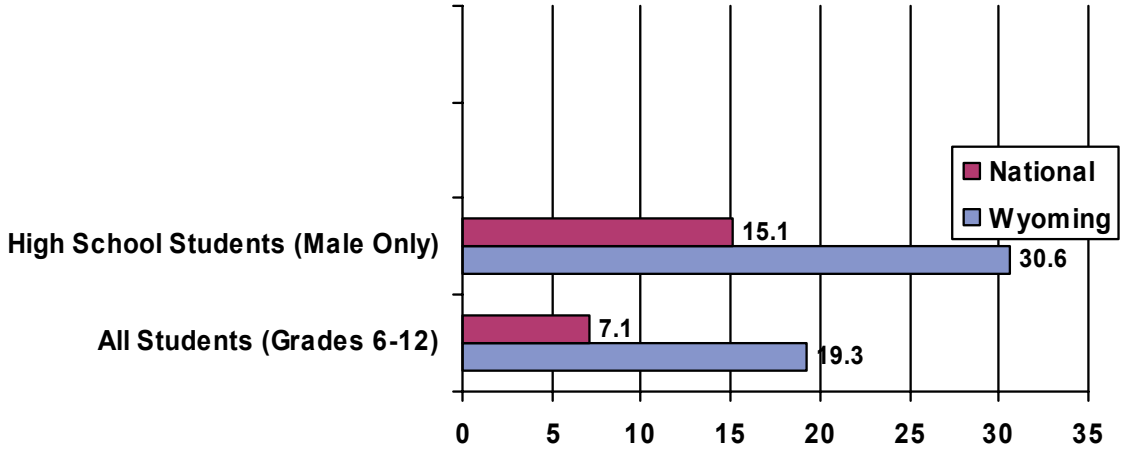
Tobacco:

Tobacco use is the single most preventable cause of death and disease in our society, causing more than 700 Wyoming deaths and more than $106 million in direct health care costs per year. [5] More than 12,000 Wyoming children living today will die prematurely as a result of the decision to start smoking cigarettes during adolescence. [5]

Cigarette smoking increases the risk of cancers of the lung, pharynx, oral cavity, esophagus, bladder, and cervix, and contributes to cancers of the kidney and pancreas. Incidence rates for lung cancer in Wyoming have been relatively steady since 1990 but the national rate has been decreasing steadily since 1997.[6]

Spit tobacco is a risk factor for oral and pharyngeal cancers. Wyoming has the second highest spit tobacco use rate in the country following West Virginia. In 2003, the BRFSS report showed that 23.1% of adults who used tobacco in Wyoming were spit tobacco users. [7]

2003 Student Spit Tobacco Use
Youth Risk Behavior Survey, 1995-2003



The percentage for male high school students who used spit tobacco within the last month was more than double the US average, with Wyoming at 30.6% and the cumulative average for other parts of the US at 15.1%. [8] From 1995 to 2003 Wyoming's students who have used spit tobacco within the last month was more than 2.7 times the United States average. The Wyoming average for this timeframe is 19.3% while the cumulative average for other parts of the US is at 7.1%. [8] (See graph above)

Currently, the Wyoming Tobacco Prevention & Control (TP&C) Program is funding 22 counties and the Wind River Indian Reservation for community-based tobacco prevention and control services in order to decrease the physical and economic burden of tobacco use on Wyoming residents. The Wyoming TP&C Program has been in existence since 1999. In conjunction with the state tobacco program, the Wyoming Quit Tobacco Program provides free or low-cost cessation medications, counseling, and education to people who are ready to quit smoking or spit tobacco. Also available is the Wyoming Quitline and Quitnet. These programs provide free counseling to Wyoming residents to aid in quitting tobacco use either via telephone or online. Youth are offered the opportunity to quit via youth cessation programs. As a deterrent for youth to buy tobacco products, a state "no sales to minors" project is utilized to educate retailers of the consequences of selling tobacco products to minors. The Wyoming Families Matter Program was created as an intervention to educate and inform pregnant women of the dangers of smoking and using spit tobacco during pregnancy and to aid them in quitting. The state "Through with Chew" programs provide spit tobacco education and awareness and works to decrease spit tobacco use rates in Wyoming. For more information about these programs you may visit the Tobacco Prevention and Control Program website at http://wdh.state.wy.us/SAD/Tobacco.asp.

Also, community-based programs work toward supporting healthy environments and communities via the Smokefree Wyoming Program. Environmental Tobacco Smoke (ETS) is a public health concern, and the WCCCC will work to promote healthy environments in homes, at work, and in public places. Please review Cancer and the Environment for more information about ETS and the public health concerns relating to chemicals in tobacco smoke.

Wyoming Tobacco Prevention and Control efforts will continue to move forward changes of policy, practice and procedures to tackle the health and economic burden that we see as a result of tobacco use in Wyoming. To date Wyoming has begun to see significant changes in the way Wyoming residents and policymakers are addressing tobacco control. In 2003, the Wyoming State Legislature approved a 48-cent increase in the cigarette excise tax, bringing the tax to 60 cents per pack. The tax increase will raise $25 million per year, with the proceeds going into the general fund. [9]

GOAL #1:
Reduce the impact of tobacco on the burden of cancer in Wyoming.

Objective I:
By 2010, decrease the percentage of Wyoming adults reporting current tobacco use to 25%.

Baseline: *32.7% of Wyoming adults reported current tobacco use, representing about 124,000 Wyoming citizens. (BRFSS, 2003)*

Objective II:
By 2010, decrease the percentage of Wyoming high school students reporting current tobacco use to 25%.

Baseline: *32.8% of Wyoming high school students report recent tobacco use. (YRBS, 2003)*

Objective III:
By 2010, increase the percentage of Wyoming adults who stopped smoking for one day or longer in the past 12 months because of trying to quit smoking to 55%.

Baseline: *47.1% of Wyoming adult smokers stopped smoking for one day or longer in the past 12 months because of trying to quit smoking (of current everyday smokers). (BRFSS, 2003)*

Objective IV:
By 2010, increase the percentage of Wyoming high school smokers reporting attempts at quitting to 75%.

Baseline: *57.8% of Wyoming high school smokers reported attempts at quitting. (YRBS, 2003)*

Strategies:

1. Increase awareness surrounding the risks of tobacco use and the benefits of quitting to Wyoming adults and youth through initiatives already in place (i.e. Great American Smoke-out, World No Tobacco Day);
2. Educate medical providers on counseling patients regarding tobacco use;
2. Educate adults and youth on financial assistance or programs available to aid them in quitting tobacco use;
3. Increase tobacco education level in youth;
4. Educate adults and youth about media literacy surrounding tobacco, including the tactics used on various targeted populations (i.e. youth, high risk populations, etc.);
5. Educate policymakers on tobacco related issues and aid in legislation to promote tobacco control issues;
6. Provide tobacco education and cessation programming specific to high risk populations in Wyoming; and
7. Promote already existing programs and services statewide including, but not limited to:
    a. Statewide "no sales to minors" campaign;
    b. Wyoming Quitline/Quitnet and other cessation programs;
    c. Tobacco Free Schools of Excellence Programs;
    d. Wyoming Families Matter Program (pregnant women and smoking initiative);
    e. Through with Chew Programs;
    f. Tobacco Free Wyoming Community Programs; and
    g. Local tobacco prevention coalitions.

Nutrition/Physical Activity:

Overweight/Obesity:

Obesity is associated with increased risk of breast cancer, colorectal, prostate, and endometrial cancers. [10, 11]

In 2003, one in every five Wyoming adults was obese. [7] The proportion of Wyoming adults who are obese has increased substantially since 1994. The obesity rate in 1994 was 13.7% and it has increased to 20.1% in 2003. [7]

The Body Mass Index (BMI) is a tool that can be used to assess overweight/obesity status in adults and children. BMI is calculated with the same formula for adults and children; however, the results are interpreted differently. For adults the BMI measurement does not depend on age or gender. For

children ages 2 – 20 years, BMI is plotted on a growth chart specific for age and gender. [12, 13]

According to the National Center for Health Statistics, 15.8% of 6-11 year olds in the United States are overweight and 16.1% ages 12-19 are overweight based on BMI. [14]

The 2003 Youth Risk Behavior Survey reports that 9% of Wyoming middle school students are overweight. The survey also indicated 7% of high school students as overweight. [8]

When working with youth and overweight/obesity issues we must be aware of youth perceptions of being "overweight". Wyoming has identified interesting data regarding our Wyoming youth and dieting. Only 7.2% of high school students are overweight based on the BMI; however, 43.1% of high school students reported trying to lose weight (61.6% females). [8] It is imperative that the focus remain on proper nutrition, healthy choices, and physical activity in order to promote healthy youth throughout the State of Wyoming.

Diet and Exercise:

Currently, the Wyoming Department of Health, in conjunction with the Wyoming Department of Education, is working on changing behaviors surrounding poor nutrition and physical activity among youth through a coordinated school health approach. The Wyoming Department of Education currently funds six *Comprehensive School Health Education (CSHE)/Coordinated School Health Programs (CSHP)* that seek to reduce health-related barriers to student academic and personal success. CSHE/CSHP focuses on health-risk behavior categories, identified by the CDC, which are known to cause premature morbidity and mortality among youth. These six categories are: unintentional and intentional injury, tobacco use, alcohol and other drug use, sexual behavior, poor dietary behaviors, and physical inactivity. This program is currently operated through a cooperative agreement with the CDC. Although this program focuses on prevention and best-practice programming, this project also highlights the importance of policy changes in schools and communities to promote public health to all Wyoming people.

Cancers that can be associated with poor diet are colon, lung, stomach, esophagus, oral cavity, larynx, bladder, pancreas, prostate, cervix and endometrium. [15, 16]

Many schools in Wyoming are beginning to offer more healthy choices at lunchtime, as well as offering a breakfast for kids on the run. Schools are removing vending machines, or replacing their contents with healthy choices (i.e. healthy juices, milk, or fruit). This has been a collaborative community approach to teaching healthy eating habits. Some communities are offering alterative

programming to teach parents how to build healthy relationships with their kids and reduce risk behaviors while sitting down and enjoying healthy family meals.

The problem of poor nutrition and physical inactivity is more complex when working with Wyoming's adult population. Many employers are investing in health promotion by providing worksite wellness programs. These employers consider the programs a sound investment. The outcome businesses desire is increased employee productivity and less sick time.

The Wyoming Cancer Control Plan seeks to increase healthy eating habits and physical activity among all ages in Wyoming.

GOAL #1:
Increase the percentage of Wyoming people who are choosing to live healthier lives and make healthy choices.

Objective I:
By 2010, increase the rate of Wyoming adults consuming fruits and vegetables at least five times each day to 40%.

Baseline: *Less than 1/4 (22.1%) of survey respondents reported eating fruits and vegetables at least 5 times each day. Approximately 296,000 Wyoming adults are at risk for inadequate fruit and vegetable consumption. (BRFSS, 2003)*

Objective II:
By 2010, decrease the rate of Wyoming adults who are obese (BMI ≥ 30) to 15%.

Baseline: *One in five (20.1%) of Wyoming adults is obese based on their self-reported height and weight (BMI ≥ 30), representing more than 76,200 people. (BRFSS, 2003)*

Objective III:
By 2010, increase the rate of Wyoming adults reporting meeting the recommendations for physical activity to 65%.

Baseline: *Slightly more than half (55.4%) of Wyoming adults were meeting the recommendations for physical activity in 2003, leaving approximately 170,000 Wyoming adults at risk for inadequate physical activity. Recommended physical activity is 30 minutes of moderate activity per day at least 5 days per week or 20 minutes of vigorous activity at least 3 days per week. (BRFSS, 2003)*

Objective IV:
By 2010, decrease the rate of Wyoming adults reporting no physical activity other than their regular job to 15%.

Baseline: *21.1% reported no physical activity in the past 30 days other than their regular job. This percentage represents about 80,000 Wyoming adults. (BRFSS, 2003)*

Objective V:
By 2010, increase the rate of Wyoming youth eating five or more servings of vegetables per day during the last 7 days to 45%.

Baseline: *Among Wyoming youth, only 23% reported eating five or more servings of vegetables per day during the last 7 days (YRBS, 2003).*

Objective VI:
By 2010, decrease the rate of Wyoming high school students participating in an insufficient amount of physical activity to 20%.

Baseline: *According to youth respondents, 32.3% of high school students participated in an insufficient amount of physical activity. (YRBS, 2003)*

Strategies:

1. Promote and support school initiatives such as nutrition policies, physical activity requirements, and improving vending machine products to promote healthy choices;
2. Increase awareness of the federal guidelines relating to increased intake of fruits and vegetables and physical activity for Wyoming youth and adults;
3. Increase awareness of the link between cancer and poor nutrition and physical inactivity by educating Wyoming youth, adults and families through school and community initiatives;
4. Collect and track data relating to overweight/obesity and physical activity on Wyoming youth and adults;
5. Promote physical activity programs and activities for Wyoming adults and youth (including the use of employer-based worksite wellness programs to increase activity levels in sedentary adults);
6. Provide prevention education and information to interested healthcare providers and cancer control advocates;

7. Educate interested healthcare providers on ways to effectively counsel Wyoming youth and adults for behavioral change (i.e. Eating healthy foods, increase physical activity);
8. Work in conjunction with current existing programs dealing with weight management programs (i.e. Diabetes programs); and
9. Promote best practice clinical guidelines for obesity/overweight for Wyoming adults and youth (i.e. National Heart, Lung, and Blood Institute's Identification, Evaluation, and Treatment of Overweight and Obesity in Adults, Dietary Guidelines for Americans 2005).

Ultraviolet Exposure:

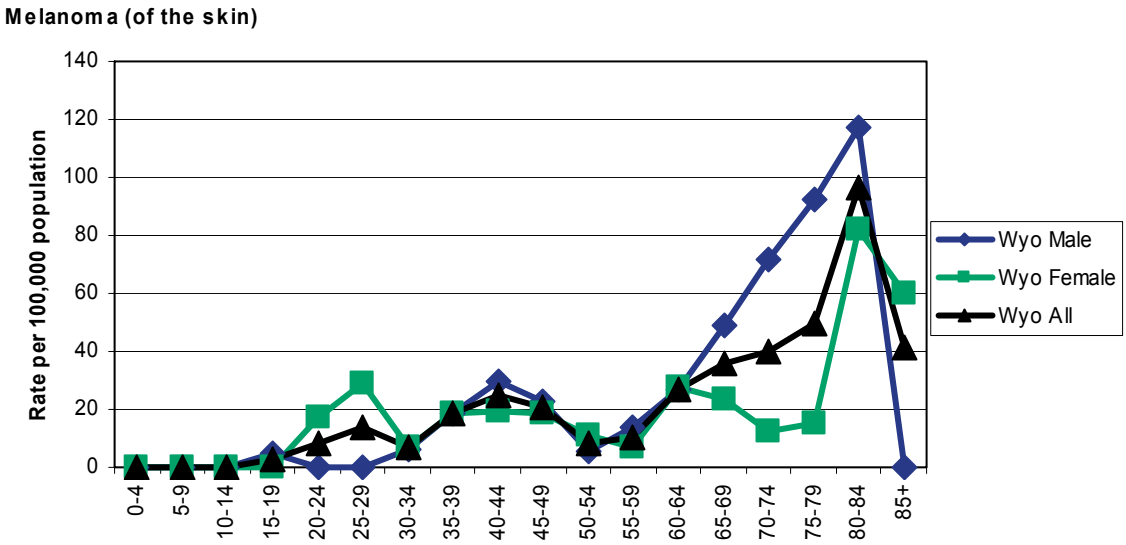
Overexposure to sunlight and other sources of ultraviolet (UV) rays causes the majority of skin cancers. With over a million skin cancers diagnosed annually in the U.S., one in five Americans will develop skin cancer during his or her lifetime.[2]

The common UV-associated skin cancers are divided into two main groups: non-melanoma skin cancer (NMSC) and malignant melanoma. The most frequently diagnosed skin cancers are in the NMSC group—basal cell carcinoma and squamous cell carcinoma. These two non-melanoma cancers when added together are the most common cancers in our society, with a total incidence that exceeds lung cancer, breast cancer, prostate cancer and colon cancer combined. [2] Despite the fact that these cancers are rarely lethal, the magnitude of this problem is enormous, and has significant functional and cosmetic consequences to patients, and economic consequences to our healthcare system. The annual total cost for care of NMSC in the U.S. is estimated to exceed $600 million. [17] The actual incidence and prevalence of NMSC in Wyoming, as in most states, is not accurately known as these cancers are usually not monitored by state tumor registries.

The second main group of skin cancers is the melanoma family of pigmented cutaneous cancers. Malignant melanoma is a highly aggressive malignancy with a propensity for early spread and is generally lethal when it has spread. Cutaneous melanoma is one of the fastest-rising cancers in incidence worldwide. Despite its aggressive biology, when diagnosed in the early stages, malignant melanoma can be highly curable. In the White population of the United States, there has been an annual increase in incidence of approximately 3% for the last three decades. Thus, prevention and early detection of melanoma is an important public health issue for our country. Nationally, the American Cancer Society estimates that 59,580 new cases of melanoma will be diagnosed in 2005, and an estimated 7,770 deaths will occur. [2] In 2002, in Wyoming there were seventy-six new cases of melanoma diagnosed with sixteen deaths that same year. [6]

Wyoming citizens have a particularly high risk for the development of all sun exposure related skin cancers. The elevation of the state is the second highest in the country, second only to Colorado. Higher altitudes, with thinner atmosphere, are associated with greater UV radiation penetration. There is a 2% increase in risk for skin cancer for every 1,000 feet in elevation due to thinner mountain air.[18] Additionally, much of our workforce is employed in outdoor occupations—ranching and surface mineral mining. Finally, many of the popular forms of recreation in Wyoming are also outdoor activities—rodeo, horse-back-riding, camping, hunting and fishing. According to the Annual Report on Cancer in Wyoming, middle aged (35-49), and those older than 60 years of age, had the highest rates of melanoma.[6]

Melanoma Age-Specific Incidence Rates for Wyoming
Wyoming Cancer Surveillance Program, 2002



Sunburn is a risk factor for developing all of these listed skin cancers. The Wyoming BRFSS tracks sunburns in Wyoming adults. However, currently there is no way to track data on youth sun exposure and no reliable database for childhood sunburn prevalence in Wyoming. According to a report from the World Health Organization (WHO) childhood exposure to UV radiation, particularly exposure causing severe sunburn is known to make an important contribution to the development of melanoma later in life. [19]

Other factors that may explain the steady increasing incidence of all skin cancers are changes in clothing style, increased longevity of the population, and ozone depletion.

The expanding availability and use of UV tanning beds is also a contributing factor to skin damage and resultant carcinogenesis. WHO condemns the use of ultraviolet appliances for tanning or other non-medical purposes. WHO also recommends that no one under the age of 18 should use tanning beds, as such use does add to the risk of melanoma development later in life. [19]

In conclusion, most skin cancers have well-known causative agents. Sunlight and UV exposure, particularly childhood sunburn, and the lifestyles that place people at increased UV exposure provide a powerful opportunity for preventative interventions. Educational opportunities for skin cancer prevention must be highlighted. Sun protection, the use of appropriate clothing and accessories for outdoor activity, and the use of sunscreen are the most effective ways to protect your skin from sunburn. Awareness of the signs and symptoms of skin cancer, one of the few cancers that can actually be seen on self-inspection, is an educational goal for the entire population. Self exam as well as increased skin screening by trained professionals should provide enhanced early detection when all of these cancers more easily treated and more likely curable.

GOAL #1:
Increase awareness of the risks of overexposure to UV rays and skin cancer.

Objective I:
By 2010, decrease the number of Wyoming adults reporting burns from the sun or other sources of UV radiation each year (i.e. tanning beds) to 35%.

Baseline: *Nearly half (48.2%) of all BRFSS respondents reported having had a sun burn in the past 12 months, representing about 183,000 adults (BRFSS, 2003).*

Strategies:

1. Promotion of sun-safe schools;
2. Promotion and utilization of ultraviolet safety programming for all ages;
3. Encourage and support K-12 programs to educate students, parents and teachers about the dangers of overexposure to the sun/UV rays;
4. Promote the use of sunscreen in places where children frequent (schools, child care centers, camps, etc);
5. Educate health care providers, educators, outdoor recreation workers, policymakers, and others of the risks of sun/UV overexposure;
6. Educate adults (especially young adults) on the risks of overexposure to the sun and tanning beds;
7. Work with outdoor and skin care industries to promote awareness of sun/UV safety; and
8. Promote/provide skin screening at health fairs statewide.

Objective II:

By 2010, identify methods to track youth data relating to sunburn and overexposure to ultraviolet rays.

Baseline: *Currently, there is no Wyoming-specific data available to track youth sunburn and overexposure to ultraviolet rays.*

Strategies:

1. Identify possible data collection methods;
2. Promote funding for data collection surrounding youth risk factors relating to sun safety;
3. Educate and inform policymakers of the importance of risk factor data; and
4. Create a system for providing risk factor data pertaining to sunburn in Wyoming youth.

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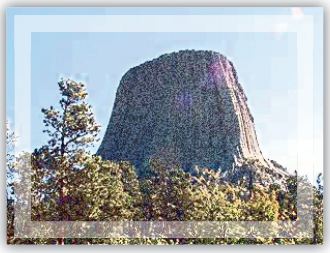


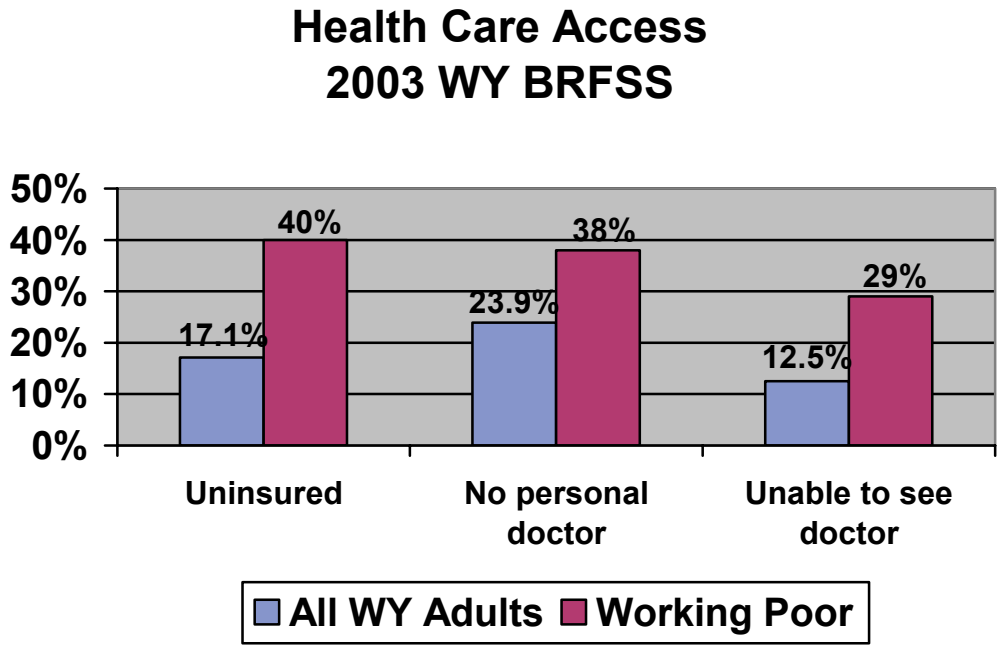
Early Detection

Early detection is an essential component of the 2006-2010 Wyoming Cancer Control Plan. Screening for certain cancers can increase the probability of effective, timely, and cost-effective treatment and is an essential part of saving lives. Studies have suggested that men and women in rural areas are less likely to receive routine cancer screening compared to those who live in urban areas. [1] Wyoming is no stranger to that concept.

Some of the cancers that can be detected early through screening are: Breast, cervical, colorectal, oral, prostate, skin and testis.

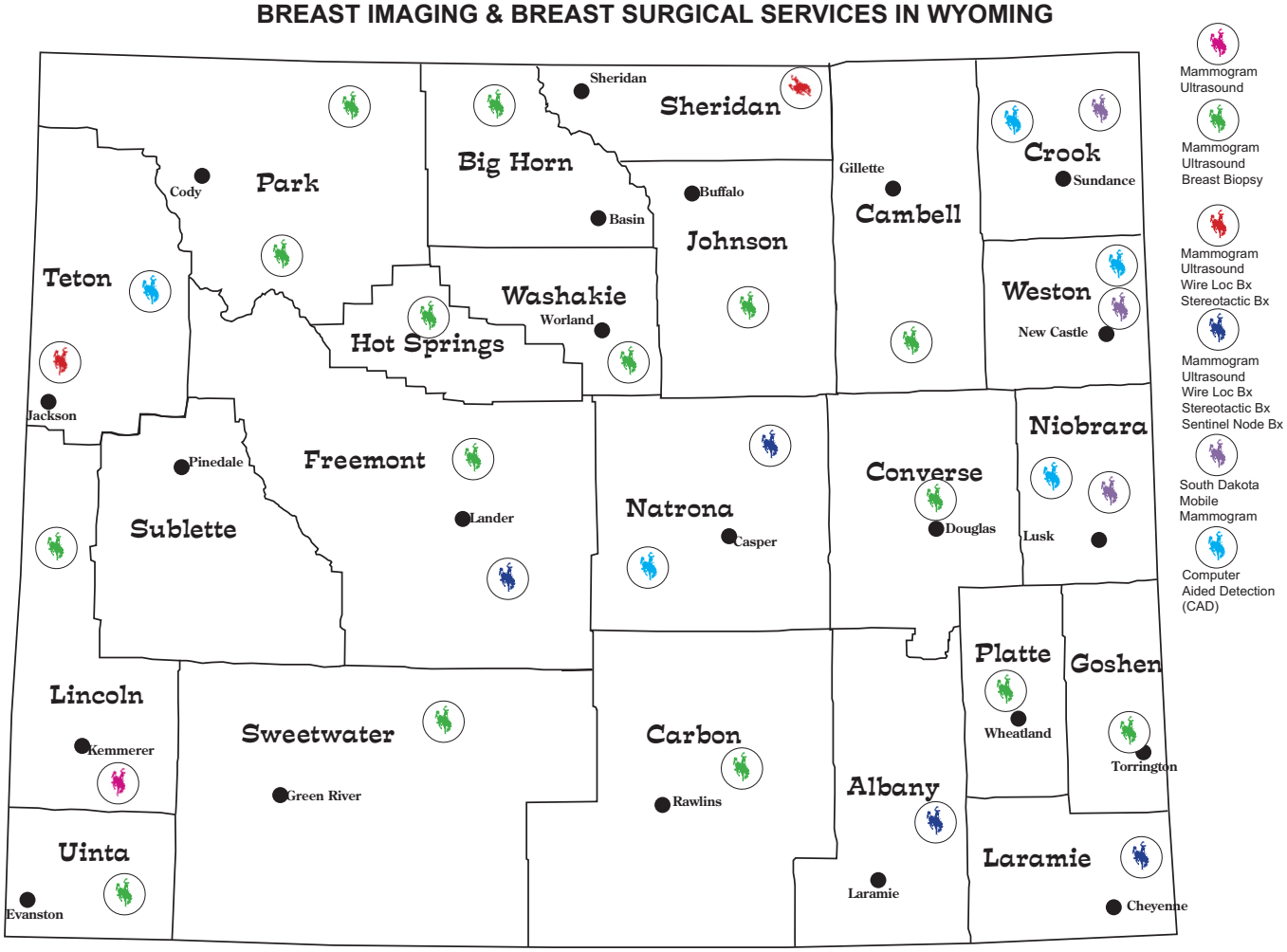
Regrettably, sensitive screening tests are not available for many of our more aggressive cancers.

Access to screening and healthcare in general is a significant barrier that Wyoming must overcome. The following graph shows that health care access is a serious problem in Wyoming, especially for the "working poor" defined as those who are employed for wages but have annual household incomes below $25,000. This graph and also includes those who reported that they were unable to see a healthcare provider in the past year due to inability to pay.



Wyoming healthcare professionals have voiced concern that they lack the necessary screening equipment to detect cancers early, decreasing a healthcare provider's ability to identify cancer patients. For example, women in Crook, Weston, and Niobrara counties must rely on a mobile mammography unit which comes from South Dakota for breast cancer screening. In Sublette County, a mobile mammography unit from Utah is utilized. Monthly availability of these services imposes a limitation in terms of timely screening. In Wyoming, many areas are underserved, and obtaining early screening often requires the inconvenience of travel accommodations and expense.

BREAST IMAGING & BREAST SURGICAL SERVICES IN WYOMING



DATA COMPILED BY DR. THOMS 02/03; MAP CREATED BY DAWN HOWERTON, MSW, WOMEN'S HEALTH SOURCE, 1-800-264-1296; REVISED 05/03

Addressing barriers to access to healthcare such as availability of screening services, reimbursement for services and numbers of facilities with available equipment is a necessity in Wyoming. The WCCCC will work with cancer prevention and control partners and stakeholders to improve healthcare access.

The WCCCC has examined cancer incidence affecting Wyoming lives and will focus statewide attention on cancers that can be detected through early detection and screening. The following are next steps in identifying the need and capacity for increased screening in Wyoming. Although the following objectives can be related to diagnosis and treatment, Wyoming residents who cannot afford adequate healthcare are unable to pay for cancer screening procedures.

GOAL #1:
Increase early detection services and screening in Wyoming.

Objective I:
By 2010, decrease the percentage of people reporting they do not have a healthcare provider to 18%.

Baseline: *23.9% of Wyoming adults reported they did not have a healthcare provider. (BRFSS, 2003)*

Objective II:
By 2010, decrease the percentage of people reporting inability to receive care due to cost to 10%.

Baseline: *One in every eight Wyoming respondents (12.5%) reported that there was a time in the past 12 months when they needed to see a doctor but could not because of the cost. (BRFSS, 2003)*

Objective III:
By 2010, decrease the percentage of people who are uninsured to 15%.

Baseline: *One in every five Wyoming adults (19.9%) ages 18-64 is uninsured. (BRFSS, 2003)*

Strategies:

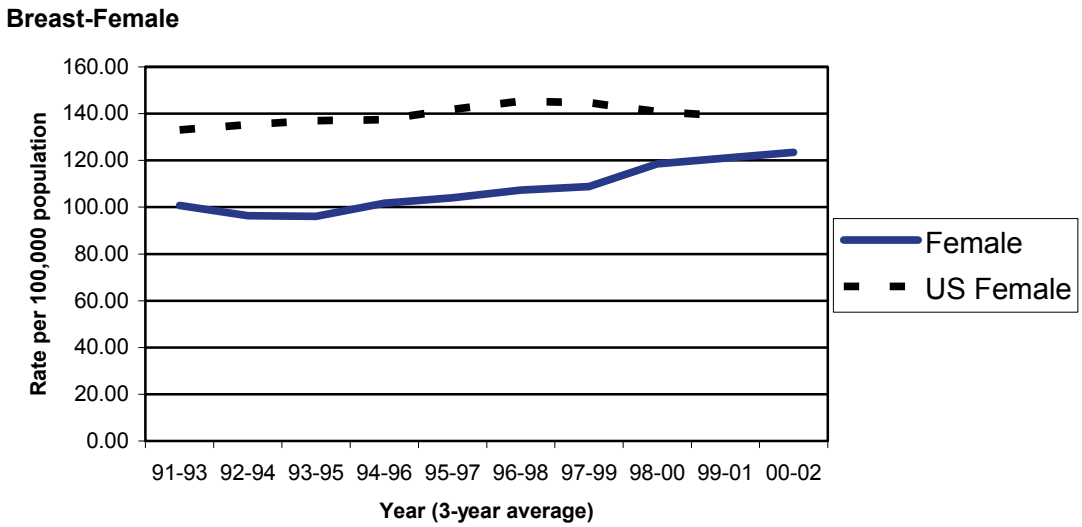
1. Identify existing early detection services and the gaps in those services;
2. Examine access barriers to screening services based on healthcare provider capacity, geographic location, lack of facilities or screening equipment/technology, or lack of insurance;
3. Increase access to free or affordable early detection services; and
4. Educate the public and the legislature about health coverage needs and capacity issues, including the need for increased funding for early detection and screening services.

Breast Cancer

An estimated 211,240 new cases of invasive breast cancer are expected nationwide in 2005. [2] Breast Cancer is the most common cancer among women, accounting for nearly one of every eight cancers diagnosed in American women.[3]

In 2002, Wyoming reported 334 new breast cancer cases and 54 breast cancer deaths. [4] The incidence and mortality of breast cancer in Wyoming is lower than the United States rate; however, the differences are not significant. [4] The lack of significant differences are in part due to Wyoming's small population. The 12-year incidence indicates a slight increase from 1999-2002 (See graph below).

Breast Cancer 12-Year Incidence Trend for Wyoming
Wyoming Cancer Surveillance Program (2002)



Mammography is the most effective detection for early breast cancer diagnosis. [5] A clinical breast exam (CBE), by a healthcare provider, complements a mammogram by offering the opportunity for the physician and the patient to discuss medical history and any changes in the breast. Although the United

States Preventive Services Task force recommends that all women age 40 and over should receive a mammogram every 1-2 years, with or without a CBE, the WCCCC has taken a more aggressive approach by adopting the American Cancer Society guidelines which recommends a CBE by a healthcare provider every year after age 40 in addition to a yearly mammogram. [6]

Mammography can identify cancer at an early stage, usually before symptoms develop.[2] Timely mammograms among women age 40 and over could prevent 16 percent of breast cancer deaths. If breast cancer is detected in the earliest stage the five-year survival rate is 97 percent.

An important resource for medically underserved women in Wyoming is the Wyoming Breast and Cervical Cancer Early Detection Program (WBCCEDP), a federally funded program operated by the Wyoming Department of Health. The purpose of the WBCCEDP is to increase access to screening and early detection services for low-income and uninsured women through payment to healthcare providers for breast and cervical cancer screening and diagnostic services. In 2004, 815 Wyoming women were provided screening mammograms. For enrolled women diagnosed with breast cancer, treatment may be paid for by Equality Care (Medicaid). Patients are referred to APS Healthcare for case management services.

A risk factor is anything that increases one's risk of getting a disease, such as cancer. [7] Some risk factors can be modified, such as lifestyle choices. Other risk factors cannot be controlled, such as genetics, immune status, and various environmental factors. The following list identifies various preventable and non-preventable risk factors relating to breast cancer: [7]

Non-Preventable Risk Factors

- Gender
- Age—breast cancer risk increases with age
- Genetic predisposition
- Family history of breast cancer
- Personal history of breast cancer
- Previous abnormal breast biopsy
- Menstruation before age 12
- Diethylstilbestrol (DES)—a drug given to women in the 1940's thru the 1960's

Lifestyle Risk Factors that Increase Breast Cancer Risk:

- Not having children or having children after age 30.
- Oral contraceptive use
- Hormone replacement therapy
- Alcohol consumption
- Obesity and high fat diets
- Inadequate physical activity

Women with increased risk (e.g. family history, genetic tendency, past breast cancer) should talk with their healthcare provider about the benefits and limitations of starting mammography screening earlier, additional tests available, or having more frequent exams. [6]

Survivor Story

I am a Mother, Grandmother, and a Breast Cancer Survivor. I work for the Shoshone & Arapaho Tribes, TERO Office. I would like to encourage all Wyoming women over 40 years old to make an appointment with your physician for your yearly Clinical Breast Exam and Mammogram. It saved my life. —Francine Shakespeare, Wind River Indian Reservation

Women with a genetic predisposition to developing breast cancer may now choose to have BRCA1 and BRCA2 testing completed to determine the risk of developing breast cancer in the future. According to estimates of lifetime risk, about 13.2 percent (132 out of 1,000 individuals) of women in the general population will develop breast cancer, compared with estimates of 36 to 85 percent (360–850 out of 1,000) of women with an altered BRCA1 or BRCA2 gene. Women with an altered BRCA1 or BRCA2 gene are 3 to 7 times more likely to develop breast cancer than women without genetic alterations. [8]

Although breast cancer mainly affects women, men can also develop breast cancer. Each year there are approximately 1,300 cases of male breast cancer diagnosed nationwide. [9] In 2002, there were two cases of male breast cancer reported in Wyoming. [4]

GOAL #1:
Decrease the number of women dying of breast cancer in Wyoming.

Objective I:
By 2010, increase the percentage of women over 40 years of age reporting mammogram screening to 78%.

Baseline: *69.6% of Wyoming females over 40 years of age reported that they had received a mammogram within the past two years (BRFSS, 2003).*

Strategies:

1. Provide culturally appropriate breast cancer education to Wyoming women, their families, and communities as well as interested healthcare providers;
2. Raise awareness of available screening services in Wyoming through public education and information dissemination;
3. Develop a marketing campaign utilizing evidence-based strategies to inform Wyoming women, their families, and communities about breast cancer and available screening;
4. Increase access to screening and early detection throughout the state, including medically underserved populations; and
5. Increase funding and address related capacity issues for programs that provide and/or pay for breast cancer screening at low or no-cost for women who are un-insured and under-insured.

Cervical Cancer

Cervical cancer, otherwise known as cancer of the uterine cervix, has a method of screening called the Pap Test. When detected early and treated effectively, cervical cancer is very curable. [6]

The United States Preventive Services Task Force recommends screening for cervical cancer in women who have been sexually active and have an intact cervix. [10] Recommendations for frequency of Pap tests vary depending on a woman's age and risks, thus, it is advised that women consult with their healthcare provider. The Pap test allows healthcare providers to detect abnormal cells in the cervix.

Obtaining complete cervical cancer data is challenging because only invasive cervical cancers are reportable. Thus, the number of pre-cancerous cases and in-situ cancers in Wyoming is unknown. In 2002 there were 19 reportable cervical cancers in Wyoming and four cervical cancer deaths. [4] The Wyoming Breast and Cervical Cancer Early Detection Program (WBCCEDP) funded Pap tests for 897 women in 2004. Although no cervical cancer cases were diagnosed within the WBCCEDP in 2004, 41 pre-cancer cases were identified and treated. Sixty-five percent of these women were between the ages of 20-30.

For enrolled women diagnosed with cervical cancer, treatment may be paid for by Equality Care (Medicaid). Patients are referred to APS Healthcare for case management services.

When thinking about cervical cancer risk factors, it is helpful to focus on those that can be changed or avoided.

Cervical cancer risk factors can include: [11]

- Human papillomavirus (HPV) infection, a virus, which is transmitted from person to person during skin-to-skin sexual contact;
- Smoking;
- Human immunodeficiency virus (HIV) infection, the virus that causes acquired immunodeficiency syndrome (AIDS);
- Chlamydia infection, a common kind of bacteria spread by sexual contact that can infect the female reproductive system;
- Diets with low fruit and vegetable consumption;
- Oral contraceptive use (long term);
- Family history of cervical cancer;
- Multiple pregnancies;
- Low socioeconomic status (decreased access to healthcare and treatment); and

- Diethylstilbestrol (DES), a hormonal drug prescribed between 1940 and 1971, increases the risk of developing cervical cancer.

HPV infection is most likely the most important risk factor for cervical cancer. Most sexually active women have been exposed to HPV. According to the CDC, by age 50, at least 80% of women will have acquired genital HPV infection. [12] Physicians believe that most women will have had this virus prior to developing cervical cancer. There are more than 100 types of papillomaviruses, but only certain types can cause cervical cancer. High risk types of HPV include HPV16, HPV18, HPV 31, HPV 33, and HPV 45. Most cervical cancers are caused by HPV 16 and HPV 18. [11]

Pap testing is essential in finding cervical cancer and early detection of cervical cancer needs to be promoted and encouraged to all Wyoming women who have been sexually active and have an intact cervix.

Survivor Story

I was diagnosed with cervical cancer at age 22. They found spots on my cervix during my first pregnancy. After a pinch biopsy procedure, I was cleared and they allowed me to go full term. During my second pregnancy, cancer cells had returned. They did allow me to go to full term; however, a few months after the pregnancy, they completed a partial hysterectomy. The cancer had spread to my uterus. The hardest part for me has been the emotional toll it has taken on me because of my inability to have any more children. If you are sexually active, I urge you to be diligent about annual Pap testing. —Brandy Davidson, Age 28, Lovell, Wyoming.

GOAL #1:
Increase early detection of cervical cancer screening (including pre-cancers) in Wyoming.

Objective I:
By 2010, increase the percentage of Wyoming females age 18 and older reporting regular Pap testing to 88%.

Baseline: *83.2% of Wyoming females age 18 and older who had not had a hysterectomy reported that they had received a Pap test within the past three years (BRFSS, 2003).*

Strategies:

1. Provide culturally appropriate cervical cancer education to Wyoming women, families, and communities, as well as interested healthcare providers;
2. Promote Pap test services through cervical cancer education and information dissemination;
3. Educate young women on lifestyle decisions with regard to their sexual health;
4. Provide education and information about cervical cancer and related risk factors through use of a statewide marketing campaign utilizing evidence-based strategies to promote screening;
5. Request funding and address related capacity issues for programs that provide and/or pay for cervical cancer screening at low or no-cost for women who are un-insured and under-insured;
6. Maximize participation for eligible women in screening programs;
7. Partner with other organizations who can assist with funding as Wyoming moves forward in decreasing the burden of cervical cancer (i.e. non-profit organizations, insurance companies, healthcare providers); and
8. Educate policymakers about cervical cancer research and evidence-based intervention strategies.
9. Work with Wyoming Department of Education's Coordinated School Health Programs to provide overall prevention, including those risk factors directly relating to cervical cancer (sexual health, smoking, diet).

Colorectal Cancer

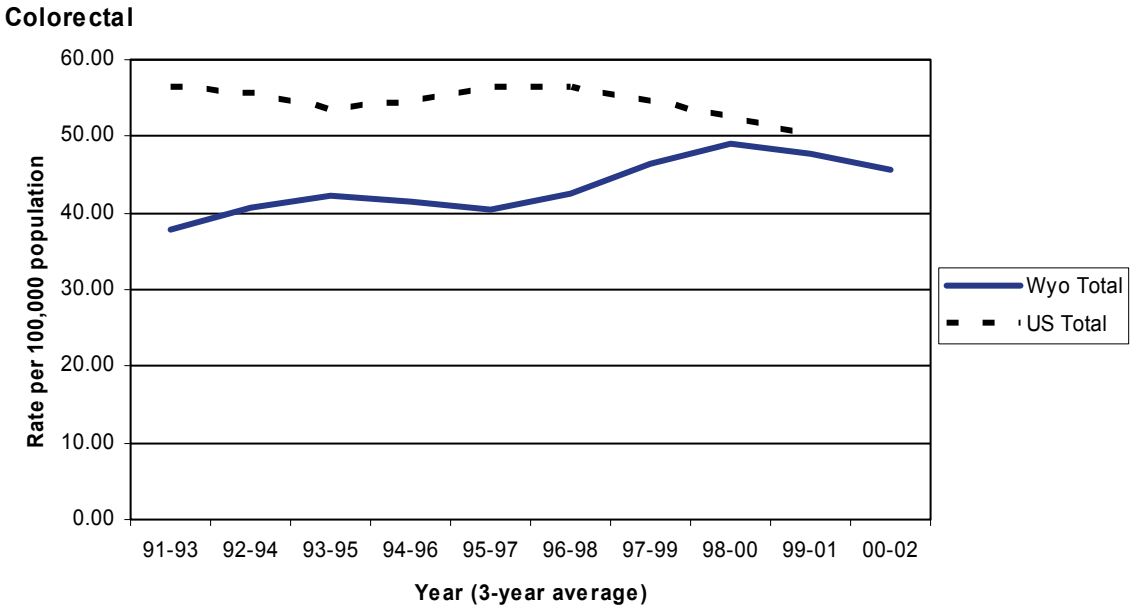
Colorectal cancer was the fourth most common cancer among men and women in Wyoming in 2002 representing 217 new cases, and 93 deaths. [4]

There is a strong hereditary link associated with colorectal cancer. Studies have shown that when two or more relatives are diagnosed with colorectal cancer the possibility of genetic syndrome is increased substantially. [13]

Being overweight or obese can contribute risk in developing colon cancer, as well as poor nutrition and inadequate physical activity. In addition, cigarette smoking is a known risk factor. [14]

The incidence rate for colorectal cancer in Wyoming seems to be decreasing slightly after peaking in 1998-2000. Wyoming incidence rates for colorectal cancer are lower than the national rate; however, not significantly lower. [4] (See graph below)

Colorectal Cancer 12-Year Trend for Wyoming
Wyoming Cancer Surveillance Program, 2002



A majority of the colorectal cancer cases diagnosed in Wyoming are seen in people age 65 and over. Mortality for females in Wyoming is higher than that of males with regard to colorectal cancer. [4]

Screening for colorectal cancer can lead to the removal of pre-cancerous polyps or can find cancers early leading to a higher success in treatment. In a recent push to increase the number of people screened for colon cancer, there has

been a national effort to promote colon cancer screening using high-profile spokespersons that have completed the procedure personally.

Costs relating to screening can be financially burdensome. Wyoming statute requires certain insurance companies to provide coverage for colorectal cancer screening exams and tests but do not specify the tests covered or the age and frequency requirements. [15]

GOAL #1:
Decrease the number of men and women dying of colorectal cancer in Wyoming.

Objective I:
By 2010, increase the percentage of men and women age 50 and older who have had a sigmoidoscopy or colonoscopy to 60%.

Baseline: *50.9% of Wyoming respondents ages 50 and over reported they had received a sigmoidoscopy or colonoscopy. (BRFSS, 2003)*

Objective II:
By 2010, increase the percentage of men and women age 50 and older who have had fecal occult blood stool (FOBT) testing to 35%.

Baseline: *Only about one in five Wyoming adults age 50 and older (18.5%) reported having a blood stool test in the past 2 years. (BRFSS, 2003)*

Strategies:

1. Provide culturally appropriate colorectal cancer education and information to Wyoming adults, families, communities, and interested healthcare providers;
2. Promote colon screening services available in Wyoming through education and information dissemination;
3. Promote advocacy group initiatives surrounding colorectal cancer;
4. Provide education and information about colon cancer statewide, including the use of a marketing campaign utilizing evidence-based strategies to promote colon cancer screening;
5. Increase access to screening for un-insured and under-insured Wyoming residents;
6. Educate policymakers on screening coverage and treatment costs pertaining to colorectal cancer;
7. Promote physician/client discussion about colorectal cancer, including the importance of colorectal cancer screening; and
8. Educate patients to request tests relating to colon cancer.

Survivor Story

I am a cancer survivor. I was diagnosed with colorectal cancer in 2002. Having cancer has been a tough fight, but I am here today to tell the story. The emotional, physical and economic burden of cancer cannot be measured in dollars alone. I deal daily with issues relating to decreased quality of life, intense chronic pain, and lack of mobility. I do not leave my house very often, as I spend much of my day managing my medical treatments which keep me healthy. Due to the high cost of these treatments, I have chosen to take on my own medical care and I have learned to be my own nurse. I live a very simple life. The economic burden that one must endure when they are diagnosed with cancer is unbelievable. I have learned to budget and make every penny count. I have had to be strong and advocate for myself. I worry for those who cannot advocate for themselves and make informed decisions pertaining to their own healthcare. I guess if I had one message to take forward with regard to dealing with cancer in Wyoming, it would be the importance of having access to specialized cancer care. I will never again have the healthy body I once had. Make good choices to live healthy, but if you do get sick, I urge you to never give up. I would also like to recommend that if you are a man or woman over the age of 50, please visit with your doctor about colorectal cancer screening. Jan, Age 61—Cheyenne, Wyoming.

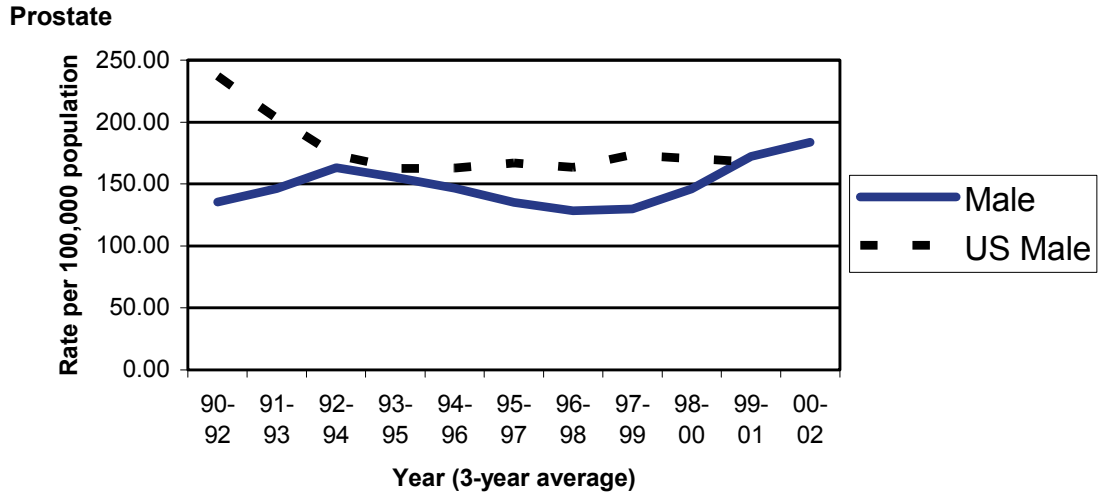
Prostate Cancer

The American Cancer Society estimates there will be about 232,090 newly diagnosed cases of prostate cancer in the United States in 2005. About 30,350 men will die of this disease. Prostate cancer is the second leading cause of cancer death in men, second only to lung cancer. [16]

Risk factors for prostate cancer include age, race, nationality, family history, and diet. Older men are at higher risk of developing prostate cancer. Most cases occur in men over 50, with 70% of all cases occurring in men over age 65. [17] We know that race plays a role in this cancer. African American men are at higher risk of developing prostate cancer than White men. African American men are also twice as likely to die from the disease. Those who have one or more close relatives with prostate cancer are at increased risk for developing prostate cancer. And last, diet plays a role in this cancer. Studies have shown that a diet high in red meats and high fat dairy products may increase risk. [18] Physicians continue to promote increased fruit and vegetable consumption. [18]

In 2002, approximately 390 new cases of prostate cancer were diagnosed in Wyoming, and prostate cancer was the most common cancer diagnosed in Wyoming men. [4] A total of 59 men died as a result of prostate cancer in 2002. [4] The 12-year incidence trend indicates that we are above the U.S. average. (See graph below)

Prostate Cancer 12-Year Incidence Trend for Wyoming
Wyoming Cancer Surveillance Program, 2002



The U.S. Preventive Services Task Force (USPSTF) concludes that the evidence is insufficient to recommend for or against routine screening for prostate cancer using prostate specific antigen (PSA) testing or digital rectal examination (DRE).[19] Although the Task Force found evidence that screening can find prostate cancer early and that some cancers benefit from treatment, the Task

Force is uncertain whether the potential benefits of prostate cancer screening justify the potential harms. [19]

The USPSTF found good evidence that PSA screening can detect early-stage prostate cancer but mixed and inconclusive evidence that early detection improves health outcomes. Screening is associated with potentially important harms, including frequent false-positive results and unnecessary anxiety, biopsies, and potential complications of treatment of some cancers that may never have affected a patient's health. The USPSTF deems that evidence is insufficient to determine whether the benefits outweigh the harms for a screened population. [19]

Given the uncertainty about the benefit of screening, the principle public health approach is to support informed decision making about screening. [20] Informed decision making occurs when an individual understands the nature and risks of prostate cancer; the risks, benefits, and alternatives to screening; participates in decision making at a level he desires; and makes a decision consistent with his preferences and values, or defers the decision to a later time. [20]

The American Cancer Society says that information should be provided to all men about what is known and what is uncertain about the benefits and limitations of early detection and treatment of prostate cancer so that they can make an informed decision about testing. [21]

GOAL #1:
Decrease the number of men dying of prostate cancer in Wyoming.

Objective I:
By 2010, create a system to model to health professionals and patients the importance of informed decision-making surrounding prostate cancer screening.

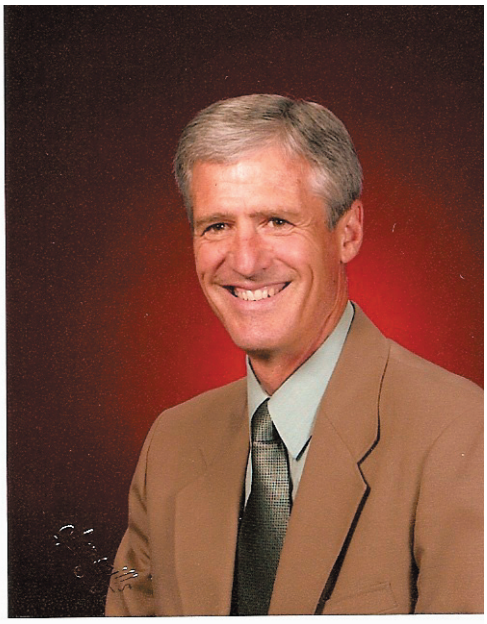
Baseline: *Wyoming currently has no model for healthcare professionals and patients relating to informed decision making surrounding prostate cancer issues.*

Strategies:

1. Provide culturally appropriate prostate cancer education and information to Wyoming men, families, and communities, as well as interested healthcare providers;
2. Provide informed decision-making prostate cancer screening guides to healthcare providers and patients;
3. Develop a prostate cancer task force to determine needs and appropriate resources to create an evidence-based education model regarding prostate cancer screening;

4. Develop a statewide marketing plan using evidence-based strategies to promote informed decision making among the healthcare providers and patients about prostate cancer screening;
5. Promote informed decision making at health fair opportunities; and
6. Determine financial barriers for the un-insured and under-insured and work to address those barriers.

Survivor Story



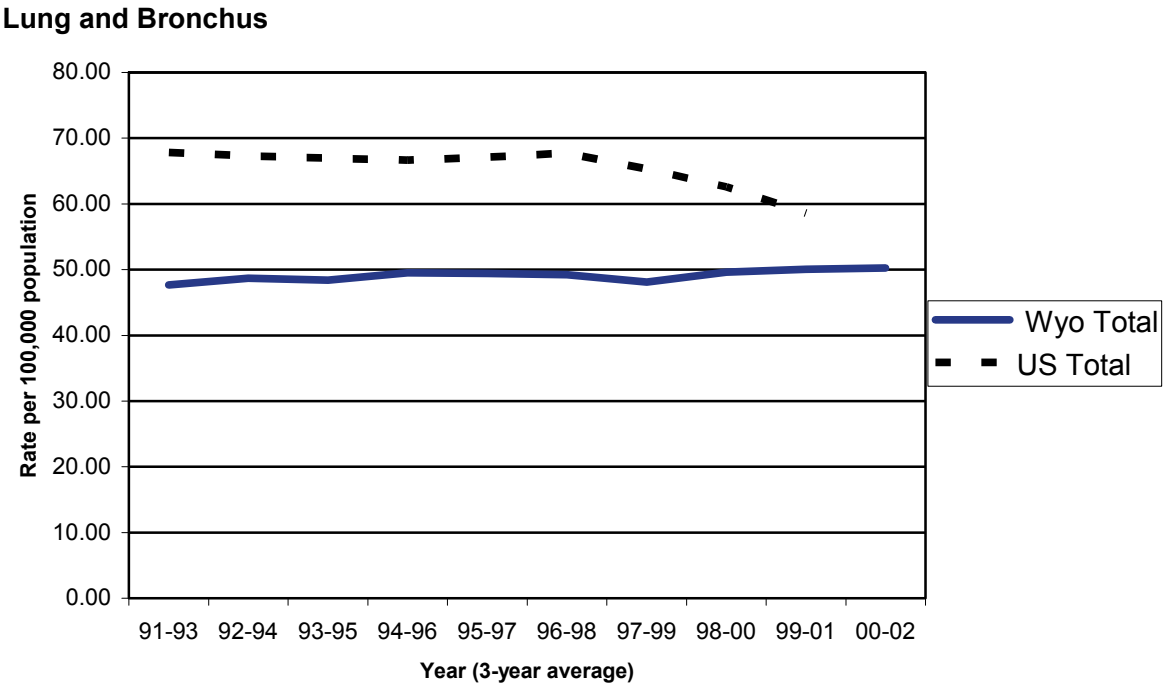
I enjoy the outddors and exercise and have always been very healthy. When my low PSA level doubled in a short period of time, my doctor strongly suggested I see an urologist based among other things on my father's history of prostate cancer. When I was diagnosed with prostate cancer, my wife and I researched the various aspects of the disease through the internet and had numerous discussions with doctors and prostate cancer survivors.. Working as a team my wife and I determined the right course of action for battling my prostate cancer. I had a radical prostatectomy and am currently cancer-free. After my surgery I had PSA tests every three months, now every six months, and eventually will be back to once a year. If you are diagnosed with prostate cancer, take the time to become informed about the disease and the various treatments available before making your cancer treatment choice and then never second guess your decision. Staying positive and having a very supportive and involved wife made my journey much easier. —Bob Nicholls, Age 58, Cheyenne, Wyoming

Lung and Bronchus Cancer

Lung cancer is now the most common type of cancer in the world, and the total of number of cases that occur annually is estimated to be 1.2 million people. [22] In the United States, lung cancer, while not the most common cancer, is the leading cause of deaths from cancer. This is true also in Wyoming. In 2005, the American Cancer Society estimates that 172,570 Americans will be diagnosed with lung cancer, and 163,510 (almost 95%) will die from the cancer. [2] In 2002, the Wyoming Cancer Surveillance Program reported 243 cases of lung cancer and 241 deaths. [4] The 241 Wyoming people who died in 2002 were not composed solely of those who were diagnosed in 2002.

Incidence rates for lung cancer in Wyoming have remained steady since 1990. The incidence for the country as a whole has been gradually dropping in the last decade. (See graph below)

Lung/Bronchus Cancer 12-Year Incidence Trend for Wyoming
Wyoming Cancer Surveillance Program, 2002



This dichotomy in incidence rates indicates that Wyoming has not yet met national levels for decreasing the risk factors for this mostly preventable cancer. [4] The lack of decrease in Wyoming is troubling and clearly points out an area where tobacco prevention and control efforts (and policies) in the state need to be expanded.

There are several very well-studied identified risk factors for the development of lung and bronchus cancers. The most clearly implicated risk factor is smoking tobacco. The World Health Organization (WHO) stated in its 2004 monograph on Tobacco Smoke, "Since 1986 much further evidence has accumulated on the magnitude of the increase in lung cancer risk associated with prolonged smoking, the progressive increase in smoking rates in women as well as in men, the decrease in risk that occurs among smokers after cessation compared with smokers who continue smoking." [23] Other known risk factors for lung cancers are exposure to environmental tobacco smoke (also known as secondhand smoke), asbestos, and radon exposure. Those workers who are smokers and then have additional exposure to asbestos or radon have a substantially increased risk of lung cancer. [24,25] Refer to the Cancer and the Environment section of this document for more information on these environmental risk factors.

Having identified multiple high risk groups (smokers, former smokers, passive smokers, history of asbestos or radon exposure), the expectation has been that screening these populations should provide early detection and save lives. Until recently, good evidence has been lacking to show that early detection can improve survival rates for lung cancer patients.

The main cause for ineffectual screening has been the lack of a sensitive and specific screening test. Historically, there have been two tests to screen for lung cancer, chest x-ray and sputum cytology. Sputum cytology is a procedure in which bronchial secretions are evaluated under a microscope for the presence of cancer cells. These two tests, in four very large randomized trials, failed to significantly decrease the mortality of lung cancer in the screened smokers compared to smokers who were not screened. [26]

Other tests are currently being studied in clinical trials. The most promising is low-dose helical CT scanning. To date, concerns about harm from CT radiation and over-diagnosis of clinically irrelevant nodules have been raised; cost of this very expensive technology is also a limiting factor to availability. At this time there is insufficient evidence to support mass lung cancer screening with this procedure. [27,28] Currently, there is a National Cancer Institute-supported trial to better study low-dose helical CT scanning. Unfortunately, the results from that study will not be available for approximately 10 years. [29]

At this time, the Wyoming Comprehensive Cancer Control Consortium (WCCCC) cannot endorse any screening process for smokers. People with risk factors for lung cancer development, including asbestos and radon exposure, are encouraged to honestly report their risk factor(s) to their personal physicians. All high risk people are urged to report to their personal doctor any hoarseness, persistent cough, unexplained weight loss, increase in shortness of breath, or coughing blood.

In light of the poor opportunities for early diagnosis, public health efforts for fighting lung cancer will have to be tobacco use prevention, through decreased initiation into smoking by youths and increasing cessation by current smokers.

Please visit goals and objectives listed in the Prevention section, as well as the Cancer and the Environment section, of this plan to see ways in which lung cancer will be addressed.

Survivor Story

I am a 49 year old non-smoker with advanced stage lung cancer. It is time for more education and awareness about lung cancer and who it can affect. It is time to put more money into lung cancer research. Lung cancer kills more people than breast, colon, and prostate cancer combined yet, lung cancer research receives far less funding per death, than other cancers. It is past time. —Chris Van Burgh, Cheyenne, Wyoming

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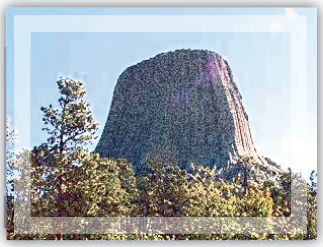


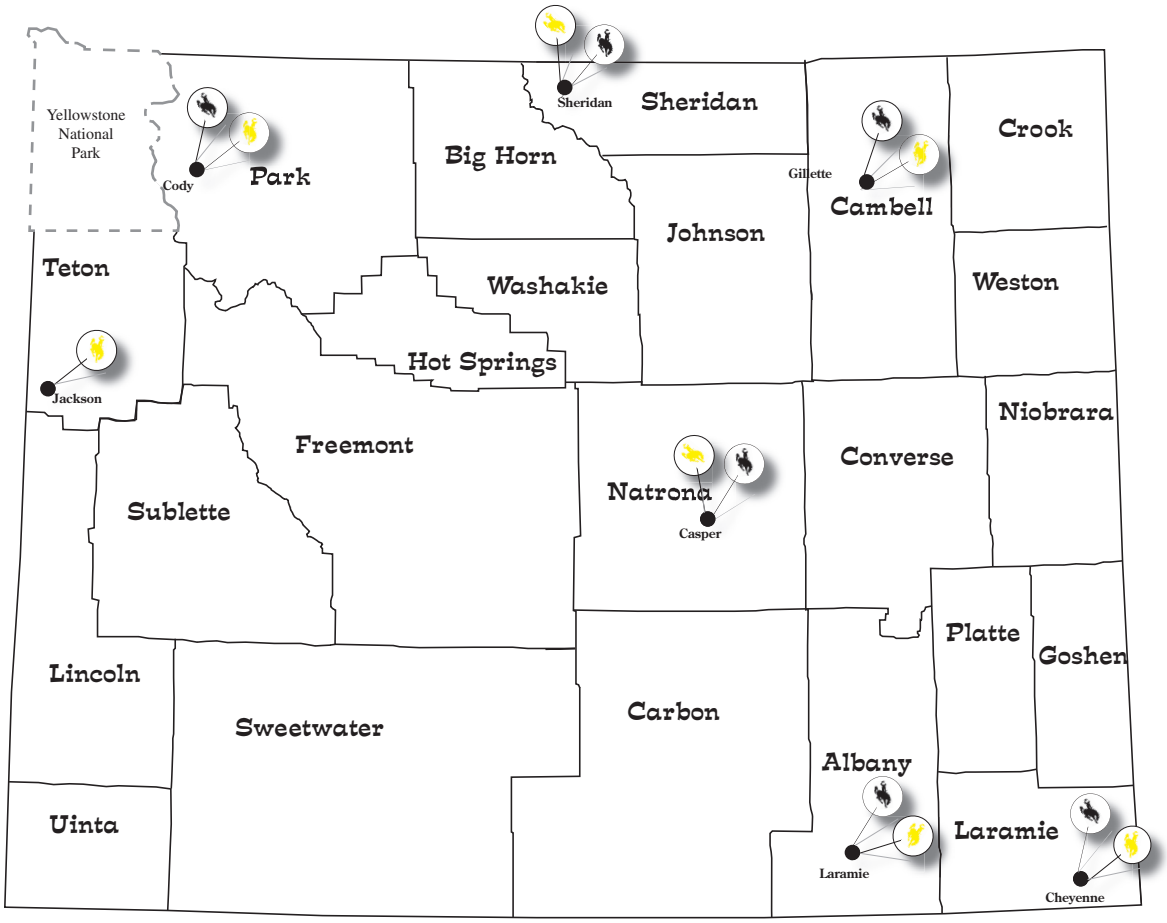
Diagnosis and Treatment

Modern approaches to the diagnosis and treatment of cancer are complex. In Wyoming additional complexities exist due to the small population of the state, the rural geography, the small numbers of specialty cancer care providers, and small numbers of specific sub-sets of patients with cancer needs. Our state has very specific and somewhat unique barriers to the effective delivery of cancer care because of the very low population concentrations. Issues exist in Wyoming that are not concerns in other more populous states. Most notable are the lack of access to specialized diagnostic and treatment centers geographically close to the patients' homes, lack of medical sub-specialists and specialized modalities for diagnosis and treatment, transportation and costs of travel, and cultural barriers.

Historically, general physicians, family practitioners, internists, general pediatricians, and general surgeons have been responsible for much of the cancer screening, prevention, diagnosis, treatment, and end of life care. The rapid progression of technology and science in the medical specialties of cancer diagnosis and therapy has made this historical approach outdated. Primary care physicians no longer can provide patients adequate effective cancer care. Many primary care physicians, who are not fully trained to offer cancer therapies (such as specialized surgical procedures), continue to be "pressured" to offer cancer interventions that may not be optimal. The simple solution to this problem would be to expand the number of cancer specialists available in Wyoming, where there continues to be either a lack of, or inadequate numbers of specialized cancer care personnel. The gap between what is medically necessary and considered standard care for cancer patients and what is currently available continues to be quite wide. Currently, Wyoming has 5 radiation oncologists, 6 medical oncologists and 5 radiation therapy units. There is no gynecologic oncologist, no orthopedic oncologist, no fellowship trained surgical oncologist, no fellowship trained head and neck surgeon, and no pediatric oncologist. Many communities, which offer cancer surgery performed by general surgeons, do not have a plastic surgeon to assist in modern reconstructive procedures. None of our smaller communities have physical medicine and rehabilitation physicians to assist in maximizing functional recovery. In 2002, only 2,120 new cancer cases were diagnosed in Wyoming.[1] Despite the real needs outlined above, there may be inadequate patient numbers to justify recruiting the underrepresented specialists to help support our existing physicians and other health care professionals in providing better cancer care.

The following map identifies areas in Wyoming that provide medical and radiation oncology specialists. As you can see, Wyoming has geographic disparities based on location.

2005 Wyoming Oncology Care*
Medical and Radiation Oncology Representation



* The above graph represents statewide oncology care; however, we do not have access to specialized cancer care such as a pediatric oncologist, gynecological oncologist, orthopedic oncologist, no fellowship trained head and neck surgeon, and no fellowship trained surgical oncologist.

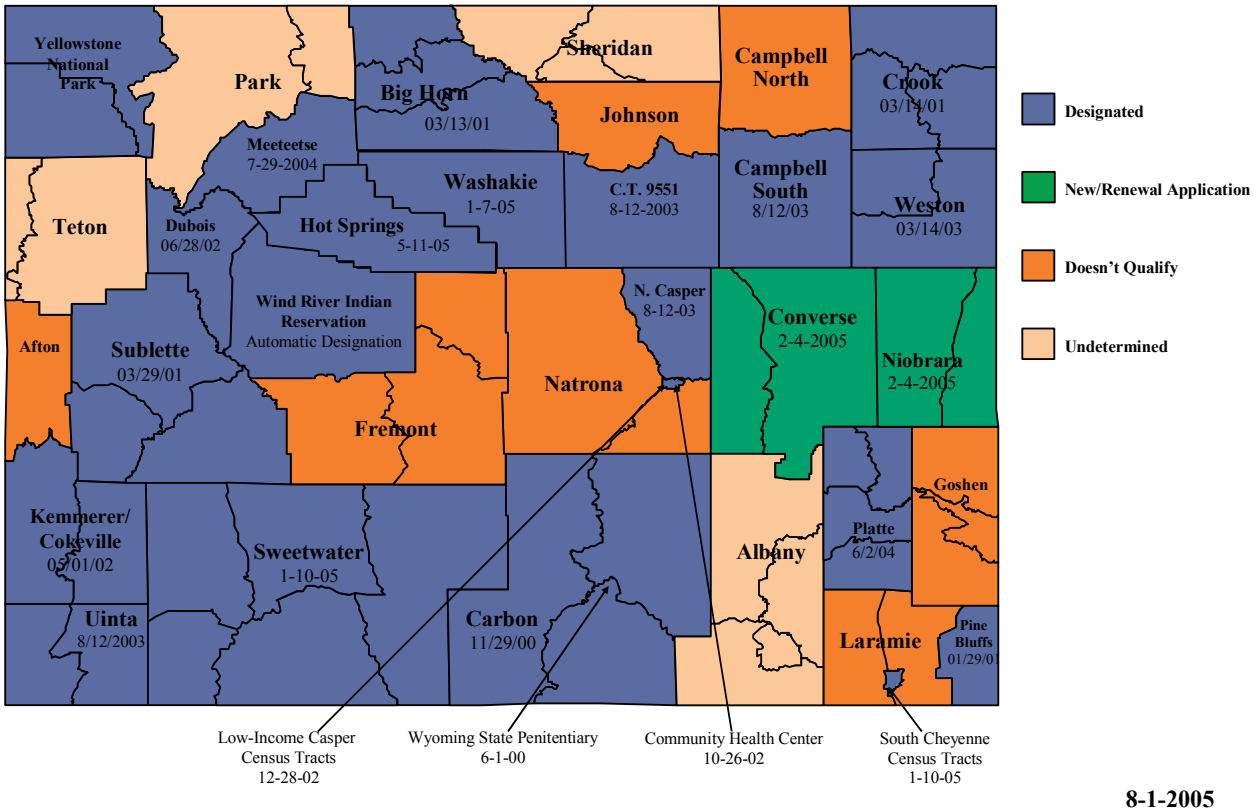
– Represents cities with specialists in radiation oncology.
– Represents cities with specialists in medical oncology.
Cite: 2004-2005 Wyoming State Physician Directory, Wyoming Board of Medicine

In addition to addressing the problems with recruiting and retaining specialty physicians such as oncologists, we need to take into consideration other cancer support personnel. Non-physician specialists in neuro-phychometric, psychological, and psychiatric aspects of oncology care need to be trained.

Wyoming needs to address severe shortages of medical physicists, rehabilitation specialists, trained decongestive physiotherapists (lymph edema support), colostomy and tracheotomy nurse specialists, and many others who provide assistance in care and support of cancer patients.

The following map addresses designated Wyoming health professional shortage areas in primary medical care.

WYOMING HEALTH PROFESSIONAL SHORTAGE AREAS
PRIMARY MEDICAL CARE



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Cite: Wyoming Department of Health Office of Rural Health. Primary Care Underserved Areas Report.

In addition to the cancer risk in the general population there are special needs for Wyoming's high risk populations within the state. Some individuals will be identified to have, or suspected to have, significant genetic risk or environmental exposure risk for cancer. Such people need very specific cancer evaluation or screening, specialized interventions, expanded follow-up care, family evaluation and counseling. These families must have access to qualified specialized healthcare professionals. The need for access to geneticists, testing facilities and equipment, and environmental and public health specialists is essential in providing proper assessment to these higher risk individuals. Such families need

access to centers with coordinated treatments and interventions that are evidence-based.

Special note needs to be made about pediatric cancers—also known as childhood cancers. Research has shown that there is a benefit to treatment of children with cancer at a university or regional cancer center in situations where the treatment is rapidly evolving and where success requires complex treatment approaches with technically difficult surgery and/or radiotherapy. [2,3] Currently, all Wyoming children diagnosed with cancer must cross state lines to receive specialized cancer care. No cancer program or hospital in the state is staffed and equipped to handle these special cases.

After treatment for childhood cancer is completed, the surviving child has very specific emotional, developmental, and other health needs that require specialty follow-up and rehabilitation as well. For more information about children and cancer please review the Childhood Cancer Section.

Prior to the formation of the WCCCC, many physicians, due to geographic separation, had little or no knowledge about cancer care resources that were provided by other entities within the state. Also, many treating physicians were not aware of regional resources just outside of Wyoming (such as the presence of a gynecologic oncologist in Rapid City, SD). Several of our oncologists, especially those in “solo practice”, are geographically isolated from other cancer specialists. Physicians who have taken an active role in the WCCCC are now talking about methods of expanding communications and expanding access to multi-disciplinary cancer management. One goal would be creating statewide standards for cancer care, based on national published evidence-based standards. A second goal discussed is expanding physician knowledge base by enhancing communication amongst specialists with continuing medical education through the vehicle of an electronic statewide tumor board.

The process of providing quality cancer care in Wyoming is somewhat compromised by the small numbers of patients. Each of the existing cancer facilities is relatively small and independent of one another. The small numbers of patients limit the financial resources of these medical treatment entities. Data managers, on-site tumor registrars, and other non-clinical support personnel that are commonly part of the cancer treatment team in large facilities are not generally available in Wyoming cancer centers. Too, of the medical facilities that offer cancer services, there exists no cancer program in the state that is accredited by a national cancer organization or group such as the American College of Surgeons (ACOS) Community Cancer Program. Thus, assessment of the adequacy of cancer care use, under use, overuse, and misuse is inadequate throughout the state.

Addressing Wyoming’s inadequacies in quality assurance of cancer care is imperative. Currently, there are no measures to show how well we are doing

with regard to diagnosis and treatment and quality of life standards (including pain management and palliative care). Without setting adequate performance measures we are unable to determine how well we are doing. Wyoming's cancer treatment entities may benefit by participating in some of the existing national oncology accreditation programs. Currently, as stated, Wyoming does not have any center or hospital that participates in a National Cancer Institute Community Clinical Oncology Program (NCI CCOP), or an ACOS accredited program. Similarly, only one oncologist in Wyoming participates in a national clinical trials group. Clinical trials are controlled research studies available to many cancer patients. Several national clinical trials groups exist and offer appropriate patients Phase 1, Phase 2, and Phase 3 research opportunities. In order to participate in a national clinical trials group, a physician, physician group, cancer center, or other treating entity must apply for membership, and undergo rigorous evaluation, quality control, and quality assurance processes. The lack of participating entities in Wyoming severely limits treatment options for our cancer patients, denying them the opportunity of entering appropriate trials. Also, the lack of participation on the part of our treating oncologists, excludes these doctors from opportunities of learning about current research and innovations, improvement in quality assessment and assurance, and interaction with national experts who lead these research consortiums. Clinical trial data management and analysis can also provide individual practitioners necessary feedback about adequacy of treatments, compliance, and toxicity.

The Wyoming healthcare system needs measurable assessment and improvement with regard to quality assurance in cancer care including the following:

- Academic medical facility within the state;
- Medical Library facilities (medical literature, evidence-based research);
- Peer review data for comparison of appropriateness of assessment and treatment;
- Clinical research in the form of participation in clinical trials groups;
- Resident or fellowship educational programs in the larger two medical centers to warrant oversight by national medical education bodies;
- Reliable outcome data other than survival;
- Toxicity data;
- Quality of life data; and
- Assessing adherence to standards of care.

Finally, Wyoming has a large number of un-insured or under-insured adults. The cost of cancer diagnosis and treatment can be devastating to an individual and his or her family without financial resources. Often, the cost of cancer diagnosis and treatment, in combination with the costs of travel and transportation, are significant factors that keep a person from proceeding with necessary or optimal treatment.

Goal #1:
All Wyoming people diagnosed with cancer receive quality cancer care.

Objective I:
By 2010, increase use of "best practice"/evidence-based cancer care from diagnosis through treatment follow up or end of life services.

Strategies:

1. Provide interested physicians with evidence-base treatment guideline algorithms as tools for diagnosing and treating the common cancers;
2. Educate physicians (general and specialized) on why, who, when and how to refer patients in need of cancer care;
3. Identify available cancer resources that provide services statewide, regionally and nationally and educate the medical community and public about those resources;
4. Support and encourage facilities with medical libraries and improve access to resources for physicians and healthcare providers relating to evidence-based cancer care;
5. Provide a central information "clearinghouse" by disseminating information electronically and hard copy about existing instate, regional, and national resources;
6. Educate Wyoming healthcare providers about current standards of practice, and multi-disciplinary cancer care treatment (evidence-based); and
7. Improve quality of cancer care for Wyoming residents by supporting and promoting physician needs and patient needs, utilizing regional experts, and providing some help when referring patients out of state is necessary.

Objective II:
By 2010, enhance communications among the various health care providers within the state.

Strategies:

1. Provide educational and networking opportunities for healthcare providers via the statewide cancer conference, electronic linkages, and membership in state cancer initiatives;
2. Promote the use of a statewide tumor board in order to enhance oncology physicians ability to communicate with one another; and
3. Provide statewide care packages/newsletter statewide specific to healthcare providers including educational and networking opportunities.

Objective III:
By 2010, increase access to specialized cancer care services (including clinical trails).

Strategies:

1. Promote national treatment guidelines as standards of care for cancer diagnosis and treatment in Wyoming;
2. Educate healthcare professionals in Wyoming about the need to refer new cancer patients to cancer specialists early in cancer diagnosis and treatment process;
3. Support the recruitment and retention of cancer care professionals by educating the public and policymakers about the real impediments that face Wyoming with regard to recruitment and retention of physicians;
4. Identify funding opportunities for facilities to obtain proper cancer care equipment or obtain access to equipment (i.e., access to PET scanning); and
5. Identify and increase the percentage of specialized care personnel in the State of Wyoming such as specialized nursing (tracheotomy care, colostomy care), medical physics, social work, financial management, and psychiatric care through educating and informing the public and our policymakers.

Objective V:
By 2010, improve the quality of cancer care by developing more rigorous quality assurance, data collection, and analysis from the existing instate cancer programs.

Strategies:

1. Encourage the medical community to use evidence-based national practice standards in screening, diagnosis, and treatment;
   a. Establish system to disseminate treatment guidelines and standards of care (i.e. cancer prevention and control clearinghouse)
   b. Promote the utilization of oncologic cancer surgical sub-specialists when appropriate
2. Establish a central resource, with various state agencies and cancer prevention and control stakeholders, for coordinating cancer care;
   a. Consider creating a NCI CCOP program that would be open for participation from all existing cancer treatment programs within the state
      i. Provides an existing program of quality assurance guidelines
      ii. Provides access to clinical trials for patients
   b. Creation of a state wide Institutional Review Board (IRB)

   c. Use the existing statewide tumor registry to serve as central data management tool that will collect data for cancer care quality assessment
      i. Overall survival
      ii. Collect first course of treatment
      iii. Mortality data
3. Identify specific benchmarks for assessment of cancer treatments;
   a. Identify interventions to improve outcomes
4. Develop specific education programs for healthcare providers, hospital administrators, and state agency representatives to better understand the goals outlined above and unify efforts;
5. Identify funding sources to address the components of data collection, assessment, and then creation of appropriate interventions;
6. Provide incentives for physicians and hospitals to participate in existing national cancer program accreditation programs, clinical trials, and statewide IRB;
7. Promote more intensive participation in tumor registry and data collection initiatives; and
8. Promote the peer review process, through the use of tumor boards, and multidisciplinary decision-making in complex cancer management by developing electronic communication systems/linkage.

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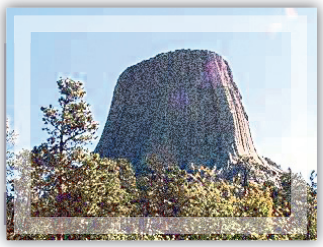


Quality of Life

Issues of Quality of Life (QOL) have always been topics of concern for cancer patients and cancer survivors. Today, with more refined methods for measuring life quality determinants, medical researchers are also studying and addressing improvements in this important area. For decades cancer research was focused almost exclusively on issues of diagnosis and treatment, with the primary outcomes measured being cure or length of survival. Today, due to a variety of consumer, medical, and economic concerns, the areas of patient care that deal with how well life is lived, how pain is managed, and how death is experienced have become extremely important as well.

Quality of Life for the Cancer Patient and Cancer Survivor

Quality of Life (QOL) issues as they pertain to cancer are myriad. The first issues to be addressed in the area of QOL research for cancer patients were pain management and end of life care. However, an expansion of the list of issues today includes QOL issues specific to cancer patients under active anti-cancer treatment as well. Other issues are specific to long-term survivors. Some QOL issues exist in the prenatal phase of life, such as prenatal exposure to carcinogens, congenital cancers, and hereditary cancers, all of which have a major impact on the individual and his or her family as early as conception, even prior to attempted conception. The loss of fertility and mutagenesis caused by anti-cancer treatments are very important QOL issues for survivors of childhood cancers and young adults who are cured of cancer. Today, cancer patients and survivors are viewed in a much more holistic fashion, and many medical schools are incorporating healthcare provider education as to how to assess and manage not only physical causes of distress in patients with this disease, but also the psychological, social, spiritual, and existential distress that occurs in cancer patients and in their families.

Modern cancer interventions are designed to maximize function and cosmesis (cosmetic results) as well as cure. Unfortunately, many cancer patients still require disfiguring surgeries, aggressive radiotherapy, and debilitating chemotherapy regimens, all of which significantly change that individual forever. Cancer survivors who have had significant physical and psychological traumas require, in many cases, specialized support interventions provided by trained personnel who can aid the cancer survivor in maximizing recovery. Rehabilitation to restore the patient to a level of acceptable function is as important a goal of modern cancer therapy as is cure.

Pain Management

Pain management, for both acute pain associated with the tumor or therapy, and chronic pain associated with scarring, recurrent cancer, and widespread cancer, is paramount in the discussion of life quality for cancer patients and survivors. Inadequate pain management is a problem of international as well as national proportions. Despite the intensive attempts of many respected medical educators and palliative care societies to address uncontrolled pain, a great many physicians continue to underutilize pain medications in the setting of severe, non-acute pain. The World Health Organization (WHO) reports that, "Pain management is an important aspect of the treatment of patients with cancer. It took many years for oral morphine to be finally accepted as a standard therapy for moderate to severe cancer pain. However, too often, cancer pain management is (still) reported to be poor and (pain) under-treated. The goal of palliative care is to provide the best possible quality of life for patients and their families. Education in cancer pain relief and palliative care must be an essential component of any cancer control program and should be incorporated into the health care system." [1]

The American Academy of Pain Management (AAPM) recognizes the many facets and problems that cancer pain patients experience. For this reason, the AAPM endorses and reaffirms the benefit of the interdisciplinary and multidisciplinary commitment which professionals from a variety of disciplines can make to the field of pain management. [2]

Palliative Care and End of Life Care

During the 1960s, in the United Kingdom, a group of pioneers developed and established the Hospice Movement. This movement effectively changed the quality of life for the terminally ill by providing symptom-directed palliative care using a comprehensive nursing approach and aggressive medical management of pain and other symptoms. The Hospice Movement came to the United States in the 1970's, and in the last 3 decades has defined itself as primarily a home-based care system for the terminally ill for the last 6 months of life. Hospice intervention is available for terminally ill patients with any diagnosis, not just cancer.

In the last decade, a newer discipline in medicine, palliative medicine, has arisen as an outgrowth of the Hospice Movement. Palliative medicine, as a discipline, hopes to expand the knowledge about end of life care, addressing many complex issues that confront the chronically ill, the terminally ill, and the dying patient and his or her family. At many larger research medical institutions such as Harvard University and Beth Israel Hospital fellowship-level medical education in palliative

care/end of life care is available. The challenge that these programs have taken up is to expand the knowledge base of all physicians to better understand how life quality is improved for patients and their families when the symptoms of any profound illness are addressed effectively in a multidisciplinary approach. At Harvard University a recent continuing medical education program entitled, "Practical Aspects of Palliative Medicine: Integrating Palliative Care into Clinical Practice," states the educational goals of their palliative medicine course to be, "…provide guidance on the ethical challenges that arise in caring for patients at the end of life, including requests for physician-assisted suicide and issues common to the ICU setting…. also the special problems of (pain management in) patients with a history of addiction, or who are elderly or living in a long-term care facility. Delivering palliative care involves skilled communication with patients and their families; … a variety of communication issues, including breaking bad news, how to work with difficult patients or difficult families, and how to support a bereaved family member." [3]

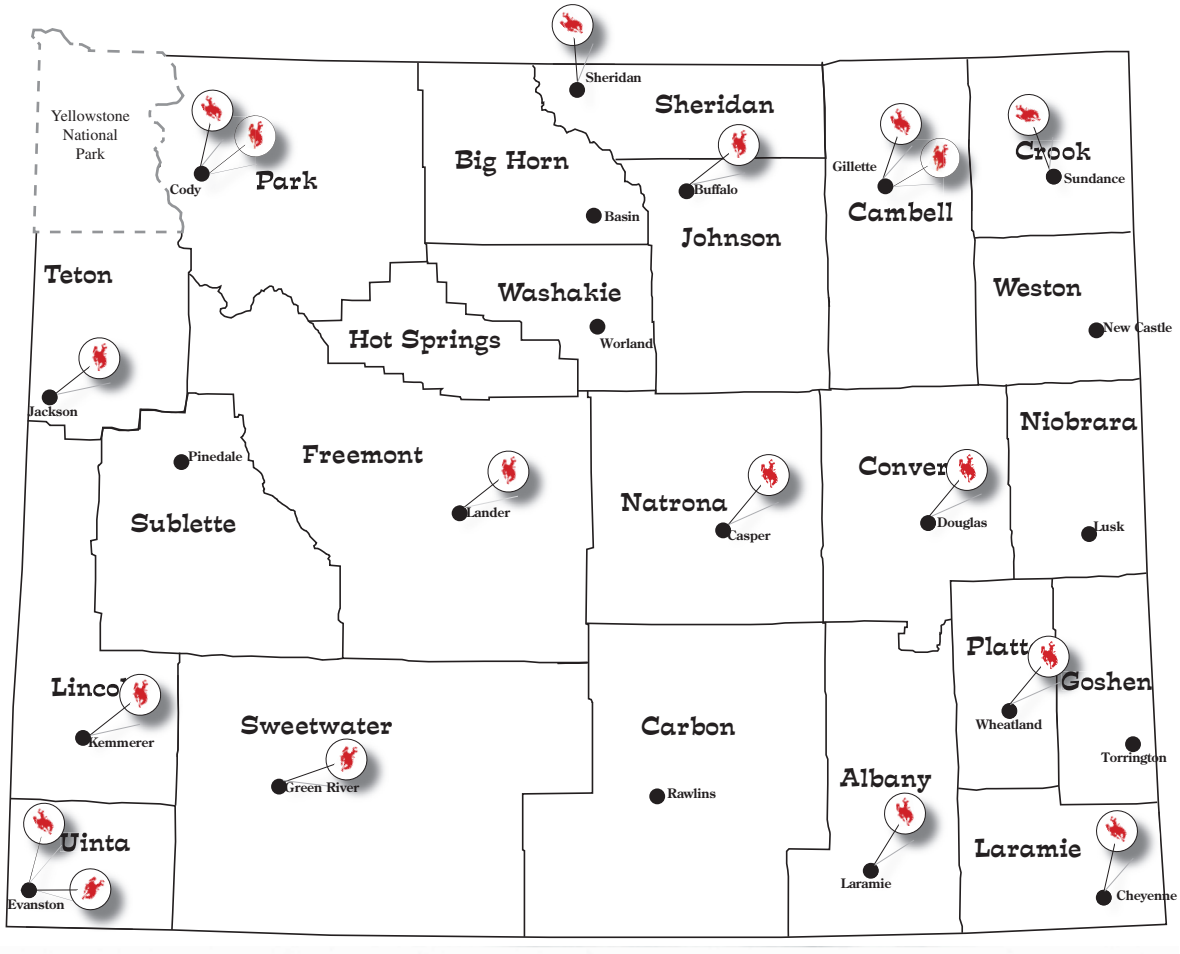
Quality of Life Issues for Cancer Patients and Survivors in Wyoming

Pain Management, rehabilitation, and hospice care are the backbone of the current healthcare system that addresses the main QOL issues for cancer patients. Identifying healthcare practitioners (with specialty training in these areas) and established hospice programs was the first task of the WCCCC.

The sparse, rural population of Wyoming, and the lack or low numbers of certain medical specialists both contribute to inadequate support for the State's cancer population. Residency-trained physical medicine and rehabilitation physicians (Physiatrists), fellowship-trained and board certified oncologists and pain management specialists are under-represented in Wyoming.

There are several existing hospice programs, but many communities in Wyoming still lack access to functioning at-home or in-patient hospice programs.

2005 Wyoming Hospice Centers
Wyoming Licensed and/or Certified Health Care Facilities



Cite: State of Wyoming, Department of Health, Wyoming Licensed and/or Certified Health Care Facilities, 09/04

The map above identifies areas in Wyoming that have current licensed/certified hospice centers.

Patient advocacy may play a very important role in helping guide patients and families through the complexities of the healthcare system from diagnosis through death. Patient advocates are usually employees of healthcare institutions or volunteers at such centers who can aid the patient in accessing available resources such as:

- Financial and insurance matters
- Family support
- Education
- Available healthcare providers, especially with specialized capabilities (such as gynecologic oncology, orthopedic oncology, etc.)
- Transportation and housing issues

- Treatment decisions
- Mental health issues
- Rehabilitation and recovery issues

The vision for the Wyoming cancer plan with regard to Quality of Life is to identify and promote available resources and services available on the local, state, and national levels. This vision includes developing advocacy programs at the local level to interface with the patient and family directly. A critical component is also the expansion of existing hospice programs, either in-patient living situations, or at home, so that even the most remotely rural family can be assured of such support when it is needed. Educating physicians about why, when, and how, to utilize in-state specialist for oncologic support, rehabilitation and pain management is necessary. Finally, providing incentives for healthcare institutions to promote palliative care/improved end of life care through education of the physician and nursing population and possibly recruiting specialists in this newer area of medicine should be considered.

In summary, when we address quality of life issues for cancer patients, we also identify intervention strategies which benefit all patients with serious terminal or chronic illness. The larger vision of public health in Wyoming is somewhat accomplished through creating systems for cancer prevention and control.

Goal #1:
Improve the quality of life for cancer patients, survivors, families, and caregivers.

Objective I:
By 2010, develop strategies to connect cancer patients, survivors, families, and caregivers to available cancer resources locally, regionally and nationally.

Strategies:

1. Comprehensive evaluation of existing resources within each community, and with in the state;
2. Identify communities and healthcare systems that need expansion of support personnel, programs, and availability; and
3. Identify where hospice programs are lacking, and evaluate the possibility of expanding other homecare nursing programs to fill this need.

Objective II:
By 2010, expand access to palliative care outside the hospice care setting.

Strategies:

1. Identify the unmet palliative needs of patients and their families via a Quality of Life Task Force;

2. Identify healthcare institutions with comprehensive pain management programs or teams to serve as education sites for other in-state practitioners; and
3. Identify the educational needs of healthcare providers, patient, and families.
    a. Promote funding for educational experiences for healthcare provides in the areas of palliative care, pain management, and end of life care.
    b. Expand education for patient care-givers.

Objective III:
By 2010, connect cancer patients and survivors to necessary available resources through the use of patient advocates.

Strategies:

1. Use existing advocacy programs such as the American Cancer Society's Patient Navigator Program to serve as a model, or partner, in developing a Wyoming plan; and
    a. Identify and prioritize patient needs that could be addressed with advocacy interventions.
    b. Define patient advocacy appropriate in Wyoming based on these needs.
    c. Use advocates as intervention for existing barriers to access of care.
2. Develop patient advocate training curriculum; and
    a. Recruit and train patient advocates.
    b. Work with healthcare systems, institutions, and individual physician's offices to develop a system to connect patients and advocates.
3. Develop survivor toolkits with necessary resources to aid them in healing physically, emotionally, and financially.

Objective IV:
By 2010, increase the proportion of Wyoming cancer patients whose pain is adequately controlled.

Strategies:

1. Provide education and information surrounding pain management to healthcare providers, cancer patients and their families, as well as cancer control advocates;
2. Create and utilize a Quality of Life Task Force to insure progress towards increased quality of life initiatives within the state, including pain management issues;
3. Promote and disseminate the National Comprehensive Cancer Network (NCCN) Guidelines pertaining to pain management to

healthcare providers, case managers and patient advocates, nursing homes, and other healthcare professionals; and

4. Identify and evaluate possible data sources for tracking progress on pain and symptom management.

Objective V:
By 2010, collect data pertaining to Quality of Life issues.

Strategies:

1. Assess data currently collected;
2. Identify possible data collection methods;
3. Educate and inform stakeholders of the need to collect data pertaining to Quality of Life; and
4. Create a system to collect Quality of Life data.

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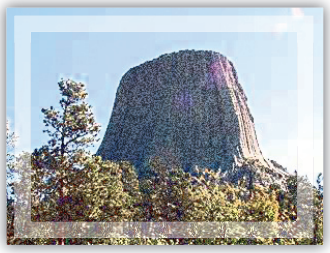

Childhood Cancer

Cancer is the leading cause of death by disease among U.S. children ages 0-14. [1] Cancer kills more children than asthma, diabetes mellitus, cystic fibrosis, congenital anomalies, and AIDS combined. [2]

Over the past 20 years, there has been an increase in the incidence of children diagnosed with all forms of invasive cancer. [1]

The Wyoming Cancer Surveillance Program reports from 1992-2002, there were 254 children ages 0-19 diagnosed with cancer in Wyoming. [3]

Although childhood cancer is rare compared to cancer among adults, it is tremendously devastating because of the high number of average years of life lost *(69 years of potential life lost per child with cancer)*. [4]

Wyoming has no specialized care for children with cancer. With no primary cancer care available for Wyoming children, the physical, emotional, and financial burden on a family when a child is diagnosed with cancer is tremendous. Watching a child be diagnosed with cancer and endure cancer treatment is something that not only moves a family, but moves an entire community.

Among the 12 major types of childhood cancers, leukemias (blood cell cancers) and brain and other central nervous system tumors account for over one-half of all newly diagnosed cases. [1] About one-third of childhood cancers are leukemias. The most common type of leukemia in children is acute lymphoblastic leukemia. The most common solid tumors are brain tumors. [1]

The causes of childhood cancer are largely unknown. Risk behaviors are not a factor in most childhood cancers, and children who get childhood cancer most likely had no way to prevent the onset of the cancer. [5] Environmental causes of childhood cancer have long been suspected by many scientists, but have been difficult to prove. [1]

Treatment options can have long-term effects on children such as infertility and stunting normal physical and mental development. [6] Other known medical issues include learning disabilities, toxicity complications, and re-occurrence of the cancer.

While working to bring resources together and eliminate disparities for various high risk populations, the WCCCC would like to keep our children in mind. We strive for a large voice for our children who have cancer in the State of Wyoming.

Survivor Story

Hi, my name is Haiden. I just turned three in August. I love to play with dolls, dance, play softball, play outside on my swing set, go for walks, visit my grandparents, and I especially love to boss around my baby brother, Caleb. Sometimes my grandma tells me I am precocious. I am not sure what that word means, but I do know what cancer means, because I have it. I was diagnosed with Ewing's Sarcoma. I spend a lot of time getting special medicine called chemotherapy at Children's Hospital in Denver. We go there at least two to three times a month and we always have to stay overnight. Sometimes I have to go back to Denver in between my treatments to get blood transfusions and special medicine called antibiotics when I get a fever. I had to fly in an airplane to Boston to get another special type of treatment called radiation. I was there with my family for two whole months! It makes me sad because I cannot stay in a hospital closer to home. There are some kids in the cancer unit who don't always have their mommy or daddy there with them. Mommy tells me that we are very lucky because I have some guardian angels at Jason's Friends Foundation in Casper. They have helped my mommy and daddy pay some of our bills. My mommy had to quit working since we are in the hospital a lot more days than we are at home. I have decided that having cancer is not all bad, because I have made lots of friends in the hospital and I have met lots of kids like me who do not have any hair and who have lots of owies too. The other day I told my mommy that I think the Denver Children's Hospital should be called "the baby hospital" since there is so many babies there… so many just like me. – Haiden Wiggens, Wheatland, Wyoming.

GOAL #1:
Increase resources and quality cancer care for Wyoming children.

Objective I:
By 2010, provide specialized care to all Wyoming children with cancer.

Baseline: *Currently, there is no specialized care within the State of Wyoming for Wyoming children with cancer.*

Strategies:

1. Identify resources available for Wyoming children and complete a gap analysis;
2. Develop a plan of action to provide care to Wyoming children with cancer;
3. Identify possible funding strategies;
4. Educate and inform policymakers of the importance of specialized care for Wyoming children with cancer and the lack of resources offered to them; and
5. Request /apply for funding to provide specialized cancer care to Wyoming children.

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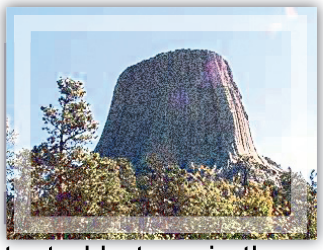


Cancer and the Environment

Cancer-causing chemicals in the environment, also called carcinogens, often times cannot be seen, smelled or tasted but are in the environment in which we live.

The State of Wyoming is in the process of conducting an Environmental Health Study which will identify priority areas for improvement with regard to Wyoming's environment. Legislation introduced as House Bill 94 was enrolled as HEA 0085 and signed into law as Chapter 125 on February 25, 2005. This legislation directs the State Health Officer and the Department of Health to work with a multi-agency task force to conduct a study to identify current environmental health issues, environmental health practices and responsible agencies. The study is meant to identify unmet and underserved environmental health threats not clearly assigned to a particular agency, prepare a report of findings and propose a plan for addressing unmet and underserved environmental health needs. An appropriation of $50,000 was provided from the general fund to implement the purposes of the act. The WCCCC will be working on public awareness to address relevant findings of the study.

Preliminary statewide task force meetings have repeatedly highlighted the disparities which exist from one county to another. Citizens in one area of the state enjoy reasonably good environmental health monitoring and regulatory protections while other areas are far more vulnerable, with little or no local or state environmental health resources to provide monitoring, investigations, education or corrective actions for issues such as: Mold, radon, indoor chemical contamination, housing sanitation, radiological exposures, and vermin, among many other contaminants.

How these disparities are identified in cancer incidence or other public health measures is expected to be variable and indistinct, depending on population and location-specific environmental risks. Often, the regions with the best environmental health resources also have more adequate surveillance resources, thus reporting of cases might be better, creating and artificially narrow gap between reported incidence.

The Environmental Health Task Force is looking at the need to provide a more equitable distribution of Environmental Health services to identify hazards, provide responsible risk communication, and prevent and mitigate exposures. Environmental Health providers will want to partner and collaborate with local citizens and other providers to improve the rate of care-seeking, diagnosis and reporting. The end result will be better detection, more accurate reporting, better prevention, exposure reduction, healthier communities, and less disparity.

Goal #1:
Reduce the burden of cancer in Wyoming by reducing exposure to known carcinogens.

Objective I:
By 2010, improve environmental health monitoring, update environmental health services, and clarify regulations pertaining to environmental health in accordance with recommendations identified in Wyoming's Environmental Health Study.

Strategies:

1. Work with the local health departments to educate and inform people of the risks of environmental hazards in the state;
2. Support environmental health monitoring and outcome-driven funding to improve Wyoming's environment;
3. Advocate for legislation to establish programs, policies, and procedures to improve environmental health in Wyoming;
4. Support campaigns to improve environmental health; and
5. Balance risk communication and understanding with regard to health hazards in the state.

Although the findings of this study have not yet been released, based on the review of Wyoming data pertaining to environmental issues, we are aware that exposure to Environmental Tobacco Smoke (ETS) and Radon are definitely two identifiable health hazards to the people of Wyoming.

Environmental Tobacco Smoke

Environmental Tobacco Smoke (ETS), also referred to as Secondhand Smoke, is the combination of the smoke that burns off the end of a cigarette (sidestream smoke) and the smoke which is exhaled by the person who is smoking (mainstream smoke). More than 4,000 chemicals have been identified in mainstream smoke. [1] Of these 4,000 chemicals, at least 60 have been identified as carcinogens (cancer causing). [1]

Each year, an estimated 3,000 non-smokers die from lung cancer as a result of ETS. [2] Exposure to ETS is also known to cause sinus cancer. [1,3]

Research has suggested a link between ETS and various other types of cancers such as breast, cervix and bladder; however, to date there has not been a solid confirmation. [1]

The Wyoming Tobacco Prevention and Control (TP&C) Program focuses on providing education and information, including the promotion of policies and practices that promote smokefree environments for public health safety. The

WCCCC will collaborate with the Wyoming TP&C Program to enhance current state and community efforts.

Goal #1
Provide programs, promote policies, and promote practices that protect citizens from secondhand smoke in areas where children are exposed, indoor workplaces and public areas, and all government facilities and vehicles.

Objective I
By 2010, increase the percentage of smokefree restaurants in Wyoming to 75%.

Baseline: *According to the 2004 Wyoming Restaurant Smoking Policy Survey, 68.2% of Wyoming restaurants reported they were totally non-smoking indoors for customers compared to 56.2% in 2002.*

Objective II
By 2010, increase the percentage of Wyoming adults reporting their workplace does not allow smoking in all work areas to 85%.

Baseline: *78.5% of adults in Wyoming reported that their workplace does not allow smoking in any work areas (of the people who work indoors most of the time) as compared to 72.3% in 1998. (BRFSS, 2003)*

Strategies:

1. Increase awareness of risks associated with Environmental Tobacco Smoke (ETS);
2. Promote the benefits of smoke-free homes (including foster homes and daycare centers), restaurants, workplaces, and public places;
3. Promote efforts to make all state facilities smoke-free (including entryways); and
4. Provide information to policymakers on risks of ETS.

Radon

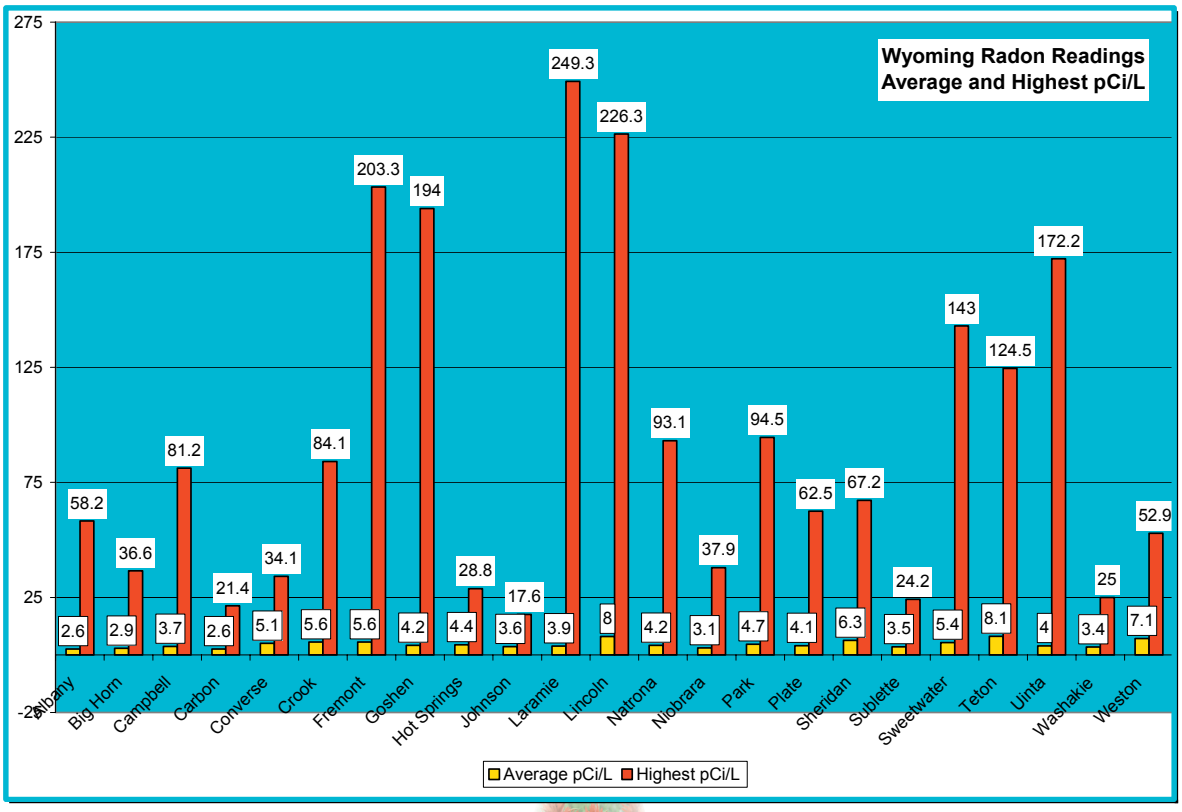
Radon is a cancer-causing, radioactive gas, and is the second leading cause of lung cancer in the United States after tobacco smoke. Radon is estimated to cause thousands of lung cancer deaths in the United States each year. [4]

Radon comes from the natural radioactive breakdown of uranium in soil, rock, and water and does contaminate the air you breathe. You cannot see, taste, or smell radon, but it can be found in homes, office buildings, and schools. [4]

Testing for radon is essential in identifying radon exposure risk. If high levels of radon are detected in a home, a radon reduction system is necessary to decrease radon levels to within EPA acceptable levels.

According to the 2002 Wyoming BRFSS, only 26% of survey respondents reported that they had their household air tested for radon exposure. The report also indicated that only 0.9% of respondents had knowledge about the health effects of radon, and 42.2% of respondents were unaware that prolonged radon exposure can cause lung cancer.

The following graph indicates the average radon level per county as well as the highest radon reading in each Wyoming county. In summary, 20 of 23 Wyoming counties have elevated radon levels above 25pCi/L. Only three counties have radon levels below 24.9 pCi/L, which remain six times higher than the EPA recommended action level (4.0).



The top seven counties with the highest radon exposure include Laramie, Lincoln, Fremont, Goshen, Uinta, Sweetwater, and Teton.

It is noted that while radon is found in all structures, the level of exposure will determine the need for intervention. The WCCCC recommends that all Wyoming homes, businesses and schools be tested for radon exposure.

GOAL #1:
Decrease Radon exposure in Wyoming.

Objective I:
By 2010, increase the percentage of Wyoming citizens reporting they have had their household air tested for radon exposure to 50%.

Baseline: *26% of Wyoming respondents reported that they had their household air tested for radon exposure. (BRFSS, 2002)*

Objective II:
By 2010, increase the percentage of Wyoming citizens who are knowledgeable about the health effects of Radon to 25%.

Baseline: 0*.9% of Wyoming respondents were knowledgeable about the health effects of radon. (BRFSS, 2002)*

Strategies:

1. Provide education and information to the general public about Radon exposure utilizing science-based research;
2. Provide education to science, health, and industrial arts educators about the effects of radon to promote awareness;
3. Promote current radon programs and initiatives already in place by expanding testing opportunities via healthcare providers and real estate agencies; and
4. Educate policymakers on the importance of radon testing.

References:

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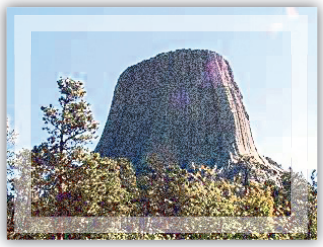


Health Disparities

In modern Western society, no one is spared the risk of developing cancer. Cancer can affect both genders, all age groups, all races, and all ethnic groups. Certain factors, such as lifestyles, geographic and social isolation, types of employment, religious beliefs or rituals, and trust or mistrust of government may create a scenario that creates health problems in certain population subsets. Thus, distinct differences in the risk and rate of many diseases, including cancer, are seen, in the different groups of people who make up our society. The adjective *disparate* is used in epidemiology terms to distinguish subsets of the population that have a distinctly different kind or quality of healthcare problems. Disparate populations may have a higher or lower risk of a certain diseases such as cancer; may have a higher or lower risk of death from those cancers; or may have a better or worse outcome due to access or lack of access to the healthcare system. Healthcare disparities can be identified also with regard to geographic location, economic status, access to insurance, poverty status, and education level.

It is an important public health concern to define the disparate populations within the State of Wyoming, to analyze the causes of the disparities that exist, and to mitigate the causes (if possible) of the negative disparities. Extensive data collected through the BRFSS 2003 has aided in identifying a number of negative disparate populations with regard to cancer, cancer risk, and access to health insurance and healthcare. The chapter identifies the health disparities that the WCCCC have chosen to address as top priorities within Wyoming.

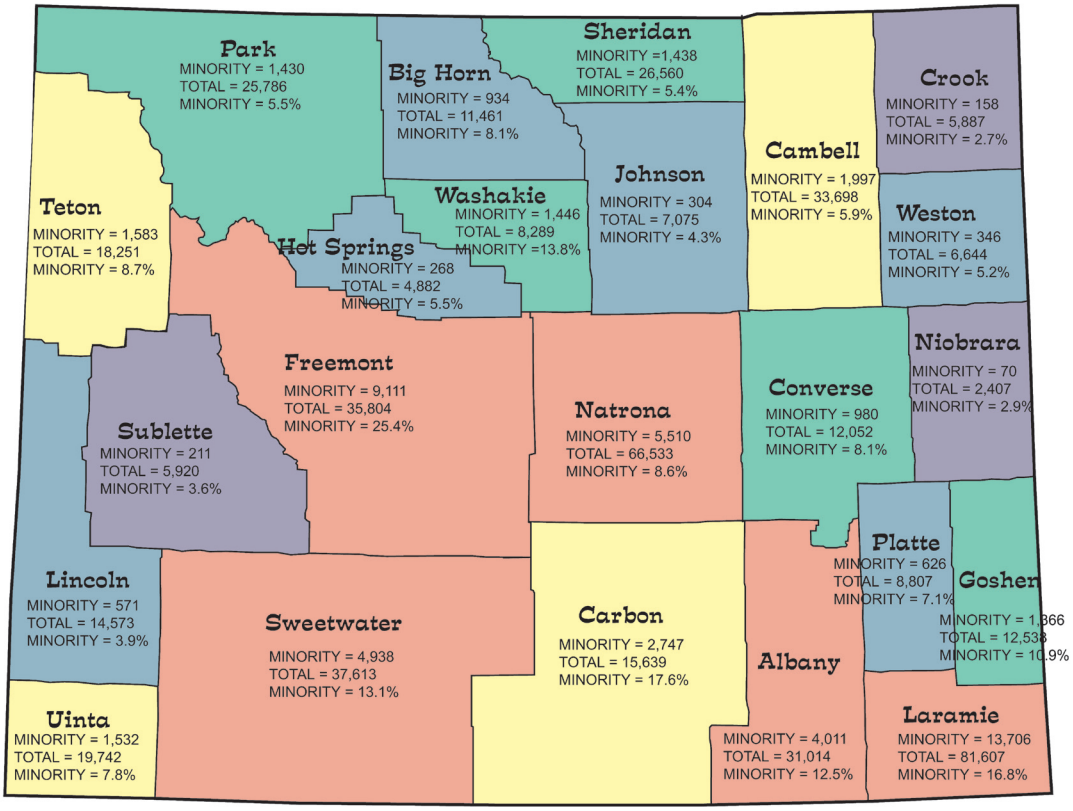
Race/Ethnicity:

According to the *2001 Assessment of the Health Status of Minority Populations in Wyoming,* the composition of the state's population was as follows:

Race	***Percentage***
Non-Hispanic White	88.9
Hispanic	6.4
Native American	2.1
African American	0.7
Asian/Pacific Islander	0.5
Other	1.3

In 2000, minorities accounted for 11.1% of the Wyoming population, or 54,983 citizens. [1] By 2003, the percentage had increased to 11.6%, or 58,757 people. [2] With Wyoming's barriers to access to healthcare in relationship to medically underserved areas, this becomes a challenge for minority populations in Wyoming who are looking for healthcare services. The following maps identify increases in minority populations in Wyoming.

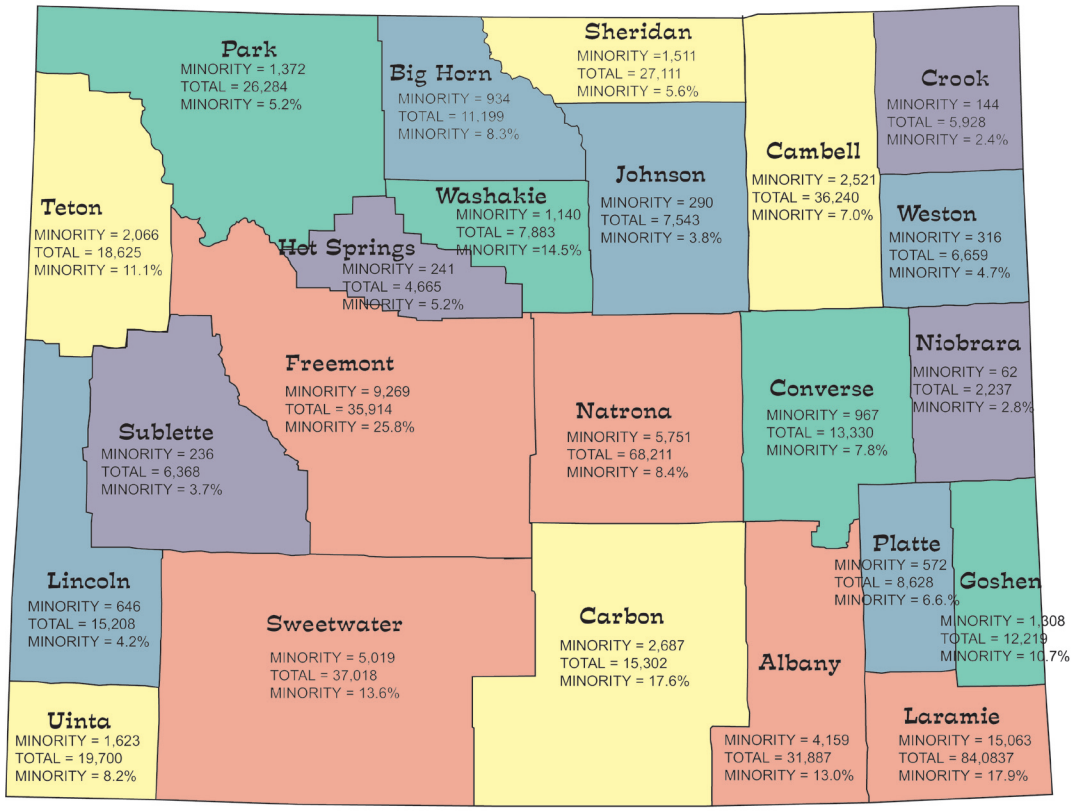
Racial/Ethnic Minority Population
Wyoming Counties, 2000



Total Minority Population

- 0 to 259
- 260 to 959
- 960 to 1,499
- 1,500 to 3,999
- 4,000 to 10,000

Racial/Ethnic Minority Population
Wyoming Counties, 2003



Top Five Minority Population Counties
2000 and 2003

County	2000 Minority Population	Total Population	2003 Minority Population	Total Population	% Increase/ Decrease Minority Population
Albany	4,011	32,014	4,159	31,887	+3.6%
Fremont	9,111	35,804	9,269	35,914	+1.7%
Laramie	13,706	81,607	15,063	84,083	+9.9%
Natrona	5,510	66,533	5,751	68,211	+4.4%
Sweetwater	4,938	37,613	5,019	37,018	+1.6%

There are definite negative disparities with regard to access to health insurance among minority populations in Wyoming. Native Americans and Hispanics in the state report lacking health insurance at much higher percentages than other racial/ethnic groups.

The BRFSS database compared non-Hispanic white adults, ages 18 and older, to those of other race/ethnicity, with regard to health insurance access and noted great disparity.

The very small numbers in each of the minority population groups makes accurate data collection and evaluation difficult. This fact alone is a barrier to defining and then mitigating the cancer burdens of these small population subsets.

Access to Healthcare:

While identifying needs for Wyoming's underserved populations, it is imperative to address the reasons why Wyoming does not have medical resources for those who need it most. Enhancing or expanding services for rural and underserved populations in Wyoming is crucial to the future of Wyoming medical care.

In the BRFSS, high rates of those who reported having no healthcare insurance were all 18-24 year olds (30%). In the 18-64 year old group canvassed, the highest rates of those with no insurance were individuals with: [3]

- No high-school diploma (46%);
- Household incomes of less than $25,000 (36.5%);
- Hispanics (31%);
- Those of "other" race/ethnicity (31%);
- Currently out of work (31%); and/or
- Unmarried (31.9%).

Groups which appear to have poor access to healthcare include: [3]

- The working poor;
- The out of work;
- Smokers;
- Persons reporting 14 or more days of poor mental health;
- Those in fair or poor health; and
- The disabled.

The following reflects the percentage of adults in Wyoming reporting no health insurance by race/ethnicity: [4]

Race/Ethnicity	Percentage Reporting No Insurance
Native American	34%
Hispanic	28.2%
African American	27%
Asian	21%
White (non-Hispanic)	16%

Wyoming's African American and Asian populations also have a higher rate of lacking a personal physician. [3]

Wyoming must identify resources for its underserved population in a comprehensive manner. Many of our underserved lack the necessary supportive services to acquire quality healthcare, such as transportation to and from appointments. This also includes access to pain management services, and clinical trails. Individuals needing treatment or specialty care are unable to travel to their required appointments due to financial or geographic barriers. It will be necessary to identify ways to overcome transportation barriers so that they may focus on treatment and care.

Cultural competent healthcare services including translation services will enhance patient understanding and their ability to make healthcare decisions for themselves or their families. This component will also provide necessary information to physicians and healthcare providers. Gearing our goals, objectives and strategies to meet holistic healthcare environments will allow for a team approach between the patient and provider.

It is imperative that all Wyoming populations are able to read and understand issues pertaining to one's own health. According to the National Adult Literacy Survey, the average reading level in the United States is between the eighth and ninth grades. Health literacy is an important part of informed decision-making.

Health literacy includes not only written materials, but spoken words, videotape materials, and ability to use the internet. There are many factors that contribute

to low health literacy—such as aging, vision and hearing deficits, poverty, learning disabilities, immigration and minority status, and education. [5] By utilizing the Patient Navigator system discussed in the Quality of Life section of this plan, we can assist cancer patients, survivors and their families through the cancer continuum of care and provide them with necessary information to assist them in decision-making throughout the cancer process.

Poverty/ Financial Status:

One's economic or financial status is an important measure of the type of education, healthcare, and insurance opportunities that are available. In 2003, Wyoming's per capita personal income was $32,808—an increase of 5.8% from the previous year. [6]

Poverty thresholds are used for statistical purposes such as calculating the number of people living in poverty, and are issued each year by the U.S. Census Bureau. To calculate poverty thresholds, the federal government estimates the annual amount of cash income minimally required to support families of various sizes. In Wyoming, 9.4% of the total population lived in poverty in 2003-2004. [6]

Among Wyoming's aging population, 11.3% of those over age 65 live in poverty.[7]

In 2002, the Economic Research Service reported the highest rates of poverty in Wyoming by county included Fremont, Goshen and Niobrara. When children are taking into consideration, the above-mentioned counties still represent the highest percentage of poverty. Combined data from 2001-2003 indicated that 11% of Wyoming children lived in poverty, representing 13,327 Wyoming children. [8]

Ten percent of the working poor reported encountering each of these three barriers to healthcare access: no insurance, no personal physician, and unable to see a doctor in the past year due to cost. [3] The working poor are those who are employed for wages; however, their current salary does not permit them to pay for healthcare, including insurance, co-pays, or necessary medications.

Having barriers relating to poverty decreases our ability to provide adequate healthcare, especially decreasing our ability to ensure Wyoming families and children cost-effective healthcare services and insurance.

Age and Gender:

Wyoming children with cancer have great disparity. There are very few resources within the State of Wyoming for addressing and dealing with childhood cancer. Wyoming's geography and low population has not been ideal in aiding us in specialized care for Wyoming children. Please visit the Childhood Cancer portion of this plan for further discussion on this issue.

When identifying health disparities relating to childhood cancer, we know that in children under 20, boys get cancer slightly more often than girls do, although there are certain types of cancers that girls get more often than boys. Within this group of children under 20, those ages 0-4 years and 15-19 years have the highest rates of cancer. [9]

Other disparities with regard to age and gender pertain to risk factors attributing to cancer in Wyoming.

In the 2003 BRFSS questionnaire, respondents were questioned about various risk factors for cancer including cigarette smoking, tobacco chewing, sunburns, nutrition and diet, physical activity, and others.

Wyoming men reported an average of 2.89 cancer risk factors compared with 2.36 for women.

Younger adults, students, and men were among those identified to be more likely than other groups to report three or more cancer risk factors. Younger adults were found to have higher prevalence regarding tobacco use, decreased consumption of fruits and vegetables, rate of sunburns, and heavy drinking. The prevalence of these high-risk behaviors decreases with age.

Finally, prevalence rates for the risk factors of being overweight and having decreased physical activity tended to increase with age. [3]

Health Disparities in Wyoming by Risk Behavior

Tobacco Use:

Nearly one-third of all Wyoming respondents reported current use of some form of tobacco. Highest current tobacco use was among: [10]

- Persons who did not finish high school (49.6%);
- The un-insured (47.8%),
- The out of work (47.5%); and
- Persons of other race (47.7%).

(BRFSS Cancer, 2003)

Tobacco use is also high among: [10]

- 18-24 year olds (41.9%);
- 25-34 year olds (41.5%);
- Hispanic adults (41.5%);
- Men (40.6%),

- Those with a high school education or less (40.0%); and
- Persons who are not married (39.9%).

Wyoming adults with lower incomes are more likely to use tobacco than those in higher income households. [10]

With regard to race/ethnicity, BRFSS data indicates that those who smoke cigarettes at higher percentages are: [10]

- Native Americans (51%);
- African Americans (40%); and
- Hispanics (29.1%).

Non-Hispanic whites (22.7%) and Asians (19%) reported lower rates of cigarette smoking. [4]

Indian Health Services (IHS) maintains an internal database on the Wind River Indian Reservation. According to 2005 data, 44% of Native Americans receiving care through IHS reported cigarette smoking.

By county, cigarette smoking rates appear highest in Campbell (29.1%), Sweetwater (28.3%), and Natrona (27.6%). Cigarette smoking rates are lowest in Teton (14.7%), Johnson (16%), and Sublette (16%). [4]

Obesity:

One in five Wyoming adults (20.1%) is obese (BMI ≥ 30). Groups at high risk for obesity are 55-64 year olds (25%), Hispanics (29%), those with household incomes below $15,000 (24%), people diagnosed with diabetes (43%), those with arthritis (26%), and those reporting a disability of any kind (28%). [11]

Counties with high rates of obesity include Hot Springs (27%), Big Horn (25%), and Goshen (24%). [4]

Poor Nutrition (eating less than 5 fruit and vegetable servings per day):

Poor nutrition is based on consumption of fruit, fruit juice and vegetables. Inadequate consumption of fruits and vegetables was the most prevalent of cancer risk factors examined in Wyoming. Those reporting inadequate consumption of fruits and vegetables include men (83.3%), 18-24 year olds (82.7%), those with a high school diploma or less (82%), those living in Laramie and Natrona Counties (81.2%), the unemployed (80.9%), and students (80.0%).[10]

There were no significant differences among racial/ethnic groups, or by household income, marital status, or insurance status.

Physical Inactivity:

Adults who do not exercise adequately include those age 65 and older (59.5%), the retired (58.4%), those reporting obesity based on BMI (55.3%), the out of work (54.8%), those with less than a high school education (53.2%), those from low income households (>50%) and those ages 55-64 years old (50.4%). [10]

Physical inactivity was not associated with gender, marital status, race/ethnicity, and was only weakly associated with population density. [10]

Sunburn:

The highest rate for reported sunburn was among students (78%) and 18-24 year olds (71.9%). [10]

Sunburn rates in Wyoming decline with age. Only 12.7% of people ages 65 and over reported having had sunburn within the past 12 months. [10] Low burn rates were also reported by retirees (16.2%), and those of race/ethnicities other than non-Hispanic white or Hispanic (32.4%). [10]

Wyoming men report sunburn at a higher rate than women. High sunburn rates are also found among those with higher incomes, the uninsured, and the employed. [10]

Sunburn rates were similar for married and unmarried individuals, as well as for counties with varying population density. [10]

However, it is important to remember that sunburns in youth and adolescence increase the risk for melanoma later in life.

<u>Other Health Disparities by Cancer Type</u>

Breast Cancer:

The lowest breast cancer screening rates are found among Hispanic women (62.9%), women with less than a high school diploma (65.1%) and the uninsured (67.2%). [10]

Highest breast cancer screening rates are women ages 50-59 (92.1%), and women with household incomes of $75,000 and above (91.8%). [10]

Cervical Cancer:

Those women (with intact uterine cervix) in Wyoming least likely to have a recent Pap test included women over the age of 65 (59.5%), women without a high

school diploma (71.0%), women in households with incomes lower below $25,000 (72.7%), and uninsured women (74.1%). [10]

Pap testing was not associated with race/ethnicity or population density. [10]

Colorectal Cancer:

Among adults ages 50-59 (14.3%), those in the lowest density counties (15.8%), and the uninsured (8.6%) were least likely to have had a recent blood stool test.[10] Highest screening rates were those adults ages 60-69 (23.3%), Natrona and Laramie County residents (21.9%), and the insured (19.6%). [10] Results were not associated with gender, education level, household income, or race/ethnicity. [10]

Adults ages 50-59 (40.2%), those in the lowest density counties (45.2%), and the uninsured (32.9%) were least likely to have had a sigmoidoscopy or colonoscopy. [10]

Highest screening rates were among adults ages 70 and over (64.7%), and Natrona and Laramie County residents (60.3%). [10]

Results were not associated with gender, education level, household income, or race/ethnicity. [10]

Prostate Cancer:

Men age 40-49 (65%), and the underinsured (69%) were least likely to have had a digital rectal exam. [11]

Lung Cancer:

Lung and bronchus cancer is being diagnosed at a higher rate in men and women over the age of 60 in Wyoming. Men have a slightly higher rate of incidence and mortality than women. [12]

Laramie and Natrona counties have the highest rate of lung cancer deaths in Wyoming with Fremont County also having a high mortality rate. [12]

Goal #1:
Decrease cancer related health disparities in Wyoming.

Objective I:
By 2010, increase the percentage of underserved populations reporting access to healthcare.

Strategies:

1. Provide outreach and cancer education to underserved populations in Wyoming, including information to promote informed-decision making;
2. Identify marketing strategies targeting underserved populations in Wyoming;
3. Increase access to cancer-related resources for underserved populations in Wyoming including, but not limited to, healthcare, mental health services, transportation, pain management services, and access to clinical trials;
4. Provide information and education to policymakers about Wyoming's underserved populations;
5. Increase screening services available to underserved populations in Wyoming through use of low or no cost programs;
6. Enhance and expand cancer-related services to underserved populations; and
7. Utilize the Patient Navigator service to assist underserved populations in order to maneuver through the cancer continuum of care through patient advocacy
8. Promote Wyoming Department of Education's Coordinated School Health Program to increase health literacy skills among Wyoming youth (please refer to Prevention section for more information).

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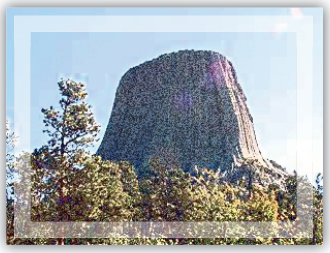


Data Collection & Evaluation

Cancer is a reportable disease and as such each case of cancer must be reported to the Wyoming Cancer Surveillance Program (WCSP) at the Wyoming Department of Health (WDH). The WCSP manages the Wyoming cancer registry which stores the information from hospitals, pathology labs, physicians, and urologists concerning the incidence of cancer in the state. Cancer mortality data is obtained from the Wyoming Vital Records Service at the WDH. Using this data, and with the cooperation of the State Chronic Disease Epidemiologist, the WCSP produces an annual report on cancer incidence and mortality in Wyoming. This report is distributed to a wide array of interested stakeholders who utilize the information in a variety of ways (e.g., grant submissions, tracking cancer trends in their region, news reports on cancer prevention and screening). Data from the WCSP will be an invaluable resource for the WCCCC and will serve as the foundation to evaluate the *Wyoming Cancer Control Plan 2006-2010* and associated activities.

The WCSP participates yearly in a data exchange with most states, in particular the sates bordering Wyoming. Data exchange agreements are necessary in order to capture cases that migrate out of state for diagnosis and/or treatment. States enter into a formal sharing agreement with the intention of providing states with information about patients diagnosed and/or treated in their state. The agreement assures that all data be kept in the strictest of confidence. The North American Association of Central Cancer Registries (NAACCR), which Wyoming is a member, provides guidelines for consistent and confidential sharing of data. Wyoming exchanges electronic data files on encrypted diskettes.

Another data source used a great deal by the WCSP and the WCCCC is the Behavioral Risk Factor Surveillance System (BRFSS). The BRFSS is a statistically reliable randomized telephone survey that monitors specific modifiable risk factors associated with chronic and communicable diseases including cancer in Wyoming adults (18+ years old). For example, each person over fifty years of age that participates in the survey is asked whether or not they have ever had a colonoscopy. The BRFSS enables the WCCCC to monitor the use of specific screening procedures/tools like colonoscopy, mammography, and PAP tests in Wyoming residents. The BRFSS will serve as a key source of data in evaluating many of the objectives put forth in this plan.

Other potential data sources include the American Cancer Society's Facts & Figures publication, which estimates the number of cancer cases and deaths for each state in a given year. This publication also provides data on past and current trends in cancer on a national level. Additionally, the National Cancer Institute Surveillance, Epidemiology, and End Results (SEER) data base (http://seer.cancer.gov/) provides cancer incidence, mortality, and survival data in the United States back to approximately 1975. SEER data can also be used to

compare specific cancer rates in Wyoming (e.g., breast cancer) to a national rate for the same cancer for a particular year. Finally, websites such as Cancer Control Planet (http://cancercontrolplanet.cancer.gov/), CDC Cancer Prevention and Control (http://www.cdc.gov/cancer), and North American Association of Central Cancer Registries (NAACCR) (http://www.naaccr.org) provide a wealth of data and information concerning the incidence, prevalence, mortality, and risk of cancer.

Role of the Wyoming CCC Data Advisory Committee

The role of the Wyoming CCC Data Advisory Committee will be varied. First, the committee will provide the WCCCC with any cancer-related data necessary in the development and implementation of the Wyoming Cancer Plan. The committee will also support the WCCCC in identifying gaps and disparities in cancer data in Wyoming, which may necessitate the use of surveys and other such data collection techniques. The advisory committee will work closely with subgroups within the WCCCC in the development, distribution, and analysis of any survey data. The data committee will also assist the consortium in marketing and disseminating cancer related data and information to Wyoming residents in a fashion that is understandable and applicable. Simply providing the public with data on cancer without also providing information about what they can do to reduce their risk is shortsighted and ineffective. Finally, the committee will help to facilitate the sharing of data between existing data sources (e.g., WCSP, ACS) in order to reduce redundancy in data collection and reporting and to identify possible gaps and disparities.

Goal #1:
Improve decision-making and priority setting with regard to cancer prevention and control based on data collection and evaluation.

Objective I:
By 2010, increase the availability of accurate, complete, and timely cancer data to Wyoming residents including persons at risk, cancer patients, healthcare professionals, policy-makers, and other interested stakeholders.

Strategies:

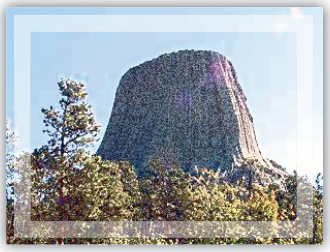
1. Identify gaps and disparities in existing Wyoming cancer data;
2. Identify methods or techniques that could aid in filling cancer data gaps and reduce disparities;
3. Support the publication of annual and/or special reports concerning cancer in Wyoming; and
4. Support the use of traditional (e.g., TV, radio, brochures) and emerging communication technologies (e.g., websites, text messaging) in

disseminating cancer related information to residents, healthcare professionals, and other interested stakeholders in Wyoming.

Objective II:
By 2010, assess the satisfaction and perceptions of participants (i.e., consortium members and others) as to their role in the implementation of the Wyoming State Cancer Plan.

Strategies:

1. Develop and distribute process evaluation for participants;
2. Analyze process evaluation data and look for gaps in support and problem areas;
3. Address gaps in support and other problem areas with help of consortium committees (e.g., steering committee) and participants; and
4. Re-assess participant perceptions once changes have been enacted.



Next Steps

To the People of Wyoming:

The unveiling of the 2006-2010 Wyoming Cancer Control Plan ends a year of dedicated service by more than 100 individuals statewide who helped in the development of the plan. Throughout the year, this outstanding group of people met monthly via teleconferences and videoconferences, as well as face to face, to strive toward a healthier Wyoming. It cannot be emphasized enough that the success of this document is due to their hard efforts and their recognition of the importance of developing a plan that addresses the most pressing needs of Wyoming residents who are faced with cancer. Some of these needs and challenges became evident throughout the development of this plan.

With a state population of approximately a half million residents Wyoming faces unique challenges with its rural communities, limited health care access, shortages of providers, and high rate of residents having no healthcare insurance. In addition, with nearly one-third of Wyoming adult residents reporting tobacco use, one in five adults being obese, and almost one-half of the Wyoming population reporting sunburn within the past 12 months, we recognize the need to utilize prevention efforts to combat cancer within the State of Wyoming. Wyoming faces the additional challenge of overcoming health disparities among high risk populations.

Cancer is a disease that will probably touch every resident of Wyoming's life at some point, but it is when our children are inflicted with cancer that we are the most vulnerable. Because of Wyoming's many challenges it finds itself without in state pediatric cancer care. Members of the WCCCC feel strongly that childhood cancer must also be addressed as part of implementation of this five-year plan.

The writing of the 2006-2010 Wyoming Cancer Control Plan is just the beginning. It is now time to move forward and bring together Wyoming residents who will aid the WCCCC in the implementation of the goals, objectives and strategies identified during the last year. In order to help with this important work we invite residents of Wyoming to become members of the Wyoming Compressive Cancer Control Consortium.

Sincerely,

Margaret M. Barnes, M.D. WCCCC Chairperson	Lisa Eades WCCCC Chairperson	Clinton F. Merrill Jr., M.D. WCCCC Chairperson

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Cut along dotted line

Join Wyoming's Fight Against Cancer

The Wyoming Comprehensive Cancer Control Consortium (WCCCC) needs you to help us in the fight against cancer. Your voice does matter! To join the WCCCC, please fill out this form and return it to the address indicated below:

Name:_____

Organization: _____

Address: _____

City/State/Zip: _____

Phone: _____

Fax: _____

Email: _____

Please indicate areas of interest:

_____	Prevention	_____	Diagnosis & Treatment
_____	Early Detection/Screening	_____	Quality of Life
_____	Access to Care	_____	Health Disparities
_____	Childhood Cancer	_____	Survivorship
_____	Advocacy		

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Wyoming Cancer Control Plan 2006-2010


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