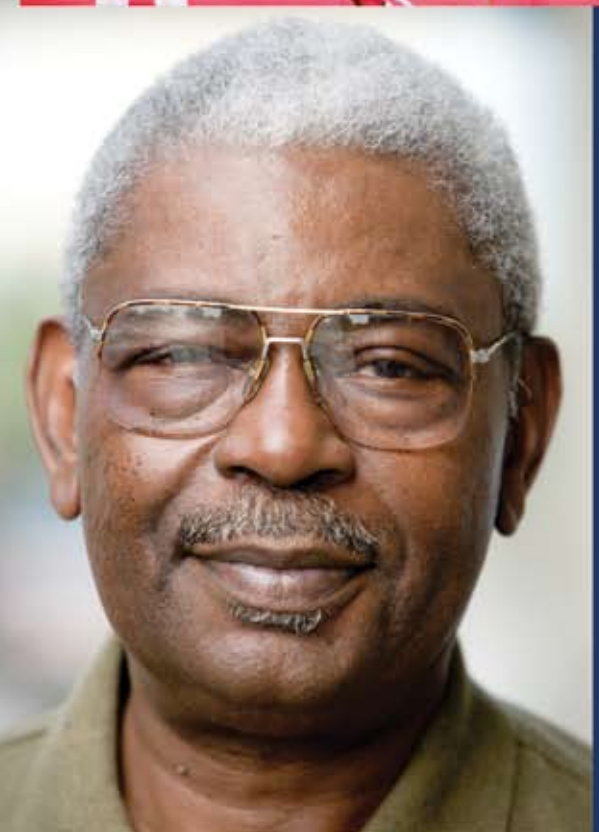
New Mexico Cancer Plan
2007-2011

A document to guide collaborative cancer control efforts throughout the state



The New Mexico Cancer Plan 2007 - 2011

A document to guide collaborative comprehensive cancer control efforts throughout the state

Implementation of the Plan is overseen by the New Mexico Cancer Council

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List Of Acronyms And Abbreviations

AAIHB	Albuquerque Area Indian Health Board
ACS	American Cancer Society
BCC	Breast and Cervical Cancer Early Detection Program
BMI	Body mass index
BRFSS	Behavioral Risk Factor Surveillance System
CCP	Comprehensive Cancer Program (a program of the New Mexico Department of Health)
CDC	Centers for Disease Control and Prevention (an agency within the U.S. Department of Health and Human Services)
CDPC	New Mexico Chronic Disease Prevention Council
CLAS	Culturally and Linguistically Appropriate Services
CRTC	Cancer Research and Treatment Center (at the University of New Mexico)
DRE	Digital Rectal Exam (a procedure to screen men for prostate cancer)
EpiCC	Epidemiology and Cancer Control Program of the University of New Mexico CRTC
ETS	Environmental Tobacco Smoke (secondhand smoke)
FOBT	Fecal Occult Blood Test (a test to screen for colorectal cancer)
HIV	Human immunodeficiency virus
HMO	Health Maintenance Organization
HPV	Human Papillomavirus
HRQOL	Health-Related Quality of Life
IHS	Indian Health Service
NCCN	National Comprehensive Cancer Network
NCI	National Cancer Institute
NIH	National Institutes of Health
NM	New Mexico
NMDOH	New Mexico Department of Health
NMTR	New Mexico Tumor Registry (a program of the University of New Mexico CRTC)
Pap	Papanicolaou (a test used to screen women for cancer of the cervix)
PLCO	Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial
PSA	Prostate-Specific Antigen (a test used to screen men for prostate cancer)
RAYS	Raising Awareness in Youth about Sun Safety (a skin cancer prevention project of the NMDOH Comprehensive Cancer Program)
SEER	Surveillance, Epidemiology, and End Results (a program of NCI)
SPF	Sun Protection Factor (a rating for sunscreen products)
TUPAC	Tobacco Use Prevention and Control Program (a program of the New Mexico Department of Health)
UNM	University of New Mexico
UNM PRC	University of New Mexico Prevention Research Center
UVR	Ultraviolet radiation
YRBS	Youth Risk Behavior Surveillance System
YRRS	Youth Risk and Resiliency Survey
YTS	Youth Tobacco Survey

Executive Summary

Cancer is New Mexico's second leading cause of death and a major cause of illness and suffering; one out of every five deaths in New Mexico is caused by cancer. New Mexico cancer mortality rates have been declining for the past three decades, and progress has been made in prevention, early detection, treatment, quality of life, and end-of-life care; however, much remains to be done.

Not all segments of the state's population have benefited equally from cancer prevention and control efforts. Among other factors, differences in language, sex, race/ethnicity, socioeconomic status, and education account for many of the disparities in the burden of cancer in New Mexico. Disparities also exist in knowledge, access to care, and treatment, contributing to higher cancer incidence and mortality, and to decreased quality of life.

The *New Mexico Cancer Plan 2007-2011* is a roadmap for cancer control and prevention for the state. The Plan represents the coordinated efforts of 60 organizations and 112 individuals across the state that came together to develop a document that clarifies the cancer control and prevention needs of New Mexicans.

The purpose of the Plan is to engender greater collaboration and coordination among stakeholders in order to reduce the cancer burden in the state. In the Plan, cancer control is defined as any action taken by individuals or organizations that enhances the likelihood that established cancer reduction goals and objectives will be achieved. Cancer control is the result of proper planning, organizing, and directing by the involved individuals and organizations.

The collaborative planning process yielded seven overall goals for cancer control in New Mexico:

- Reduce the number of New Mexicans who die as a result of cancer.
- Reduce the risks for developing cancer among New Mexicans.
- Increase early detection of, and appropriate screening for, cancer among New Mexicans.
- Eliminate disparities in cancer incidence, morbidity, and mortality in New Mexico.
- Ensure equal access to appropriate and effective cancer treatment and care for all New Mexico populations.
- Improve the quality of life for New Mexicans living with cancer and their loved ones.
- Improve coordination and collaboration among organizations conducting cancer control and prevention programs.

The goals and objectives of this cancer plan were developed to address disparities, prevention, detection, access to treatment, survivorship, capacity building, and evaluation. Strategies and suggested activities to address these goals and objectives include, but are not limited to, promoting healthy lifestyle habits, detecting cancers at earlier stages (for cancers where screening has been proven to be safe and effective), improving treatments, improving the prognosis and quality of life for cancer patients/survivors and their family members, and increasing access to health and social services.

Many of the goals and objectives in the Plan reflect the changes needed to achieve *Healthy People 2010*[1] targets. It is worth noting that New Mexico has already achieved or exceeded targets for some of the *Healthy People 2010* objectives.

The Plan is intended to be a "living" document, reviewed and revised as new research, best practices, and successful programs are identified in New Mexico and throughout the United States. Achieving the goals of this Plan will improve the lives of New Mexicans for many years to come.

[1] Healthy People 2010 is a comprehensive set of disease prevention and health promotion objectives for the nation to achieve by the year 2010. Scientists both inside and outside of government identified a wide range of public health priorities and specific, measurable objectives (www.healthypeople.gov).

Purpose of the *New Mexico Cancer Plan*

Cancer is a class of diseases characterized by uncontrolled cell division and the ability of these cells to invade other tissues, either by direct growth into adjacent tissue (invasion) or by migration of cells to distant sites (metastasis). This unregulated growth is caused by a series of acquired or inherited mutations to DNA within cells, damaging genetic information that defines cell functions, and removing normal control of cell division.

Cancer prevention, early detection, treatment, quality of life, and end-of-life care have improved significantly in recent decades. Nevertheless, cancer is still a major public health problem in New Mexico. It is the state's second leading cause of death and a major cause of illness and suffering. One out of every five deaths in New Mexico is caused by cancer.

The *New Mexico Cancer Plan 2007-2011* (generally referred to as the Plan in the remainder of this document) is a roadmap for cancer control and prevention for the state of New Mexico. In this document, cancer control is defined as any action taken by individuals or organizations that enhances the likelihood that established cancer reduction goals and objectives will be achieved. Cancer control is the result of proper planning, organizing, and directing by the involved individuals and organizations.

Broad goals for cancer control in New Mexico are:

(1) to reduce the prevalence of cancer,
(2) to increase cancer survival, and
(3) to reduce the financial, physical, and psychological burdens of cancer.

Strategies to address these goals include, but are not limited to, promoting healthy lifestyle habits, detecting cancers at earlier stages (for cancers where early detection has been proven to be safe and effective), improving treatments, improving the prognosis and quality of life for cancer patients, and increasing access to health and social services.

This Plan states the goals, defines the objectives, identifies the priority audiences, and suggests activities for achieving the objectives for cancer control. Indicators for success are suggested for each of the objectives. The objectives were designed to be SMART, that is, Specific, Measurable, Achievable, Realistic, and Time-bound. Some objectives do not have target numbers because baseline data were not available at the time of this writing. Baseline evaluations are suggested as activities for objectives that have no current baseline measure.

This Plan is intended to be a "living" document, reviewed and revised as new research, best practices, and successful programs are identified in New Mexico and throughout the United States.

Addressing the goals and objectives in this Plan will contribute to meeting the objectives and targets of *Healthy People 2010*[2] . Table 1 shows some of the objectives and the targets for *Healthy People 2010*, and the baseline figures for New Mexico. Many of the objectives in this Plan reflect the changes needed to achieve the *Healthy People 2010* targets. It is worth noting that New Mexico has already achieved or exceeded targets for some of the Healthy People 2010 objectives.

[2] Healthy People 2010 is a comprehensive set of disease prevention and health promotion objectives for the nation to achieve by the year 2010. Scientists both inside and outside of government identified a wide range of public health priorities and specific, measurable objectives (www.healthypeople.gov)

Table 1. Healthy People 2010 Objectives and Targets, and the Baseline Figures for New Mexico

Healthy People 2010 Objective	Healthy People 2010 Target	Baseline Figures for New Mexico
Reduce the overall cancer death rate	159.9 deaths per 100,000	170.7 deaths per 100,000[a]
Reduce the lung cancer death rate	44.9 deaths per 100,000	39.2 deaths per 100,000[a]
Reduce female breast cancer death rate	22.3 deaths per 100,000	22.8 deaths per 100,000[a]
Reduce the colorectal cancer death rate	13.9 deaths per 100,000	17.4 deaths per 100,000[a]
Reduce the prostate cancer death rate	28.8 deaths per 100,000	29.1 deaths per 100,000[a]
Reduce the melanoma cancer death rate	2.5 deaths per 100,000	2.3 deaths per 100,000[a]
Increase the proportion of women who receive a Pap test	97 percent	85 percent[b]
Increase the proportion of adults who receive colorectal cancer screening examination (sigmoidoscopy, FOBT, or colonoscopy)	50 percent	51 percent[b]
Increase the proportion of healthcare professionals who counsel their at-risk patients about tobacco use cessation, physical activity, and cancer screening	85 percent	67.6 percent[c]
Increase the proportion of men and women who engage in moderate or vigorous intensity physical activity	N/A	51.2 percent[d]

[a] NM Cancer Facts & Figures 2007.

[b] BRFSS, 2004.

[c] Padilla, et al., 2005.

[d] CDC, 2003a.

Organization of the *New Mexico Cancer Plan*

The *New Mexico Cancer Plan* has 13 sections. The first section is the introduction to the Plan, including the purpose for the Plan, who should use this Plan, how to use it, how the Plan was developed, and the guiding frameworks and theories on which the Plan is based. The second section describes the demographics of New Mexico. The third section presents the cancer burden in New Mexico. The fourth section provides an overview of the comprehensive cancer control and prevention efforts in New Mexico in the last five years. The fifth section presents the overall comprehensive cancer control goals and objectives for New Mexico. The sixth section presents the specific goal, objectives, and activities to address cancer disparities.

Sections seven through ten of the Plan provide the specific goals and objectives for cancer control and prevention in New Mexico. The public health model of primary, secondary, and tertiary prevention provided the framework for organizing the goals and objectives. Section eleven focuses on capacity building to improve performance and effectiveness among cancer control and prevention organizations. Section twelve presents the goals, objectives, and activities for measuring cancer control progress. The final section of the Plan outlines the steps necessary to implement this Plan.

Each goal in this Plan is associated with measurable objectives. The objectives are followed by suggested activities that will ultimately lead to achieving the goal(s). These activities are offered as a menu from which organizations and individuals can select action items that suit their missions. There are three categories of suggested activities enhancing programs to help prevent cancer, broadening access to quality cancer treatment, and improving the quality of life for New Mexicans affected by cancer:

(1) communication activities, which focus on diffusing information and educating New Mexico populations about some aspect of cancer control or prevention;

(2) mobilization activities, which include baseline research activities for objectives that do not currently have baseline measures, and for community-level activities; and

(3) advocacy activities, which aim to secure funding for programs to achieve specific objectives, and/or to advocate to decision- and policy-makers to develop and implement policies.

Who Should Use the *New Mexico Cancer Plan*

This Plan is written for individuals and organizations who work to promote cancer prevention and early detection, deliver cancer treatment services, engage in cancer research, and provide quality of life care. These front-line workers in the fight against cancer should use the Plan to identify key areas and audiences for their cancer program planning and implementation.

The New Mexico Cancer Council facilitated the Plan's development process. This Plan, however, is an invitation to all New Mexicans to partner in the mission to control and prevent cancer throughout the state. Various types of organizations and agencies play important roles in preventing and controlling cancer in New Mexico:

- **Public health agencies** that are responsible for leadership in convening participating organizations and agencies to define and delineate tasks and to support the long-term implementation of this plan at national, state, and local levels.

- **Healthcare providers**, who are central to the provision of prevention and early detection services, treatment, and care.

- **Other health-sector partners (including not-for-profit community service organizations)** that can help implement the plan at state or local levels, as appropriate. Their roles include contributing to detailed implementation plans, raising public awareness, and supporting legislative and regulatory action to fulfill the Plan's policy goals.

- **Non-health-sector partners** that represent such areas as education, community development and planning, transportation, and the media. These partners can contribute different perspectives, as well as additional resources, to help implement the plan and are clearly essential for success.

- **The public at large and representatives of specific groups or settings**, who are critical to public health action of any kind. Engaging these parties is also essential to the Plan's implementation and success.

All interested parties and stakeholders should be included in the implementation of the Plan. Successful implementation requires the continued support and assistance of these organizations and agencies. Their coordinated efforts will help limit duplication in cancer control and prevention efforts, enhance treatment and services to currently underserved populations, and reduce the burden of cancer in New Mexico.

"Our Sun Safety program has broken boundaries in Alamogordo schools. In addition to skin cancer prevention education, hats are now allowed on playgrounds, shade structures have gone up at elementary schools and teachers are encouraging their students to seek shade during the hottest part of the day (when UV rays are strongest.)"

- Tresa VanWinkle, Executive Director; Cancer Awareness Prevention, Prevalence and Early Detection; Alamogordo

How to Use the *New Mexico Cancer Plan*

The Plan identifies priority issues in cancer control for the state of New Mexico and recommends approaches to addressing these issues. It can provide guidance to help your organization to:

- Identify gaps in cancer control and prevention that your organization can address
- Guide program development
- Identify partners for specific cancer control interventions
- Plan goals and objectives for cancer control interventions
- Determine funding priorities
- Conduct cancer-related policy and advocacy initiatives
- Develop funding applications

Individuals and organizations are encouraged to review the goals, objectives, and suggested activities in the Plan to determine how their initiatives may be coordinated with the efforts of others. The activities are recommended actions supported by the New Mexico Cancer Council of which individuals and organizations can take ownership. The lists of activities are not comprehensive; your organization may identify other approaches for achieving specific objectives. The communication, mobilization, and advocacy activities are meant to work together; however, organizations may choose to address as many or as few of them as is appropriate. Finally, indicators of success are suggested for each of the objectives in this Plan. These indicators can be used to assess progress toward achieving each objective.

Data from *New Mexico Cancer Facts and Figures 2007* – a publication that provides comprehensive cancer incidence and mortality data from the New Mexico Tumor Registry and the New Mexico Department of Health Office of Vital Records and Health Statistics – are incorporated into the present Plan. A copy of *New Mexico Cancer Facts and Figures 2007* is included as a companion piece with this Plan and can be used for grant writing, presentations, and other educational initiatives. Updates to these data will be provided as appropriate, and will be available for downloading from the New Mexico Cancer Council website (www.cancernm.org/cancercouncil).

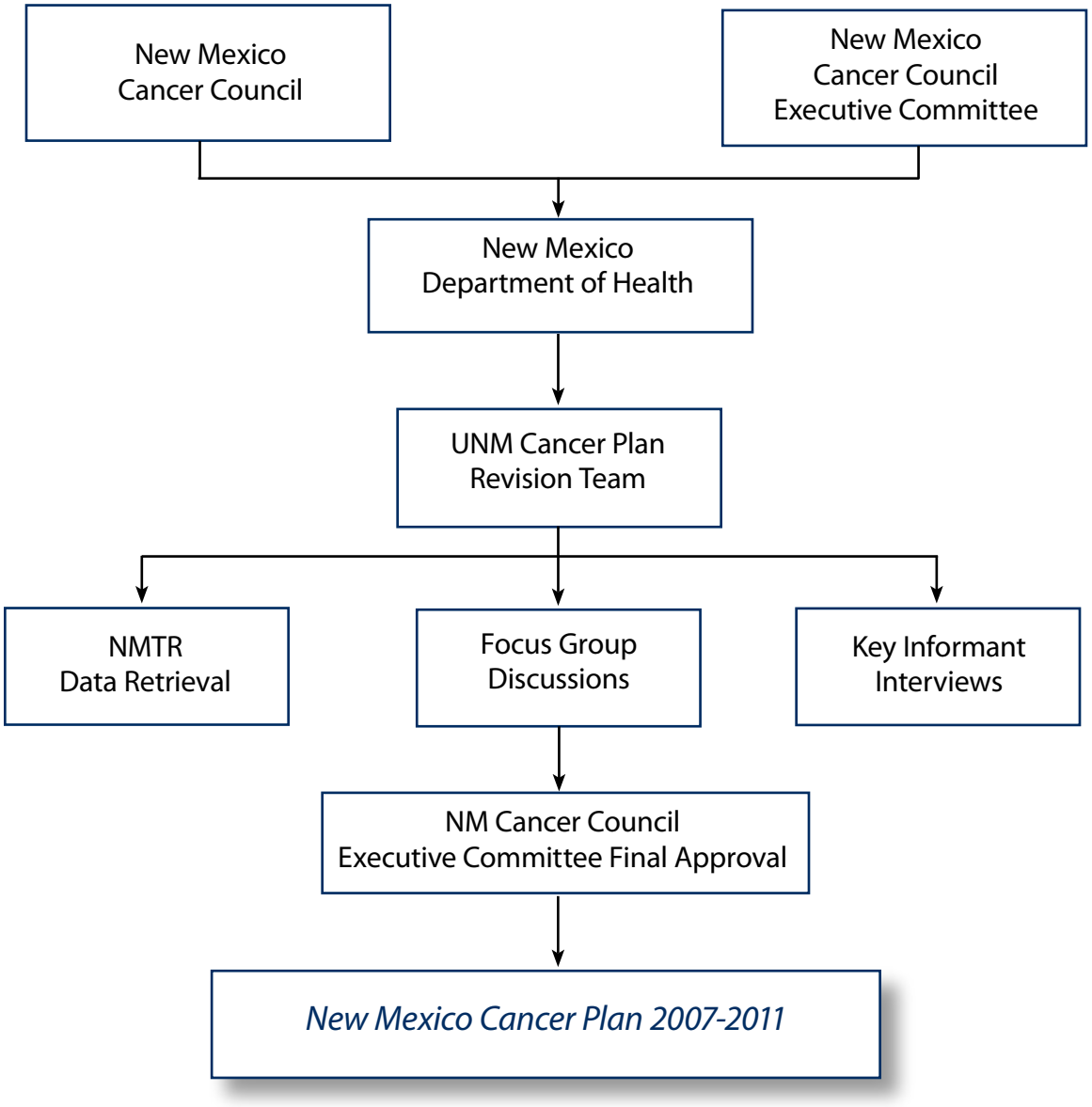
Cancer control in New Mexico requires collaboration and partnerships among the many dedicated cancer control and prevention organizations. For these organizations, the Plan is intended to serve as a guide to most effectively impact the overall goals for reducing the cancer burden in New Mexico.

Development of the *New Mexico Cancer Plan*

The Public Health Division of the New Mexico Department of Health, which includes the Chronic Disease Prevention and Control Bureau, was the lead agency in developing the Plan. The NMDOH received funding from the Centers for Disease Control and Prevention (CDC) and from the state general fund, and contracted with the University of New Mexico Prevention Research Center (UNM PRC) to conduct the relevant research for developing the current Plan.

Figure 1 depicts the process for developing the Plan. The New Mexico Cancer Council was convened in 2004 for the purpose of guiding the Plan development process. The NM Cancer Council is comprised of representatives from private and public cancer control organizations and agencies in New Mexico. The NM Cancer Council Executive Committee (a 20-seat governing and policy-making body of the Council, formerly the New Mexico Cancer Plan Steering Committee) assisted the process by suggesting key individuals and organizations to be interviewed, and by providing feedback on the various sections of the Plan.

Figure 1: The *New Mexico Cancer Plan 2007-2011* Revision Process



The UNM Cancer Plan Revision Team (comprised of UNM PRC researchers) conducted (1) research on the current cancer incidence, prevalence, morbidity and mortality; (2) focus group discussions with representatives from cancer prevention, treatment, and support groups throughout the state; and (3) key informant interviews in order to understand cancer control and prevention issues in each region of New Mexico, to elicit feedback about the *New Mexico Cancer Plan 2002-2006*, and to obtain input about how to improve the Plan. Findings from the research, focus group discussions, and key informant interviews were incorporated into the present Plan.

Two programs within the Chronic Disease Prevention and Control Bureau's Cancer Prevention and Control Section are key to supporting the implementation of the Plan:

1. The Comprehensive Cancer Program (CCP). The CCP receives funding from the State of New Mexico and from the CDC for comprehensive cancer control. Working in collaboration with diverse partners, the CCP offers cancer education, information and resources to the public and healthcare providers. The Program's efforts are guided by the goals and objectives of the Plan.

2. The Breast and Cervical Cancer Early Detection Program (BCC Program). The New Mexico Department of Health BCC Program is dedicated to:
   - improving access to high-quality breast and cervical cancer screening and diagnostic services for women who are underserved and
   - increasing public awareness through education about prevention, disease processes and the importance of annual well-woman exams for early detection.

The collaboration among cancer control partners, together with these key programs, will help to ensure more concerted cancer control and prevention efforts in New Mexico.

Guiding Frameworks, Models, and Theories

The Plan is based on the public health model. The public health model focuses on reducing the risk of, and increasing resiliency against, illness and disease.

The Core Functions of Public Health

The core functions of public health are assessment, policy development, and assurance.

Assessment refers to the obligation of every public health agency to monitor the health status and needs of its community regularly and systematically. Assessment data are used to identify health problems and high-risk populations, and to inform disease prevention and control programs.

Policy development refers to the responsibility of every public health agency to develop comprehensive policies that are based on available knowledge and are responsive to communities' health needs. Policy development includes setting priorities and mobilizing resources to serve the common good.

Assurance is the guarantee that agreed-upon, high-priority personal and community health services will be provided to every member of the community by qualified organizations.

Each of the goals and objectives in this plan is readily identifiable with one of these three core functions. In addition to government entities, it is crucial that private and voluntary organizations and individuals actively contribute to the functions of public health.

The Public Health Model has three tiers:

Primary prevention emphasizes keeping the population healthy by preventing or reducing the risks for developing disease. Immunization, promoting healthy diets, avoiding tobacco use and increasing physical activity are all examples of primary prevention activities.

Secondary prevention is the identification and early treatment of disease. Screening programs are designed to reach those individuals most susceptible to developing the disease before the disease has advanced. Examples from cancer prevention are the Pap test to screen for cancer of the cervix, the mammogram to screen for breast cancer, and fecal occult blood testing to screen for colorectal cancer. Ideally, broad-based screening programs target diseases that can be diagnosed at early stages and for which effective treatments are available.

Tertiary prevention affects individuals with established disease. It emphasizes delaying advancement of the disease, reducing the risks for complication or recurrence, prolonging life and promoting quality of life. Unlike primary and secondary prevention activities, tertiary prevention addresses the needs of individuals rather than population groups.

The objectives and strategies within these categories address the priority cancers identified through evidence-based research. (See page 15 for details.) The UNM Cancer Plan Revision Team developed a list of the criteria used to select the current Plan objectives (Appendix B, page 93).

The Ecological Model

Healthy behaviors are an important pathway to cancer risk reduction and are influenced by such ecological factors as age, ethnicity, education, socioeconomic status, residence, and social networks (family, peers, colleagues). The ecological perspective provides a basis for examining and understanding health behavior by emphasizing the importance of the context in which individuals operate. This includes the intrapersonal context (i.e., the internal dialogue of the individual), the interpersonal context (i.e., interactions with other individuals), the community context (i.e., the physical, occupational, and social environment), and the societal context (i.e., the extended social environment, including norms and laws). These

contexts are often beyond personal control, yet they influence behavior (Figure 2).

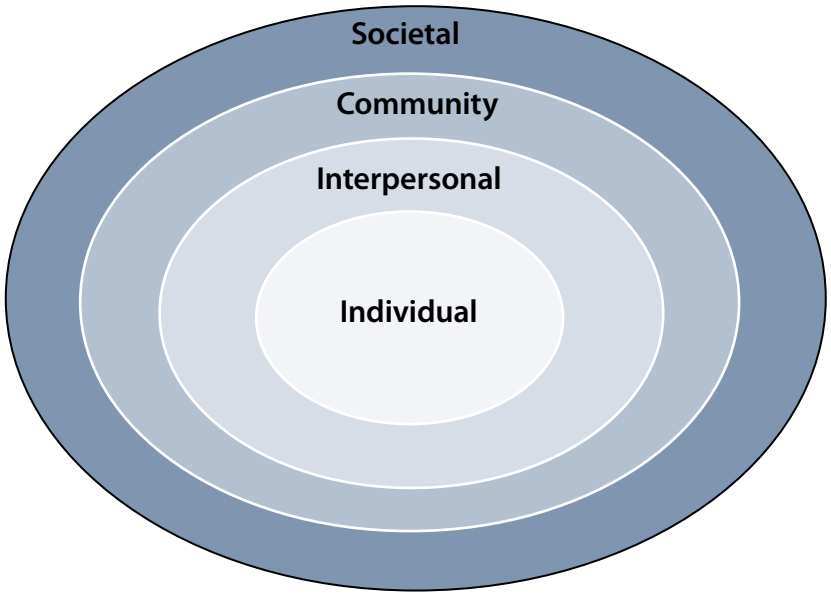
The ecological perspective is consistent with efforts to create programs that encourage individual and community empowerment. Using information about each of the contexts, program planners can incorporate various sources of influence on behavior to improve health outcomes. For example, family patterns may influence a woman's exercise and dietary habits, thus program planners might consider providing daycare so that mothers can exercise, and nutrition promotion programs may want to work with the business sector to ensure that healthy foods are available to be purchased in the community.

Diffusion of Innovations

Diffusion of innovations is a theory that helps to explain how innovations spread within a social system. Diffusion is the process through which an innovation (defined as an idea, technology, or practice that is perceived as new) spreads via certain communication channels, over time, among the members of a particular social system (Rogers, 2003). Diffusion theory is a model for helping (1) to understand the process of behavioral and social change, and (2) to develop effective interventions that can be widely disseminated.

Many cancer interventions aim to diffuse information and new behaviors at multiple levels and in diverse settings. At the individual level, adopting a cancer prevention behavior – for example, maintaining a healthy diet – requires a lifestyle change. At the organizational/ institutional level, diffusing healthy dietary practices may require changes in school cafeteria food options and the implementation of programs to educate students about healthy food choices. At the community level, the diffusion of healthy dietary practices may necessitate changes in the types and number of food outlets that offer healthy foods and may engage the media in educating community members about healthy dietary practices. Effective diffusion requires the use of both interpersonal and mass media communication channels.

Figure 2: A Model of the Levels in the Ecological Approach



Geographic and Ethnic Diversity

New Mexico is the fifth largest state in landmass and has one of the lowest population densities (about 15 persons per square mile) in the United States (New Mexico Selected Health Statistics Annual Report, 2004). The estimated population size of New Mexico, as of July 1, 2005, was 1,928,384, an increase of about 80,000 individuals since 2002 (the beginning period for the last *Cancer Plan*) (U.S. Census Bureau, 2005).

The demographic makeup of New Mexico is diverse. The state population estimate for 2004 was 43.5 percent White and 41.3 percent Hispanic. American Indians/Alaska Natives represent 11.0 percent of the New Mexico population. At least 2.6 percent of New Mexicans are Black and 1.7 percent are Asian or Pacific Islander (New Mexico Selected Health Statistics Annual Report, 2004).

It is important to note that the Hispanic population in the state is not homogeneous. Many New Mexican Hispanics are bilingual. Of those who speak Spanish, many trace their lineage to Spanish colonizers in the 17th century; others are more recent immigrants from Mexico and Central America, many of whom speak very little, or no, English.

Counties in the north central mountain regions of the state have a relatively high percentage of Hispanics, and five counties in the northwestern part of the state have a high percentage of American Indians. Counties in the southeastern part of the state have a higher percentage of Blacks compared to the rest of the state. The border regions (i.e., counties within 100 kilometers of the Mexico border including Grant, Sierra, Hidalgo, Luna, Doña Ana, and Otero counties) have a large Mexican immigrant population.

New Mexico's American Indian population is diverse, with 19 pueblos[3], two Apache Tribes (Jicarilla and Mescalero), and approximately one-third of the Navajo Nation population living on the main reservation in the northwest area of the state and on three smaller Navajo reservations: Alamo, To'hajiilee (formerly Cañoncito), and Ramah. Many of the older American Indians living on tribal land speak only their native languages. Each pueblo and tribe is legally recognized as a sovereign nation with its own political structure and inherent powers of self-government. The pueblos and tribes relate to the federal and state governments on a government-to-government basis.

At least 65 percent of American Indians in New Mexico reside outside of Indian lands (U.S. Census Monitoring Board, 2001). The urban American Indian population in the state is comprised of individuals from as many as 202 tribes, including tribes based outside of New Mexico.

[3] The 19 pueblos include Acoma, Cochiti, Isleta, Jemez, Laguna, Nambé, Picuris, Pojoaque, San Felipe, San Ildefonso, Ohkay Owingeh (formerly San Juan), Sandia, Santa Ana, Santa Clara, Santo Domingo, Taos, Tesuque, Zia, and Zuni.

Poverty and Health Insurance Coverage in New Mexico

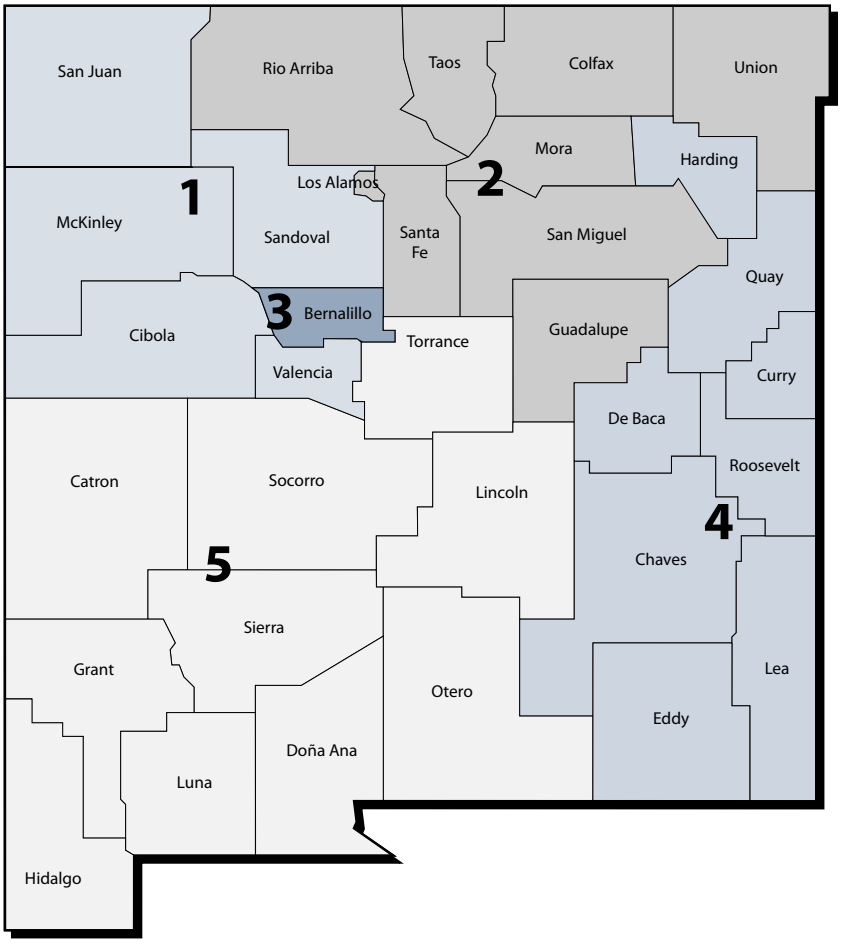
New Mexico perennially ranks as one of the poorest states in the nation. In 2005, the per capita personal income in New Mexico was $27,644, ranking 46th in the nation (U.S. Department of Commerce, 2006). About 18 percent of New Mexicans lived below the poverty line, compared to 13 percent nationally (U.S. Census Bureau, 2005). New Mexico has one of the highest child poverty rates (about 26 percent) in the nation (Bryan, 2003).

According to the Census Bureau, at least 21 percent of New Mexicans were without health insurance at any given time between 2003 and 2005. The uninsured rate for the nation was 15.7 percent.

New Mexico Public Health Division Regions

The New Mexico Department of Health (NMDOH) supports public health improvement activities via local offices in each of the five public health regions and through centralized bureaus throughout the state. In 1993, the New Mexico Department of Health established the Border Health Office in Las Cruces to address health issues related to rapid population growth and economic development along the southern border of the state. In 1994, the United States-Mexico Border Health Commission created a bi-national forum for addressing border health issues. (Figure 3 shows the public health regions for New Mexico.)

Figure 3: Map of the Five New Mexico Public Health Regions



Region 1: Cibola, McKinley, San Juan, Sandoval, and Valencia
Region 2: Colfax, Guadalupe, Los Alamos, Mora, Rio Arriba, San Miguel, Santa Fe, Taos, and Union
Region 3: Bernalillo County
Region 4: Chaves, Curry, DeBaca, Eddy, Harding, Lea, Quay, and Roosevelt
Region 5: Catron, Doña Ana, Grant, Hidalgo, Lincoln, Luna, Otero, Sierra, Socorro, and Torrance

New Mexico Cancer Burden: Facts and Figures

Seven cancers are discussed in this Plan: (1) breast, (2) cervical, (3) colorectal, (4) lung, (5) melanoma (skin), (6) prostate, and (7) pediatric cancers. The criteria for selecting these cancer sites were (1) incidence rates and (2) the existence of evidence-based methods for prevention, early detection, and effective treatment. Each of these cancers contributes to the overall burden of cancer in New Mexico.

Below are cancer incidence and mortality data for New Mexico, and specifically for each of the cancers represented in this Plan. These data are drawn from *New Mexico Cancer Facts & Figures 2007: A Sourcebook for Planning and Implementing Programs for Cancer Prevention and Control*, distributed with this Plan, and available at www.cancernm.org.

Cancer Incidence and Mortality in New Mexico

Between 2000 and 2004[4], the average annual incidence rate[5] for all cancers in New Mexico was 418.3 per 100,000 population, or 7,621 new cases of cancer per year. The cancer rate for men was 491.7 per 100,000 population (4,050 cases per year) and for women was 363.2 per 100,000 population (3,571 cases).

The cancers with the highest incidence among New Mexicans for the years 2000 to 2004 were: (1) prostate (1,257 cases per year), (2) female breast (1,104 cases per year), (3) lung/bronchus (851 cases per year), (4) colon/rectum (774 cases per year), and (5) melanoma (320 cases per year) (*New Mexico Cancer Facts & Figures 2007*).

The cancer mortality rate in New Mexico from 2000 to 2004 was 168.6 per 100,000. Lung cancer resulted in the largest number of deaths (697 deaths per year between 2000 and 2004). The next leading causes of cancer deaths in New Mexico were colorectal (303 deaths per year), breast (224 deaths per year), and prostate (189 deaths per year) (*New Mexico Cancer Facts & Figures 2007*).

The projected number of new cancer cases diagnosed in New Mexicans for 2007 is 8,030. The projected number of cancer deaths among New Mexicans for 2007 is 3,270 (Jemal et al., 2007). The population of New Mexico is aging, and because cancer occurs more often in older persons, the burden of cancer is expected to grow. The increase in the number of people living with cancer will place a growing demand on the healthcare system and on all cancer control efforts in New Mexico.

Breast Cancer

Breast cancer is the most frequently diagnosed cancer among women of all racial and ethnic groups in New Mexico, and it is the leading cause of cancer death among Hispanic, American Indian, and Black women. Among White women in New Mexico, breast cancer is second to lung cancer as the leading cause of cancer death.

White women are diagnosed with breast cancer at a higher rate than other race/ethnicity groups in New Mexico. These women also experience a higher mortality rate. Age-adjusted incidence and mortality rates were lowest in American Indian women (*New Mexico Cancer Facts & Figures 2007*).

Between 2000 and 2004, the average annual incidence rate for female breast cancer in New Mexico was 112.2 cases per 100,000, or 1,104 women diagnosed with breast cancer per year. The incidence of breast cancer in New Mexico has generally increased over the last three decades. Rates had almost doubled among Hispanic and American Indian women from the late 1970s to the late 1990s; however,

[4] The most recent data analyzed and available are for the five-year period including 2000 to 2004. All data are age-adjusted to the 2000 Census and are reported in *New Mexico Cancer Facts & Figures 2007.*

[5] Incidence rate refers to the number of new cases of cancer per 100,000 population per year.

all racial/ethnic groups have seen a modest decline in breast cancer incidence in the most recent five years (*New Mexico Cancer Facts & Figures 2007*). The trend of rising breast cancer incidence seen in New Mexico may in part be due to increased screening efforts across the state.

An average of 221 women died per year from breast cancer from 2000 to 2004 (a mortality rate of 22.4 per 100,000). Mortality rates have remained relatively stable at approximately 20 percent of incidence (*New Mexico Cancer Facts & Figures 2007*).

Almost nine out of 10 New Mexican women ages 40 years and older reported ever having had a mammogram; however, fewer than seven in 10 reported that their last mammogram was within the past two years. About 70 percent of all breast cancers diagnosed in New Mexico are detected at an early stage (*in situ* and localized) (*New Mexico Cancer Facts & Figures 2007*).

Among New Mexican women diagnosed with local stage (i.e., early) breast cancer from 1999 to 2003, over 98 percent were still alive five years later. Diagnoses at later stages yielded lower survival rates: 80.7 percent for regional stage diagnoses and only 19.5 percent for distant stage diagnoses (*New Mexico Cancer Facts & Figures 2007*).

The projected number of new breast cancer cases to be diagnosed in New Mexico women in 2007 is 1,080. The projected number of deaths from breast cancer among New Mexico women in 2007 is 240 (Jemal et al., 2007).

Cervical Cancer

Most cervical cancers develop slowly through a series of abnormal changes in the cells of the cervix, changes most often related to *human papillomavirus* (HPV). Infection with two types of HPV, which is transmitted sexually, is strongly associated with cervical cancer and is the primary risk factor. Evidence of HPV is found in nearly 80% of cervical carcinomas (www.cdc.gov/std/HPV/STDFact-HPV.htm). Although the vast majority of HPV infections do not progress to cervical cancer, the rare instance when HPV infection persists appears to be important to the development of the disease.

Women who smoke cigarettes are twice as likely to develop cervical cancer. Chemicals in cigarette smoke that are transported throughout the body by the blood may increase the risk by damaging cervical cells. Other risk factors include age (the condition is rare in women younger than age 15) and race/ethnicity (invasive cervical cancer rates are higher in Blacks, Hispanics, and American Indians).

From 2000 to 2004, the average annual incidence rate for cervical cancer in New Mexico was 8.7 per 100,000, or 82 new cases diagnosed in New Mexico women per year. The mortality rate from cervical cancer in New Mexico from 2000 to 2004 was 2.3 per 100,000, or 22 deaths per year (*New Mexico Cancer Facts & Figures 2007*).

Regular screening with a Pap test lowers the risk for developing invasive cervical cancer by detecting pre-cancerous changes in cervical cells that can be effectively treated. The five-year survival rate for cervical cancers detected at a local stage was 88 percent for diagnoses made from 2000 to 2004. Women diagnosed at a regional stage from 2000 to 2004 had a 52 percent chance of survival at five years, while women diagnosed at a distant stage had a 18 percent relative survival rate at five years (*New Mexico Cancer Facts & Figures 2007*). Women who do not receive regular Pap smears have a higher risk for invasive cervical cancer.

Cervical cancer screening rates among New Mexican women are high. Almost 95 percent of New Mexican women ages 18 years and older reported ever having had a Pap test. However, that rate drops to only 79.1 percent for New Mexican women reporting that they have had a Pap test within the last three years (*New Mexico Cancer Facts & Figures 2007*).

The projected number of new cervical cancer cases to be diagnosed in New Mexican women in 2007 is 70 (Jemal et al., 2007).

Colorectal Cancer

Colorectal cancer is the fourth most frequently diagnosed cancer in New Mexico (following prostate, breast and lung cancers), and it is the second leading cause of cancer death. From 2000 to 2004, there were 3,869 cases of colorectal cancer diagnosed in New Mexicans (about 774 new cases per year). During the same time period, 1,511 New Mexicans died of colorectal cancer (about 303 deaths per year) (*New Mexico Cancer Facts & Figures 2007*).

Colorectal cancer is the third most frequently diagnosed cancer among males (following prostate and lung cancers), and among females (following breast and lung cancers). It is also the third leading cause of cancer death among males (following lung and prostate cancers) and among females (following lung and breast cancers) (*New Mexico Cancer Facts & Figures 2007*).

Many new colorectal cancer cases and deaths may be preventable with appropriate screening. Colorectal cancer screening tests can find polyps (abnormal growths) in the colon or rectum so they can be removed before they develop into cancer. Only about half of New Mexicans aged 50 and older reported that they were current with screening recommendations for colorectal cancer (*New Mexico Cancer Facts & Figures 2007*). Not surprisingly, more than half of the colorectal cancers diagnosed in New Mexico are found at an advanced stage (regional or distant), when these cancers are least curable.

The projected number of new colorectal cancer cases to be diagnosed among New Mexicans in 2007 is 790. The projected number of deaths from colorectal cancer among New Mexicans in 2007 is 320 (Jemal et al., 2007).

Lung Cancer

In New Mexico, lung cancer is the second most frequent cancer diagnosis and the leading cause of cancer death in both men and women. From 2000 to 2004, there were 4,257 new cases of lung cancer diagnosed in New Mexico, or an average of 851 new cases per year. Nearly 700 New Mexicans died from the disease each year from 2000 to 2004. Lung cancer was responsible for almost as many deaths as prostate, breast, and colorectal cancers combined (*New Mexico Cancer Facts & Figures 2007*).

Less than half (44 percent) of those diagnosed with lung cancer at an early stage survive five years following diagnosis; 16 percent survive five years when diagnosed at a regional stage, and there is only a 2 percent five-year survival rate for those diagnosed at a distant stage (*New Mexico Cancer Facts & Figures 2007*).

Commercial (non-ceremonial) tobacco use is associated with 87 percent of lung cancer deaths, and at least 30 percent of all cancer deaths[6]. About 2,080 New Mexicans die annually from smoking-related diseases. Overall, one in five New Mexicans report being a current smoker; however, some demographic groups have rates above 30 percent (*New Mexico Cancer Facts & Figures 2007*).

About 25 percent of high school-aged youth in New Mexico were current smokers in 2005, compared to 23 percent nationally. Almost nine percent of high school youth used smokeless tobacco products including chew, snuff, or dip. At least 10 percent of New Mexico middle school students reported being smokers in 2004 (*New Mexico Cancer Facts & Figures 2007*).

Clean indoor air ordinances, tobacco cessation programs and increases in taxes on tobacco products have contributed to decreases in tobacco use and exposure to secondhand smoke in New Mexico. The search for an effective screening test for lung cancer is ongoing. To date, the single most important step to reduce the risk of developing lung cancer is to avoid tobacco products.

The projected number of new lung cancer cases to be diagnosed in New Mexicans in 2007 is 940. The projected number of deaths from lung cancer among New Mexicans in 2007 is 720 (Jemal et al., 2007).

[6] Commercial tobacco products are associated with a variety of cancers including bladder, oral, pancreatic, kidney, cervical, stomach, and others. Such diseases as SIDS (Sudden Infant Death Syndrome), stroke, heart disease, emphysema, chronic bronchitis, pneumonia, cataracts, and gum disease are also associated with smoking.

Melanoma
The two most common types of skin cancer are basal cell carcinoma and squamous cell carcinoma.[7] Both are highly curable cancers. Melanoma, the third most common type of skin cancer, is more dangerous. Each year from 2000 to 2004, approximately 320 New Mexicans were diagnosed with melanoma, and about 40 died of the disease (*New Mexico Cancer Facts & Figures 2007*).

When detected at an early stage, melanoma survival at five years is 97.2 percent. Fewer than two-thirds (60 percent) of melanoma patients survive for five years following a regional stage diagnosis, and less than one quarter survive five years following a distant stage diagnosis (*New Mexico Cancer Facts & Figures 2007*).

The projected number of new melanoma cases to be diagnosed in New Mexico in 2007 is 420 (Jemal et al., 2007).

Prostate Cancer
Prostate cancer was the second leading cause of cancer death among New Mexican males in all population groups except Hispanics, for whom prostate cancer was the third leading cause of cancer deaths. The average annual incidence rate for prostate cancer in New Mexico was 150.8 per 100,000 from 2000 to 2004; or 1,257 new cases per year. During the same time period, a total of 944 men died from prostate cancer, or an average of 189 deaths per year (*New Mexico Cancer Facts & Figures 2007*).

Most prostate cancers (about 68.3 percent) are detected at an early stage. The five-year relative survival rate for prostate cancers diagnosed at an early stage is around 100 percent (*New Mexico Cancer Facts & Figures 2007*). Prostate cancer screening is more common than colorectal cancer screening among men in the United States (Sirovich et al., 2006). However, unlike colorectal cancer screening, which is associated with a reduction in illness and death from colorectal cancer, screening for prostate cancer has not yet been shown to definitely reduce death and disability from prostate cancer. Prostate cancer screening has also been associated with greater morbidity and possibly unnecessary treatment for clinically insignificant disease.

The projected number of new prostate cancer cases to be diagnosed in New Mexican men in 2007 is 1,410. The projected number of deaths from prostate cancer in New Mexico in 2007 is 200 (Jemal et al., 2007).

Pediatric Cancer
The International Classification of Childhood Cancers (International Agency for Research on Cancer Publication No.29, Lyon:1996) groups dozens of specific tumor types into 12 major categories including leukemias, brain tumors and other central nervous system tumors, lymphomas, bone cancers, soft tissue sarcomas, kidney cancers, eye cancers, and adrenal gland cancers. These are the most common types of childhood cancers. Some cancers (e.g., neuroblastoma, retinoblastoma, hepatoblastoma, and Wilms tumor) occur almost exclusively in the youngest (0-4 years) age group, and cancers of epithelial origin (e.g., lung, breast, and colon cancers) are rare except in the oldest (15-19 years) age group (*New Mexico Cancer Facts & Figures 2007*).

The primary modes of treatment for childhood cancers include surgery, chemotherapy, and radiation therapies. The treatment each individual receives, and the sequence in which the treatments are given, depend on the type of cancer and the stage of the disease at diagnosis. National trends in five-year survival rates for children have improved greatly over the past three decades, from less than 50 percent before the 1970s to almost 80 percent currently (American Cancer Society, 2007). The treatment advances made through clinical trials, and the high participation by children in cancer clinical trials, has produced a growing population of adult survivors of childhood cancer (*New Mexico Cancer Facts & Figures 2007*). Survivors of childhood cancers are at increased risk for health problems caused by the therapies they underwent as children.

[7] These two types of skin cancer are not routinely recorded by cancer registries because they are common and generally not life-threatening.

The Last Five Years

Use of the *New Mexico Cancer Plan 2002-2006*

A mail survey was conducted in May 2005 to determine (1) the extent to which cancer control organizations in New Mexico utilized the *New Mexico Cancer Plan 2002-2006* to guide the goals, objectives, and cancer control activities that they provide to the public; (2) the degree to which these organizations evaluate the impact of the services that they provide to the public; and (3) the degree to which organizations collaborate and coordinate cancer control services within the state.

The study findings showed that many New Mexico cancer control organizations did not have a copy of the *Cancer Plan* and did not adhere to the goals and objectives of that Plan. Many of the organizations surveyed felt that they were not meeting the information and support services needs of their clients. Few respondent organizations maintained records of client interactions or conducted systematic evaluations of their cancer control activities. Many of the organizations surveyed stated that they collaborated with other cancer control organizations with regard to research and policy issues. Collaboration in the form of referring clients to appropriate cancer control organizations was deficient.

The study findings suggested several key areas for improving cancer control efforts in New Mexico: (1) improve the availability of cancer information by organizations to clients; (2) improve the ability of organizations to refer clients to appropriate services; (3) refine the language of Plan objectives so that more of them are specific, measurable, achievable, realistic, and time-bound; (4) include suggested mechanisms for assessing the impact of cancer control activities in the Plan; and (5) ensure that the Plan is again available in both print and Web-based formats, and that it is launched with widespread publicity. These findings were used to develop the current Plan.

Progress Toward Selected Objectives From the *New Mexico Cancer Plan 2002-2006*

Working in collaboration with the University of New Mexico Prevention Research Center (UNM PRC) and various community partners, the New Mexico Department of Health prepared a report documenting the progress toward selected cancer control and prevention objectives outlined in the *New Mexico Cancer Plan 2002-2006*. Table 2 presents findings from data analyses for selected cancer control objectives.

New Mexico's Cancer Control and Prevention Assets

New Mexico has a rich history of cancer control activities involving diverse partners. The state has many high-quality programs that address risk reduction and prevention, screening and early detection, treatment, research, end-of-life care, and quality of life issues. Some success stories from these programs appear throughout this document. Ongoing efforts to reduce the cancer burden in New Mexico will require the concerted efforts and resources of multiple partners.

"The Patient Assistance Support Services Program provides patient-focused social support services including a patient education program, dietetics and nutrition support, and financial support to eligible patients to pay for unmet non-medical living expenses through the New Mexico Cancer Center Foundation."

- Staff member,
New Mexico Cancer Center Foundation, Albuquerque.

Table 2. Percentages for Baseline, Target, and Actual Cancer Control Objectives from the *New Mexico Cancer Plan 2002-2006*.

Objective	Baseline	Target	Actual
Tobacco Use			
1. Reduce percentage of youth in grades 6-8 that report smoking in the past 30 days.	21	17	10[a]
2. Reduce percentage of youth in grades 9-12 that report smoking in the past 30 days.	36	32	26[b]
3. Increase percentage of youth in grades 9-12 that attempted to quit in the past year.	56	60	55[b]
4. Reduce prevalence of cigarette use by adults.	22	21	22[c]
5. Reduce exposure to environmental tobacco smoke by increasing percentage of:			
a. Smoke-free homes	64	70	78[d]
b. Smoke-free workplaces	66	77	81[d]
Sun Exposure			
1. Increase the number of educational efforts to encourage sun safe behaviors.	N/A	N/A	See note "e" below
2. Determine percentage of New Mexicans reporting one or more sunburns in the past year.	N/A	N/A	35[f]
3. Increase the number of New Mexicans using at least one protective measure to reduce the risk of skin cancer.	N/A	N/A	See note "g" below
Nutrition and Diet			
Increase the number of persons aged 13 and older following dietary guidelines that recommend eating 5 or more servings of fruits and vegetables per day.			
a. Youth, ages 13-17	22[h]	27	17[b]
b. Adults	20	25	22[f]
Physical Activity			
Increase the number of persons aged 13 and older getting regular exercise.			
a. Youth, ages 13-17	62[h]	75	58[i]
b. Adults	51[f]	55	51[f]
Breast Cancer			
Increase the percentage of women aged 40 and older receiving annual mammograms and clinical breast exams.	51	54	55[c]

Objective	Baseline	Target	Actual
Cervical Cancer Increase the percentage of women aged 18 and older receiving cervical cancer screening.	83	88	85[c]
Colorectal Cancer Increase the percentage of New Mexicans aged 50 and older following recommended screening guidelines for colorectal cancer, and increase the proportion of those at increased risk receiving recommended screening.	35	40	51[c]
Access to Treatment Increase the number of providers other than oncologists who are knowledgeable about optimal cancer screening and care.	N/A	N/A	See note "j" below

[a] NMYTS, 2004.

[b] NMYRRS, 2005.

[c] NMBRFSS, 2005 (unpublished).

[d] NMATS, 2003.

[e] The DOH-sponsored RAYS sun-safety project reached 40,000 children, parents, and community members between 2003 and 2006; however, this figure includes some repeat exposure. Over 10 schools modified or adopted new policies to support sun safe behaviors as a result of the RAYS project.

[f] NMBRFSS, 2003. This question was added to BRFSS in 2003 to fulfill an objective of the New Mexico Cancer Plan 2002 – 2006.

[g] Some 36 percent of adult New Mexicans seldom or never use sunscreen or sunblock when outside for more than an hour, and 34 percent seldom or never wear a hat. About 74 percent of parents reported that their children (under 13 years) were protected by using sunscreen (BRFSS, 2003).

[h] Unweighted YRBS, 1999.

[i] NMYRBS, 2005.

[j] Several CME accredited Provider Handbooks on specific cancers were produced and distributed. The Cervical Cancer handbook was updated in 2002 and mailed to 1,700 primary care physicians and physician assistants (PAs) with NM licenses and NM addresses. The Colorectal Cancer handbook was created in 2002 and updated in 2004, and over 5,000 were distributed, including 1,500 directly mailed to MDs and PAs. Two CDC slide sets for healthcare providers were replicated onto CD-ROM and disseminated to clinicians statewide. "Screening for Prostate Cancer: Sharing the Decision," was mailed to 2,400 healthcare providers. "A Call to Action: Prevention and Early Detection of Colorectal Cancer," went to 600 healthcare providers. In 2005, three CME-accredited presentations on colorectal cancer were given at rural health centers in different areas of the state.

N/A=not available

Challenges to Implementing Cancer Control and Prevention Programs in New Mexico

New Mexico is a relatively poor state with large distances between healthcare services in some areas and gaps in healthcare delivery in others. Several challenges affect individuals diagnosed with cancer including the stage at diagnosis, treatment decisions, adherence to care, and the overall management of their disease.

Service Delivery Challenges
Service delivery to cancer patients by government and non-government agencies is impeded by such factors as competing health needs, lack of political will and funding support, and accessibility. Many remote areas are faced with underdeveloped primary healthcare structures, as well as limited financial, equipment, and human resources to serve their catchment areas.

Financial Challenges to Care
Access to cancer care is facilitated by insurance coverage and/or the ability to pay for care. In 2005, more than 23 percent of New Mexicans under age 65 were uninsured, compared to 17.9 percent for the U.S. (NM Health Policy Commission, January 2007). Given that New Mexico's population is ranked among the poorest in the nation, it is not surprising that many New Mexicans, especially those who are uninsured or underinsured, face financial barriers when trying to access cancer care. For the working poor, leaving work for medical care adds to their financial burden. Low-income families are sometimes unable to afford private health insurance, yet they may be ineligible for government healthcare programs.

The Indian Health Service (IHS) provides services to American Indians directly and through tribally contracted and operated health programs. Health services also include healthcare purchased from private providers. Cancer diagnosis and treatment requires specialized care that is generally not available in IHS health facilities. Limited funding for contract services with providers outside the IHS system has resulted in a large unmet need for cancer services, and consequently, in delays in treatment and follow-up care for some American Indian cancer patients. An additional challenge to receiving care is location. At least 65 percent of American Indians in New Mexico reside outside of Indian lands (U.S. Census Monitoring Board, 2001). The urban American Indian population in the state is comprised of individuals from as many as 202 tribes, including tribes based outside of New Mexico. Despite the high numbers of American Indians living in urban areas, only one percent of the IHS budget is allocated to urban programs.

Geographic Challenges
New Mexico is a largely rural state, which requires some citizens to travel long distances to reach healthcare facilities. Many New Mexicans are unable to access care due to a lack of transportation. Some areas of the state have programs that provide limited transportation assistance for patients traveling to and from treatment.

Social and Cultural Challenges
Fear, embarrassment, anxiety about loss of privacy, and a mistrust of physicians (especially when the physician is of a different ethnicity or sex) may inhibit individuals from seeking cancer screening and treatment, and from adhering to treatment protocols. Because differences in communication styles vary by culture, there can be problems when patients and providers are from different cultures. For individuals whose first language is not English, having to communicate with healthcare providers in English may hinder their cancer care.

The lack of trained medical interpreters for populations that are not proficient in English, as mandated by the federal government, adversely affects the quality of healthcare delivery. Some languages do not have a word for "cancer," making it difficult to convey specific information about the disease. Decisions about medical care may be confusing and overwhelming, especially for those with low literacy and low medical literacy skills.

In many cultures, cancer is a taboo word and topic, and this may prevent individuals from

seeking medical care. In some cultures, fatalism (i.e., acceptance that every event is inevitable) may be a deterrent to seeking cancer screening or treatment. A diagnosis of cancer may bring about discrimination from family, friends, and community members.
In some cases, a lack of social support may result in isolation or depression, and consequently, to disengagement from the treatment process. Providers are often ill prepared to communicate the complexities of cancer care to their diverse patient populations, and this has been a source of health inequality for disparate populations (Institute of Medicine, 2002).

> "My days have been filled with a lot of warm sunshine since I joined the Proyecto Comadre a Comadre. The information provided through this program on breast cancer has been very informative and was a resource that I was not aware of."
>
> – Comadre a Comadre program participant.

Medicare and Other Insurance Plan Reimbursement Rates and Practices
The delivery of healthcare in New Mexico is adversely affected by Medicare reimbursement rates that are lower than rates in many other states, and that are lower than the reimbursement rates of private insurance plans. The current Medicare reimbursement system creates a disincentive for healthcare providers to practice medicine in New Mexico, especially in rural areas. When the cost of care exceeds the amount Medicare reimburses, the cost is passed on to healthcare organizations, physicians, and privately insured individuals.

The long waiting times for appointments and limited amount of time spent with patients discourages discussions about preventive care. It also diminishes the possibility of addressing socio-cultural factors that affect patient care and adherence to treatment.

Many homecare needs of cancer patients (i.e., non-professional care) do not qualify for reimbursement. The current Medicare Prospective Payment System guidelines for home care specify that the patient must require skilled intermittent care (e.g., skilled nursing, physical therapy, or speech therapy), and must be homebound. The skilled service provider must complete an outcome and assessment information set (OASIS) to determine the patient's needs; based on need, the patient is certified for 60 days of care at a time. The family members of many cancer patients must stop working to care for their loved ones or hire private nursing services, which few families can afford.

Cancer patients who are low-income, under 65 years of age, and disabled who apply for Social Security Disability (SSD) and for Medicaid through Supplemental Security Income (SSI), often fall through the cracks of the healthcare system. If a patient is approved as an SSI recipient and is then approved to receive SSD, the Social Security Disability amount may be too high to continue receiving Medicaid. In those instances, the patient would need to apply for other programs for assistance, and/or may not be able to receive adequate care. In addition, there is a two-year waiting period before SSD recipients become eligible for Medicare coverage. A person 65 years of age or older may also experience difficulties by not qualifying for Medicaid if his/her Social Security income is considered too high for eligibility, even though it may be too low to pay the person's medical costs.

Surveillance Data Limitations
The ability to analyze, proactively and retroactively, New Mexico cancer surveillance data, is limited. The manpower for analyzing local data, or compiling county-specific data, is insufficient to produce cancer statistics that are timely and appropriate for developing current cancer control programs. Small numbers of individuals in certain areas of the state make it difficult to collect meaningful data.

The dissemination of cancer data to those who are implementing programs and policies to improve cancer control is lagging. Cancer control professionals and the general public require increased access to up-to-date cancer

reports and cancer statistics so that they may optimize their use of this information for cancer control initiatives.

Overall Comprehensive Cancer Control Goals and Objectives

New Mexico cancer mortality rates have been declining for the past three decades. This decline reflects progress in the prevention, early detection, and treatment of cancer. Much, however, remains to be done. An estimated 8,030 New Mexicans will be diagnosed with cancer in 2007, and approximately 3,270 will die as a result of the disease (Jemal et al., 2007).

Seven overall goals drive cancer control in New Mexico and guide the current Plan:

1. Reduce the number of New Mexicans who die as a result of cancer.
2. Reduce the risks for developing cancer among New Mexicans.
3. Increase early detection of, and appropriate screening for, cancer among New Mexicans.
4. Eliminate disparities in cancer incidence, morbidity, and mortality in New Mexico.
5. Ensure equal access to appropriate and effective cancer treatment and care for all New Mexico populations.
6. Improve the quality of life for New Mexicans living with cancer and their loved ones.
7. Improve coordination and collaboration among organizations conducting cancer control and prevention programs.

Overall objectives of the *New Mexico Cancer Plan 2007-2011*:

1. Increase the number of New Mexicans who obtain appropriate cancer screening tests, by 2011.
2. Develop and implement programs and policies to reduce cancer disparities among targeted populations in New Mexico, by 2011.
3. Increase access to cancer treatment for all New Mexicans diagnosed with cancer, by 2011.
4. Provide a greater proportion of New Mexico cancer survivors and their loved ones with the skills and resources to improve their quality of life, by 2011.
5. Build on the existing infrastructure to improve collaboration among cancer control and prevention programs in New Mexico, by 2011.

These overall goals and objectives will be achieved by addressing the disparities, prevention, detection, treatment, survivorship, capacity building, and evaluation goals and objectives presented below.

The Unequal Burden of Cancer

Health is a fundamental right of every human being, regardless of age, race, ethnicity, sex, socio-economic status, or sexual orientation (WHO, 1978). While advances in cancer care have improved early detection, treatment, and survivorship, there remain disparities in cancer burden and survivorship among different populations in New Mexico. Not all segments of the population have benefited equally from cancer prevention and control efforts.

Health disparities are differences in disease diagnosis, treatment, and outcome that are due to age, sex, race/ethnicity, socioeconomic group, education, geography, language, and sexual orientation, among other factors.

Age, sex, and racial/ethnic differences generally account for many of the disparities in the burden of cancer in New Mexico. Disparities occur in exposure to risk for cancer, access to care, and quality of care and these disparities may result in disproportionately higher morbidity or incidence rates and lower survival rates from certain cancers among certain populations.

New Mexicans who are older than age 55 are more likely to be diagnosed with cancer than those who are below the age of 55. Over 75 percent of cancer diagnoses are in New Mexicans over the age of 55 (*New Mexico Cancer Facts & Figures 2007*).

New Mexican men are more likely than women to develop cancer and die from the disease. Prostate cancer is the most commonly diagnosed cancer among men, and breast cancer is the most commonly diagnosed cancer among women. Lung cancer is the leading cause of cancer deaths for both men and women (*New Mexico Cancer Facts & Figures 2007*).

Overall, Whites have a higher incidence of cancer (477.70 per 100,000) compared to all other racial/ethnic groups in New Mexico. Hispanics have the second highest cancer incidence rate (359.5 per 100,000) (*New Mexico Cancer Facts & Figures 2007*).

Blacks have the highest cancer mortality rate (185.7 per 100,000) in New Mexico. Whites have the second highest cancer mortality rate (176.8 per 100,000) (*New Mexico Cancer Facts & Figures 2007*).

When examining cancer incidence and mortality data for 2000-2004, racial/ethnic disparities in the leading cancer diagnoses and causes of cancer deaths are evident across groups. Although prostate cancer was the most frequently diagnosed cancer among all New Mexican men, lung cancer was the second most common cancer for White and Black men, but colorectal cancer was the second most common cancer for Hispanic and American Indian men.

There were some similarities in the third, fourth, and fifth leading cancer diagnoses for New Mexican men; however, melanoma of the skin was not among the five most frequently diagnosed cancers among men for any race/ethnicity other than Whites[8] and stomach cancer was one of the five most frequently diagnosed cancers only among American Indian men. (*New Mexico Cancer Facts & Figures 2007*).

For New Mexican women, breast cancer was the most frequently diagnosed cancer across all racial/ethnic groups. Lung cancer was the second most common cancer for White women, third for Hispanic and Black women but was not ranked among the top five cancer diagnoses for American Indian women. For Hispanic, American Indian, and Black women, colorectal cancer was the second most frequently diagnosed cancer; it was third for White women. Although cancer of the *uterine corpus* (body of the uterus) was the fourth most common cancer among New Mexican women from all racial/ethnic groups, melanoma of the skin was

[8] The absence of skin pigmentation among Whites renders them more susceptible to melanoma than other racial/ethnic groups.

not among the five most frequently diagnosed cancers among women for any race/ethnicity other than Whites; thyroid cancer was among the five most frequently diagnosed cancers for Hispanic and Black women, and ovarian and kidney cancers were among the five most frequent cancer diagnoses for American Indian women. (*New Mexico Cancer Facts & Figures 2007*).

There were also disparities in the leading causes of cancer deaths among New Mexican men and women from different racial/ethnic groups.

Lung cancer was the leading cause of cancer deaths among New Mexican men from all racial/ethnic groups; prostate cancer was ranked second for White, American Indian, and Black men but was third for Hispanic men. Although colorectal cancer was ranked among the top five causes of cancer deaths, it appeared second for Hispanic men, third for White and Black men, and fourth for American Indian men. Other differences in cancer mortality among New Mexican men from different racial/ethnic groups were that pancreatic cancer was ranked among the five most frequent causes of cancer deaths for all but American Indian men, and liver cancer was among the five most frequent causes of cancer deaths for all but White men. Stomach cancer only appeared among the five most frequent causes of cancer deaths for American Indian men and leukemia was one of the five most frequent causes of cancer deaths among White men.

For New Mexican women, breast cancer was the leading cause of cancer deaths for Hispanic, American Indian, and Black women. Among White women, lung cancer was the leading cause of death, followed by breast cancer. Lung cancer was the second leading cause of cancer death for Hispanic and Black women, but ovarian cancer was second for American Indian women and was also among the five most frequent causes of cancer deaths for White, Hispanic, and Black women. Colorectal cancer was ranked third among cancer deaths for all New Mexican women, and pancreatic cancer was fourth for White, Hispanic, and Black women. Non-Hodgkin lymphoma was ranked among the five most frequent causes of cancer deaths for American Indian women, and cancer of the *uterine corpus* was one of the five most frequent causes of cancer deaths for Black women.

Cancer incidence and mortality rates are an important piece of the larger picture of health in New Mexico; however, these rates do not tell the entire story. Certain populations experience a disproportionate burden of cancer mortality relative to incidence. In part, these disparities can be attributed to the challenges program planners and clinicians face when implementing cancer control programs. These challenges may include financial limitations on providing care and issues related to service delivery, geography, social and cultural differences, Medicare and insurance plan reimbursement rates and practices, and surveillance data limitations.

> **"Our healthcare professionals are providing (cancer) care to all of northern New Mexico with outreach facilities in Taos, Las Vegas, Espanola and Raton."**
>
> – Staff member, New Mexico Cancer Care Associates; Santa Fe.

Many New Mexicans diagnosed with cancer face other obstacles in addition to their treatment. For example, because New Mexico is largely rural and still classified as frontier in some areas of the state, patients must travel long distances to the closest healthcare facility. Although some areas of the state have programs that provide limited transportation assistance for patients traveling to and from treatment, many New Mexicans are unable to access care due to a lack of transportation.

Other challenges potentially leading to disparities include factors stemming from social and cultural differences. Fear, embarrassment, anxiety about loss of privacy, and a mistrust of physicians (especially when the physician is of a different race/ethnicity or sex) may inhibit

individuals from seeking cancer screening and from adhering to treatment protocols. Differences in communication styles vary by culture, and when patients and providers are from different cultures, the styles may clash. For individuals whose first language is not English, having to communicate with healthcare providers in English may hinder their cancer care. The lack of trained medical interpreters for populations that are not proficient in English, as mandated by the federal government, adversely affects the quality of healthcare delivery. Some languages do not have a word for "cancer", making it difficult to convey specific information about the disease. Decisions about medical care may be confusing and overwhelming, especially for those with low literacy, and low medical literacy, skills.

GOAL:

To reduce disparities in cancer incidence, diagnosis, treatment, outcomes, and survivorship in New Mexico.

Objectives:

1. Compile research studies and analyze data on cancer disparities in New Mexico in order to identify strategies to reduce inequalities in cancer control and prevention, by 2011.
2. Increase cultural competency (i.e., competency based on understanding and respect for individuals and cultural differences) among healthcare providers, by 2011.
3. Increase awareness about cancer health disparities among New Mexico policymakers, by 2011.
4. Increase awareness about accessing cancer prevention, detection, and treatment programs among the general public in New Mexico, by 2011.
5. Strengthen data surveillance regarding cancer disparities in New Mexico, by 2011.

Activities:

Communication

1. Identify and deliver evidence-based cultural-competency training[9] programs for New Mexico healthcare providers.
2. Identify "best practices" for cancer health disparities communication interventions for specific underserved populations.
3. Write and disseminate a status report based on cancer disparities research conducted by the Health Disparities Working Group.

Mobilization

1. Support a New Mexico Cancer Council Health Disparities Working Group consisting of cancer care experts from diverse groups including cancer survivors, community members, policymakers, and other representative members to (1) review information on cancer disparities in New Mexico and (2) identify strategies to reduce inequalities in cancer control and prevention.
2. Create a collaborative community network with the New Mexico Department of Health, tribal entities, the Indian Health Service, county health councils, community health centers, cancer support organizations, schools, and faith-based entities to (1) participate in the development, formative research, pretesting, and finalization of culturally appropriate cancer materials and (2) facilitate implementation of community-based interventions aimed at underserved populations.
3. Conduct evaluation research to determine baseline figures for (1) cultural competency among healthcare providers and (2) awareness about cancer health disparities among policymakers.

[9] Cultural competency is the application of a set of knowledge and attitudes that allows healthcare providers to work effectively with diverse racial, ethnic, and social groups. Culturally competent providers have an understanding of the cultural differences that exist among their patients and are also aware of their own possible biases and the potential disparities that may result from those biases.

Advocacy

1. Advocate for the incorporation of the U.S. Department of Health and Human Services Standards for Culturally and Linguistically Appropriate Services (CLAS) in all healthcare organizations in New Mexico.
2. Advocate for funding to provide technical assistance to communities/community-based groups to implement cancer prevention and control interventions for underserved populations.[10]
3. Advocate for funding to provide reimbursement incentives for healthcare providers to increase appropriate prevention, early detection, and treatment services to high-risk groups.
4. Advocate for subsidizing the costs of cancer treatments for low-income, underinsured, and uninsured individuals.
5. Promote the expansion of data collection to include American Indians among underrepresented populations.
6. Advocate for additional funding to support data surveillance efforts regarding cancer disparities in New Mexico.
7. Advocate for a required Cultural Competency Curriculum for medical students, interns, residents, and faculty at the University of New Mexico Health Sciences Center that is implemented across the span of medical education.
8. Advocate for the New Mexico Board of Medical Examiners to conduct a required training session on cultural competency for all physicians applying for a New Mexico medical license.

Indicators of Success:

1. A comprehensive study of cancer disparities in New Mexico, including recommendations for strategies to reduce inequalities, that is available to all cancer control and prevention partners in New Mexico, by 2011.
2. An increase in awareness about cultural competency among healthcare providers, by 2011.
3. An increase in awareness about cancer health disparities among New Mexico policymakers, by 2011.
4. An increase in awareness about accessing cancer prevention, detection, and treatment in the general public in New Mexico, by 2011.
5. Greater availability of current cancer disparities data for New Mexico, by 2011.
6. Demonstrable progress toward equalization of cancer incidence and mortality rates, and of access to quality of life, survivorship, and social support resources in New Mexico, by 2011.
7. Demonstrable progress toward equalization of stage-at-diagnosis for all cancers, by 2011.

[10] Technical assistance can be operational or management assistance given to a community group or organization. It can include fundraising assistance, budgeting and financial planning, program planning, legal advice, marketing and other aids to management. Assistance may be offered directly by a foundation or government staff member, or it may be in the form of a grant to pay for the services of an outside consultant.

Promoting Healthy Behaviors

Prevention/risk reduction is a key strategy for reducing the cancer burden in New Mexico. There are at least seven critical determinants affecting future cancer rates: (1)reducing tobacco use, (2) practicing sun-smart behaviors, (3) improving nutrition and weight status, (4) increasing regular physical activity, (5) screening for cervical cancer, (6) accessing emerging science in cancer prevention, and (7) developing a media materials resource center for easy access to existing cancer control and prevention communication materials.

Cancer prevention has advanced on several important fronts, including clinical practice and research on risk factors and prophylactic drug treatments, the biology of tobacco- and obesity-related abnormal cell growth, and the behavioral and nutritional sciences. Emerging science in cancer prevention will help public health professionals to determine future directions for interventions to reduce the cancer burden in New Mexico.

"Socorro General Hospital's Sun Safety Program now has the opportunity to offer facial screenings with our Derma View Unit to educate people about their skin's current level of sun damage. We are the second organization in the state to offer this service."

– Laura Fazio, Sun Safety Education Coordinator;
Socorro General Hospital
Maternal Child Health Department

Tobacco Use and Secondhand Tobacco Smoke

Two key risk factors for lung cancer include (1) tobacco use and (2) exposure to secondhand smoke. Tobacco contains about 4,000 chemicals and 200 known poisons. Tobacco smoke contains carcinogens, toxins, and irritants that have been shown to lead to genetic damage and lung cancer. The risk of lung cancer is dose-dependent, that is, the risk is dependent on the number of cigarettes smoked per day, the length of time that one is a smoker, and the inhaling pattern. Smokers are about 20 times more likely to develop lung cancer than non-smokers (CDC, 2006c).

Smokeless tobacco products, including chewing tobacco and snuff, contribute to an increased risk for cancer of the oral cavity, pharynx, larynx, and esophagus. Prolonged use of smokeless tobacco can cause a precancerous condition in the mouth called leukoplakia.

Secondhand smoke (also called passive, involuntary, sidestream smoke, or environmental tobacco smoke) contains the same chemicals as those to which a smoker is exposed. There are higher concentrations of many potentially toxic gases than in mainstream (exhaled) smoke because secondhand smoke is emitted directly from the cigarette and is not filtered. Almost 85 percent of the smoke in a room is secondhand smoke.

Exposure to secondhand smoke increases the risk of tobacco-related lung cancer among non-smokers. A report issued by the U.S. Surgeon General in June 2006 showed that there is no safe level of exposure to secondhand smoke, and that exposure to secondhand smoke (1) can damage cells and lead to mutations that cause cancer and (2) increases the risk of developing lung cancer by 20 to 30 percent (CDC, 2006c). Secondhand smoke may increase the risk for developing nasal sinus cancers.

Approximately 42,000 New Mexicans suffer from at least one serious illness from smoking. Smoking-attributable cancers include bladder, cervix, kidney, pancreas, stomach, and acute myeloid leukemia. Other diseases attributable to smoking include heart disease and stroke. In New Mexico, at least 2,080 deaths (1,253 men and 827 women) were attributed to smoking in 2001; smoking-related cancers accounted for 80 deaths per 100,000 population (Padilla et al, 2005).

GOAL:

To reduce the incidence rate of cancers associated with tobacco use in New Mexico.

Objectives:

1. Increase by 10 percentage points, from 68 percent to 78 percent, the proportion of healthcare professionals who counsel their at-risk patients about tobacco use cessation, physical activity, and appropriate cancer screening, by 2011.
2. Reduce by 3 percentage points, from 10 percent to 7 percent, the proportion of New Mexico middle school youth who currently smoke cigarettes, by 2011.
3. Reduce by 5 percentage points, from 26 percent to 21 percent, the proportion of New Mexico high school youth who currently smoke cigarettes, by 2011.
4. Reduce by 3 percentage points, from 22 percent to 19 percent, the proportion of New Mexico adults who currently smoke cigarettes, by 2011.
5. Increase by 10 percentage points, from 46 percent to 56 percent, the proportion of New Mexico adult smokers who made a quit attempt in the past year, by 2011.
6. Reduce by 6 percentage points, from 11 percent to 5 percent, the proportion of New Mexico adults who are exposed to secondhand smoke in their indoor work areas, by 2011.
7. Reduce by 2 percentage points, from 9 percent to 7 percent, the proportion of New Mexico high school youth who use smokeless tobacco, by 2011.
8. Reduce annual per capita cigarette sales consumption by 3 packs, from 35 packs per capita to 32 packs, by 2011.

Activities:

Communication

1. Develop and deliver a mass media, multi-lingual campaign to prevent initiation of tobacco use.
2. Deliver culturally appropriate and evidence-based tobacco use prevention and cessation programs to communities throughout the state.
3. Encourage healthcare professionals to routinely assess patient tobacco use and exposure to secondhand smoke and to provide evidence-based and effective cessation services.
4. Educate policy makers about optimal funding to support comprehensive tobacco use prevention and control efforts in New Mexico.
5. Educate the public, businesses, workers, and policy makers about the New Mexico Department of Health Help Line, 1-800-QUIT-NOW.

Mobilization

1. Establish tobacco-free zones that prohibit the use of tobacco products by youth or adults in family day-care facilities and on school and recreational properties.
2. Develop partnerships with tribal governments and self-governing communities to reduce secondhand tobacco smoke in public venues and increase tobacco product prices, while respecting tribal sovereignty.
3. Develop partnerships with faith-based and community groups to support effective programs and policies to reduce tobacco-related disease and disability.

Advocacy

1. Establish comprehensive public policies that support smoke-free public places and workplaces and guard against preemptive laws that would restrict local governments from enacting tobacco control laws that are stricter than the state's.
2. Advocate for funding for comprehensive tobacco use prevention and control programs at the maximum level outlined in the Centers for Disease Control and Prevention's (CDC) Best Practices Guidelines.
3. Advocate for funding for community-based organizations in diverse communities to address smoking cessation in a culturally and linguistically appropriate manner.
4. Advocate for increased taxes on cigarettes and other tobacco products.
5. Advocate for a comprehensive statewide clean indoor air policy and guard against preemptive legislation.

Indicators of Success:

1. A reduction in the incidence of lung cancer, by 2011.
2. An increase in the proportion of healthcare professionals who counsel their at-risk patients about tobacco use cessation and appropriate cancer screening, by 2011.
3. A reduction in the proportion of New Mexico middle school youth who currently smoke cigarettes, by 2011.
4. A reduction in the proportion of New Mexico high school youth who currently smoke cigarettes, by 2011.
5. A reduction in the proportion of New Mexico adults who currently smoke cigarettes, by 2011.
6. An increase in the proportion of New Mexico adult smokers who made a quit attempt in the past year, by 2011.
7. A reduction in the proportion of New Mexico adults who are exposed to secondhand smoke in indoor work areas, by 2011.
8. A reduction in the proportion of New Mexico high school youth who use smokeless tobacco, by 2011.
9. A reduction in per capita cigarette sales, by 2011.

Sun Safety

Ultraviolet radiation (UVR) is the most avoidable risk factor for skin cancer. UVR is invisible rays that come from the sun, sunlamps, and tanning beds. UVR exposure before age 18 years, and sunburn during childhood and adolescence, are linked to melanoma, as is exposure later in life. In general, children and adolescents are not adequately and consistently protected from intermittent sun exposure. Sun safety behaviors should be instilled in children from an early age.

The best ways to lower the risk of skin cancer are to avoid intense sunlight for more than short periods of time and to practice sun safety behaviors. Sun safety describes a range of behaviors that include (1) seeking shade and limiting sun exposure during the hours of peak sun intensity (10:00am to 4:00pm); (2) wearing clothing that covers the arms, body, and legs; (3) wearing a wide-brimmed hat or baseball cap with back flaps to cover the face, ears, and neck; (4) using broad-spectrum sunscreen with a sun protection factor (SPF) of at least 15; (5) using lip balm with an SPF of 15 or higher; and (6) wearing sunglasses that filter out 100 percent of ultraviolet B (UVB) and ultraviolet A (UVA) light.

GOAL:

To reduce the risk for developing melanoma among New Mexicans.

Objectives:

1. Increase the proportion of New Mexicans who regularly practice sun safety behaviors, by 2011.
2. Reduce by 5 percentage points, from 35 percent to 30 percent, the proportion of New Mexicans who report one or more sunburns in the past year, by 2011.
3. Increase the number of children, parents, and community members reached with educational messages about sun safety through the DOH-funded RAYS project from 40,000 to 55,000, by 2011.

Activities:

Communication

1. Deliver developmentally appropriate sun safety information and education programs that are integrated with school-based general and health education curricula and that are coordinated with school-based outdoor activities.
2. Educate school staff (including school health service providers) to adopt and model sun safety behaviors.
3. Develop and deliver tailored messages for parents and families about the importance of sun safety for children.
4. Educate policymakers about the importance of providing shade in such public venues as bus shelters and school playgrounds.
5. Deliver evidence-based sun safety education programs to targeted audiences to inform the public about the link between intermittent sun exposure and melanoma, so that individuals can make informed personal decisions about sun exposure. Audiences will include childcare centers, healthcare provider offices, work places with outdoor workers, and recreation areas.
6. Train meteorologists (using workshops and information packets) on the importance of UVR reporting and sun safety behaviors for preventing melanoma.

Mobilization

1. Conduct a community-based assessment of the amount of shade on school and daycare campuses, and develop a plan for increasing the amount of shade as necessary.
2. Conduct a feasibility assessment for rescheduling school-based outdoor activities that take place during the hours of peak sun intensity.

Advocacy

1. Advocate with state lawmakers for money to pay for state-added BRFSS questions about sun safety practices, and to increase BRFSS sample size to provide more robust data for different geographic areas in New Mexico.
2. Advocate with state lawmakers to provide covered bus shelters where necessary and covered shelters on school playgrounds .
3. Advocate with state and federal lawmakers to increase funding for sun safety research.
4. Advocate with school officials to reschedule school-based activities that take place during the hours of peak sun intensity.
5. Advocate with mass media meteorologists to incorporate UV intensity-level reporting and sun safety behavior messages in their daily broadcasts.

Indicators of Success:

1. An increase in the proportion of New Mexicans who regularly practice sun safety behaviors, by 2011.
2. A reduction in the proportion of New Mexicans who report one or more sunburns in the past year, by 2011.
3. An increase in the number of children, parents, and community members who receive educational messages about sun safety, by 2011.

"The school administration is in the process of changing policies to require PE activities, when UV rays are high, to be in the gym or in shaded areas."

- Jania Pearce, School Nurse; Jal Elementary.

Nutrition and Weight Status

Poor nutrition and obesity contribute to almost one-third of all cancer cases. In New Mexico, 56 percent of adults are overweight or obese[11]; 18 percent of White adults and 25 percent of Hispanic adults in New Mexico are obese (BRFSS, 2005). At least 27 percent of New Mexico high-school students are overweight or at risk of becoming overweight (NM YRRS, 2005). Approximately 24 percent of low-income children between two and five years of age who participate in federal nutrition programs in New Mexico are overweight or at risk of becoming overweight (CDC PedNSS, 2005).

Eating at least five servings of fruits and vegetables every day is a crucial part of a healthy diet that includes vitamins, minerals, and other agents that may protect against cancer and other major health conditions. Research has shown that eating fruits and vegetables may be associated with a large reduction in risk for developing cancers of the mouth, pharynx, esophagus, and stomach, and a moderate risk reduction for developing cancers of the pancreas, bladder, lung, and colon. However, fewer than one out of every four New Mexican adults consumes the recommended amount of fruits and vegetables.

Behavior and environment both play significant roles in causing people to be overweight and obese, and addressing both areas will provide the greatest opportunities for prevention.

GOAL:

To improve lifelong healthful nutrition for all New Mexicans.

[11] For adults, overweight and obesity ranges are determined by using weight and height to calculate a number called the "body mass index" (BMI). BMI is used because, for most people, it correlates with their amount of body fat. Normal BMI for adults is between 18.5 and 24.9 An adult who has a BMI between 25 and 29.9 is considered overweight. An adult who has a BMI of 30 or higher is considered obese. For children and teens, BMI ranges above a normal weight have different labels (at risk of overweight and overweight). Additionally, BMI ranges for children and teens are defined so that they take into account normal differences in body fat between boys and girls and differences in body fat at various ages (CDC, 2006a).

Objectives:

1. Increase by 5 percentage points, from 17 percent to 22 percent, the proportion of New Mexican youth, aged 13 to 17 years, who consume at least five servings of fruits and vegetables per day, by 2011.
2. Increase by 5 percentage points, from 22 percent to 27 percent, the proportion of New Mexican adults who consume at least five servings of fruits and vegetables per day, by 2011.
3. Slow the rate of increase in overweight and obesity among New Mexicans, by 2011.
4. Improve access to healthy food choices for all New Mexico populations, by 2011.

Activities:

Communication

1. Conduct state-, regional-, and local-level education programs (1) to inform the general public about the importance of good nutrition for optimal health and (2) to provide media literacy information to the public in order to help them make informed choices about food.
2. Educate policymakers and employers about the importance of policy regarding access to affordable fruits and vegetables in schools, workplaces, and in communities.
3. Distribute nutrition-education kits (with Web-based resources) to train and empower community-based organizations to conduct local campaign activities to educate community members about food and nutrition. Local campaign messages should be coordinated with regional- and state-level messages. These kits may exist in other states and could be adapted for New Mexico.
4. Develop a public awareness campaign to "know your weight-related risk."

Mobilization

1. Collaborate with obesity control and prevention entities to develop an inventory of food access points (including locations, available foods, and prices) in low-income and rural areas in order to determine where improved access to healthy food choices is most needed.
2. Conduct pre- and post-test surveys (or add questions to existing surveys) to measure (1) fruit and vegetable consumption among New Mexicans aged 13 years and older, (2) BMI, and (3) perceived access to healthy foods.

Advocacy

1. Advocate for policies and funding to reduce barriers and increase access to affordable, quality fruits and vegetables in communities, schools, and workplaces.
2. Advocate for television media representatives to restrict "junk food" advertising during peak viewing hours for children.

Indicators of Success:

1. An increase in the proportion of New Mexican youth, aged 13 to 17 years, who consume at least five servings of fruits and vegetables per day, by 2011.
2. An increase in the proportion of New Mexican adults who consume at least five servings of fruits and vegetables per day, by 2011.
3. An increase in the proportion of New Mexican adults whose BMI is within the normal range of 18.5 to 24.9 kg/m2, by 2011.
4. An increase in the number of New Mexicans who report having access to healthy food choices, by 2011.

Physical Activity

There is convincing evidence that physical activity is associated with a reduced risk of cancers of the colon and breast. Several studies also report links between physical activity and a reduced risk of cancers of the prostate, lung and uterus (endometrial cancer).

Despite the health benefits of physical activity, recent studies show that at least 60 percent of Americans do not engage in moderate- to vigorous-intensity physical activity on a regular basis (CDC, 2003). The Centers for Disease Control and Prevention (CDC) recommend that adults participate in moderate-intensity physical activity for at least 30 minutes on five or more days of the week, or engage in vigorous-intensity physical activity for at least 20 minutes on three or more days of the week (CDC, 1996).

In 2002, at least 51 percent of New Mexico adults reported engaging in the recommended amount and intensity of physical activity. Thirty-six percent reported insufficient levels of physical activity. About 24 percent of New Mexicans were inactive or did not engage in leisure-time physical activity (CDC, 2003a).

GOAL:

To increase regular lifelong physical activity among New Mexican adults and youth of all abilities.

Objectives:

1. Increase by 5 percentage points, from 51 percent to 56 percent, the proportion of New Mexican adults who integrate the recommended amounts of moderate or vigorous physical activity into their everyday lives (as noted above), by 2011.
2. Increase by 5 percentage points, from 58 percent to 63 percent, the proportion of New Mexican youth who integrate the recommended amounts of moderate or vigorous physical activity into their everyday lives, by 2011.
3. Decrease by 5 percentage points, from 29 percent to 24 percent, the proportion of New Mexican adults who report engaging in no leisure-time physical activity, by 2011.

Activities:

Communication

1. Conduct state-, regional-, and local-level education programs to inform the general public about the link between physical activity and cancer.
2. Conduct a tailored communication intervention for parents, teachers, and principals, to help them increase physical activity among in-school youth.
3. Develop and distribute physical education information and activity kits (with Web-based resources) to train and empower community-based organizations to conduct local campaign activities to educate community members about physical activity. Local campaign messages should be coordinated with regional- and state-level messages.
4. Collaborate with existing groups working to encourage children to decrease time spent with video games and TV and to substitute physical activity.

Mobilization

1. Develop a systematic method for assessing community needs and assets with regard to accessible and safe environments for physical activity for adults and children.
2. Conduct a systematic inventory of physical activity opportunities.

Advocacy

Advocate for policies and funding to implement environmental and policy interventions to reduce barriers and provide safe, affordable, and accessible opportunities for physical activity for adults and children in communities, work-settings, and schools.

Indicators of Success:

1. An increase in the proportion of New Mexican adults who integrate the recommended amounts of moderate or vigorous physical activity into their everyday lives, by 2011.
2. An increase in the proportion of New Mexican youth who integrate the recommended amounts of moderate or vigorous physical activity into their everyday lives, by 2011.
3. A decrease in the proportion of New Mexican adults who report engaging in no leisure-time physical activity, by 2011.

> **"I find that life is good if I focus on helping and thinking of others and take good care of myself so that I have energy and strength to be the best I can be."**
>
> – Kenley, ovarian cancer survivor

Cervical Cancer Screening and HPV Vaccine

Cervical cancer screening can detect abnormalities before they become malignant. The Pap test may find early cell changes in the cervix that can be effectively treated to prevent the development of cervical cancer. Screening should be initiated approximately three years after a woman begins having sexual intercourse, but no later than 21 years of age. Screening is particularly important in women who have never or rarely been screened. It is estimated that half of the women diagnosed with cervical cancer in the U.S. have never been screened for cervical cancer, and an additional 10 percent have not been screened in the previous 5 years. Current guidelines recommend Pap test screening at least every three years; however, the frequency of screening depends on a number of factors. Therefore, women should seek expert medical advice about when to begin screening, how often to be screened, and when to discontinue cervical screenings. This is particularly important for women who are at higher than average risk of cervical cancer due to factors such as smoking, multiple sexual partners, and infection with HIV or other sexually-transmitted diseases.

In New Mexico, the most recent survey data (from 2004) indicate that more than 84 percent of women had a Pap test within the previous three years, which was similar to the average national rate. However, there were some marked disparities in screening rates between different groups. Women with household incomes of less than $15,000 per year were more than four times as likely to not have had a Pap test within three years as women with household incomes over $50,000 (26 percent vs. 6 percent, respectively). In 2004, the NMDOH Breast and Cervical Cancer Early Detection Program paid for Pap tests for 8,277 eligible low-income women; however, the program only receives enough funding to provide cervical cancer screening for 15 percent to 18 percent of qualifying women. Cervical cancer disproportionately affects women of lower socioeconomic status, without regular access to health care, who are uninsured, and who are recent immigrants.

Most cervical cancers develop slowly through a series of abnormal changes in the cells of the cervix, changes most often related to *human papillomavirus* (HPV). Over 100 different strains of HPV have been identified, more than 30 of which are sexually transmitted. Approximately 10 of the genital HPV strains can lead, in rare cases, to the development of cervical cancer. Although the vast majority of HPV infections do not progress to cervical cancer, the rare instance when HPV infection persists appears to be important to the development of the disease.

In June 2006, the U.S. Food and Drug Administration approved an HPV vaccine that offers a promising method of primary prevention for cervical cancer. In the appropriate target groups, the HPV vaccine can provide protection against two HPV types (HPV 16 and 18) that cause about 70 percent of cervical cancers. Because the HPV vaccines have been shown to be highly effective in women if given prior to acquiring HPV infections and because high risk HPV infections are commonly acquired within several months of commencing sexual activity, it is generally accepted that HPV vaccines should be administered to young women before they become sexually active. The Centers for Disease Control and Prevention (CDC) Advisory Committee on Immunization Practices recommended (1) that 11- and 12-year-old girls routinely receive the HPV vaccine and (2) that the vaccine also could be used in girls as young as nine years old and girls/women ages 13-26 years at the discretion of a healthcare provider (The Nation's Health, August 2006).

Cervical cancer screening recommendations have not changed for women who receive the HPV vaccine. Health care providers who vaccinate women against HPV should educate their patients that it is still important to continue receiving regular cervical cancer screening for three reasons. First, the vaccine will not provide protection against all types of HPV that cause cervical cancer. Second, women may not receive the full benefits of the vaccine if they do not complete the vaccine series. Third, women may not receive the full benefits of the

vaccine if they receive the vaccine after they have already acquired one of the HPV types included in the vaccine. For these reasons, it is essential that vaccinated women continue to receive routine cervical cancer screening to maintain the significant public health achievements of the past 40 years in preventing cervical cancer cases and deaths.

GOAL:

To improve cervical cancer screening rates among women in New Mexico.

Objective:

Increase by 5 percentage points, from 85 percent to 90 percent, the proportion of New Mexican women aged 18 years or older who received a Pap test in the past three years, by 2011.

Activities:

Communication

1. Conduct multi-media, multi-lingual education programs to increase awareness and knowledge among women aged 18 years and older and their families about (1) cervical cancer, (2) the importance of Pap tests for cervical cancer prevention and early detection, and (3) current programs that provide cervical cancer screening and diagnostic services for low income, underinsured, and uninsured women.
2. Encourage healthcare providers to discuss Pap tests with female patients, beginning three years after the patient becomes sexually active.

Mobilization

1. Identify areas of need for indigenous Patient Navigators[12] and train them for culturally specific community outreach and patient interaction.
2. Partner with healthcare providers, health plans, and/or case management programs to ensure that individuals with abnormal screening results receive timely follow-up diagnostic tests and examinations as specified by National Comprehensive Cancer Network (NCCN) treatment protocols or other reputable guidelines.
3. Develop partnerships with non-traditional partners (e.g., correctional institutions, domestic abuse facilities, homeless shelters, and mental health facilities) to promote screening.
4. Continue to monitor the evolving science around HPV and cervical cancer in order to adapt public and professional awareness and education efforts as needed.

Advocacy

1. Support ongoing efforts of the Breast and Cervical Cancer Early Detection Programs of the New Mexico Department of Health and the Navajo Nation and screening programs of the Indian Health Service.
2. Advocate for increased funding from local, state, and federal governments for prevention, early detection, diagnosis, and treatment of cervical cancer, especially for low income, underinsured, and uninsured women, and for those who do not qualify for the Breast and Cervical Cancer Early Detection Program, Medicare, or Medicaid.

Indicators of Success:

1. An increase in the proportion of New Mexican women aged 18 years or older who received a Pap test in the past three years, by 2011.
2. An increase in the proportion of cervical cancers diagnosed at an early stage, by 2011.
3. HPV vaccination of a high proportion of 11- and 12-year-old New Mexican girls.

[12] Patient Navigators are trained, culturally sensitive, healthcare workers, survivors, or family members who help individuals address patient-access barriers to quality, standard cancer care.

Colorectal Cancer Screening

Colorectal cancer screening can prevent colorectal cancer by detecting abnormalities that can be treated before they develop into cancer. Colorectal cancer develops in the colon or rectum, and it almost always arises from polyps (abnormal growths). Screening tests on asymptomatic individuals can find polyps that can be removed, thus preventing the development of cancer. Screening tests can also find colorectal cancer early, when it is a highly treatable and often curable disease. Colorectal cancer does not always cause symptoms, especially in the early stages when it is most treatable, making screening especially important.

Colorectal cancer occurs in both men and women. It is the fourth most frequently diagnosed cancer in New Mexico and the second leading cause of cancer death. Studies suggest that many of these deaths and new cases could be prevented with appropriate cancer screening. However, in 2004, only about half of New Mexicans aged 50 and older reported ever having had a screening exam for colorectal cancer. Consequently, more than half of the colorectal cancers diagnosed in New Mexico have already spread to regional or distant sites, making them less curable than those that have not spread. (*New Mexico Cancer Facts & Figures 2007*)

Screening for colorectal cancer can be accomplished using a variety of different methods. Current guidelines support the use of any of the following tests: fecal occult blood test (FOBT) using a take-home kit, sigmoidoscopy, colonoscopy, or double contrast barium enema. Guidelines specify screening should begin at age 50 for individuals at average risk for the disease, and earlier for those at increased risk. Men and women who may be at increased risk include patients with an inherited syndrome of colon cancer, a personal or family history of sporadic colorectal cancer or polyps, or a personal history of inflammatory bowel disease. Colorectal cancer screening frequency depends on a number of factors including the method used, results of previous screening tests, and personal risk factors. Therefore, men and women should seek expert medical advice about when to begin screening, which test to use, how often to be screened, and when to discontinue colorectal cancer screenings.

GOAL:

To increase colorectal cancer screening among New Mexicans aged 50 years and older and among younger New Mexicans who may be at higher-than-average risk.

Objectives:

1. Increase by 7 percentage points, from 51 percent to 58 percent, the proportion of New Mexican men and women aged 50 years and older who have been screened following current guidelines for colorectal cancer using colonoscopy, sigmoidoscopy, fecal occult blood test (FOBT) using a take-home kit, or double contrast barium enema, by 2011.[13]
2. Increase physician performance of complete diagnostic evaluation for individuals with an abnormal colorectal cancer screening result (other than colonoscopy), by 2011.
3. Increase by 4 percentage points, from 41 percent to 45 percent, the proportion of colorectal cancer cases diagnosed at an early stage (in situ or local), by 2011.

Activities:

<u>Communication</u>

1. Conduct tailored education programs for adults aged 50 years and older, and high-risk younger individuals, and their families to (1) increase awareness and knowledge about colorectal cancer and screening and (2) encourage men and women aged 50 years and older to be screened for colorectal cancer.

[13] Virtual colonoscopy and fecal DNA testing are new screening tests that, at the time of the writing of this Cancer Plan, have not been endorsed in guidelines published by evidence-based professional societies.

2. Develop and conduct worksite cancer screening awareness and education interventions.
3. Partner with healthcare providers, health plans, and/or case management programs to ensure that individuals with abnormal screening results receive timely follow-up diagnostic tests and examinations as specified by the National Comprehensive Cancer Network (NCCN) protocols or other reputable guidelines.

Mobilization

1. Work with community leaders in diverse communities to (1) identify culturally and linguistically appropriate messages about colorectal cancer and (2) deliver culturally and linguistically sensitive, community-based awareness campaigns.
2. Review available information on colorectal cancer screening capacity (e.g., trained professionals, facilities, and equipment) to determine access to colorectal cancer screening for New Mexicans.
3. Conduct baseline research to (1) determine physician performance of complete diagnostic evaluations and appropriate follow-up for individuals aged 50 years and older who have had abnormal colorectal cancer screening results and (2) determine screening rates.

Advocacy

1. Advocate for funding to support outreach and awareness campaigns.
2. Advocate for funding from local, state and federal policymakers to cover colorectal cancer screening and treatment for low income, underinsured, and uninsured New Mexicans.
3. Seek funding to support data systems that capture screening and surveillance activity in New Mexico.

Indicators of Success:

1. An increase in the proportion of New Mexican men and women aged 50 years and older who have been screened following current guidelines for colorectal cancer using colonoscopy, sigmoidoscopy, or fecal occult blood test (FOBT) using a take-home kit, by 2011.
2. An increase in physician recommendation and performance of complete diagnostic evaluation for individuals who have had abnormal colorectal cancer screening results (other than colonoscopy), by 2011.
3. An increase in the proportion of colorectal cancer cases diagnosed at an early stage, by 2011.

"As a primary care physician, I am convinced that colorectal cancer screening is one of the most effective prevention strategies that I can offer. By screening my patients, I can reduce their chance of dying from this deadly cancer and may even prevent the cancer from ever developing."

- Dr. Richard Hoffman, chairperson of the Colorectal Cancer Working Group for the Clinical Prevention Initiative

Emerging Science

Major advances in clinical cancer prevention knowledge have resulted from completed randomized controlled trials of such drugs as Tamoxifen (for breast cancer) and Celecoxib (for colorectal cancer). A new generation of targeted drugs for both prevention and therapy is emerging from advances in molecular research and from research on drug effects on relevant targets and pathways.

Emerging science in cancer prevention suggests potential avenues for public health interventions. For example, epidemiologic studies suggest that a higher dietary intake of calcium may correlate with lower incidence of colorectal cancer (Martinez & Willett, 1998); there is a stronger association that vitamin D, either through high levels of dietary intake or sunlight-induced vitamin D synthesis, correlates with lower incidence of colorectal cancer (Posner, 2002). Vitamin D emerged as a protective factor in a study of over 3,000 adults (almost all of whom were men) who underwent colonoscopies between 1994 and 1997 to look for polyps or lesions in the colon. Ten percent of the group was found to have at least one advanced cancerous lesion in the colon. There was a significantly lower risk of advanced cancerous lesions among those with the highest vitamin D intake (Lieberman, Prindiville, Weiss, & Willett, 2003).

Additional rigorous clinical trials are needed to determine the potential for new cancer prevention agents and behaviors, for example, whether vitamin D deficiency increases cancer risk, or if an increased intake of vitamin D is protective against some cancers. In 2005, initial results from the ongoing Prostate, Lung, Colorectal, and Ovarian (PLCO) Cancer Screening Trial assessing the benefits of prostate cancer screening showed that the combined use of two tests, the prostate-specific antigen (PSA) and the digital rectal exam (DRE), is optimal for detecting prostate cancer. These initial results do not suggest whether such screening saves lives in the long term. The PLCO study will end in 2009. Public health and healthcare professionals must be cautious about recommending methods for cancer prevention until such trials are conducted and completed.

GOAL:

To track new developments in the field of cancer prevention for possible inclusion in the *New Mexico Cancer Plan 2012-2016.*

Objective:

Inventory new developments in the field of cancer prevention, by 2011.

Activities:

Communication

Disseminate existing research findings about ongoing cancer prevention trials and outcomes to New Mexico Cancer Council members as available.

Mobilization

Create a Cancer Council Research Work Group to compile and analyze publications about ongoing cancer prevention trials and outcomes, by 2011.

Advocacy

Advocate for funding to support the activities of the Cancer Council Research Work Group.

Indicator of Success:

A written inventory of new developments in the field of cancer prevention for inclusion in the *New Mexico Cancer Plan 2012 - 2016*, by 2011, and that is available on the New Mexico Cancer Council Web site, by 2011.

Media Materials Resource Center

Many New Mexico-based cancer control and prevention organizations have developed or adapted media materials to use for information, education, and communication campaigns about cancer. Focus group discussions throughout New Mexico showed that there is limited contact between and among these organizations, and therefore there is limited knowledge about existing cancer-related media materials.

A central repository for cancer control and prevention media materials would provide individuals and organizations with access to existing cancer communication materials (e.g., pamphlets, posters, audiotapes, videos, training materials, novelty items, flipcharts, cue cards, and electronic media materials such as television and radio spots). This repository would (1) serve as a network link for professionals specializing in the development and implementation of cancer control and prevention programs in New Mexico and (2) provide a forum for cancer control and prevention professionals to share ideas, information, and samples of their program materials.

GOAL:

To develop and maintain a New Mexico repository for cancer prevention media materials for providers and the general public.

Objectives:

1. Develop and maintain a collection of cancer-related materials used to inform, educate, and communicate with healthcare providers and the New Mexico public about cancer control and prevention, by 2011.
2. Provide access to the collection of cancer-related materials in the New Mexico Media Materials Resource Center to cancer control and prevention professionals in New Mexico, by 2011.

Activities:

Communication

1. Conduct a tailored campaign for comprehensive cancer control partners in New Mexico to (1) introduce the new resource center, (2) encourage partners to send examples of materials to the resource center, and (3) to motivate partners to draw on available resources early in their program materials development process to avoid duplication.
2. Publicize available resources including the Web-based Cancer Control Planet (http://cancercontrolplanet.cancer.gov/)

Advocacy

1. Advocate for long-term funding for developing and maintaining a Media Materials Resource Center for New Mexico-appropriate comprehensive cancer control materials.
2. Advocate for funding for making the resources in the Media Materials Resource Center available on the New Mexico Cancer Council Web site or on DVD, as appropriate.
3. Advocate for funding for monitoring and evaluating the Media Materials Resource Center usage.

Mobilization

1. Identify and secure an easily accessible venue for the Media Materials Resource Center.
2. Appoint a Media Materials Resource Center Officer with knowledge of comprehensive cancer control and prevention, and with experience or training in resource center work, to oversee the media materials collection.
3. Explore feasibility of creating a Web-based resource center.

Indicators of Success:

1. Earmarked funding for the development and maintenance of the Media Materials Resource Center, by 2011.
2. A secured venue for the Media Materials Resource Center, by 2011.
3. A catalogued collection of cancer-related materials used to inform, educate, and communicate with New Mexicans about cancer control and prevention, by 2011.
4. A system for easy access to the Media Materials Resource Center collection, by 2011.

"Those diagnosed with cancer need to read as extensively as they can, to self-educate and better participate in their care."

– Kathy, ovarian cancer survivor.

Early detection of cancer in asymptomatic people is accomplished through screening. For many types of cancer, it is easier to treat and cure the cancer if it is detected early, before symptoms appear. Screening examinations and tests can help save lives and reduce suffering from such cancers as breast, colorectal, and cervical. Some cancers can be found initially through physical examinations by a health professional (such as examinations of the breast, thyroid gland, skin, testicles, and prostate), and by x-ray or laboratory tests (such as mammography, the Pap test, and the prostate-specific antigen or PSA blood test). In many cases, a combination of two or more early detection approaches (such as mammography and clinical breast examination by a health professional) is applied. Genetic testing, or testing for an inherited factor that may lead to some cancers, is another means for cancer screening.[14]

Mammography and Clinical Breast Exams

Many deaths from breast cancer could be avoided by increasing cancer-screening rates among women at risk. Deaths from breast cancer occur disproportionately among women who are uninsured or underinsured. Studies show that early detection of breast cancer saves lives. Timely mammography screening among women aged 40 years or older could reduce breast cancer mortality by approximately 16 percent compared with women who are not screened (CDC, 2006b).

Mammography is a specific type of diagnostic exam that uses a low-dose x-ray system for imaging the breasts. A mammography exam, called a mammogram, is used as a screening tool to detect early breast cancer in women experiencing no symptoms, and to detect and diagnose breast disease in women experiencing symptoms such as a lump, pain or nipple discharge.

Mammography is important in the early detection of breast cancer because it can show changes in the breast up to two years before a patient or physician can feel them. Current guidelines from the U.S. Department of Health and Human Services (HHS), the American Cancer Society (ACS), the American Medical Association (AMA) and the American College of Radiology (ACR) recommend screening mammography every one to two years for women aged 40 years and older, and every year for women age 50 years and older. Research has shown that annual mammograms lead to early detection of breast cancers when they are most curable and most amenable to breast-conservation therapies.

GOALS:

1. Increase breast cancer screening for New Mexico women aged 40 years and older.
2. Improve primary care physicians' and surgeons' knowledge about biopsy protocols for breast cancer.

Objectives:

1. Increase by 4 percentage points, from 55 percent to 59 percent, the proportion of New Mexican women, ages 40 years and older, who have been screened for breast cancer using mammography, by 2011.
2. Increase by 4 percentage points, from 69 percent to 73 percent, the proportion of breast cancers that are diagnosed at an early stage (in situ or local), by 2011.
3. Increase the proportion of New Mexico primary care physicians and surgeons who refer to the National Comprehensive

[14] Randomized screening trials are currently underway for lung cancer. For example, the National Lung Screening Trial (NLST), sponsored by the National Cancer Institute, is a research study that aims to show whether chest X-rays or spiral CT scans are better at reducing deaths from lung cancer. Enrollment in this study began in 2002; participants will be monitored annually until 2009 (www.cancer.gov/nlst). At the time of the writing of this Cancer Plan, no lung cancer screening tests have been endorsed in guidelines published by evidence-based professional societies. A clinical trial also is in progress to confirm the existence of and to identify additional gene(s) involved in heritable melanoma (cutaneous and ocular) and the precursor lesions of cutaneous melanoma (atypical nevi) by linkage analysis and gene mapping strategies (www.clinicaltrials.gov/ct/show/NCT00339404).

Cancer Network (NCCN) Clinical Practice Guidelines in Oncology (www.nccn.org/professionals), or other reputable guidelines, when planning breast biopsy options with patients, by 2011.

Activities:

Communication

1. Conduct multi-media, multi-lingual education programs to increase awareness and knowledge among women and their families about (1) breast cancer risk assessment and risk reduction, (2) the importance of mammograms and clinical breast exams for women aged 40 years and older, (3) the importance of discussing the frequency of mammography screening with one's physician, and (4) current programs that provide breast cancer screening and diagnostic services for low income, underinsured, and uninsured women.
2. Encourage healthcare providers to discuss mammography screening with female patients ages 40 and older, and to refer for mammograms every one to two years beginning at age 40.
3. Promote use of the NCCN Clinical Practice Guidelines to medical professionals treating breast cancer patients.
4. Educate consumers and healthcare providers about available clinical trials for treatment and risk reduction.

Mobilization

1. Identify areas of need for indigenous Patient Navigators[15] and train them for culturally specific community outreach and patient interaction.
2. Partner with healthcare providers, health plans, and/or case management programs to ensure that individuals with abnormal screening results receive timely follow-up diagnostic tests and examinations as specified by NCCN treatment protocols or other reputable guidelines.
3. Develop partnerships with non-traditional partners (e.g., correctional institutions, domestic abuse facilities, homeless shelters, and mental health facilities) to promote screening.
4. Conduct baseline research to determine the number of New Mexico primary care physicians and surgeons who follow the National Comprehensive Cancer Network (NCCN) Clinical Practice Guidelines in Oncology for breast biopsies.

Advocacy

1. Advocate for a mobile mammography/women's health unit to serve historically underserved populations in the state.
2. Support ongoing breast cancer prevention and control efforts in New Mexico (e.g., the Breast and Cervical Cancer Early Detection Programs of the New Mexico Department of Health and the Navajo Nation, and programs of the Indian Health Service and others).
3. Advocate for increased funding from local, state, and federal governments for early detection, diagnosis, and treatment of breast cancer, especially for low income, underinsured, and uninsured women, and for those who do not qualify for the Breast and Cervical Cancer Early Detection Program, Medicare, or Medicaid.

Indicators of Success:

1. An increase in the proportion of New Mexican women aged 40 years and older who have been screened for breast cancer using mammography, by 2011.
2. An increase in the proportion of breast cancers diagnosed at an early stage, by 2011.
3. An increase in the proportion of New Mexico primary care physicians and surgeons who refer to the National Comprehensive Cancer Network (NCCN) Clinical Practice Guidelines in Oncology (www.nccn.org/professionals) or other reputable guidelines for breast biopsies, by 2011.

[15] Patient Navigators are trained, culturally sensitive, healthcare workers, survivors, or family members who help individuals address patient-access barriers to quality, standard cancer care.

Cervical Cancer Screening

Cervical cancer screening using the Pap test can both prevent the disease and diagnose it at an early, more easily treated stage. The introduction of the Pap smear 50 years ago is largely responsible for the national decline in cervical cancer mortality. Nationally, the five-year relative survival rate from cervical cancer when the disease is diagnosed at the earliest stage is 92 percent.

Screening should be initiated approximately three years after a woman begins having sexual intercourse, but no later than 21 years of age. Screening is particularly important in women who have never or rarely been screened. It is estimated that half of the women diagnosed with cervical cancer in the U.S. have never been screened for cervical cancer, and that an additional 10 percent have not been screened in the previous five years. Current guidelines recommend Pap test screening at least every three years; however, the frequency of screening depends on a number of factors. Therefore, women should seek expert medical advice about when to begin screening, how often to be screened, and when to discontinue cervical screenings. This is particularly important for women who are at higher than average risk of cervical cancer due to factors such as smoking, multiple sexual partners, and infection with HIV or other sexually transmitted diseases.

In New Mexico, survey data from 2004 indicates that more than 84 percent of women had a Pap test within the previous three years, which was similar to the average national rate. However, there were some marked disparities in screening rates between different groups. Women with household incomes of less that $15,000 per year were more than four times as likely to not have had a Pap test within three years as women with household incomes over $50,000 (26 percent vs. 6 percent, respectively.) In 2004, the NMDOH Breast & Cervical Cancer Early Detection Program paid for Pap tests for 8,277 eligible low-income women; however, the program only receives enough funding to provide cervical cancer screening for 15 percent to 18 percent of qualifying women. Cervical cancer disproportionately affects women of lower socioeconomic status, without regular access to health care, who are uninsured, and who are recent immigrants.

Most cervical cancers develop slowly through a series of abnormal changes in the cells of the cervix, changes most often related to *human papillomavirus* (HPV). In June 2006, the Food and Drug Administration approved an HPV vaccine for girls/women ages 9 to 26 years old. [Because of the prevention potential of the vaccine, this issue is addressed in greater detail in the Prevention section of this Plan (beginning on page 41]. Cervical cancer screening recommendations have not changed for females who receive the HPV vaccine. Health care providers who vaccinate women against HPV should educate their patients that it is still important to continue receiving regular cervical cancer screening for three reasons. First, the vaccine will not provide protection against all types of HPV that cause cervical cancer. Second, women may not receive the full benefits of the vaccine if they do not complete the vaccine series. Third, women may not receive the full benefits of the vaccine if they receive the vaccine after they have already acquired one of the HPV types included in the vaccine. For these reasons, it is essential that vaccinated women continue to receive routine cervical cancer screening.

GOAL:

To improve cervical cancer screening rates among women in New Mexico.

Objective:

Increase by 5 percentage points, from 85 percent to 90 percent, the proportion of New Mexican women aged 18 or older who received a Pap test in the past three years, by 2011.

Activities:

Communication

1. Identify women who are rarely or are never screened and conduct outreach programs.
2. Conduct multi-media, multi-lingual education programs to increase awareness and knowledge among women aged 18 years and older and their families about (1) cervical cancer, (2) the importance of Pap tests, and (3) current programs that provide cervical cancer screening and diagnostic services for low income, underinsured, and uninsured women.
3. Encourage healthcare providers to discuss Pap tests with female patients, beginning three years after the patient becomes sexually active.

Mobilization

1. Identify areas of need for indigenous Patient Navigators and train them for culturally specific community outreach and patient interaction.
2. Partner with healthcare providers, health plans, and/or case management programs to ensure that individuals with abnormal screening results receive timely follow-up diagnostic tests and examinations as specified by NCCN treatment protocols or other reputable guidelines.
3. Develop partnerships with non-traditional partners (e.g., correctional institutions, domestic abuse facilities, homeless shelters, and mental health facilities) to promote screening.

Advocacy

1. Support ongoing efforts of the Breast and Cervical Cancer Early Detection Programs of the New Mexico Department of Health and the Navajo Nation, and programs of the Indian Health Service.
2. Advocate for increased funding from local, state, and federal governments for early detection, diagnosis, and treatment of cervical cancer, especially for low income, underinsured, and uninsured women, and for those who do not qualify for the Breast and Cervical Cancer Early Detection Program, Medicare, or Medicaid.

Indicators of Success:

1. An increase in the proportion of New Mexican women aged 18 or older who received a Pap test in the past three years, by 2011.
2. An increase in the proportion of cervical cancers diagnosed at an early stage, by 2011.

Colorectal Cancer Screening

Colorectal cancer develops in the colon or rectum. It almost always develops from polyps (abnormal growths). Screening tests on asymptomatic individuals can find polyps, so they can be removed before developing into cancer. Screening tests can also find colorectal cancer early, when it is a highly treatable and often curable disease. Colorectal cancer does not always cause symptoms, especially in the early stages when it is most treatable, making screening especially important.

Colorectal cancer is the fourth most frequently diagnosed cancer in New Mexico and the second leading cause of cancer death. Studies suggest that many of these deaths and new cases could be prevented with appropriate cancer screening. However, in 2004, only about half of New Mexicans aged 50 and older reported ever having had a screening exam for colorectal cancer. Consequently, more than half of the colorectal cancers diagnosed in New Mexico have already spread to regional or distant sites, making them less curable than those that have not spread. (*New Mexico Cancer Facts & Figures 2007*).

GOAL:

To increase colorectal cancer screening among New Mexicans aged 50 years and older and among younger New Mexicans who may be at higher-than-average risk.

Objectives:

1. Increase by 7 percentage points, from 51 percent to 58 percent, the proportion of New Mexican men and women aged 50 years and older, or high-risk younger individuals, who have been screened for colorectal cancer using colonoscopy, sigmoidoscopy, fecal occult blood test (FOBT) using a take-home kit, or double contrast barium enema, by 2011.[16]
2. Increase physician performance of gold-standard, complete diagnostic evaluation for individuals aged 50 years and older and high-risk younger individuals with an abnormal colorectal cancer screening result (other than colonoscopy), by 2011.
3. Increase by 4 percentage points, from 41 percent to 45 percent, the proportion of colorectal cancer cases diagnosed at an early stage (in situ or local), by 2011.

Activities:

Communication

1. Conduct tailored education programs for adults aged 50 years and older, and high-risk younger individuals, and their families to (1) increase awareness and knowledge about colorectal cancer and screening and (2) encourage men and women aged 50 years and older to be screened for colorectal cancer.
2. Develop and conduct worksite cancer screening interventions.
3. Partner with healthcare providers, health plans, and/or case management programs to ensure that individuals with abnormal screening results receive timely follow-up diagnostic tests and examinations as specified by the National Comprehensive Cancer Network (NCCN) protocols or other reputable guidelines.

Mobilization

1. Work with community leaders in diverse communities to (1) identify culturally and linguistically appropriate messages about colorectal cancer and (2) deliver culturally and linguistically sensitive, community-based awareness campaigns.
2. Review available information on colorectal cancer screening capacity (e.g., trained professionals, facilities, and equipment) to determine access to colorectal cancer screening for New Mexicans.

[16] Virtual colonoscopy and fecal DNA testing are new screening tests that, at the time of the writing of this Cancer Plan have not been endorsed in guidelines published by evidence-based professional societies.

3. Conduct baseline research to (1) determine physician performance of complete diagnostic evaluations and appropriate follow-up for individuals aged 50 years and older who have had abnormal colorectal cancer screening results and (2) determine screening rates.

Advocacy

1. Advocate for funding to support outreach and awareness campaigns.
2. Advocate for funding from local and state policymakers to cover colorectal cancer screening and treatment for low income, underinsured, and uninsured New Mexicans.
3. Seek funding to support data systems that capture screening and surveillance activity in New Mexico.

Indicators of Success:

1. An increase in the proportion of New Mexican men and women aged 50 years and older who have been screened for colorectal cancer using colonoscopy, sigmoidoscopy, or fecal occult blood test (FOBT) using a take-home kit, by 2011.
2. An increase in physician recommendation and performance of complete diagnostic evaluation for individuals aged 50 years and older, or high-risk younger individuals, who have had abnormal colorectal cancer screening results (other than colonoscopy), by 2011.
3. An increase in the proportion of colorectal cancer cases diagnosed at an early stage, by 2011.

"Don't die from embarrassment. Get screened for yourself and for your family. I'm here today to love and care for my grandchildren, my children and my husband because my colorectal cancer was found early. With my doctor's help and the support of other cancer survivors I made it through my treatment. Now my life is beautiful, full of love, family and friends. I've told all my children to talk with their doctors about screening."

- Mary Esther, colorectal cancer survivor

Prostate Cancer Screening

Prostate cancer is a common disease among older men; over 90 percent of prostate cancer cases are diagnosed in men over 65 years of age. Younger men can also be affected by prostate cancer, especially Black men. Most prostate cancers are slow growing, and a majority of older men will die with prostate cancer, rather than from prostate cancer. However, prostate cancer can sometimes grow quickly and spread to other parts of the body, causing symptoms, and sometimes death. Black men have a higher risk for presenting with advanced-stage prostate cancers, and have the highest prostate cancer incidence and mortality rates.

Many uncertainties remain regarding the early detection and treatment of prostate cancer. Cancer found by digital rectal examination (DRE) and/or prostate-specific antigen (PSA) testing is usually in an early stage. Treating men with prostate cancer can help them to live longer and can prevent or relieve symptoms. But treatment is not necessarily best for all men with prostate cancer, particularly men who are elderly or ill; it is difficult to tell which men will benefit from treatment and which will have side effects from treatment that will outweigh the benefits.

In 2002, the U.S. Preventive Services Task Force (USPSTF) concluded that the evidence is insufficient to recommend for or against routine screening for prostate cancer using the PSA or DRE tests (USPSTF, 2002). All men are strongly encouraged to discuss the advantages and disadvantages of screening for prostate cancer with their physicians. The principal public health approach is to support informed decision-making about screening.

GOAL:

To encourage men to make informed decisions with regard to prostate cancer screening.

Objectives:

1. Monitor reports of research findings regarding the effectiveness of primary and secondary prevention interventions in reducing prostate cancer mortality and disseminate to New Mexico Cancer Council members, by 2011.
2. Increase the number of men, especially those at high risk[17] , who receive state-of-the-art, culturally and linguistically appropriate information about prostate cancer and screening, by 2011.

Activities:

Communication

1. Conduct a tailored education program for men, especially those at high risk for prostate cancer, and their families to (1) increase awareness and knowledge about prostate cancer and screening tests and (2) encourage men to discuss the benefits and risks of prostate cancer screening with their healthcare providers.
2. Develop and disseminate a unified and uniform message to educate New Mexico's primary care providers about prostate cancer screening.

Mobilization

1. Create a uniform monitoring system to (1) establish a baseline for the number of men who discussed prostate cancer and screening with a healthcare provider in 2008, and (2) determine the number of men who receive appropriate information about prostate cancer and screening in each subsequent year.
2. Partner with faith-based organizations to reach Black men and their families with messages about prostate cancer and screening.

[17] Men who are at high risk for prostate cancer include (1) Black men and (2) men whose father or brother have/had prostate cancer.

3. Partner with healthcare providers, health plans, and/or case management programs to ensure that individuals with abnormal screening results receive follow-up screening and examinations per physician instruction.

Advocacy

1. Advocate for funding for prostate cancer outreach and awareness education programs.
2. Advocate for funding to add a question to the BRFSS survey about how many men discuss prostate cancer and screening with a healthcare provider.

Indicators of Success:

1. Timely dissemination to New Mexico Cancer Council members of reports of findings from recent studies and trials regarding the effectiveness of primary and secondary prevention interventions in reducing prostate cancer mortality.
2. An increase in the number of men, especially those at high risk, who receive current, culturally and linguistically appropriate information about prostate cancer and screening, by 2011.

"Prostate cancer can usually be controlled if detected early. Us TOO Southern New Mexico is an all volunteer support organization that helps to inform men about available screening and treatment options for prostate cancer based on our own personal experiences with the disease."

- Bernie Ripper; Us TOO, Southern New Mexico; Las Cruces.

Genetic Counseling and Testing

Genetic counseling is the process by which patients or their relatives, who are at increased risk for cancer, are advised of the nature of the disease, the probability of developing or transmitting it, and the options available for prevention and treatment. Many factors affect a person's risk for developing cancer including age, sex, family history, and history of hormone exposure. Genetic counseling, genetic testing, and hereditary cancer risk assessment help healthcare providers determine an individual's best options for cancer screening, follow-up, and risk management.

Over the past decade, scientists have discovered specific inherited factors, or genes, that can contribute to the development of some forms of breast, ovarian, colorectal, and other types of cancer. Hereditary cancer risk assessment, including genetic testing and genetic counseling by trained genetic counselors, is now available for some of these types of cancers. This information may be helpful when making medical decisions about how to manage one's risk for cancer. Such testing and assessments should come with assurances of patient privacy protection. To date, New Mexico has only one board-certified genetic counselor for adults.

GOAL:

To provide more New Mexicans with access to hereditary cancer risk assessment including genetic testing and genetic counseling.

Objectives:

1. Determine need for additional hereditary cancer risk assessment clinics that provide genetic testing and genetic counseling in New Mexico, by 2008.
2. Increase the number of board-certified genetic counselors in the state of New Mexico, from one to two, by 2011.
3. Improve healthcare providers' ability to educate patients about hereditary cancer risk assessment including genetic testing and counseling, by 2011.
4. Raise awareness about hereditary risk assessment, genetic testing, and genetic counseling among the New Mexico population, by 2011.

Activities:

Communication

1. Disseminate information, education, and communication materials for healthcare providers to use with patients to discuss hereditary cancer risk assessment including genetic testing and genetic counseling.
2. Supply healthcare providers with referral information for board-certified genetic counselors in the state of New Mexico.
3. Conduct a communication campaign to increase awareness among New Mexicans about hereditary cancer risk assessment including genetic testing and counseling.

Mobilization

1. Conduct a baseline assessment to determine (1) the current knowledge, attitudes, and practices about hereditary cancer risk assessment among primary care providers, oncologists, gastroenterologists, internists, those at increased risk for cancer, and others; (2) the need for establishing satellite genetic counseling and hereditary cancer risk assessment clinics in New Mexico; (3) the current number of board-certified genetic counselors practicing in New Mexico; (4) the number of referrals by healthcare providers to genetic counselors; (5) the current awareness and knowledge among the general population about genetic counseling services available in New Mexico including knowledge about insurance coverage for counseling and testing; (6) the use of genetic counseling services by New Mexico patients; and (7) the proportion of healthcare providers that discuss genetic counseling with their patients.

2. As necessary, recruit board-certified genetic counselors for the hereditary cancer risk assessment clinic.

Advocacy

1. Secure funding for baseline assessment of providers' knowledge, attitudes, and practices regarding hereditary cancer risk assessment and patient referrals.
2. Secure funding to assess the knowledge and attitudes of those at increased risk for developing cancer.
3. Advocate at the state level for licensure of genetic counselors in New Mexico.[18]
4. Advocate for funding from the National Society of Genetic Counseling to support licensure activities.
5. Advocate for funding to recruit board-certified genetic counselors working in cancer assessment to New Mexico.

Indicators of Success:

1. Assessment to determine the need for additional hereditary cancer risk assessment clinics and or additional board-certified genetic counselors working in cancer assessment in New Mexico. If assessment determines need:
   a. The establishment of at least one satellite genetic counseling and hereditary cancer risk assessment clinic, or traveling clinic, for New Mexico (other than in Albuquerque), by 2011.
   b. An increase in the number of board-certified genetic counselors in the state of New Mexico, by 2011.
2. An increase in the proportion of healthcare providers who educate patients about genetic counseling, testing, and hereditary cancer risk assessment, by 2011.
3. An increase in awareness about and understanding of genetic counseling, testing, and hereditary risk assessment among the New Mexico population, especially those at high risk, by 2011.

[18] Licensed genetic counselors are recognized by insurance companies as mid-level providers and can thus bill for their services.

Cancer Treatment Goals and Objectives

Cancer treatment depends on a variety of factors including the type of cancer, stage of cancer, and overall condition of the individual with cancer. Treatment may also vary depending on whether or not the goal of the treatment is to cure the cancer, keep the cancer from spreading, or to relieve the symptoms caused by cancer. One or more treatment modalities (e.g., chemotherapy, surgery, radiation, biotherapeutics, endocrine manipulation, and antiangiogenesis) may be used to provide the most effective treatment. Increasingly, it is common to use several treatment modalities concurrently or in sequence with the goal of eradicating the cancer, preventing recurrence, and/or relieving symptoms.

Cancer treatment facilities that offer surgery, chemotherapy, radiation therapy, and palliative care are located in New Mexico's larger population centers. Barriers to accessing these facilities may include (1) lack of health insurance, (2) long distances to a facility, (3) lack of transportation, (4) language and literacy difficulties, (5) cultural differences between patient and provider, (6) perceived discrimination, (7) lack of trust, and (8) lack of childcare. For many New Mexicans, these barriers may affect the stage of disease at diagnosis, treatment decisions, and adherence to the care and management of their cancer. These barriers are heightened among the working poor, American Indians, immigrant workers and their families, low-income New Mexicans, and those living in rural areas.

This section provides the goals and objectives for the treatment of pediatric cancer (for which there is no prevention or recommended screening), and for improving access to care and clinical trials.

Pediatric Cancer

Pediatric (or childhood) cancer is any type of cancer that occurs in individuals between infancy and 20 years of age. Childhood cancer is rare. There is a cure rate of about 80 percent to 85 percent, yet late effects of childhood cancers and their treatments often persist throughout adulthood. In New Mexico, the diagnosis of childhood cancers has been increasing by about 10 percent per year (Lemaire, 2006). The University of New Mexico Hospital Pediatric Oncology Program in Albuquerque is the only site in the state that treats children with cancer. This Plan is the first *New Mexico Cancer Plan* to include a section on pediatric cancer.

Survivors of childhood cancer are at increased risk for second malignancies and other long-term complications of therapy including (1) cognitive and learning deficits; (2) cardiac and cardiovascular problems; (3) growth, endocrine and fertility problems; and (4) liver, pulmonary, and kidney dysfunction. Recent studies suggest that between two-thirds and three-quarters of childhood cancer survivors will experience at least one of these late effects, some of which can take years to develop.

GOALS:

1. To improve treatment for pediatric cancer patients in New Mexico.
2. To improve management of the late effects of pediatric cancer for survivors living in New Mexico.

Objectives:

1. Increase the number of pediatricians and family practice physicians in New Mexico who are able to detect, in a timely manner, cancers in patients from infancy to 20 years of age, by 2011.
2. Increase the number of pediatricians and family practice physicians in New Mexico who know the late effects of pediatric cancer and its treatment that require special screening and treatment, by 2011.
3. Increase awareness among school counselors and nurses about pediatric cancer and late effects, by 2011.

4. Increase the number of children and young adults with pediatric cancer and their family members who are aware of the late effects of cancer and its treatment, by 2011.
5. Increase access to Phase I Clinical Trials for New Mexico children with cancer, by 2011.
6. Expand the Pediatric Hospice Program to include facilities throughout the state, by 2011.
7. Create a New Mexico-based support program for children/young adults with pediatric cancer, by 2011.
8. Promote umbilical cord blood-banking among pregnant women in New Mexico, by 2011.[19]

Activities:

Communication

1. Conduct a tailored intervention to educate pediatricians and family practice physicians about (1) early detection of pediatric cancers and (2) the late effects of pediatric cancer and its treatment that require special screening and treatment.
2. Disseminate materials to school counselors and nurses about (1) pediatric cancer, (2) the late-effects of pediatric cancer and its treatment, and (3) the psychology of integrating students recovering from cancer into the classroom.
3. Disseminate an education program for children and their parents/family members about (1) late-effects (e.g., from radiation) that require follow-up through adulthood and (2) the importance of maintaining contact with the Late Effects Clinic Program in Albuquerque.
4. Conduct a tailored intervention to educate parents about government-sponsored clinical trials so that parents can make informed decisions about having their children participate in clinical trials.
5. Develop a sustainable Web-based pediatric cancer survivor forum.

Mobilization

1. Develop a formal link with the Denver Phase I Clinical Trials Consortium to provide New Mexico pediatric cancer patients with access to Phase I trials.
2. Conduct baseline assessments to determine (1) the number of pediatricians and family practice physicians that know the protocol for detecting cancer in children, in 2008; (2) the number of school counselors and nurses that know about pediatric cancer and late effects, in 2008; (3) the number of parents whose children have cancer that know about late effects and their consequences, in 2007; and (4) the percent of parents whose children have cancer that know about Phase I trials and how to access those trials, in 2007.

Advocacy

1. Advocate for funding from local and state policymakers to create and sustain a support network for parents (childcare for siblings, family counseling, and transportation) of children with cancer.
2. Advocate for funding from state officials to expand the Pediatric Hospice Program throughout New Mexico.
3. Advocate for funding to improve the umbilical cord blood-banking infrastructure in New Mexico.
4. Advocate for insurance coverage for pediatric cancer patients that are eligible to participate in Phase I Trials in other states.
5. Advocate for all healthcare payers to cover conditions related to late effects of cancer treatment for pediatric cancers survivors.

[19] Umbilical cord blood-banking enables new parents to store their newborn's umbilical cord blood as a potential source of stem cells to help treat cancers and other disorders.

Indicators of Success:

1. An increase in the number of pediatricians and family practice physicians in New Mexico who can detect, in a timely manner, cancers in patients from infancy to 20 years of age, by 2011.
2. An increase in the number of pediatricians and family practice physicians in New Mexico who know the late effects of pediatric cancer and its treatment that require special screening and treatment, by 2011.
3. An increase in awareness among school counselors and nurses about pediatric cancer and late effects, by 2011.
4. An increase in the number of children and young adults with pediatric cancer and their family members who are aware of late effects of their cancer and its treatment, by 2011.
5. An increase in access to Phase I Clinical Trials for New Mexico children with cancer, by 2011.
6. An increase in the number of Pediatric Hospice Program facilities throughout the state, by 2011.
7. The establishment and maintenance of a New Mexico-based support program for children/young adults with pediatric cancer, by 2011.
8. An increase in the number of pregnant women in New Mexico who know about umbilical cord blood-banking, by 2011.

"Patient education, family and peer support, and a back-to-school-program for children with cancer are just a few of the many services available to New Mexicans that are provided by the Leukemia and Lymphoma Society."

- Staff member, Leukemia and Lymphoma Society, Albuquerque

Access to Care

Access to care is the degree to which individuals and groups are able to obtain needed care from the medical system. Access to care is not an end in and of itself. The purposes of gaining access to cancer care are (1) to achieve relief for acute symptoms, (2) to maintain long-term functioning and relief from anxiety about these symptoms, and (3) to avoid an untimely death. Finding the best cancer care and navigating through the complex care system can be difficult and usually involves a number of health professionals.

Patient Navigation is a program intervention that addresses barriers to quality standard care by providing individualized assistance to patients, survivors, and families. Patient navigators are health professionals, survivors, or family members who work in consultation with patients, families, physicians, and cancer treatment facilities to ensure that patients' needs are appropriately and effectively addressed. The National Cancer Institute (NCI) is currently conducting several research programs to test the effectiveness of this approach. The outcomes of patient navigation programs implemented to date show that navigators reinforce information given to patients by their physicians, oncologists, surgeons, and other healthcare providers; help with logistics (e.g., scheduling appointments, arranging transportation); and help to improve collaboration and coordination among healthcare providers making patient referrals.

GOAL:

To ensure that all New Mexico cancer patients have equal access to evidence-based, appropriate, and effective cancer treatment.

Objectives:

1. Identify the barriers to accessing cancer treatment, especially for underserved and rural populations and populations with varying levels of insurance coverage, by December 2008.
2. Facilitate access to cancer treatment, especially among minority and rural populations, and among low-income, underinsured, and uninsured populations, by 2011.
3. Increase awareness among policymakers and mass media professionals about barriers to accessing cancer treatment, by 2011.

Activities:

Communication

1. Educate New Mexicans diagnosed with cancer about treatment options, accessing clinical trials, and the availability of patient navigators.
2. Educate patients about the availability of low-cost services and cancer treatment facilities to encourage informed decision-making about treatment options.
3. Develop and distribute fact sheets to policymakers about barriers to accessing cancer treatment.
4. Develop and distribute fact sheets to mass media professionals about barriers to accessing cancer treatment.
5. Educate policymakers about cancer control.

Mobilization

1. Prioritize barriers to accessing cancer treatment and care and identify evidence-based interventions to address them.
2. Plan, implement, integrate and evaluate programs to address barriers to accessing cancer treatment and care.
3. Develop and implement a sustainable Patient Navigator program for cancer patients and their families.

Advocacy

1. Advocate for funding to support a transportation infrastructure for New Mexico cancer patients to access care at healthcare facilities.
2. Advocate for funding to identify and implement evidence-based interventions to address barriers to accessing cancer treatment and care.

3. Advocate for policies regarding improved access to quality and timely cancer care for all New Mexican cancer patients.
4. Advocate for policies and legislation to broaden insurance coverage for screening, diagnostic and treatment services for low-income, underinsured, uninsured, and high-risk cancer patients.
5. Advocate for policies and legislation to ensure health insurance coverage for long term and late effects of cancer and cancer treatment.

Indicators of Success:

1. A comprehensive research report (including recommended strategies for addressing the barriers) that identifies the barriers to accessing cancer treatment, especially for underserved and rural populations and populations with varying levels of insurance, and that is distributed to cancer control and prevention partners by December 2009.
2. Improved access to cancer treatment, especially among minority and rural populations, and among low-income, underinsured, and uninsured populations, by 2011.
3. An increase in awareness among policymakers and mass media professionals about barriers to accessing cancer treatment, by 2011 .

"The Guestroom Program, a partnership between the American Cancer Society and various Santa Fe hotels, provides midweek accommodations for cancer patients and their caregivers receiving treatment free of charge."

- Staff member,
American Cancer Society, Albuquerque

Clinical Trials

Cancer clinical trials are research studies designed to evaluate new approaches to cancer prevention, detection, and treatment, or to study quality of life issues. Treatment clinical trials test the safety and effectiveness of cancer treatments, many of which are only available through participation in a clinical trial. These trials evaluate new anti-cancer drugs, unique approaches to surgery and radiation therapy, and new combinations of treatments to determine whether the new therapy will be an improvement over the previous standard therapy. In the United States, the Food and Drug Administration (FDA) oversees the conduct of clinical trials.

There are different types of cancer clinical trials including:

- prevention trials to study the effectiveness of a drug, vitamin or other supplement to prevent people from developing cancer;
- prevention trials to study the effects of a therapy to prevent additional type(s) of cancer from developing in people who have had cancer;
- early detection trials to find cancer, especially in its early stages;
- diagnostic trials to assess tests or procedures that could more accurately detect cancer;
- treatment trials to test new treatments in people who have cancer; and
- quality of life studies to improve comfort and quality of life for people who have or have had cancer.

There are four phases for clinical trials[20] :

- Phase I trials are designed to determine safety issues (tolerated doses of treatment, toxic side effects for different doses, and whether toxic side effects are reversible), and usually involve a small number of patients.
- Phase II trials determine the effectiveness of the treatment in a specific patient population at the dose and schedules determined in Phase I. Drugs or therapies that are shown to be effective in Phase II trials may become standard treatment, or may be further assessed for effectiveness in Phase III trials.
- Phase III trials compare a new drug or therapy with a standard therapy in a randomized and controlled manner to determine its effectiveness. Phase III trials require large numbers of patients; physicians from different institutions typically participate by recommending their patients for these trials.
- Phase IV trials are generally initiated by the manufacturer of a new drug or therapy once the treatment has been approved. The purposes for Phase IV trials are (1) to continue to evaluate the treatment and monitor side effects and (2) to assess the usefulness of the new drug or therapy for different types of cancers.

In New Mexico, under provisions of Section 59A-22-43 NMSA 1978 (Laws 2001, Chapter 27, Section 2), insurance companies are required to cover routine patient care costs incurred in cancer clinical trials. This section of law does not currently include cancer prevention trials. [21]

Other types of research studies to determine the effectiveness of clinical interventions on participants include long-term follow-up studies, epidemiological studies, and survivorship studies.

GOAL:

To increase access to and participation of New Mexicans in (1) cancer prevention and therapeutic clinical trials and (2) long term follow-up, survivorship, and epidemiological research studies.

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[20] For further information on clinical trials refer to www.cancer.gov/clinicaltrials.

[21] Since 2001, New Mexico law has included a temporary provision that requires insurance companies to cover routine patient care costs associated with participation in clinical trials. This law has been renewed with a delayed repeal that will expire in 2009. If the law becomes permanent, it will ensure that insurance companies will cover routine patient care costs for patients participating in clinical trials for years to come.

Objectives:

1. Identify and remove existing barriers to clinical trial enrollment for New Mexico cancer patients, by 2011.
2. Support existing efforts to coordinate recruitment into clinical trials, by 2011.
3. Assure that New Mexicans recruited into cancer clinical trials are fully informed about the purpose of the trials (i.e., the main purpose is to advance science), by 2011.

Activities:

Communication

1. Develop and deliver an information intervention to educate New Mexico cancer patients about existing and relevant cancer clinical trials.
2. Post existing resources and information on clinical trials on the New Mexico Cancer Council Web site so that it can be easily accessed by healthcare providers and patients.
3. Inform each prospective cancer clinical trial participant that the purpose of a clinical trial is to advance science for the "greater good."

Mobilization

1. Compile existing evidence on current barriers to clinical trial enrollment for New Mexico cancer patients and write a report to document the barriers.
2. Based on evidence from the report on current barriers to clinical trial enrollment, develop and implement interventions to remove the barriers for New Mexico cancer patients.
3. Establish mechanisms for communicating with healthcare providers about clinical trials available to New Mexico cancer patients.

Advocacy

1. Advocate for funding to conduct a study to compile information on current barriers to clinical trial enrollment for New Mexico cancer patients.
2. Advocate for the inclusion of prevention trials under the existing law that requires insurance companies to cover routine patient care costs associated with participation in clinical trials.
3. Advocate for making permanent the existing law that requires insurance companies to cover routine patient care costs associated with participation in clinical trials.
4. Advocate for the inclusion of Phase I clinical trials in the existing law that requires insurance companies to cover routine patient care costs associated with participation in clinical trials.
5. Advocate for the rights of those considering participating in cancer clinical trials and those participating in cancer clinical trials.

Indicators of Success:

1. A comprehensive research report that identifies the barriers to clinical trial enrollment (including recommended strategies for addressing the barriers) and that is distributed to cancer control and prevention partners by December 2009.
2. A reduction in the perceived barriers to clinical trial enrollment by physicians and cancer patients in New Mexico, by 2011.
3. An increase in understanding among clinical trial participants and prospective participants of the purpose of clinical trials and their potential risks and benefits to participants, by 2011.

"With each patient enrollment into a clinical research study because of what is learned through New Mexico Cancer Care Alliance and the New Mexico Cancer Plan, we believe we are one step closer to achieving the NCI goal of eliminating the pain and suffering of patients with cancer by 2015."

- Staff member,
New Mexico Cancer Care Alliance, Albuquerque

A cancer survivor is an individual who is living with or beyond cancer from the moment of diagnosis onward. The term survivor is also used to refer to the friends and family members of people who have been diagnosed with cancer. Survivors must cope with the physical, psychosocial, spiritual, and financial effects of cancer. Many survivors are living longer as a result of earlier diagnosis, prevention, and more effective cancer treatments such as radiotherapy, chemotherapies, and immunotherapies.

Many survivors transition from a medical system of care, during which they receive intensive assistance and communication from their healthcare team, to their everyday lives with little guidance for managing the medical or quality of life issues that may arise. It is important that survivors receive appropriate social support (before treatment, during treatment, and following treatment) and achieve self-efficacy[22] in order to maintain their expected quality of life.

Quality of Life

Quality of life refers to an individual's perceived physical, mental (psychological, emotional and spiritual), and social health over time. Measuring quality of life requires an individual to assess whether his/her wellbeing is at a level that is consistent with his/her expectations.

Healthcare professionals use health-related quality of life (HRQOL) indicators to (1) understand how cancer interferes with a person's daily activities and (2) address quality of life issues for cancer survivors and their families. Although the term "quality of life" is commonly used, there is little consensus about both the meaning and measurement of this concept. In tandem with the growing body of literature on quality of life, it is important to concretely address the factors that contribute to quality of life for survivors managing the physical, social, emotional, and psychological late-effects of cancer. Cancer and cancer treatment affect the quality of life of cancer survivors, their family members, and friends.

GOAL:

To enhance the quality of life for New Mexicans affected by cancer.

Objectives:

1. Increase awareness about the importance of addressing quality of life issues among New Mexico cancer survivors and their healthcare providers, by 2011.
2. Increase the ability of survivors to address quality of life issues with their providers, by 2011.
3. Increase the number of physicians in New Mexico who know the long-term and late effects of cancer that require special screening and treatment, by 2011.
4. Increase the number of New Mexico healthcare facilities that provide optimal relief of acute and chronic pain resulting from cancer, by 2011.

Activities:

Communication

1. Educate cancer survivors and caregivers about (1) quality of life issues before, during and following treatment, and (2) ways to communicate about quality of life issues to healthcare providers.
2. Educate healthcare providers about (1) the importance of quality of life issues for cancer patients/survivors, (2) the long-term and late effects of cancer and cancer treatment and related screening and treatments, (3) the short- and long-term physical and psychosocial needs of survivors following treatment, (4) existing psychosocial support services available to cancer survivors and their loved ones, and (5) the value of timely referrals for the use of those services.

[22] Self-efficacy is an individual's belief in her/his ability to cope with a situation and outcome and to exercise influence over events that affect his/her life.

3. Educate healthcare providers, cancer survivors and their loved ones, and cancer control advocates about cancer pain management.
4. Disseminate and promote the National Comprehensive Cancer Network (NCCN) Guidelines for Supportive Care to healthcare providers, case managers and survivor advocates, nursing home administrators, and other healthcare professionals, as well as to the state legislature, the Pharmacy Board and the Medical Board through the state Pain Advisory Council or other appropriate venues.
5. Disseminate and promote the National Comprehensive Cancer Network (NCCN) Treatment Guidelines for Patients to cancer survivors and survivor organizations in New Mexico.

Mobilization

1. Conduct baseline research to determine (1) the level of awareness among cancer survivors and healthcare providers about the importance of addressing quality of life issues, (2) the number of survivors that discuss quality of life issues with their healthcare provider(s), (3) the number of cancer healthcare providers that discuss quality of life issues with their patients, (4) the number of facilities that offer pain management programs for cancer survivors, and (5) issues related to accessing social support services among survivors.
2. Identify possible data sources for tracking progress on survivorship, pain management, and symptom management.

Advocacy

1. Advocate for funding to increase the number of healthcare facilities in New Mexico that provide pain management services.
2. Advocate for funding to establish survivorship clinics to follow survivors after treatment and to provide them with comprehensive care to address their physical and mental needs.
3. Advocate for funding to conduct survivorship research.

Indicators of Success:

1. An increase in awareness about the importance of addressing quality of life issues among New Mexico cancer survivors and healthcare providers, by 2011.
2. An increase in the ability of survivors to address quality of life issues with their providers, by 2011.
3. An increase in the number of physicians in New Mexico who know the long-term and late effects of cancer and cancer treatment that require special screening and treatment, by 2011.
4. An increase in the number of New Mexico healthcare facilities that provide optimal relief of acute and chronic pain resulting from cancer and/or cancer treatment, by 2011.

"After my diagnosis, my parents told me you just do the best you can with what you have. You get treatment if it is available; you make adjustments; you get assistance and go on and enjoy your life as best you can."

- Nancy Jane, breast cancer survivor

Social Support

The emerging research on quality of life suggests that it is important to address the physical, social, and emotional issues associated with cancer survival. Many studies have demonstrated that social support significantly improves an individual's ability to cope with the stresses associated with cancer and to mitigate the negative symptoms (e.g., pain, depression, and anxiety) that result from cancer.

GOALS:

1. To provide New Mexico cancer survivors and their families with access to culturally and linguistically appropriate and relevant social support services and support services for the practical issues of living with cancer.
2. To provide caregivers[23] in New Mexico with the necessary knowledge and skills to care for survivors before, during, and following treatment.

Objectives:

1. Develop and maintain an inventory of social support services and support services for the practical issues of living with cancer for cancer survivors and caregivers in New Mexico, by 2008.
2. Establish a system for informing New Mexico cancer survivors and caregivers about existing social support services and support services for the practical issues of living with cancer, by 2011.
3. Improve access to social support services and support services for the practical issues of living with cancer for New Mexico cancer survivors and their families, by 2011.
4. Increase the number of healthcare providers who inform patients and family members about available social support services and support services for the practical issues of living with cancer, by 2011.

Activities:

Communication

1. Educate cancer survivors and families about (1) quality of life issues before, during and following treatment and (2) ways to communicate about quality of life issues to healthcare providers.
2. Educate caregivers about the resources available to help them cope with the impact of their loved one's cancer.
3. Create a Web-link on the New Mexico Cancer Council Web site for an inventory of existing social support services and support services for the practical issues of living with cancer for cancer survivors and caregivers. This inventory should be updated annually.
4. Develop and disseminate information (Web-based or other mass media materials) to cancer survivors and caregivers about existing social support services and support services for the practical issues of living with cancer.

Mobilization

1. Identify gaps in existing programs that provide Survivor Navigator services that facilitate survivor access to post-treatment information, screening, social support services, and support services for the practical issues of living with cancer.
2. Conduct baseline research to determine (1) the most effective communication channels for disseminating information about support services to cancer survivors and family members and (2) barriers to accessing social support services and support services for the practical issues of living with cancer.

[23] Caregivers are family members or friends who have assumed full care of a person living with cancer, on a temporary or permanent live-in basis.

Advocacy

1. Advocate for funding to conduct a comprehensive inventory of social support services and support services for the practical issues of living with cancer for cancer survivors and caregivers in New Mexico.
2. Advocate for funding to support existing and new programs that provide Survivor Navigator services for cancer survivors.

Indicators of Success:

1. A Web-based inventory of social support services and support services for the practical issues of living with cancer for cancer survivors and caregivers that is updated on an annual basis, by 2008.
2. A system for informing New Mexico cancer survivors and caregivers about existing social support services and support services for the practical issues of living with cancer, by 2011.
3. Improved access to social support services and support services for the practical issues of living with cancer for New Mexico cancer survivors, by 2011.

"In one glorious Fall weekend, amid the tall pines, my mind was calmed and my spirit refreshed. A travel plan for this awesome journey began to take shape."

– Jeri, Cancer Services of New Mexico Family Retreat participant.

Survivor Empowerment

Survivor empowerment is a process of enabling individuals to increase control over, and to improve, their health (i.e., to increase self-efficacy). Survivors are empowered when they have the knowledge, skills, attitudes, and self-awareness necessary to influence their own behavior following treatment. Survivors can also be empowered by participating in social support groups and one-to-one discussions with other survivors. It is important for cancer survivors to develop self-efficacy in order to (1) increase independence from professional caregivers and (2) reduce the negative psychological and social consequences of cancer.

Every cancer survivor should have a comprehensive care summary and follow-up plan once they complete their primary cancer care to (1) address post-treatment needs and potential long-term and late-effects of treatment and (2) contribute to improving their quality of life.

GOAL:

To improve self-efficacy[24] with regard to cancer survivorship among New Mexico cancer survivors.

Objectives:

1. Provide cancer survivors with access to their individual comprehensive cancer care summaries and follow-up plans, by 2011.
2. Improve communication between providers and survivors about cancer care follow-up plans, by 2011.

Activities:

Communication

1. Develop and deliver a training program to provide healthcare providers with the communication skills to empower cancer survivors.
2. Develop a training session to help healthcare providers understand the potential of peer support to empower survivors.
3. Deliver workshops for cancer survivors on (1) self-efficacy and the management of the physical and psychological late-effects of cancer and (2) communication skills for discussing post-treatment care with healthcare providers.
4. Encourage survivors to network with other survivors through support groups and one-to-one contacts.

Mobilization

1. Develop a mechanism to ensure that survivors have access to comprehensive care summaries and follow-up plans once they complete their primary cancer care, by 2011.
2. Conduct an analysis of barriers hindering empowerment of cancer survivors.
3. Conduct baseline research to determine (1) the degree to which healthcare providers write, and cancer survivors access, cancer care summaries and follow-up plans; (2) current levels of self-efficacy among cancer survivors; and (3) the degree and quality of communication between providers and survivors when discussing survivor empowerment.

Advocacy

Advocate for funding to develop a mechanism for ensuring that survivors have access to their cancer care summaries and follow-up plans once they complete their primary cancer care.

[24] Self-efficacy is an individual's belief in her/his ability to cope with a situation and outcome and to exercise influence over events that affect his/her life.

Indicators of Success:

1. The number of cancer survivors who report having access to their individual comprehensive cancer care summaries and follow-up plans, by 2011.
2. The number of cancer survivors who report communicating with their providers about their individual comprehensive cancer care summaries and follow-up plans, by 2011.
3. The number of cancer care providers who report communicating with survivors about cancer care summaries and follow-up plans, by 2011.

Oncology Workforce Assessment Goals and Objective

It is difficult to precisely estimate the demand for cancer care in New Mexico; however, all signs point to an increase in cancer rates as the population ages and as survival rates continue to rise. The number of new clinical oncologists has remained fairly constant over the last decade, while the number of nurses in the state is decreasing.

To date, there has been no assessment of the current and future supply and demand for cancer care providers in New Mexico. The cancer care workforce consists of an array of specialists including radiologists, oncologists, surgeons, oncology nurses, radiation technicians, pathologists, dosimetrists, physicists, mammography technicians, oncology physician assistants, oncology nurse practitioners, and palliative care specialists. The question of whether New Mexico will experience a shortage of cancer care providers needs to be addressed.

GOAL:

To determine the future supply and demand for cancer care providers in New Mexico.

Objectives:

1. Assess the supply and distribution of the cancer care provider workforce in New Mexico, by 2009.
2. Assess the cancer care workforce in training, by 2009.
3. Assess the cancer care provider training capacity, by 2009.
4. Determine the projected growth rate for the aging population in New Mexico, by 2009.
5. Prioritize categories of cancer care providers for recruitment and training in New Mexico, by 2011.

Activities:

Communication

Inform cancer care providers in New Mexico about the oncology workforce assessment and seek input from relevant provider organizations and associations.

Mobilization

1. Conduct an assessment of the number and distribution of the cancer care provider workforce in New Mexico including sociodemographic data about current providers, the geographical distributions of current providers, and intentions of providers regarding their practice in the state.
2. Conduct an assessment of the cancer care workforce in training including sociodemographic data about the trainees and their intentions to practice in New Mexico.
3. Conduct an assessment of the training capacity for oncology providers in New Mexico including the geographic distribution of training sites and the availability of trainers for each specialty area.
4. Conduct a study to determine the projected growth rate for the aging population in New Mexico including population projections, age-specific cancer incidence rates, and Medicare claims projections.
5. Conduct an assessment of the patient load for primary care doctors caring for cancer patients including the ratio of patients to physicians and how much of the load (e.g., screenings) primary care providers are able to manage.
6. Write and disseminate a report that prioritizes the types of cancer care providers for recruitment and training in New Mexico.

Advocacy

1. Advocate for funding to conduct the oncology workforce needs assessments.
2. Advocate for funding to write and disseminate the report on priorities for cancer care provider recruitment and training in New Mexico.
3. Advocate for funding for New Mexico universities and community colleges for training oncology workforce specialists.

Indicators of Success:

1. A report on the supply and distribution of the cancer care provider workforce in New Mexico.
2. A report on the cancer care workforce in training.
3. A report on the cancer care provider training capacity.
4. A report of the projected growth rate for the aging population in New Mexico.
5. A report that prioritizes cancer care providers for recruitment and training in New Mexico.

Capacity Building Goals and Objectives

Capacity is the ability of individuals and organizations to perform functions, solve problems, and set and achieve goals. Capacity building involves the sustainable creation, utilization, and retention of that capacity in order to improve performance and effectiveness. Capacity building does not include program development or expansion, and it does not include capital projects such as new facilities.

Capacity building agents include (1) foundations and government organizations that provide grants, training, consulting and other resources; (2) researchers who identify issues and trends; (3) academic institutions that provide formal training and certification opportunities for individuals, conduct research, and have resource centers for nonprofit organizations; and (4) organizations (for profit and nonprofit) with grantees or chapters that may conduct their own capacity-building activities that respond to specific organizational priorities and needs.

Cancer control and prevention in New Mexico is complicated by the geography of the state, and by its multi-cultural and multi-lingual settings. In order to maximize cancer control and prevention resources, and to minimize the duplication of interventions or activities, it is important to build and sustain an infrastructure that will encourage collaboration and an exchange of ideas among various potential capacity building agents.

GOALS:

1. To improve and expand the collaborative efforts among stakeholders working on cancer control in New Mexico.
2. To increase use of the Plan as the statewide document directing cancer control efforts.
3. To reinforce the New Mexico Cancer Council as the main cancer control entity in New Mexico.
4. To improve the capacity of healthcare providers and other cancer-related organizations to make relevant and timely referrals for New Mexico cancer patients to appropriate cancer care.

Objectives:

1. Develop a comprehensive and current resource list of cancer control and prevention providers and organizations in New Mexico for posting on the New Mexico Cancer Council Web site, by December 2008.
2. Inform medical providers, public health practitioners, planners, advocates, educators, and others involved in all areas of cancer control in New Mexico about the resource list on the New Mexico Cancer Council Web site, by December 2009.
3. Assess the state's capacity for providing appropriate and adequate cancer care services to New Mexico's growing and aging population, by 2011.
4. Create and sustain an infrastructure (e.g., Web-based) to facilitate collaboration, serve as a platform for information exchange, and provide access to cancer control and prevention resources for medical providers, public health practitioners, planners, advocates, educators, and others involved in all areas of cancer control in New Mexico, by 2011.

Activities:

Communication

1. Expand the New Mexico Cancer Council Web site to include (1) a resource list of current information about cancer control and prevention organizations and interventions and (2) a forum for the exchange of information about cancer control and prevention research and interventions.

2. Inform medical providers, public health practitioners, planners, advocates, educators, and others involved in all areas of cancer control in New Mexico about the New Mexico Cancer Council Web site, and encourage them to update their organization's information at least bi-annually.

Mobilization

1. Support the New Mexico Cancer Council to foster collaboration among such entities as the New Mexico Department of Health; American Indian pueblos, tribes, and nations; the Indian Health Service; cancer control organizations; and local communities (volunteers, survivors, and providers) to work together on (1) public awareness, (2) advocacy/legislative action, and (3) community mobilization for priority cancer control and prevention issues. This network should establish an Internet portal that can be linked to the New Mexico Cancer Council Web site.
2. Conduct a needs assessment to determine gaps in the number, types, and locations of cancer care providers needed for New Mexico's growing and aging population.

Advocacy

1. Support the efforts of the Albuquerque Cancer Coalition[25] to provide a comprehensive and current resource list of all cancer control and prevention organizations in New Mexico to add as a link to the New Mexico Cancer Council Web site.
2. Advocate for funding for a promotional campaign to inform medical providers, public health practitioners, planners, advocates, educators, and others involved in all areas of cancer control in New Mexico about the New Mexico Cancer Council Web site.
3. Advocate for funding to conduct a needs assessment to determine gaps in the number, types, and locations of cancer care providers in New Mexico.

Indicators of Success:

1. A comprehensive and current resource list of cancer control and prevention providers and organizations in New Mexico for posting on the New Mexico Cancer Council Web site, by December 2008.
2. An increase in the proportion of medical providers, public health practitioners, planners, advocates, support service organizations, educators, and others involved in all areas of cancer control in New Mexico who know about the resource list on the New Mexico Cancer Council Web site, by December 2009.
3. Development of an assessment report of the state's capacity for providing appropriate and adequate cancer care services to New Mexico's growing and aging population, by 2011.
4. The creation of a sustainable infrastructure (e.g., Web-based) to facilitate collaboration, serve as a platform for information exchange, and provide access to cancer control and prevention resources for medical providers, public health practitioners, planners, advocates, educators, and others involved in all areas of cancer control in New Mexico, by 2011.

"It's very important that Presbyterian offers this procedure (autologous transplantation) because it's close to home. It was wonderful being in familiar surroundings during this treatment."

Raymond, Presbyterian Cancer Treatment Center patient.

[25] Members of the Albuquerque Cancer Coalition are Albuquerque-based cancer support agencies, hospital treatment centers and governmental agencies uniting to inform the community of resources, to educate, to advocate and to meet the needs of cancer patients and their families (www.cancernm.org/cancercouncil/workgroups.htm).

Measuring Cancer Control Progress
Goal and Objectives

Evaluation is a systematic and continuous process for determining the effectiveness of public health interventions. The practice of evaluation provides public health practitioners with definitions, methods, and approaches for obtaining feedback about a specific intervention or activity.

Evaluating Cancer Control Programs and Interventions

The purposes for most program evaluations are (1) to determine whether the objectives related to improved health status have been achieved, (2) to improve program implementation, (3) to provide accountability to funding agencies and the community, (4) to increase community support for programs, (5) to contribute to the research base for public health interventions, and (6) to inform policy decisions. Program performance is becoming increasingly important in view of limited funding for cancer control and prevention interventions.

Program evaluation is an essential organizational practice that should be tied to ongoing program operations. New Mexico cancer control and prevention organizations should integrate an evaluation component into each of their interventions or activities. This evaluation component should be developed at the time that the intervention or activity is conceived, and it should be implemented throughout the life of the intervention or activity.

GOAL:

To understand the effectiveness of cancer control and prevention initiatives in New Mexico.

Objectives:

1. Increase the capacity of New Mexico cancer control and prevention organizations to conduct program evaluations, by 2011.
2. Increase the number of organizations that develop and implement evaluation components for their interventions, by 2011.
3. Increase the percentage of New Mexico Cancer Council members who submit annual reports on their organizations' efforts toward addressing the goals of the Plan, by 2009.

Activities:

Communication

1. Develop and deliver training workshops for medical providers, public health practitioners, planners, advocates, support service organizations, educators, and others that develop and implement cancer control and prevention programs or interventions in New Mexico to increase knowledge about (1) program evaluation, (2) evaluation methods, and (3) dissemination of program evaluation findings.
2. Develop an Evaluation Methods Toolkit for New Mexico cancer control and prevention organizations to use as a guide for conducting program evaluations; disseminate the toolkit to New Mexico Cancer Council members.

Mobilization

Conduct baseline research to determine (1) the current knowledge about program evaluation and methods in New Mexico-based cancer control and prevention organizations and (2) the number of organizations that currently conduct evaluations for each of their cancer programs/interventions.

Advocacy

Advocate for funding to create a network of evaluation specialists that can provide technical assistance to New Mexico-based cancer control and prevention organizations for designing and conducting program evaluations.

Indicators of Success:

1. The number of New Mexico cancer control and prevention organizations that report being able to systematically collect information about the activities, characteristics, and outcomes of programs in order to assess the effectiveness of ongoing activities, by 2011.
2. An increase in the number of organizations that develop and implement evaluation components for their interventions or activities, by 2011.
3. An increase the proportion of New Mexico Cancer Council members who submit annual reports on their organizations' efforts toward addressing the goals of the Plan, by 2009.

Disseminating Cancer-Related Data

Cancer has been a reportable disease in New Mexico since the 1920s. The New Mexico Tumor Registry (NMTR) conducts cancer surveillance for the state of New Mexico. Since 1969, the NMTR has been the major source of statewide data on cancer incidence, stage at diagnosis, and relative survival. The New Mexico Department of Health (NMDOH) Office of Vital Records and Health Statistics collects cancer mortality data. Data on cancer risk factors is collected and analyzed by the NMDOH through the Behavioral Risk Factor Surveillance System (BRFSS), a telephone survey funded by the Centers for Disease Control and Prevention that is conducted in all 50 states.

GOAL:

To improve the timely[26] dissemination of quality cancer-related data.

Objective:

Decrease the lag time for analysis and dissemination of data results, by 2010.

Activities:

Communication

Educate legislators and policymakers about the importance of timely and accurate cancer data and how it can be used to address cancer health disparities in New Mexico.

Mobilization

Create a Task Force to work with epidemiologists to identify the barriers to timely Behavioral Risk Factor Surveillance System (BRFSS) data analysis and reporting.

Advocacy

1. Advocate for resources to support capacity in both the New Mexico Tumor Registry and the New Mexico Department of Health to provide timely cancer data.
2. Advocate for funding to conduct an assessment of data and information needs for developing future *New Mexico Cancer Plan* goals and objectives.

Indicator of Success:

A decrease in the lag time for analysis and dissemination of data results, by 2010.

[26] Cancer control and prevention data are valuable and useful to healthcare providers and program planners only if they represent reasonably current activities. Timeliness is usually measured by how soon the data are available after some defined end-of-collection period. The current lag time for New Mexico Tumor Registry data, for example, is about two years, which is due in part to the time it takes for abstractors to travel around the state to review medical records. It may be that adding abstractors would reduce the lag time for data dissemination.

Evaluating the New Mexico Cancer Plan 2007-2011

This Plan is a living document, intended to be a relevant, timely, and user-friendly guide for developing cancer control and prevention programs for New Mexicans. This evaluation plan is informed by CDC's Guidance for Comprehensive Cancer Control Planning. An evaluation of the Plan will help to answer such questions as:

- Are the goals and objectives realistic, given the availability of resources for cancer control and prevention in New Mexico?
- Are the activities proposed in the Plan being implemented?
- Are the proposed collaborative efforts succeeding in unifying the cancer control and prevention community in New Mexico?

GOALS:

1. To assess areas for mid-course corrections in the goals and objectives in the Plan.
2. To inform the development of the *New Mexico Cancer Plan 2012-2016*.

Objectives:

1. Determine the degree to which the goals, objectives, and activities in the Plan are being addressed, by December 2009.
2. Determine the degree to which the goals, objectives, and activities in the Plan were addressed, by 2011.
3. Compile the lessons learned about the uses of the Plan, by 2011.

Activities:

Communication

1. Write a mid-course Progress Report for the Plan and disseminate it to intended audience members.
2. Write a final evaluation of the Plan, including lessons learned, and disseminate it to intended audience members.

Mobilization

1. Conduct a mid-course evaluation of the uses and usefulness (i.e., implementation) of the Plan with medical providers, public health practitioners, planners, advocates, support service organizations, educators, and others who develop and implement cancer control and prevention programs or interventions in New Mexico, by December 2009.
2. Conduct a final evaluation of the uses and usefulness (i.e., implementation) of the Plan with medical providers, public health practitioners, planners, advocates, support service organizations, educators, and others who develop and implement cancer control and prevention programs or interventions in New Mexico, by 2011.

Advocacy

Advocate for funding to conduct a mid-course and a final evaluation of the Plan.

Indicators of Success:

1. A mid-course evaluation report indicating the degree to which the goals, objectives, and activities in the Plan are being addressed, by December 2009.
2. An evaluation report of the degree to which the goals, objectives, and activities in the Plan were addressed, by 2011.
3. A Lessons-Learned report about how the Plan was used by cancer control and prevention partners, by 2011.

Implementation Strategy

The purpose of this implementation strategy is to define the tasks, schedule, roles, and responsibilities, for executing the Plan. To accomplish the goals and objectives of the Plan, all cancer control and prevention partners in New Mexico must take responsibility for specific activities. Implementation will require a coordinated and integrated effort by all partners.

Roles of the New Mexico Cancer Council

The NM Cancer Council will serve as an advisory body for implementing and updating the current Plan. The NM Cancer Council Executive Committee (EC) will oversee the achievement of the goals and objectives of the Plan. In fulfillment of this role, the EC will (1) create an implementation plan and (2) coordinate the implementation of activities outlined in the Plan.

Specifically, the EC will:

- Establish partner communication guidelines.
- Set and facilitate meeting agendas.
- Coordinate meeting dates and locations.
- Conduct meetings.
- Circulate meeting minutes and other committee documents.
- Commit in-kind administrative resources as appropriate.
- Share data as appropriate.

This coordination effort will (1) ensure economies of scale and reduce the duplication of interventions and (2) ensure that cross-cutting issues of research, information, advocacy, and disparities are addressed.

Establish Responsibilities

The EC's first task will be to facilitate a half-day retreat for all cancer control and prevention partners in New Mexico. The purposes of this meeting will be (1) to facilitate networking, learning, and sharing about cancer control and prevention in New Mexico; (2) to introduce the new Plan; (3) to prioritize the Plan objectives to be initially addressed; and (4) to identify the primary and supporting partners responsible for implementing specific activities to meet specific objectives in the Plan; Primary partners are individuals or organizations that have ultimate responsibility for implementing and completing an activity. Supporting partners are individuals or organizations that assist the primary partners in implementing the activity.

Maintain Communication

Communication is an active process and a fundamental component for (1) facilitating the coordination of Plan activities and (2) enabling the continuous assessment of progress in implementing the Plan. It is important that the EC maintain communication with each of the primary and supporting partners.

The EC should meet regularly with the core team of partners via phone, video teleconference, or in-person to (1) ensure consistent implementation of the strategy and (2) identify gaps in program coordination in a timely manner so that corrections can be made along the way. Monitoring meeting briefs should be circulated to implementing members in a timely manner, and implementing members should share the meeting outcomes with their collaborators.

The NM Cancer Council should convene an annual meeting of partners to allow for an exchange of information about current activities, successes, and challenges. This exchange of information will help to link relevant individuals and organizations with resources, foster collaboration, and reduce duplication of activities.

Ensure Accountability
The University of New Mexico's Center for Health Promotion and Disease Prevention will be responsible for writing an annual Progress Report of New Mexico Cancer Plan implementation activities that will include suggested strategies for staying on course with the implementation plan and updates of partner actions. The report will be disseminated to involved partners, and, as appropriate, to policymakers, media professionals, and other interested parties.

New Mexico has the opportunity to build on its successes in cancer control and prevention by fostering initiatives that will contribute to further reducing cancer incidence, morbidity, and mortality, and to improving the health and welfare of the population. This Plan provides a roadmap toward these future achievements.

"During our first five years, the NM Cancer Plan was an important resource to help Cancer Services of New Mexico focus its efforts on the areas of greatest importance to New Mexicans coping with cancer."

– Blaire Larson, President;
Cancer Services of New Mexico

Glossary of Terms for Cancer Plan 2007-2011

Behavioral Risk Factor Surveillance System (BRFSS): A state-based system of health surveys that collects information on health risk behaviors, preventive health practices, and health care access primarily related to chronic disease and injury.

Body Mass Index (BMI): A measure that relates body weight to height. BMI is sometimes used to measure total body fat and whether a person is a healthy weight. Excess body fat is linked to an increased risk of some diseases including heart disease and some cancers. Also called BMI.

Cancer: A term for diseases in which abnormal cells divide without control. Cancer cells can invade nearby tissues and can spread through the bloodstream and lymphatic system to other parts of the body. There are several main types of cancer. Carcinoma is cancer that begins in the skin or in tissues that line or cover internal organs. Sarcoma is cancer that begins in bone, cartilage, fat, muscle, blood vessels, or other connective or supportive tissue. Leukemia is cancer that starts in blood-forming tissue such as the bone marrow, and causes large numbers of abnormal blood cells to be produced and enter the bloodstream. Lymphoma and multiple myeloma are cancers that begin in the cells of the immune system.

Cancer control: Is the result of proper planning, organizing, and directing by the involved individuals and organizations.

Caregivers: Are family members or friends who have assumed full care of a person living with cancer, on a temporary or permanent live-in basis.

Chemotherapy: Treatment with drugs that kill cancer cells.

Chronic diseases: Noncommunicable conditions, including cardiovascular diseases, diabetes, obesity, cancer and respiratory diseases, that are now the major cause of death and disability worldwide. A relatively few risk factors – high cholesterol, high blood pressure, obesity, smoking and alcohol – cause the majority of the chronic disease burden.

Clinical trial: A type of research study that tests how well new medical approaches work in people. These studies test new methods of screening, prevention, diagnosis, or treatment of a disease. Also called a clinical study.

Comprehensive Cancer Control: A collaborative process through which a community pools resources to reduce the burden of cancer. It is an integrated and coordinated approach to reducing cancer incidence, morbidity, and mortality through prevention, early detection, treatment, rehabilitation, and palliation.

Cultural competency: The application of a set of knowledge and attitudes that allows healthcare providers to work effectively with diverse racial, ethnic, and social groups. Culturally competent providers have an understanding of the cultural differences that exist among their patients and are also aware of their own possible biases and the potential disparities that may result from those biases.

Diagnosis: The process of identifying a disease by the signs and symptoms.

Digital Rectal Exam: An examination in which a doctor inserts a lubricated, gloved finger into the rectum to feel for abnormalities. Also called DRE.

Early detection: The detection of disease among people who do not yet have symptoms, usually through a screening test.

Endoscopy: A procedure that uses an endoscope to examine the inside of the body. An endoscope is a thin, tube-like instrument with a light and a lens for viewing. It may also have a tool to remove tissue to be checked under a microscope for signs of disease.

Five-year survival rate: A specific measurement of survival. For cancer, the rate is calculated by adjusting the survival rate to remove all causes of death except cancer. The rate is determined for the specific time interval of 5 years after diagnosis.

Incidence: The number of new cases of a disease diagnosed each year.

Malignant: Cancerous. Malignant tumors can invade and destroy nearby tissue and spread to other parts of the body.

Mammogram: An x-ray of the breast.

Melanoma: A form of skin cancer that begins in melanocytes (the cells that make the pigment melanin). Melanoma usually begins in a mole.

Metastasis: The spread of cancer from one part of the body to another. A tumor formed by cells that have spread is called a "metastatic tumor" or a "metastasis." The metastatic tumor contains cells that are like those in the original (primary) tumor. The plural form of metastasis is metastases.

Morbidity: A disease or the incidence of disease within a population. Morbidity also refers to adverse effects caused by a treatment.

Mortality: The state of being mortal (destined to die). Mortality also refers to the death rate, or the number of deaths in a certain group of people in a certain period of time. Mortality may be reported for people who have a certain disease, live in one area of the country, or who are of a certain gender, age, or ethnic group.

Obesity: A condition marked by an abnormally high, unhealthy amount of body fat.

Overweight: Being too heavy for one's height. Excess body weight can come from fat, muscle, bone, and/or water retention. Being overweight does not always mean being obese.

Pap (Papanicolaou) Test: A procedure in which cells are scraped from the cervix for examination under a microscope. It is used to detect cancer and changes that may lead to cancer. A Pap test can also show noncancerous conditions, such as infection or inflammation. Also called a Pap smear.

Patient navigators: Trained, culturally sensitive, healthcare workers, survivors, or family members who help individuals address patient-access barriers to quality, standard cancer care.

Prevalence: The proportion of a specified population with a specified condition at a given point in time.

Prevention: In medicine, action taken to decrease the chance of getting a disease or condition. For example, cancer prevention includes avoiding risk factors (such as smoking, obesity, lack of exercise, and radiation exposure) and increasing protective factors (such as getting regular physical activity, staying at a healthy weight, and having a healthy diet).

Prostate Specific Antigen (PSA) test: A blood test that measures the level of prostate-specific antigen (PSA), a substance produced by the prostate and some other tissues in the body. Increased levels of PSA may be a sign of prostate cancer.

Relative survival rate: A specific measurement of survival. For cancer, the rate is calculated by adjusting the survival rate to remove all causes of death except cancer. The rate is determined at specific time intervals, such as 2 years and 5 years after diagnosis.

Risk factor: Something that may increase the chance of developing a disease. Some examples of risk factors for cancer include age, a family history of certain cancers, use of tobacco products, certain eating habits, obesity, lack of exercise, exposure to radiation or other cancer-causing agents, and certain genetic changes.

Risk reduction: Adopting lifestyle behaviors (including healthy eating, not using tobacco products and receiving appropriate health screenings) to help maintain health and reduce the risk of developing cancer and other chronic diseases.

Screening: Checking for disease when there are no symptoms.

Self efficacy: An individual's belief in her/his ability to cope with a situation and outcome and to exercise influence over events that affect his/her life.

Side effect: A problem that occurs when treatment affects healthy tissues or organs. Some common side effects of cancer treatment are fatigue, pain, nausea, vomiting, decreased blood cell counts, hair loss, and mouth sores.

Stroke: In medicine, a loss of blood flow to part of the brain, which damages brain tissue. Strokes are caused by blood clots and broken blood vessels in the brain. Symptoms include dizziness, numbness, weakness on one side of the body, and problems with talking, writing, or understanding language. The risk of stroke is increased by high blood pressure, older age, smoking, diabetes, high cholesterol, heart disease, atherosclerosis (a build-up of fatty material and plaque inside the coronary arteries), and a family history of stroke.

Surgeon: A doctor who removes or repairs a part of the body by operating on the patient.

Surgery: A procedure to remove or repair a part of the body or to find out whether disease is present. An operation.

Survivorship: In cancer, survivorship covers the physical, psychosocial, and economic issues of cancer, from diagnosis until the end of life. It includes issues related to the ability to get health care and follow up treatment, late effects of treatment, second cancers, and quality of life.

Tumor: An abnormal mass of tissue that results when cells divide more than they should or do not die when they should. Tumors may be benign (not cancerous), or malignant (cancerous). Also called neoplasm.

Definitions in this glossary are from the National Cancer Institute, the Centers for Disease Control and Prevention, and the World Health Organization. The National Cancer Institute's dictionary of cancer terms is available online at www.cancer.gov/dictionary.

Thanks to the University of New Mexico Center for Native American Health for providing a list of terms.

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Appendices

APPENDIX A: List of New Mexico Cancer Council Members and Member Organizations

Executive Committee	Affiliate Organization
Mavis Alleyne, MS, CRNA, RN	Intercultural Cancer Council
Marianne Berwick, PhD, MPH	University of New Mexico
Nathan Bush	American Cancer Society
Sarah Cobb	Congressman Udall's Office
Jane Cotner, PhD, MPH	University of New Mexico
Barbara Damron, PhD, RN	Damron Oncology Consulting
Larry Elmore	New Mexico Department of Health
Eileen Goode, RN	New Mexico Primary Care Association
Rich Hoffman, MD, MPH	University of New Mexico Cancer Research & Treatment Center
Blaire Larson	Cancer Services of New Mexico
Gena Love, MPH	New Mexico Department of Health Cancer Section
Barbara McAneny, MD	New Mexico Oncology Hematology Consultants
Maria Otero	National Cancer Institute Cancer Information Service
Pamela Schultz, PhD, RN	New Mexico State University
Susie Trujillo	Gila Regional Medical Center
David Vigil, MBA	New Mexico Department of Health Chronic Disease Prevention and Control Bureau
Teresa L. Stewart	New Mexico Cancer Care Alliance

General Council	
Kathy Anderson	Central New Mexico Affiliate of the Susan G. Komen Breast Cancer Foundation
Mickey Aronoff	The Leukemia & Lymphoma Society
Susan Baum, MD, MPH	New Mexico Department of Health
Christine Brown	New Mexico Department of Health
Mary Ann Newman Buckley	Gila Regional Medical Center
Harriett Bull	Casa Esperanza
Dan Burke	Health Centers of Northern New Mexico
Mike Capeless, MPH	Cancer Services of New Mexico
Eileen Cook	Casa Esperanza
Leslie Cunningham-Sabo, PhD, RD	University of New Mexico Prevention Research Center
J.R. Damron, MD	Santa Fe Radiology
Cynthia Delgado	Individual member
Geraldine Esquivel	American Cancer Society
Kristina Flores, PhD	University of New Mexico Cancer Research & Treatment Center Research & Education
Connie Z Garcia, MA	Albuquerque Area Indian Health Board
Dirk C. Gibson, PhD	University of New Mexico Department of Communication & Journalism
Carla Herman, MD, MPH	Epidemiology & Cancer Control
Wynona Holton	Individual member

Robert Hromas, MD	University of New Mexico Cancer Research & Treatment Center
Teresa Johansen	People Living Through Cancer
Patrick H Judson, MD	New Mexico Cancer Care Associates
Charles Key MD, PhD	New Mexico Tumor Registry
Mary Ellen Kurucz, M.Ed, LMSW, LPCC	Children's Cancer Fund of New Mexico
Chris Lucero	New Mexico Department of Health
Julie E. Lucero, MPH	University of New Mexico Cancer Research & Treatment Center Research & Education
Bernadette Lujan	People Living Through Cancer
Janet McGough, RN, BA, OCN	Individual member
Jane McGrath, MD	New Mexico Department of Health
Robert E. Mallin, MD	People Living Through Cancer
Lorna Marchand	Casa Esperanza
John J. Monagle, PhD	Southern New Mexico Prostate Cancer Group
Linda Peñaloza, PhD	University of New Mexico Prevention Research Center
Veronica Perez, MPH	American Cancer Society
Beth Pinkerton	New Mexico Department of Health
Frederick Pintz, MD	Individual member
Donald Reece	IHS National Programs Office
Dan Reyna, MPH	New Mexico Department of Health
Bernard Ripper	US Too Southern New Mexico Prostate Cancer Support
Albert Rizzoli, MD	Presbyterian Health Plan
Fran Robinson, RN, OCN	San Juan Regional Cancer Center
Melanie E Royce, MD, PhD	University of New Mexico Cancer Research & Treatment Center
Deborah Schwartz	Individual member
Leanna J Scott-Timperly, MD	Cancer Institute of New Mexico
Corinne Shefner-Rogers, PhD	University of New Mexico Prevention Research Center
Donald Shina, MD	St. Vincent Regional Cancer Center
Carmelita Sorrelman, RN, MPH	Northern Navajo Medical Center
Michele Suina, BS	University of New Mexico Center for Native American Health
Patricia Torn	People Living Through Cancer
Michael Trujillo, MD, MPH	Cancer Research & Treatment Center
Teresa VanWinkle, RN	Cancer Awareness, Prevalence, Prevention & Early Detection
Henrietta J. Vigil, MA	Albuquerque Area Indian Health Board
Anne Marie Wallace	University of New Mexico Cancer Research & Treatment Center
Charles Wiggins, PhD	New Mexico Tumor Registry
Brenda Wyman	St. Vincent Regional Cancer Center

Information on cancer-related services in the state can be found by accessing the following Web sites:

New Mexico Cancer Council: www.cancernm.org/cancercouncil

New Mexico Health Connection: http://medlineplus.gov/nmhc

APPENDIX B: Criteria for Selection of Cancer Plan 2007-2011 Objectives

Following are the criteria used to guide the inclusion of objectives for the Cancer Plan 2007-2011. These criteria are presented as a list of requirements.

1. The objective must be evidence-based.
2. The objective must reflect current knowledge about cancer prevention.
3. The objective must be linked to a specific outcome associated with cancer control or reduction.
4. The objective must be specific.
5. The objective must be measurable.
6. The objective must be achievable (affordable, cost-effective and sustainable).
7. The objective must be realistic.
8. The objective must be time-bound.
9. The objective must take into consideration the disparities related to cancer control and prevention in New Mexico.
10. The objective must complement national-level strategies (e.g., Healthy People 2010).

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