

# ***NEVADA REPORT ON CANCER***

***1995 - 1999***

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Cover photograph - Red Rock Canyon courtesy of *Nevada: Magnificent Wilderness* by Scott T. Smith, 1996. For information about the book, prints, photos or assignments, contact Mr. Smith at (435) 753-3446 (phone/fax); email: [stphoto@mtwest.net](mailto:stphoto@mtwest.net); web: [www.agpix.com/stsphoto](http://www.agpix.com/stsphoto)

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## INTRODUCTION

New cases of cancer among Nevada residents are reported to the Statewide Cancer Registry which is part of the State Health Division. A case is defined as a primary cancer in contrast to a cancer that has spread or metastasized from another site.

Nevada hospitals were the sole source of new cases reported to the Cancer Registry between 1995 to 1999. Managed care and the increasing use of diagnosis and treatment at the physician office level in recent years have increased the under-reporting of certain types of cancer cases such as prostate and skin cancer which are routinely treated at physicians' offices. As a result, the number of cases reported to the Cancer Registry between 1995 to 1999 understates the actual number of new cancer cases among Nevada residents during each of those years. As of February 2001 the Cancer Registry was still in the process of tabulating 1999 cases, which are the least complete of the years reported. See the Technical Notes section on page 42.

A complete and accurate measure of the incidence of overall cancer cases and specific types of cancer cases among Nevada residents does not exist at this time. A change in the law in 1997 mandating that laboratories and physician offices report new cancer cases to the Registry is still in the process of being implemented. It is anticipated that reporting by laboratories and physician offices will fill in the gap of unreported cases. Consequently, this report does not utilize incidence rates. In the future, the availability of complete reporting of cases will enable the calculation of accurate Nevada cancer incidence rates. This will allow comparison with incidence data from other states and the nation as a whole.

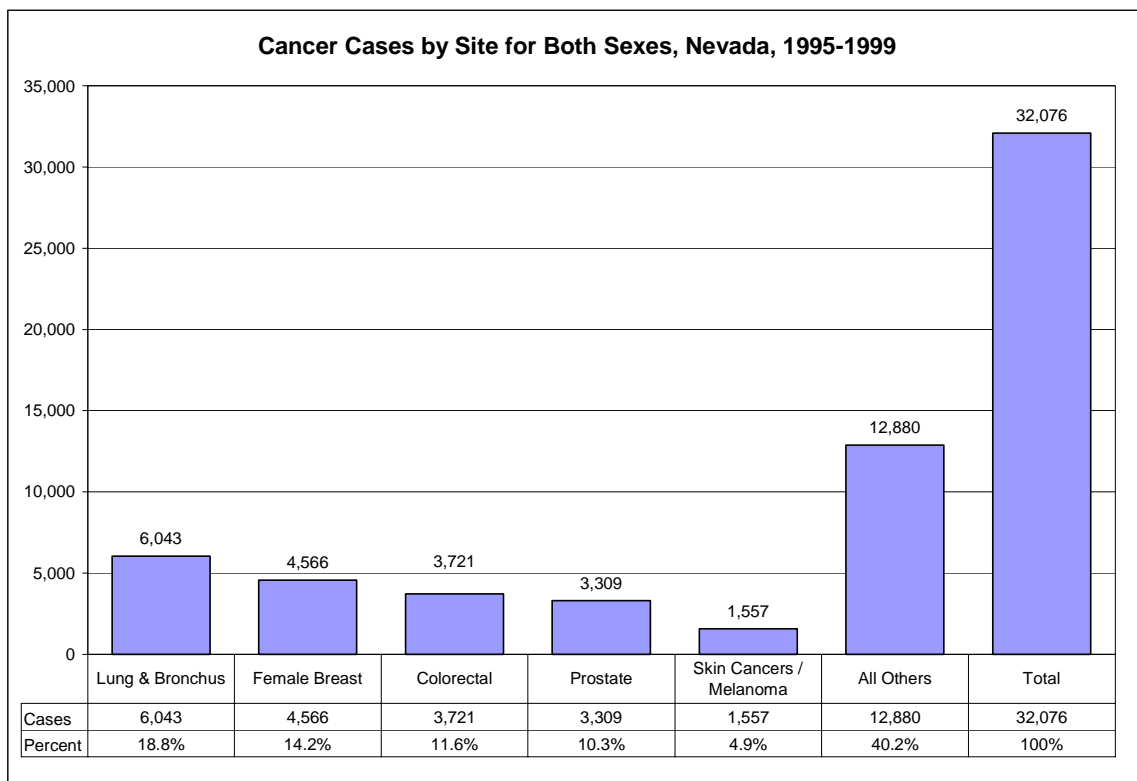
*Nevada Report on Cancer – 1995-1999* covers cases for those five years reported to the Cancer Registry through February 14, 2001. This report examines reported cases for all types of cancer combined and for five of the leading types of cancer including breast cancer, cervical cancer, lung cancer, colorectal cancer, and prostate cancer. Each of the six parts of this report contains a similar format:

- General Profile
- Nevada Profile
- Total Cases
- Cases by Male/Female
- Age at Diagnosis
- Race
- County of Residence
- Stage at Diagnosis
- First Course of Treatment/Cumulative Treatment
- Histology
- Inpatient Care
- Mortality

# TOTAL CANCER CASES – ALL SITES

NEVADA 1995-1999

Cancer Registry cases are reported according to 53 different sites for both sexes. Between 1995 and 1999 lung cancer had the largest number of reported cases followed by breast, colorectal and prostate cancer. The top four sites represented 55% of the total cases. Only six of the 53 different sites had case totals over 1,000 for the five year period. It is important to note that the total number of cases reported to the Cancer Registry understates the actual number of new cases among Nevada residents because it only includes cases reported by hospitals. (see Technical Notes)



The top line of the following table shows the total number of all the cancer cases reported to the Nevada State Cancer Registry between 1995 and 1999 as of February 2001. In situ (non-invasive) cases are included in the Nevada totals for some of the different types of cancer. However, some types such as lung cancer and prostate cancer do not include in situ cases. The second line shows the Nevada totals excluding in situ cases. The third line contains the American Cancer Society's (ACS) annual estimates of new cancer cases (excluding in situ) for the state of Nevada. A comparison of the Nevada totals excluding in situ cases and the ACS estimates illustrates the fact that the Nevada totals are understated by being limited to new cases reported only by hospitals. Both Nevada and ACS exclude basal and squamous cell skin cancer cases. For further discussion, see Technical Notes on page 42.

	1995	1996	1997	1998	1999

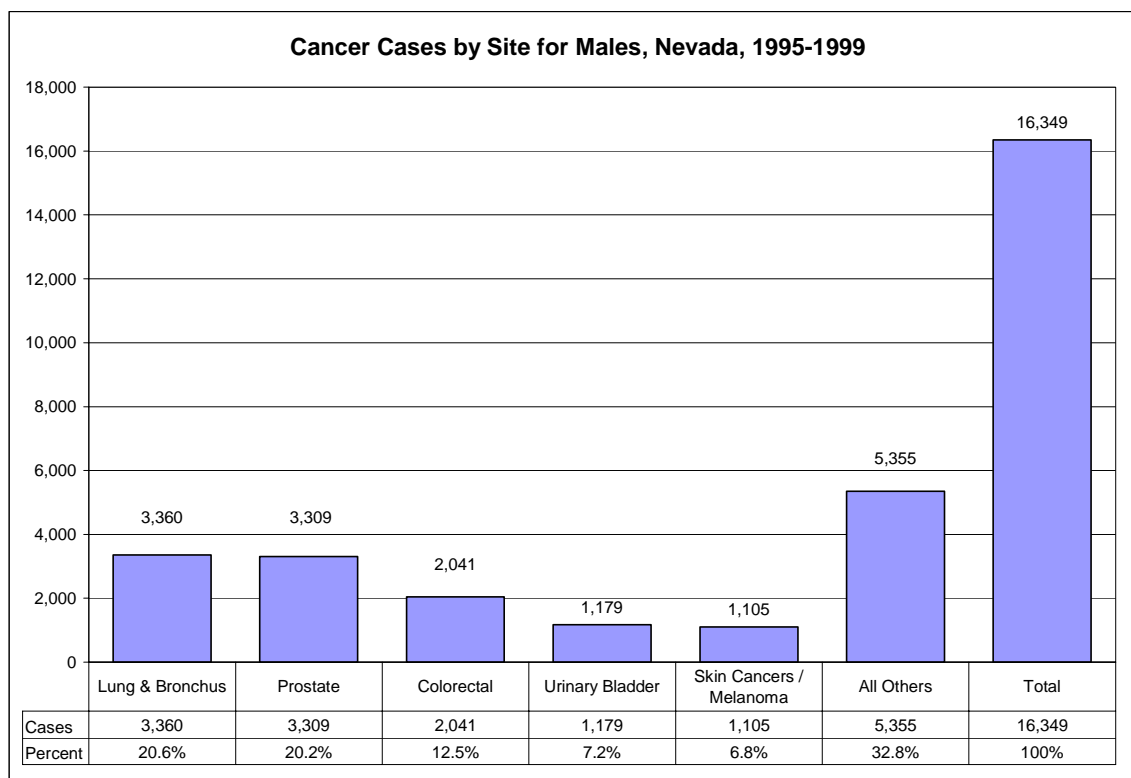
<b>Total Cases</b>	6,405	6,329	6,612	6,667	6,063
<b>Total excluding In Situ</b>	6,085	6,013	6,281	6,334	5,699
<b>ACS Estimate</b>	6,400	8,000	8,600	7,600	8,100

## INCIDENCE

Incidence rates measure the reported number of new primary cases diagnosed per 100,000 population during a specified period of time, usually one year. Since a person can have more than one primary cancer, diagnosed either sequentially or at the same time, the number of cases is slightly larger than the number of persons diagnosed with cancer. As noted in the Introduction, the calculation of incidence rates for Nevada based on incomplete data would understate the true rates that would be calculated if all newly diagnosed cases were fully reported to the Cancer Registry. For this reason, the number and percentage of cases are presented instead of incidence rates.

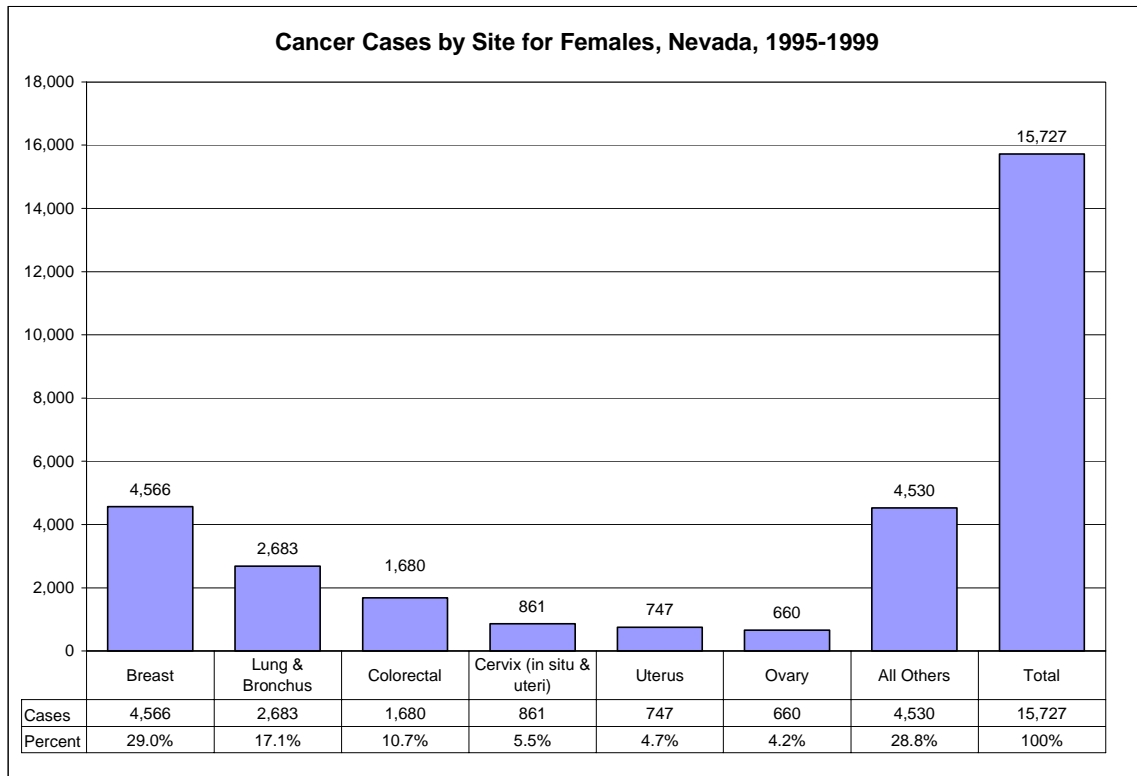
## CASES BY SITE FOR MALES

The total number of reported cancer cases between 1995-1999 showed a slightly larger percentage of males (16,349 or 51.0%) than females (15,727 or 49.0%). Between 1995–1999 lung cancer was the leading type of case by site out of 45 sites for males followed by prostate, colorectal, urinary bladder, and skin cancers. The top three sites accounted for over 50% of the total number of male cases.



## CASES BY SITE FOR FEMALES

Breast cancer was by far the leading site out of 49 sites for females between 1995-1999. Next were lung cancer, colorectal cancer, cervical cancer, uterine cancer, and ovarian cancer. The top three types by site accounted for about 57% of the total cases for females.



### AGE AT DIAGNOSIS

The following table shows age at diagnosis for males and females in 1999. The largest share of males and females diagnosed for cancer were in their sixties and seventies. Female cases appear to be reported at earlier ages than male cases. Males between 60 to 79 accounted for 61% of all male cancer cases. Females ages 60 to 79, however, represented only 49% of all female cancer cases. The next highest age groups were men and women in their fifties at 19% and 20% respectively. Less than 3% of the total cases were for males and females under 30 years old.

It is important to note that for the past ten years Nevada has been the fastest growing state in the nation. Nevada's total population grew about 24% between the 1995-1999 reporting period and persons age 65 and over increased even faster at nearly 35%. Persons age 65 and over composed 10.5% of the resident population in 1990. By 1999 that share grew to 12.2% for a total of almost 240,000 persons.

#### Age at Diagnosis (Percent of Reported Cases)

	<b>Percent of 1999 Total Population</b>	<b>Percent of 1999 Total Cases</b>	<b>Percent of 1999 Male Cases</b>	<b>Percent of 1999 Female Cases</b>
<b>0-19</b>	28.7	1.1	1.1	1.1
<b>20-29</b>	11.6	1.6	1.4	1.8
<b>30-39</b>	15.8	3.8	2.1	6
<b>40-49</b>	15.8	9	6	13
<b>50-59</b>	11.7	19	19	20
<b>60-69</b>	7.8	28	33	24
<b>70-79</b>	6.0	26	28	25
<b>80 +</b>	2.5	10	10	11

## **RACE**

For the purpose of this report, information regarding race is grouped into only three categories: White, Black, and Others. Hispanics are regarded as an ethnicity, not a race, and are included within the three racial categories. The State Demographer's Office estimate for persons of Hispanic origin in Nevada in 1999 was 13.2% of the total population. Over 90% of the Hispanic ethnic group are in the White racial category. The percentage of 1999 cancer cases attributed to Blacks was underreported. Note that because race is often not self-reported by the patient, statistics regarding race can reflect underreporting and be misleading because of discrepancies in identification.

### **Race (Percent of Reported Cases)**

	<b>Percent of 1999 Population</b>	<b>Percent of 1999 Total Cases</b>
<b>White</b>	87.2	91.1
<b>Black</b>	7.7	3.7
<b>Others</b>	5.1	5.2

## **COUNTY OF RESIDENCE**

The following table presents 1999 cancer cases by county of residence. The difference between the 1999 population and the percent of reported cases for Clark County and Washoe County may reflect the completeness of reporting by hospitals in those two respective areas.

Whereas the number of cases is limited and the population is small in most of the 15 non-urban counties (Rest of State), the difference in the percent of new cases and the percent of the population may not be statistically significant. A few cases can affect the ratio considerably.

### **Residence (Percent of Reported Cases)**

	<b>1999 Population</b>	<b>1999 Total Cases</b>
--	------------------------	-------------------------



<b>Clark</b>	68.2	61.2
<b>Washoe</b>	16.5	22.9
<b>Rest of State</b>	15.3	15.9

## STAGE AT DIAGNOSIS

Stage at diagnosis or the stage of the disease is an indicator of survivability. Stage at diagnosis refers to the extent to which a tumor has metastasized or spread at the time of diagnosis and is classified according to the following phases:

In Situ refers to a tumor that fulfills all the criteria for malignancy, but lacks invasion.

Localized refers to a tumor that appears to be confined to the organ of origin.

Regional refers to a tumor that has spread beyond the limits of the organ into (1) surrounding organs or tissues; (2) regional lymph nodes by metastasis; or (3) a combination of (1) and (2) and appears to have spread no further.

Distant refers to a tumor that has spread to parts of the body remote from the primary organ.

## FIRST COURSE OF TREATMENT/CUMULATIVE TREATMENT

The first course of treatment and cumulative treatment for new cases between 1995 and 1999 shown in the following tables included some treatments which were used in combination resulting in totals over 100% of the actual number of new cases. Surgery was used as the first course of treatment and cumulative treatment in about three out of every five cases. The two other major types were radiation and chemotherapy, which seems to be increasing.

### First Course of Treatment\* (Percent of Reported Cases)

	1995	1996	1997	1998	1999
<b>Surgery</b>	60	58	56	59	65
<b>Radiation</b>	18	16	16	18	19
<b>Surgery &amp; Radiation</b>	9	8	8	9	9
<b>Chemotherapy</b>	18	17	18	21	23
<b>Hormonal</b>	4	4	3	3	4

### Cumulative Treatment\* (Percent of Reported Cases)

	1995	1996	1997	1998	1999
<b>Surgery</b>	63	63	60	60	65
<b>Radiation</b>	23	20	19	20	20

<b>Surgery &amp; Radiation</b>	11	10	10	10	10
<b>Chemotherapy</b>	21	20	21	23	23
<b>Hormonal</b>	5	5	3	3	4

\* Singly or in combination.

## HISTOLOGY

Histology is a branch of anatomy that deals with the microscopic structure, composition and function of tissue. Histology refers to microscopic diagnosis based upon tissue specimens. Histological (technically histopathological for cancer) types are differentiated by a series of code numbers. Four of the most common types include:

Adenocarcinoma is a carcinoma which is developed from glandular tissue or in which the tumor cells form recognizable glandular structures. Adenocarcinoma may be classified according to the predominant pattern of cell arrangement i.e. papillary, or according to a particular product of the cells, i.e. mucinous adenocarcinoma.

Carcinoma is a malignant new growth made up of epithelial cells which tend to infiltrate surrounding tissues and give rise to metastases.

Duct cell carcinoma is also known as ductal in situ. Any of a large group of in situ carcinomas of the lactiferous ducts.

Squamous cell carcinoma are carcinoma which have cube-shaped cells and are developed from squamous epithelium.

## INPATIENT CARE

The following table provides information from the State Division of Health Care Financing and Policy regarding inpatient treatment for cancer victims. The total number of patients hospitalized for all types of cancer increased by 17% from 1995 to 1999. Some patients are counted more than once because of being hospitalized more than once in a calendar year. Improved technology and managed care have contributed to a transition for the treatment of certain types of cancer from inpatient care to outpatient care. For example, despite a 17% increase in patients, there was an only a 6% increase in patient days. Moreover, there was also a decrease of about three-quarters of a day in the average length of stay (ALOS) for cancer patients.

Billed charges are the charges listed in each hospital's Charge Description Master. Actual charges for patient care are generally less because of contracting, discounts, etc. Although billed charges do not represent actual charges or reflect actual revenues, they can be used to compare differences in billed charge levels between the various types of cancer covered in this report.

### Inpatient Care 1995-1999

	1995	1996	1997	1998	1999
<b>Patients</b>	5,974	6,319	6,645	6,918	7,004
<b>Patient Days</b>	46,725	45,613	46,476	48,985	49,639
<b>ALOS</b>	7.8	7.2	7.0	7.1	7.1
<b>Billed Charges</b>	\$24,949	\$25,924	\$26,790	\$27,912	\$29,768

### MORTALITY

The following table shows the number and percentage of cancer deaths among Nevada residents according to death certificate data from the State Health Division's Office of Vital Records. Residents who died out of state are included. Between 1995 and 1999 cancer accounted for almost one out of every four resident deaths in Nevada.

The four leading types of cancer (lung, breast, colorectal, prostate) caused almost 55% of all the cancer deaths between 1995-1999. During the five year period cancer deaths increased by 19% in Nevada while total deaths increased by 20%. The percent of resident deaths due to cancer compared to all causes of death remained fairly stable over the same period.

### Mortality 1995-1999

	1995	1996	1997	1998	1999
<b>Cancer Deaths</b>	2,933	3,125	3,105	3,436	3,486
<b>Percent of all Resident Deaths</b>	23.8	24.2	23.7	24.2	23.4

The following table, 1999 Cancer Mortality Rates, and graphs show cancer deaths and related age-adjusted (to the year 2000) mortality rates per 100,000 population. **The overall Nevada cancer mortality rate of 206.3 per 100,000 residents in 1999 was significantly higher than the national Healthy People 2010 target of 158.7.** The mortality rate for males was significantly higher than for females. Although the number of male cancer cases (3,102) cases reported in 1999 was nearly the same as for females (2,961), male cancer deaths (1,905) exceeded female cancer deaths (1,581) by 20%.

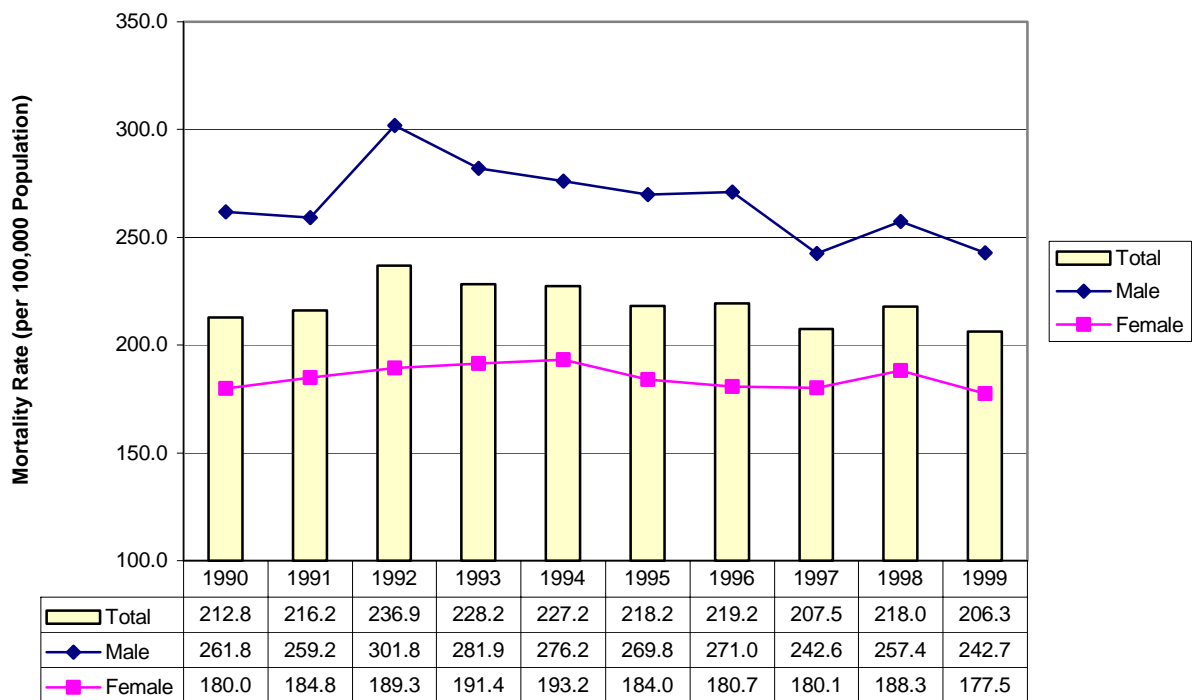
The age-adjusted rate for Whites was significantly lower (less than half) than the Black and Native American rates. The rate for Hispanics appears to be underreported. The range of the rates for Clark County, Washoe County and the rural counties was slight.

### 1999 Nevada Cancer Mortality Rates (age-adjusted)

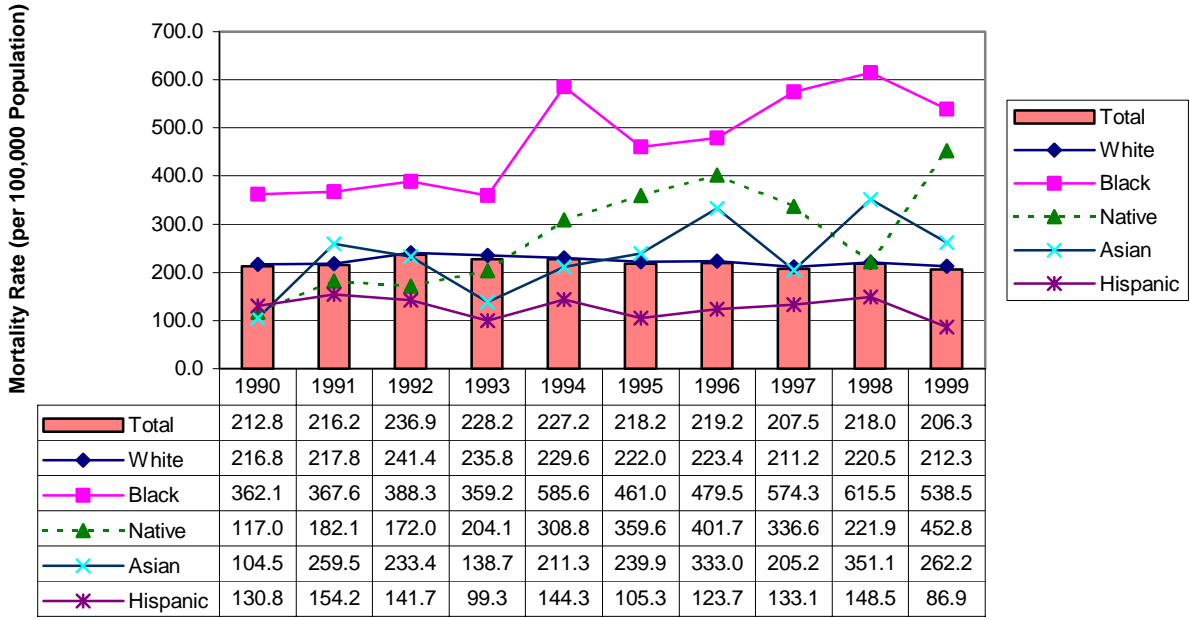
	<u>Deaths</u>	<u>Rate (per 100,000)</u>
Total	3,486	206.3

Gender		
Male	1,905	242.7
Female	1,581	177.5
Race/Ethnicity		
White	3,073	212.3
Black	186	538.5
Native American	28	452.8
Asian/Pacific Islander	88	262.2
Hispanic	111	86.9
County of Residence		
Clark	2,337	205.5
Washoe	618	213.7
Rural Counties	531	199.4

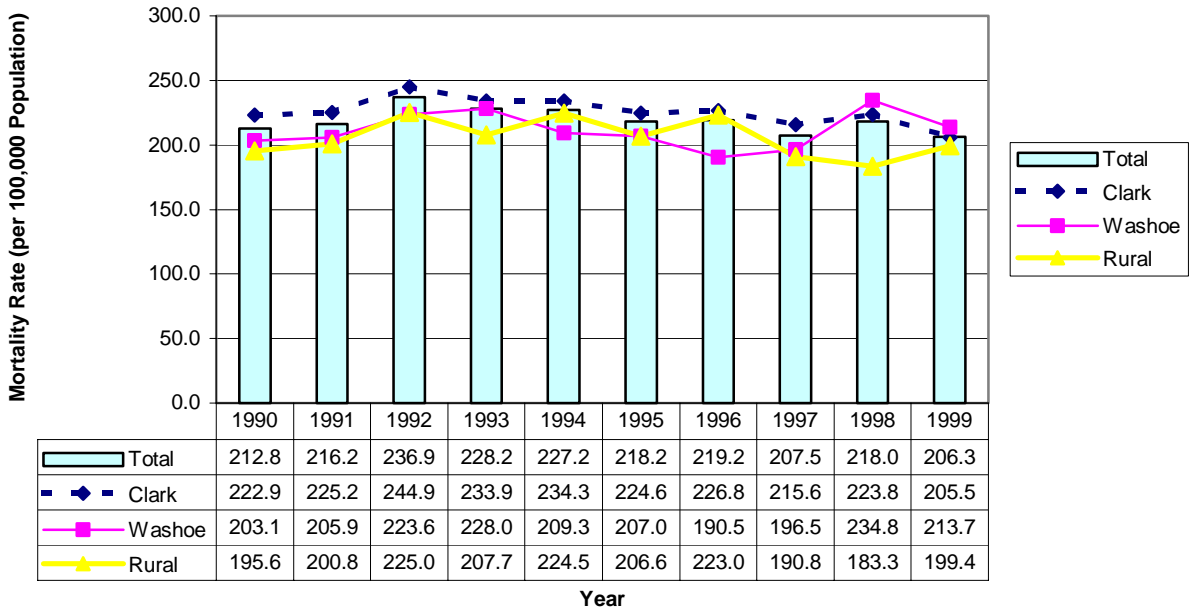
**Age-Adjusted Mortality Rate for All Cancers by Gender, Nevada, 1990-99**



**Age-Adjusted Mortality Rate for All Cancers by Race/Ethnicity, Nevada, 1990-1999**



**Age-Adjusted Mortality Rate for All Cancers by County/Region, Nevada, 1990-1999**



# FEMALE BREAST CANCER

## General Profile

**New Cases:** An estimated 182,800 new invasive cases among women in the U.S. during 2000. After increasing about 4% per year in the 1980s, national breast cancer incidence rates have leveled off in the 1990s to about 110 cases per 100,000.

**Deaths:** An estimated 41,200 deaths among U.S. women in 2000; the second major cause of cancer death in women. According to recent data, mortality rates continue to decline with the largest decreases in younger women, both White and Black. These decreases are likely due to earlier detection and improved treatment.

**Signs and Symptoms:** The earliest sign of breast cancer is usually an abnormality that shows up on a mammogram before it can be felt by the woman or her health care provider. When breast cancer has grown to the point where physical signs and symptoms exist, these may include a breast lump, thickening, swelling, or tenderness. These signs and symptoms usually indicate a more advanced stage of the disease.

**Risk Factors:** Risk of breast cancer increases with age. Risk is higher in women who have a personal or family history of breast cancer, biopsy-confirmed atypical hyperplasia, or a long menstrual history; who never had children or had their first after age 30, have two or more alcohol drinks daily, or have higher education and socioeconomic status. A majority of women will have one or more risk factors for breast cancer. However, most risks are at such a low level that they only partly explain the high frequency of the disease in the population.

**Early Detection:** The value of mammography is that it can identify breast abnormalities that may be cancer at an early stage before physical symptoms develop. Most lumps are not cancer, but only a physician can make a diagnosis. Numerous studies have shown that early detection increases survival and treatment options. The American Cancer Society recommends that women age 40 and over have an annual mammogram, an annual clinical breast examination by a health care professional, and perform monthly breast self-examination.

**Treatment:** Taking into account the medical situation and the patient's preferences, treatment may involve lumpectomy (local removal of the tumor) and removal of the lymph nodes under the arm; mastectomy (surgical removal of the breast) and removal of the lymph nodes under the arm; radiation therapy; chemotherapy; or hormone therapy. Often, two or more methods are used in combination.

**Survival:** The five year relative survival rate for localized breast cancer has increased from 72% in the 1940s to 96% today. If the cancer has spread regionally, however, the survival rate is 77%. For women with distant metastases the rate is 21%.

# FEMALE BREAST CANCER

## Nevada Profile

### TOTAL CASES

The following table shows the number of female breast cancer cases reported between 1995-1999 and case estimates by the American Cancer Society (ACS). Breast cancer was the leading cancer for females during the five year period with 29% of the total female cancer cases in the state. The total number of reported cases appears to have remained fairly stable during the period even as the total population grew by 24%.

Female breast cancer was the second leading cause of cancer overall between 1995-1999 at 4,566 cases or 14.2% of the overall number of reported cancer cases. As a reminder, the Cancer Registry totals are incomplete for each of the five years, 1999 in particular.

	1995	1996	1997	1998	1999
<b>Total Cases</b>	899	851	936	963	917
<b>Total excluding In Situ</b>	809	774	824	847	779
<b>ACS Estimate</b>	780	960	1,100	1,100	1,000

### AGE AT DIAGNOSIS

Seven out of ten breast cancer cases were among women between the ages of 50 to 79 in 1999. Seventeen percent, about one out of every six cases, involved women in their forties. With the exception of cervical cancer, the percentage of women with breast cancer in their forties was higher than most other cancers affecting women such as lung cancer and colorectal cancer.

#### Age at Diagnosis (Percent of Reported Cases)

	Percent of 1999 Female Population	Percent of 1999 Total Cases
<b>0-19</b>	28.4	0.0
<b>20-29</b>	11.5	0.2
<b>30-39</b>	15.3	5
<b>40-49</b>	15.6	17
<b>50-59</b>	11.7	25
<b>60-69</b>	7.9	25
<b>70-79</b>	6.4	21
<b>80 +</b>	3.2	7

### RACE

The following table shows 1999 breast cancer cases as reported by racial category. Nine out of ten cases of breast cancer were among White women in line with the fact that almost nine out of ten women in Nevada are White. Cases among Black women appear to be underreported. Reminder - Hispanics are regarded as an ethnicity and are distributed among the three racial categories listed below with the vast majority being in the White racial group.

**Race (Percent of Reported Cases)**

	<b>Percent of 1999 Population</b>	<b>Percent of 1999 Total Cases</b>
<b>White</b>	87.2	91.6
<b>Black</b>	7.7	3.1
<b>Others</b>	5.1	5.3

**COUNTY OF RESIDENCE**

The following table shows the number of breast cancer cases by county of residence in 1999. For comparison purposes, the percentage of Nevada’s resident population living in Clark County, Washoe County and the other 15 counties (Rest of State) in 1999 is also shown. Note – the difference in the Clark County and Washoe County percentages is likely a matter of more complete data collection among the small number of Washoe County hospitals by the Cancer Registry at this time.

**Residence (Percent of Reported Cases)**

	<b>Percent of 1999 Population</b>	<b>Percent of 1999 Total Cases</b>
<b>Clark</b>	68.2	61.2
<b>Washoe</b>	16.5	24.1
<b>Rest of State</b>	15.3	14.7

**STAGE AT DIAGNOSIS**

Localized cases at the stage of diagnosis accounted for about half of the new breast cancer cases between 1995 - 1999. Localized means the cases were limited to the local site or origin. This compared favorably with the localized site rate for all cancer cases (37%) or a specific type like lung cancer (17%) or colorectal cancer (24%). The percentage of reported in situ cases appears to be increasing slightly. Cases at the regional stage made up 24% to 29% of the cases for each of the five years.

**Stage at Diagnosis (Percent of Reported Cases)**

	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>



<b>In Situ</b>	10	9	12	12	15
<b>Localized</b>	52	53	47	53	49
<b>Regional</b>	28	27	27	24	29
<b>Distant</b>	5	6	6	4	5
<b>Unknown</b>	5	6	8	6	3

## FIRST COURSE OF TREATMENT/ CUMULATIVE TREATMENT

The following tables show the first course of treatment and cumulative treatments for new breast cancer cases between 1995-1999. Whereas some of the treatments were used in combination, the percentages add up to more than 100%. Surgery was overwhelmingly the most predominant first course of treatment at an average of 91% and also for cumulative treatment at an average of 93% over the five year period. Breast cancer is one of the few types of cancer which utilizes hormonal treatment.

### First Course of Treatment\* (Percent of Reported Cases)

	1995	1996	1997	1998	1999
<b>Surgery</b>	93	87	85	93	95
<b>Radiation</b>	18	16	19	26	19
<b>Surgery &amp; Radiation</b>	17	15	18	25	18
<b>Chemotherapy</b>	16	18	20	24	23
<b>Hormonal</b>	11	10	8	12	12

### Cumulative Treatment\* (Percent of Reported Cases)

	1995	1996	1997	1998	1999
<b>Surgery</b>	94	93	91	94	95
<b>Radiation</b>	23	22	23	28	20
<b>Surgery &amp; Radiation</b>	22	20	22	27	20
<b>Chemotherapy</b>	19	21	22	25	24
<b>Hormonal</b>	12	13	10	12	12

\* Singly or in combination.

## HISTOLOGY

Duct cell carcinomas accounted for three out of every four reported histologies for breast cancer cases in 1999. The only other major type was lobular carcinoma at 13%. Only two other types had more than 2% of the total.

### Histologies (Percent of Reported Cases)

Code	Type	Percent of 1999 Total Cases
------	------	-----------------------------

<b>850</b>	Duct Cell Carcinoma	77
<b>852</b>	Lobular Carcinoma	13
<b>801</b>	Carcinoma	2.9
<b>814</b>	Adenocarcinoma	2.1

## INPATIENT CARE

The number of women treated as inpatients for breast cancer declined slightly between 1995-1999. Prostate cancer was the only other cancer reviewed in this report which showed a net decline in inpatients during the five year period. Both declines were largely a result of improvements in early detection and outpatient care. Patient days decreased by 22%. As a result, average length of stay (ALOS) declined by almost one half day per patient. Breast cancer had the lowest average length of stay of the major cancers.

Billed charges increased by about only \$840 or 6% per inpatient during the period. Breast cancer represented the lowest average billed charges of the major cancers.

	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>
<b>Patients</b>	575	504	551	557	541
<b>Patient Days</b>	1,522	1,402	1,373	1,363	1,182
<b>ALOS</b>	2.6	2.8	2.5	2.4	2.2
<b>Billed Charges</b>	\$12,857	\$15,241	\$13,063	\$12,458	\$13,695

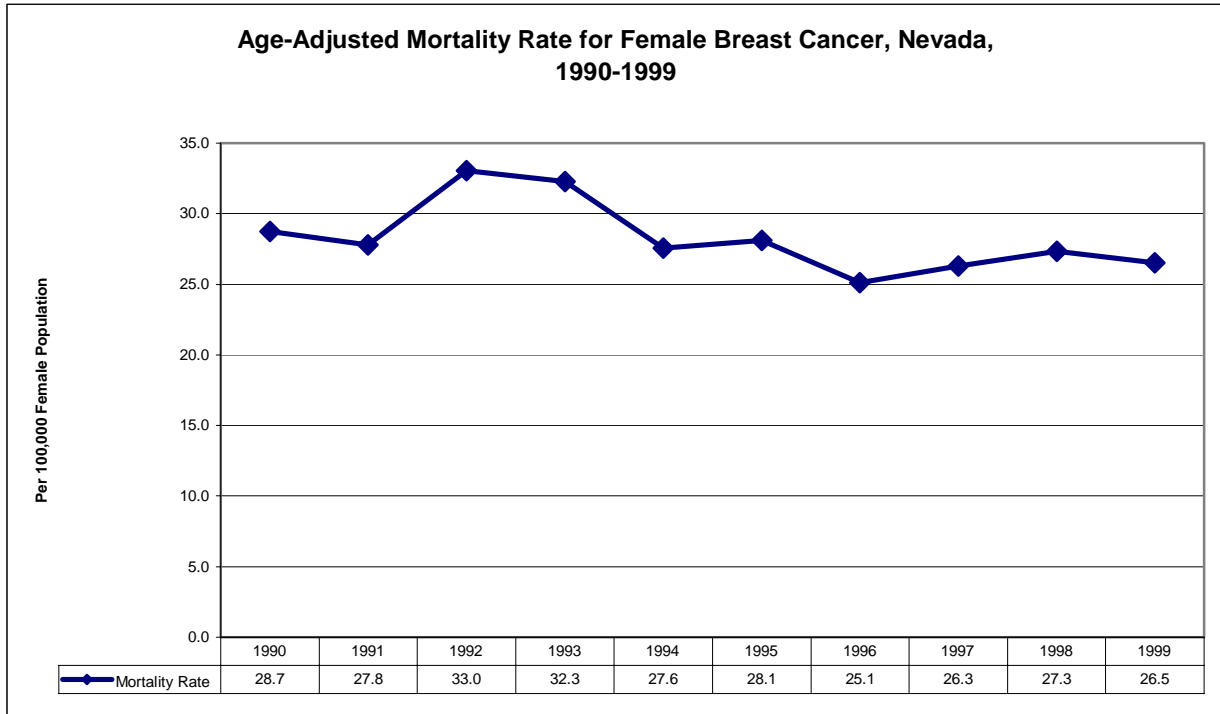
## MORTALITY

The following graph shows the age-adjusted (to 2000) mortality rates for breast cancer from 1990-1999. These were the third highest age-adjusted mortality rates for any of the major cancers. Between 1990-1999 the mortality rate fluctuated between 25.1 to 33.0 per 100,000. **The Healthy People 2010 target of 22.2 appears achievable.**

The table below the graph lists the number of breast cancer deaths among Nevada residents according to the State Health Division's Office of Vital Records. In 1999, 240 breast cancer deaths accounted for about 7% of all cancer deaths among Nevada residents. The number of deaths between 1995 and 1999 increased gradually in line with an increase in the population.

The table also shows the number of deaths and the age-adjusted mortality rates for 1999 according to race/ethnicity and county of residence. Whites, about 87% of the population, accounted for 88% of the deaths in 1999, but the 1999 rate for Blacks was over three times as high as the rate for Whites. Native Americans and Hispanics showed the lowest mortality rates by far. Clark County with 68.2% of the state's population had 65.8% of the breast cancer deaths. Washoe County showed the

highest mortality rate among the three areas in 1999.



**Deaths by Race/Ethnicity and County of Residence 1995-1999**

	1995	1996	1997	1998	1999	1999 Rate*
<b>Total</b>	204	196	210	232	241	26.5
<b>Percent of Cancer Deaths</b>	7.0	6.3	6.8	6.8	6.9	n.a.
<b>Race/Ethnicity</b>						
<b>White</b>	177	175	182	212	199	26.4
<b>Black</b>	12	12	15	8	19	85.1
<b>Native American</b>	2	1	2	0	2	13.4
<b>Asian/Pacific Islander</b>	4	3	6	6	7	26.8
<b>Hispanic</b>	9	5	5	6	14	14.1
<b>County</b>						
<b>Clark</b>	132	142	147	149	159	25.2
<b>Washoe</b>	39	30	35	49	50	32.6
<b>Rurals</b>	33	24	28	34	32	25.0

\* Age-adjusted

**CERVICAL CANCER**

**General Profile**

**New Cases:** An estimated 12,800 cases of invasive cervical cancer are expected to be diagnosed in the U.S. in 2000. Incidence rates have decreased steadily over the past several decades, declining from 14.2 per 100,000 in 1973 to 7.8 per 100,000 in 1994. As Pap screening has become more prevalent, carcinoma in situ of the cervix occurs more frequently than invasive cancer, particularly in women under age 50.

**Deaths:** An estimated 4,600 U.S. cervical cancer deaths in 2000. Mortality rates have declined sharply over the past several decades. Rates for Blacks declined more rapidly than those for Whites. However, the mortality rate for Blacks continues to be more than two times greater than the rate among White women.

**Signs and Symptoms:** Abnormal vaginal bleeding or spotting; abnormal vaginal discharge. Pain and systemic symptoms are late manifestations of the disease.

**Risk Factors:** Cervical cancer risk is closely linked to sexual behavior and to sexually transmitted diseases with certain types of human papillomavirus. Women who have sex at an early age, multiple sexual partners, or partners who have had multiple sexual partners are at increased risk of developing the disease. Other risk factors include cigarette smoking and low socioeconomic status.

**Early Detection:** The Pap test is a simple procedure that can be performed by a health care professional as part of a pelvic exam. A small sample of cells is swabbed from the cervix, transferred to a slide and examined under a microscope. This test should be performed annually with a pelvic exam in women who are, or have been, sexually active or who have reached the age 18. After three or more consecutive annual exams with normal findings, the Pap test may be performed less frequently at the discretion of the physician.

**Treatment:** Invasive cervical cancers generally are treated by surgery and/or radiation. For in situ cancers, changes in the cervix may be treated by cryotherapy (destruction of cells by extreme cold), by electrocoagulation (destruction of tissue through intense heat by electric current), laser ablation, or by local surgery.

**Survival:** Eighty-nine percent of cervical cancer patients survive one year after diagnosis and 70% survive five years. When detected at an early stage, invasive cervical cancer is one of the most successfully treatable cancers with a five year relative survival rate at 91% for localized cancers. Fifty-five percent of cervical cancers among White women and 44% of cancers in Black women are diagnosed at a localized stage.

# CERVICAL CANCER

## Nevada Profile

### TOTAL CASES

The following table shows the total number of cervical cancer cases, in situ cases, and cervix uteri cases reported to the Nevada Cancer Registry between 1995-1999. The fourth line shows the American Cancer Society (ACS) cervix uteri estimate for each of those years.

The 1995-1999 total for all cervical cancer cases was 861. Cervix in situ totaled 416 cases or 48.3%. Cervical cancer was the fourth leading type of cancer among Nevada females (5.5%) and the seventh most common type of cancer overall at 2.7% between 1995-1999 in Nevada. The total number of cases remained quite stable between 1995 and 1998. Note - the Cancer Registry count includes only cases reported by hospitals and, therefore, remains incomplete for all years, particularly 1999.

	1995	1996	1997	1998	1999
<b>Total Cases</b>	181	173	185	185	137
<b>In Situ Cases</b>	91	92	93	91	49
<b>Cervix Uteri Cases</b>	90	81	92	94	88
<b>ACS Cervix Uteri Estimate</b>	n.a.	90	90	100	100

### AGE AT DIAGNOSIS

Cervical cancer cases showed up at much earlier ages than other cancer cases for women. It is significant that almost two out of every three new cases were reported for women under age 50. Over one in four involved women in their thirties and 8% were only in their twenties. Case numbers decline after age 40 with only 18% after age 59.

#### Age at Diagnosis (Percent of Reported Cases)

	Percent of 1999 Female Population	Percent of 1999 Total Cases
<b>0-19</b>	28.4	0.7
<b>20-29</b>	11.5	8
<b>30-39</b>	15.3	28
<b>40-49</b>	15.6	27
<b>50-59</b>	11.7	18
<b>60-69</b>	7.9	11
<b>70-79</b>	6.4	6
<b>80 +</b>	3.2	1.5

### RACE

The following table shows 1999 cervical cancer cases by racial category. In general, White women have lower rates of cervical cancer than women from the Black and Others racial categories. The limited number of cases among Black (5) and Others (14) racial categories means that a small number of cases could change their percentages dramatically. It appears that the percentage of Black cases is under-reported.

Reminder - Hispanics are regarded as an ethnicity and are distributed among the three racial categories listed below.

#### **Race (Percent of Reported Cases)**

	<b>Percent of 1999 Population</b>	<b>Percent of 1999 Total Cases</b>
<b>White</b>	87.2	86.1
<b>Black</b>	7.7	3.7
<b>Others</b>	5.1	10.2

#### **COUNTY OF RESIDENCE**

The following table shows 1999 cervical cancer cases as reported by county of residence according to each area's (Clark, Washoe, Rest of State) percent of state cases and percent of the state population. The percentage of Washoe County cases appears to be overstated.

#### **Residence (Percent of Reported Cases)**

	<b>Percent of 1999 Population</b>	<b>Percent of 1999 Total Cases</b>
<b>Clark</b>	68.2	64.2
<b>Washoe</b>	16.5	22.6
<b>Rest of State</b>	15.3	13.2

#### **STAGE AT DIAGNOSIS**

There were a total of 861 new cervical cancer cases reported between 1995-1999. Almost half ( an average of 48.3%) were at the in situ stage at diagnosis. This contrasts greatly with the in situ percentages for other types of cancer in this report including all cases (5%), breast (12%), lung (0%), colorectal (3%), and prostate (0%). The next largest groups were localized cases at an average of 25% and regional cases at an average of 19% over the five year period.

#### **Stage at Diagnosis (Percent of Reported Cases)**

	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>

<b>In Situ</b>	50	53	50	49	36
<b>Localized</b>	26	25	20	25	31
<b>Regional</b>	18	16	18	17	25
<b>Distant</b>	4	3	8	3	4
<b>Unknown</b>	2	3	4	5	4

## FIRST COURSE OF TREATMENT/CUMULATIVE TREATMENT

The following tables show the first course of treatment and cumulative treatment for new cervical cancer cases reported between 1995-1999. Whereas some of the treatments were used in combination, the percentages add up to more than 100%. Surgery was overwhelmingly the predominant first course of treatment at an average 79% and an average of 85% for cumulative treatment.

### First Course of Treatment\* (Percent of Reported Cases)

	1995	1996	1997	1998	1999
<b>Surgery</b>	88	70	71	84	81
<b>Radiation</b>	20	16	24	23	28
<b>Surgery &amp; Radiation</b>	13	11	14	13	16
<b>Chemotherapy</b>	5	2	5	2	20

### Cumulative Treatment\* (Percent of Reported Cases)

	1995	1996	1997	1998	1999
<b>Surgery</b>	89	86	81	86	81
<b>Radiation</b>	22	21	28	26	30
<b>Surgery &amp; Radiation</b>	15	14	18	16	17
<b>Chemotherapy</b>	7	4	5	4	21

\* Singly or in combination.

## HISTOLOGY

Squamous cell carcinomas accounted for almost two out of three cervical cancer histologies reported in 1999. Three other major types totaling 32% brought the total of the four major types to 97%.

### Histologies (Percent of Reported Cases)

Code	Type	Percent of 1999 Total Cases
<b>807</b>	Squamous Cell Carcinoma	65

<b>801</b>	Carcinoma	14
<b>814</b>	Adenocarcinoma	13
<b>856</b>	Adenosquamous Carcinoma	5

## INPATIENT CARE

The following table is for uterine cervical cancer cases only. In situ cases were excluded. Uterine cervical cancer hospitalizations increased by 30% between 1995 to 1999. However, cervical cancer accounted for only 1.3% of the total cancer cases reported during the five year period which explains the small number of hospitalizations (patients) and patient days. Patient days increased by 33%, about the same rate as hospitalizations. The change in average lengths of stay was erratic. Billed charges per hospitalization increased gradually during the period.

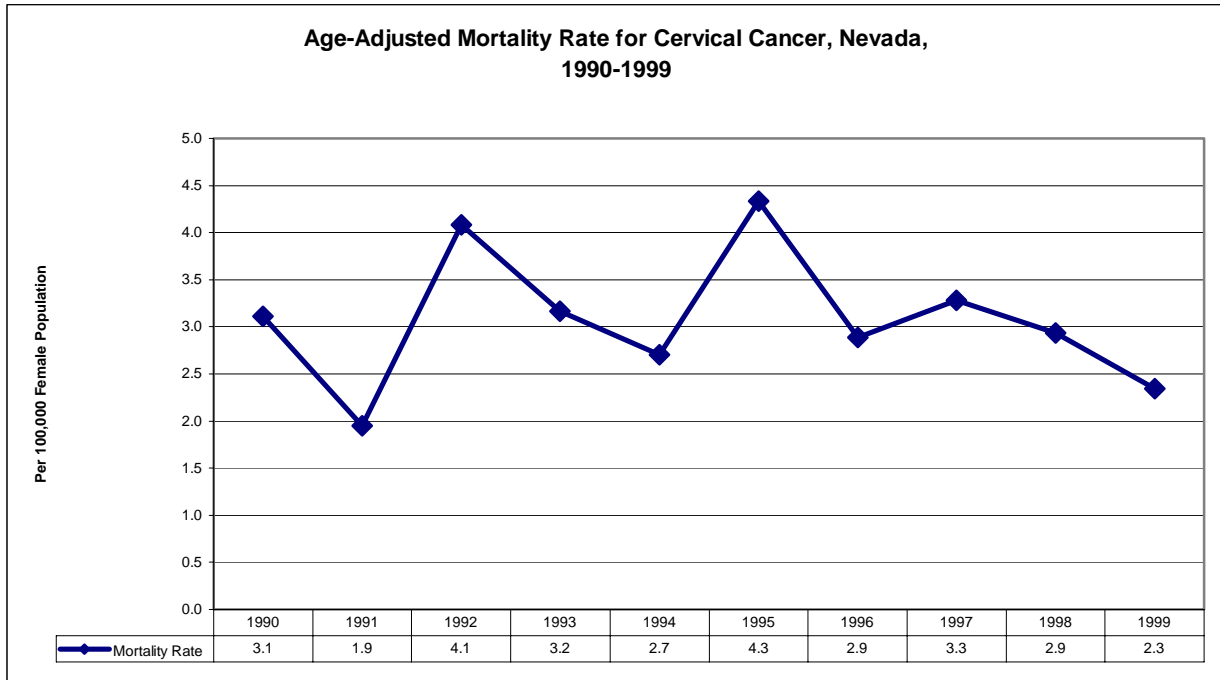
	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>
<b>Patients</b>	101	100	135	132	131
<b>Patient Days</b>	509	363	638	619	677
<b>ALOS</b>	5.0	3.6	4.7	4.7	5.2
<b>Billed Charges</b>	\$18,159	\$14,922	\$17,886	\$21,493	\$21,459

## MORTALITY

The graph below shows that age-adjusted (to the year 2000) cervical cancer mortality rates dropped considerably between 1990 to 1999 with a lot of fluctuation in between. As of 1999 the age-adjusted mortality rate for cervical cancer was only 2.3 per 100,000 females which was minimal compared to other cancers reviewed in this report. **It appears that Nevada should be able to achieve the Healthy People 2010 target of 2.0 deaths per 100,000 females.**

There were 132 cervical cancer deaths reported between 1995-1999 among Nevada residents. This amounted to less than 1% of all cancer deaths during the period. The table below the graph reveals that during 1995-1999 cervical cancer deaths averaged 26 per year, the lowest compared to the other major cancers reviewed in this report. The number of deaths decreased from 32 in 1995 to 23 in 1999.





The following table shows the number of cervical cancer deaths according to race/ethnicity and county of residence. Whites, with about 87% of the population, had 87% of the deaths in 1999. There were no cervical cancer deaths recorded in 1999 for Blacks or Native Americans. The rate for Asian/Pacific Islanders is not statistically significant because there were only three deaths. Clark County with about 68% of the state's population had 65% of the cervical cancer deaths. The variation in the mortality rate for Washoe County and the rural counties is a matter of the low numbers involved.

#### Deaths by Race/Ethnicity and County of Residence 1995-1999

	1995	1996	1997	1998	1999	1999 Rate*
<b>Total</b>	32	24	28	25	23	2.3
<b>Percent of Cancer Deaths</b>	1.1	0.8	0.9	0.7	0.7	n.a.
<b>Race/Ethnicity</b>						
<b>White</b>	27	18	21	21	19	2.6
<b>Black</b>	3	2	2	1	0	0.0
<b>Native American</b>	0	0	0	0	0	0.0
<b>Asian/Pacific Islander</b>	0	2	3	1	3	19.3
<b>Hispanic</b>	2	2	2	2	1	0.6
<b>County</b>						
<b>Clark</b>	24	15	25	19	15	2.3
<b>Washoe</b>	2	6	1	5	6	3.5
<b>Rurals</b>	6	3	2	1	2	2.0

\*Age-adjusted

# LUNG CANCER

## General Profile

**New Cases:** An estimated 164,100 new cases in the U.S. in 2000, accounting for 14% of cancer diagnoses. The national incidence rate is declining in men from a high of 86 per 100,000 in 1984 to 70 in 1996. Recently, the rate of increase among women has begun to slow. In 1996, the national incidence rate in women was 42 per 100,000.

**Deaths:** An estimated 156,900 deaths in 2000 accounting for 28% of all cancer deaths in America. Since 1987, more women have died each year of lung cancer than breast cancer, which for over 40 years was the major cause of cancer deaths among women. Smoking is the most preventable cause of death in our society. Tobacco use is responsible for nearly one in five deaths in the United States. It is estimated that over 430,000 deaths per year are attributable to smoking. Smoking-related cancer deaths continue to rise.

**Signs and Symptoms:** Persistent cough, sputum streaked with blood, chest pain, and recurring pneumonia and bronchitis.

**Risk Factors:** Cigarette smoking is by far the most important risk factor in the development of lung cancer. In 1998 an estimated 22.9% of Americans smoked regularly. Fortunately, the National Health Interview Survey data show that cigarette smoking among adults aged 18 and over declined 40% between 1965 and 1990 from 42% to 25%. However, during the 1990s overall smoking prevalence was virtually unchanged and teen smoking especially among females has increased.

**Early Detection:** Because symptoms often do not appear until the disease is advanced, early detection is difficult. For those who stop smoking when precancerous changes are found, damaged lung tissue often improves substantially.

**Treatment:** Treatment options are determined by the type and stage of the cancer and include surgery, radiation therapy, and chemotherapy. For many localized cancers, surgery is usually the treatment of choice. Because the disease has usually spread by the time it is discovered, radiation therapy and chemotherapy are often needed in combination with surgery.

**Survival:** The one year relative survival rates for lung cancer have increased from 34% in 1975 to 41% in 1995 largely due to improvements in surgical techniques. The five year relative survival rate for all stages combined is only 14%. The survival rate is 49% for cases detected when the disease is still localized, but only 15% of lung cancer are discovered that early.

# LUNG CANCER

## Nevada Profile

### TOTAL CASES

There were a total of 6,043 new lung and bronchus cancer cases reported between 1995-1999. The table below shows the number of cases reported for each of those years and the case estimates by the American Cancer Society (ACS). Lung cancer was by far the leading type of cancer with almost 20% of all cases. The total number of reported lung cancer cases gives the appearance of having remained fairly stable since 1995 despite an increase of 24% in the resident population from 1995 to 1999. Unlike the ACS case estimates for other major types of cancer, it appears that the ACS estimates for lung cancer may be slightly conservative considering that Cancer Registry cases are understated. Nevada's continual ranking among the top three or four states (number one in 1999) in terms of smoking prevalence is correlated to its high incidence of lung cancer.

	1995	1996	1997	1998	1999
<b>Total Cases</b>	1,228	1,185	1,299	1,304	1,027
<b>ACS Estimate</b>	1,000	1,200	1,200	1,200	1,200

### CASES BY MALE/FEMALE

Males had about 11% more new cases of lung cancer than females reported in 1999. The distribution of lung cancer cases at 55.6% males and 44.4% females in 1999 reflects a gradual increase in the proportion of female cases during the nineties. Until recently, male smokers considerably outnumbered female smokers. Smoking is the predominant cause of lung cancer.

#### Male/Female (Percent of Reported Cases)

	Percent of 1999 Population	Percent of 1999 Total Cases
<b>Males</b>	50.5	55.6
<b>Females</b>	49.5	44.4

### AGE AT DIAGNOSIS

The table below shows that in 1999 two out of every three cases of lung cancer involved persons in their sixties and seventies. The percentages for male and female cases between the ages of 60 and 79 were 65% and 64% respectively. The proportion of lung cancer deaths under the age of 50 was very small.

### Age at Diagnosis (Percent of Reported Cases)

	Percent of 1999 Total Population	Percent of 1999 Total Cases	Percent of 1999 Male Cases	Percent of 1999 Female Cases
<b>0-19</b>	28.7	0.0	0.0	0.0
<b>20-29</b>	11.6	0.0	0.0	0.0
<b>30-39</b>	15.8	0.7	0.7	0.6
<b>40-49</b>	15.8	4.7	3.6	6
<b>50-59</b>	11.7	17	19	17
<b>60-69</b>	7.8	32	32	31
<b>70-79</b>	6.0	33	33	33
<b>80 +</b>	2.5	12	12	13

### RACE

The percentage of reported White lung cancer cases in 1999 was slightly higher than the percentage of Whites in the overall population. The percentages for cases attributed to Blacks and Others were lower than their respective populations. Statistics regarding race can be misleading because of discrepancies in identification. Note that Hispanics are an ethnicity and are distributed among the three racial groups in the table below.

### Race (Percent of Reported Cases)

	Percent of 1999 Population	Percent of 1999 Total Cases
<b>White</b>	87.2	92.2
<b>Black</b>	7.7	3.6
<b>Others</b>	5.1	4.2

### COUNTY OF RESIDENCE

The following table shows the 1999 lung cancer cases by residence for Clark County, Washoe County and the other 15 counties (Rest of State) combined. The percentage of cases for each area roughly approximates its share of the 1999 population.

### Residence (Percent of Reported Cases)

	Percent of 1999 Population	Percent of 1999 Total Cases
<b>Clark</b>	68.2	65.9
<b>Washoe</b>	16.5	18.5
<b>Rest of State</b>	15.3	15.6

### STAGE AT DIAGNOSIS

Of the four types of cancer covered in this report, lung cancer was the only one for which the distant stage was the most prevalent at diagnosis. Among all types of cancer cases reported between 1995-1999, the distant stage was ranked third overall. An average of 22% per year of lung cancer cases were reported as unknown.

#### **Stage at Diagnosis (Percent of Reported Cases)**

	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>
<b>In Situ</b>	0	0	0	0	0
<b>Localized</b>	17	16	15	16	20
<b>Regional</b>	25	22	19	19	23
<b>Distant</b>	40	39	38	37	43
<b>Unknown</b>	18	22	28	27	13

#### **FIRST COURSE OF TREATMENT/CUMULATIVE TREATMENT**

Radiation was the most common first course of treatment and cumulative treatment for new lung cancer cases between 1995-1999. However, in 1999 chemotherapy ranked highest for both. Chemotherapy and surgery were next in order for first course of treatment and for cumulative treatment during the five year period. Reminder – one case may utilize multiple courses of treatment.

#### **First Course of Treatment\* (Percent of Reported Cases)**

	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>
<b>Surgery</b>	24	22	21	25	25
<b>Radiation</b>	30	27	25	24	28
<b>Surgery &amp; Radiation</b>	4	4	3	3	4
<b>Chemotherapy</b>	25	24	23	25	33

#### **Cumulative Treatment\* (Percent of Reported Cases)**

	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>
<b>Surgery</b>	25	24	23	26	26
<b>Radiation</b>	35	32	29	28	30
<b>Surgery &amp; Radiation</b>	6	6	5	5	5
<b>Chemotherapy</b>	27	28	26	27	33

\* Singly or in combination

#### **HISTOLOGY**

Carcinoma, which accounted for one in three cases, was the most common type of histology reported for lung cancer in 1999. The next three major types totaled almost 60% of the histologies. The other major cancers in this report each had one type of histology at 70% or more and between none to two other histologies at over 10%.

### Histologies (Percent of Reported Cases)

Code	Type	Percent of 1999 Total Cases
801	Carcinoma	32
814	Adenocarcinoma	22
807	Squamous Cell Carcinoma	18
804	Small Cell Carcinoma	17

### INPATIENT CARE

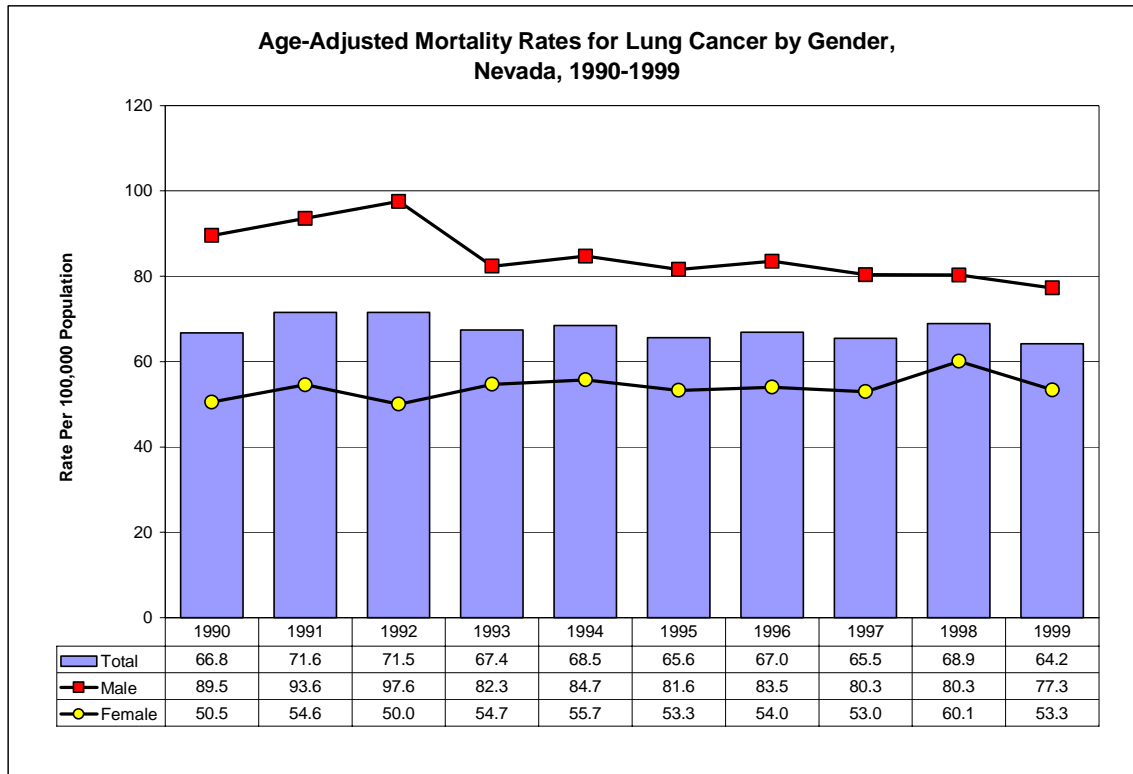
Lung cancer hospitalizations accounted for 14% of all hospitalizations for cancer between 1995-1999. The annual number of hospitalizations for lung cancer increased by 27% during the period. By contrast, patient days grew by only 8.6% during the same period. This is an example of the transition to outpatient care. Average length of stay decreased by one-half of a day between 1995-1999.

Like several of the other major cancers highlighted in this report, billed charges per hospitalization for lung cancer patients increased moderately between 1995 to 1999. Billed charges for each lung cancer hospitalizations were exceeded only by billed charges for colorectal cancer hospitalizations.

	1995	1996	1997	1998	1999
<b>Patients</b>	870	1,007	1,012	1,105	1,004
<b>Patient Days</b>	7,591	8,518	8,184	8,449	8,246
<b>ALOS</b>	8.7	8.5	8.1	7.6	8.2
<b>Billed Charges</b>	\$26,639	\$28,522	\$28,360	\$30,170	\$32,749

### MORTALITY

The following graph shows the age-adjusted (to the year 2000) mortality rates for lung cancer between 1990 to 1999. The average for the ten year period was 67.7, which was more than twice as high as the next highest average rate (breast cancer at 28.3). The rates remained reasonably stable over the ten year period. **The 1999 rate of 64.2 was significantly (over 40%) higher than the Healthy People 2010 target of 44.8.**



There were 5,148 lung cancer deaths in Nevada between 1995-1999 which amounted to about one in three of the total cancer deaths during those years. Lung cancer was the leading cause of cancer deaths. The number of lung cancer deaths increased each year, but the percentage shares remained steady. Males had a disproportionate share of the deaths, reflecting the higher percentage of male smokers in the past. The 1999 rates are age-adjusted (to year 2000). Blacks had a significantly higher mortality rate in 1999 than other races/ethnicities. The rates for the other racial/ethnic groups except Hispanics were about the same. The 1999 rates for the county areas were also close.

#### Deaths by Gender, Race/Ethnicity and County of Residence 1995-1999

	1995	1996	1997	1998	1999	'99 Rate
<b>Total</b>	913	1,000	1,012	1,109	1,114	64.2
<b>Percent/Cancer Deaths</b>	31.1	32.0	32.6	32.3	32.0	n.a.
<b>Gender: Male</b>	520	577	587	604	630	77.3
<b>Female</b>	393	423	425	505	484	53.4
<b>Race: White</b>	840	921	924	1,001	1,030	69.1
<b>Black</b>	43	51	46	57	54	142.8
<b>Native Am.</b>	5	3	9	5	4	72.0
<b>Asian/Pacific</b>	14	14	18	19	15	73.1
<b>Hispanic</b>	11	11	15	25	11	9.8
<b>County: Clark</b>	619	683	688	776	776	58.0
<b>Washoe</b>	156	154	177	177	182	56.4
<b>Rurals</b>	138	163	147	156	156	51.7

# COLORECTAL CANCER

## General Profile

**New Cases:** An estimated 130,200 cases in America in 2000 including 93,800 of colon cancer and 36,400 of rectal cancer. Colorectal cancers are the third most common cancers in men and women. Incidence rates have declined significantly in recent years. This decline has been experienced primarily by Whites. Research suggests that the decline may be due to increased screening and polyp removal which helps prevent progression of polyps to invasive cancers.

**Deaths:** An estimated 56,300 deaths (47,700 from colon cancer, 8,600 from rectal cancer) in the U.S. in 2000, accounting for about 11% of cancer deaths. National mortality rates for colorectal cancer have fallen about 25% for women and 13% for men during the past 20 years, reflecting decreasing incidence rates and increasing survival rates.

**Signs and Symptoms:** Rectal bleeding, blood in the stool, a change in bowel habits.

**Risk Factors:** A personal or family history of colorectal cancer or polyps, and inflammatory bowel disease have been associated with increased colorectal cancer risk. Other possible risk factors include physical inactivity, high-fat and /or low-fiber diet, as well as inadequate intake of fruits and vegetables. Recent studies have suggested that estrogen replacement therapy and non-steroidal antiinflammatory drugs such as aspirin may reduce colorectal cancer risk.

**Early Detection:** Beginning at age 50, men and women should have one of the following: a yearly fecal occult blood test plus flexible sigmoidoscopy every 5 years, or colonoscopy every 10 years, or double contrast barium enema every 5 to 10 years. A digital rectal examination should be done at the same time as sigmoidoscopy, colonoscopy, or double contrast barium enema. These tests offer the best opportunity to detect colorectal cancer at an early stage when successful treatment is likely and to prevent some cancers by detection and removal of polyps.

**Treatment:** Surgery is the most common form of therapy for colorectal cancer. For cancers that have not spread, it is frequently curative. Chemotherapy or chemotherapy plus radiation is given before or after surgery to most patients whose cancer has deeply perforated the bowel wall or has spread to the lymph nodes.

**Survival:** The one and five year relative survival rates for patients with colon and rectum cancer are 80% and 61% respectively. When colorectal cancers are detected in an early, localized stage, the 5-year relative survival rate is 90%. However, only 37% of colorectal cancers are discovered at that stage.



# COLORECTAL CANCER

## Nevada Profile

### TOTAL CASES

For purposes of this report, colorectal includes three types of cases: colon, rectum, and rectosigmoid. The total number of combined colorectal cancer cases reported between 1995-1999 was 3,721 or 11.6% of all cancer cases. Colorectal cancer was the third most common cancer following lung cancer and breast cancer. The following table shows the number of cases reported each year to the Cancer Registry and estimates by the American Cancer Society (ACS). Despite the fact that not all cases are reported to the Cancer Registry, the Nevada case totals excluding in situ (second row) are generally close to the ACS estimates except for 1999 which is incomplete.

	1995	1996	1997	1998	1999
<b>Total Cases</b>	737	745	773	766	700
<b>Total excluding In Situ</b>	700	727	743	750	680
<b>ACS Estimate</b>	560	690	730	800	800

### CASES BY MALE/FEMALE

There were about 25% more cases of colorectal cancer among men (392) than women (308) reported in 1999. The distribution of colorectal cancer cases at 56.0% males and 44.0% females varies by about 5% each from the 1999 state population mix of 50.5% males and 49.5% females.

#### Male/Female (Percent of Reported Cases)

	Percent of 1999 Population	Percent of 1999 Total Cases
<b>Males</b>	50.5	56.0
<b>Females</b>	49.5	44.0

### AGE AT DIAGNOSIS

The following table shows the age at diagnosis in total and for men and women by ten year age groups. Similar to lung cancer, colorectal cancer affects more people in oldest age groups. For example, the percent of cases among people in their eighties, particularly females, was much higher than the other types of cancer reviewed in this report.

#### Age at Diagnosis (Percent of Reported Cases)

	Percent of 1999 Total Population	Percent of 1999 Total Cases	Percent of 1999 Male Cases	Percent of 1999 Female Cases
<b>0-19</b>	28.7	0.0	0.0	0.0
<b>20-29</b>	11.6	0.0	0.0	0.0
<b>30-39</b>	15.8	1.3	1.3	1.3
<b>40-49</b>	15.8	6	4.6	8
<b>50-59</b>	11.7	14	17	11
<b>60-69</b>	7.8	30	33	26
<b>70-79</b>	6.0	32	30	35
<b>80 +</b>	2.5	16	14	18

## RACE

The following table shows colorectal cancer cases reported in 1999 grouped by racial categories. The percentage for Whites approximates their percentage of the population in 1999. Reminder - accuracy with race statistics can be very difficult because of misidentification. Note that Hispanics are an ethnicity and are distributed among the three racial groups in the table below.

### Race (Percent of Reported Cases)

	Percent of 1999 Population	Percent of 1999 Total Cases
<b>White</b>	87.2	90.8
<b>Black</b>	7.7	4.6
<b>Others</b>	5.1	4.6

## COUNTY OF RESIDENCE

The following table shows the percentage of new colorectal cancer cases reported in 1999 for Nevada's 17 counties. The higher proportion of cases reported in 1999 for Washoe County may be a factor of more complete reporting by that county's hospitals at the time the totals were tabulated.

### Residence (Percent of Reported Cases)

	Percent of 1999 Population	Percent of 1999 Total Cases
<b>Clark</b>	68.2	64.7
<b>Washoe</b>	16.5	21.7
<b>Rest of State</b>	15.3	13.6

## STAGE AT DIAGNOSIS

On average over 40% of the colorectal cancer cases were reported at a regional stage upon diagnosis between 1995-1999. This was the highest regional stage ranking among the five types of cancer reviewed in this report. Localized was the next highest stage followed by regional for each year.

### Stage at Diagnosis (Percent of Reported Cases)

	1995	1996	1997	1998	1999
<b>In Situ</b>	5	2	4	2	3
<b>Localized</b>	23	28	28	32	29
<b>Regional</b>	47	39	36	38	44
<b>Distant</b>	20	21	22	18	19
<b>Unknown</b>	5	9	10	10	4

### FIRST COURSE OF TREATMENT/ CUMULATIVE TREATMENT

Surgery was overwhelmingly the most commonly used first course of treatment (average 69%) and cumulative treatment (average 66%) for colorectal cancer between 1995 to 1999. The next most common course of treatment for both first course of treatment and cumulative treatment was chemotherapy. The rates for the different types of treatment remained fairly stable over the five year period.

### First Course of Treatment\* (Percent of Reported Cases)

	1995	1996	1997	1998	1999
<b>Surgery</b>	70	71	69	67	66
<b>Radiation</b>	7	7	7	7	7
<b>Surgery &amp; Radiation</b>	5	5	6	6	6
<b>Chemotherapy</b>	17	16	18	20	20
<b>Hormonal</b>	0	0	0	0	0

### Cumulative Treatment\* (Percent of Reported Cases)

	1995	1996	1997	1998	1999
<b>Surgery</b>	66	67	65	66	66
<b>Radiation</b>	8	9	8	8	8
<b>Surgery &amp; Radiation</b>	7	6	7	6	6
<b>Chemotherapy</b>	18	17	19	20	20
<b>Hormonal</b>	0	0	0	0	0

\* Singly or in combination.

### HISTOLOGY

Four out of five colorectal cancer histologies reported in 1999 were adenocarcinomas. The next most common type, mucinous adenocarcinoma, had only 7% of the total.

Prostate cancer was the only other cancer among the main types of cancer featured in this report for which adenocarcinoma ranked first.

### Histologies (Percent of Reported Cases)

Code	Type	Percent of 1999 Total Cases
814	Adenocarcinoma	82
848	Mucinous Adenocarcinoma	7
826	Adenocarcinoma	4
821	Adenocarcinoma	3

### INPATIENT CARE

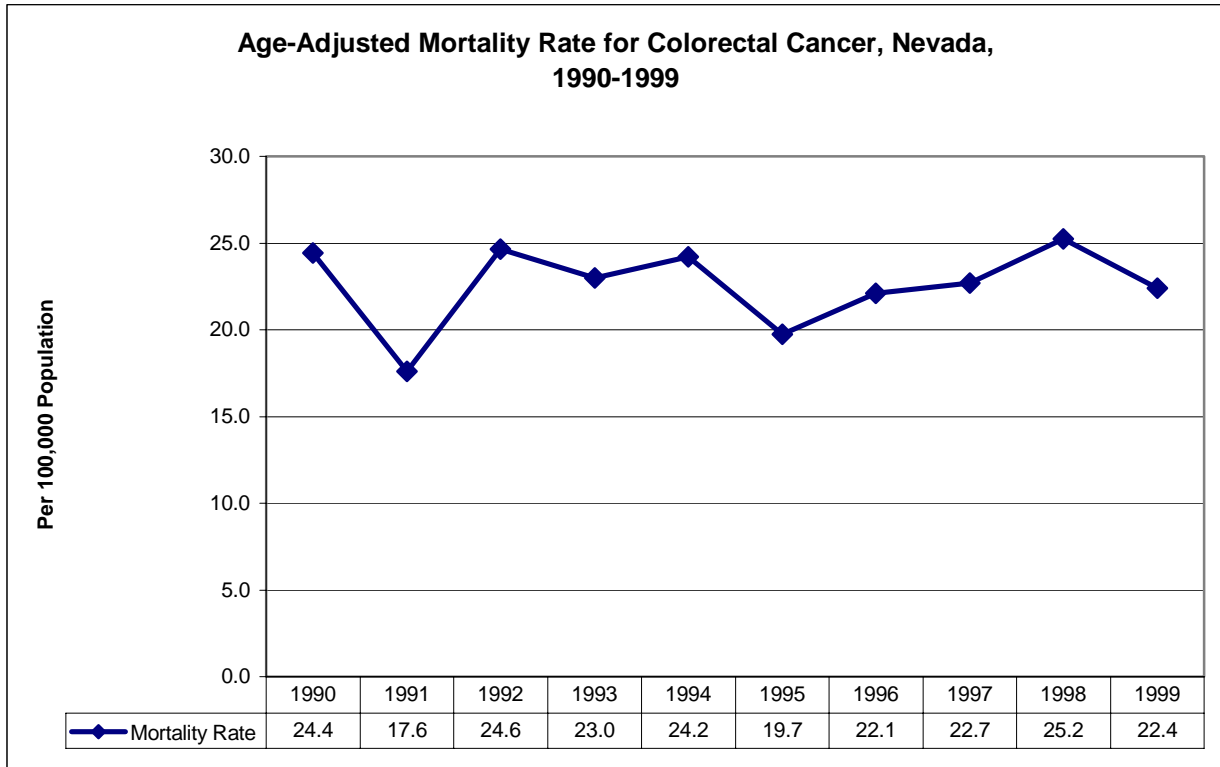
Patient days for colorectal cancer hospitalizations increased by 21% between 1995-1999. This was slightly over the average increase (17%) for hospitalization for all types of cancer. By contrast, patient days grew by only 15%. Average length of stay declined by one-half day per hospitalization during the period. Of the major cancers reviewed in this report, colorectal cancer had the longest average length of stay.

Average billed charges per hospitalization for colorectal cancer was the highest of the major cancers during the period. Billed charges increased 18.6% between 1995 and 1999.

	1995	1996	1997	1998	1999
<b>Patients</b>	718	718	834	875	867
<b>Patient Days</b>	6,642	6,391	7,112	7,659	7,656
<b>ALOS</b>	9.3	8.9	8.5	8.8	8.8
<b>Billed Charges</b>	\$29,674	\$32,667	\$31,636	\$33,742	\$35,190

### MORTALITY

The following graph of age-adjusted (to the year 2000) mortality rates for colorectal cancer between 1990-1999 reveals that the rates decreased slightly from 24.4 in 1990 to 22.4 in 1999. Colorectal cancer was the second leading cause of cancer deaths behind lung cancer, accounting for 10.2% of all cancer deaths between 1990 to 1999. It was also the second leading cause in 1999. **The 1999 Nevada rate of 22.4 per 100,000 was significantly higher than the Healthy People 2010 target of 13.9.**



The following table shows an increase of 41% in the number of deaths between 1995-1999. Males had more deaths and higher rates than females every year. Whites and Hispanics had the lowest mortality rates among race/ethnic groups in 1999, while Blacks and Native Americans had significantly higher rates. The figures for the three county areas were similar.

**Deaths by Gender, Race/Ethnicity, and County of Residence 1995-1999**

	1995	1996	1997	1998	1999	'99 Rate*
<b>Total</b>	258	292	332	391	363	22.4
<b>Percent of Cancer Deaths</b>	8.8	9.3	10.7	11.4	10.4	n.a.
<b>Gender: Male</b>	130	177	185	214	218	28.9
<b>Female</b>	128	115	147	177	145	16.9
<b>Race/Ethnicity</b>						
<b>White</b>	231	262	297	342	306	21.7
<b>Black</b>	13	14	20	26	23	70.8
<b>Native American</b>	4	0	3	2	4	59.0
<b>Asian/Pacific Islander</b>	5	7	4	10	14	34.5
<b>Hispanic</b>	5	9	8	11	16	15.7
<b>County: Clark</b>	162	194	219	264	250	23.2
<b>Washoe</b>	46	33	61	68	66	23.4
<b>Rurals</b>	50	65	52	59	47	21.0

\* age- adjusted

# PROSTATE CANCER

## General Profile

**New Cases:** An estimated 180,400 new cases in the U.S. during 2000. Prostate cancer incidence rates are nearly two times higher in Black men than in White men. Between 1989 and 1992, prostate cancer incidence rates for American men increased dramatically, probably due to earlier diagnosis in men without any symptoms, by the increasing use of prostate-specific antigen (PSA) blood test screenings. Prostate cancer incidence rates are now declining.

**Deaths:** An estimated 31,900 deaths in the U.S. in 2000, the second leading cause of cancer death in men. During 1992-1996, prostate cancer mortality rates declined significantly. Prostate cancer mortality rates remain more than two times higher for Black men than White men.

**Signs and Symptoms:** Weak or interrupted urine flow; inability to urinate, or difficulty starting or stopping the urine flow; the need to urinate frequently, especially at night; blood in the urine; pain or burning on urination; continuing pain in lower back, pelvis or upper thighs.

**Risk Factors:** The incidence of prostate cancer increases with age. More than 75% of all prostate cancers are diagnosed in men over age 65. Family history is also a risk factor. Black Americans have the highest prostate cancer incidence rates in the world.

**Early Detection:** The Cancer Society's guidelines for early prostate cancer detection stress prostate-specific antigen (PSA) blood tests and digital rectal exams (DRE) of the prostate gland every year for men age 50 and older. Men who are at high risk for prostate cancer should consider beginning these tests at an earlier age.

**Treatment:** Depending on age, stage of the cancer, and other medical conditions of the patient, surgery or radiation should be discussed with the patient's physician. Hormones and chemotherapy or combinations of these options might be considered for metastatic disease. Careful observation without immediate active treatment ("watchful waiting") may be appropriate, particularly for older individuals with low-grade and/or early stage tumors

**Survival:** Seventy-nine percent of all prostate cancers are discovered in the local and regional stages. The five year relative survival rate for patients whose tumors are diagnosed at this stage is 100%. Over the past 20 years, the survival rate for all stages combined has increased from 67% to 92%. Survival after a diagnosis of prostate cancer continues to decline beyond five years. According to the most recent data, 67% of men diagnosed with prostate cancer survive 10 years and 52% survive 15 years.

# PROSTATE CANCER

## Nevada Profile

### TOTAL CASES

There were 3,309 cases of prostate cancer reported in Nevada between 1995 to 1999. Prostate cancer was the fourth leading type of cancer, accounting for 10.3% overall. Prostate cancer ranked as the second highest type of cancer among males at 20.2% of the total.

Note that the Cancer Registry totals represent only cases reported by hospitals. An increasing percentage of cases diagnosed and treated in physician offices helps to explain the low number and apparent decrease in the number of cases reported to the State Cancer Registry in comparison to the American Cancer Society (ACS) estimates of total cases. Nevertheless, the difference between the two sets of figures is significant.

	1995	1996	1997	1998	1999
<b>Total Cases</b>	635	687	671	613	703
<b>ACS Estimate</b>	1,100	1,600	1,800	1,100	1,100

### AGE AT DIAGNOSIS

The following table shows that the largest share of new cases in 1999 was among men between the ages of 60-69. Unlike other cancers only 3% of the cases were diagnosed prior to the age of 50. More than any of the other leading types of cancer, age is the single most important risk factor for the development of prostate cancer.

#### Age at Diagnosis (Percent of Reported Cases)

	Percent of 1999 Male Population	Percent of 1999 Total Cases
<b>0-19</b>	29.1	0.0
<b>20-29</b>	11.8	0.0
<b>30-39</b>	16.2	0.1
<b>40-49</b>	16.0	3.0
<b>50-59</b>	11.8	21
<b>60-69</b>	7.7	45
<b>70-79</b>	5.5	25
<b>80 +</b>	1.9	6

### RACE

The following table shows the number of cases reported by race in 1999 to the Cancer Registry. The rate for Blacks appears underreported. However, statistics regarding race can be misleading because of discrepancies in identification. Note – Hispanics are an ethnicity and are included within the three racial categories below.

**Race (Percent of Reported Cases)**

	<b>Percent of 1999 Population</b>	<b>Percent of 1999 Total Cases</b>
<b>White</b>	87.2	91.9
<b>Black</b>	7.7	4.7
<b>Others</b>	5.1	3.4

**COUNTY OF RESIDENCE**

The following table shows the number of new prostate cancer cases in 1999 by county of residence. The total cases figures are very close to the percent of Nevada resident population figures.

**Residence (Percent of Reported Cases)**

	<b>Percent of 1999 Population</b>	<b>Percent of 1999 Total Cases</b>
<b>Clark</b>	68.2	69.1
<b>Washoe</b>	16.5	15.0
<b>Rest of State</b>	15.3	15.9

**STAGE AT DIAGNOSIS**

Three out of five new cases were at the localized stage upon diagnosis between 1995 and 1999. Next to skin cancer, prostate cancer has the largest share of localized cases. The proportion of localized cases appears to be increasing, which is positive.

**Stage at Diagnosis (Percent of Reported Cases)**

	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>
<b>In Situ</b>	0	1	0	0	0
<b>Localized</b>	52	56	57	63	81
<b>Regional</b>	21	19	14	14	11
<b>Distant</b>	9	6	7	6	5
<b>Unknown</b>	18	18	21	17	3

**FIRST COURSE OF TREATMENT/CUMULATIVE TREATMENT**



Surgery was by far the most common first course of treatment (55%) and cumulative treatment (62%) reported between 1995-1999. Radiation and hormonal treatment accounted for almost all of the other cases for both first course of treatment and cumulative treatment.

Prostate cancer and breast cancer were the only other major cancers which utilized hormonal treatment. Prostate cancer was also the only one of the major types of cancers which seldom utilized chemotherapy as a course of treatment.

#### First Course of Treatment\* (Percent of Reported Cases)

	1995	1996	1997	1998	1999
<b>Surgery</b>	55	55	54	56	57
<b>Radiation</b>	12	12	12	18	28
<b>Surgery &amp; Radiation</b>	2	2	1	1	1
<b>Chemotherapy</b>	1	1	0	1	1
<b>Hormonal</b>	17	14	13	13	19

#### Cumulative Treatment\* (Percent of Reported Cases)

	1995	1996	1997	1998	1999
<b>Surgery</b>	64	65	62	59	58
<b>Radiation</b>	19	17	16	20	29
<b>Surgery &amp; Radiation</b>	7	4	2	2	2
<b>Chemotherapy</b>	2	1	1	2	1
<b>Hormonal</b>	22	16	16	14	19

\* Singly or in combination.

## HISTOLOGY

Adenocarcinoma accounted for almost all of the histologies for cases of prostate cancer reported in 1999. Other types of histologies amounted to less than 4% of the total.

#### Histologies (Percent of Reported Cases)

Code	Type	Percent of 1999 Total Cases
<b>814</b>	Adenocarcinoma	96.6
<b>801</b>	Carcinoma	3.0
<b>800</b>	Neoplasm	0.3

## INPATIENT CARE

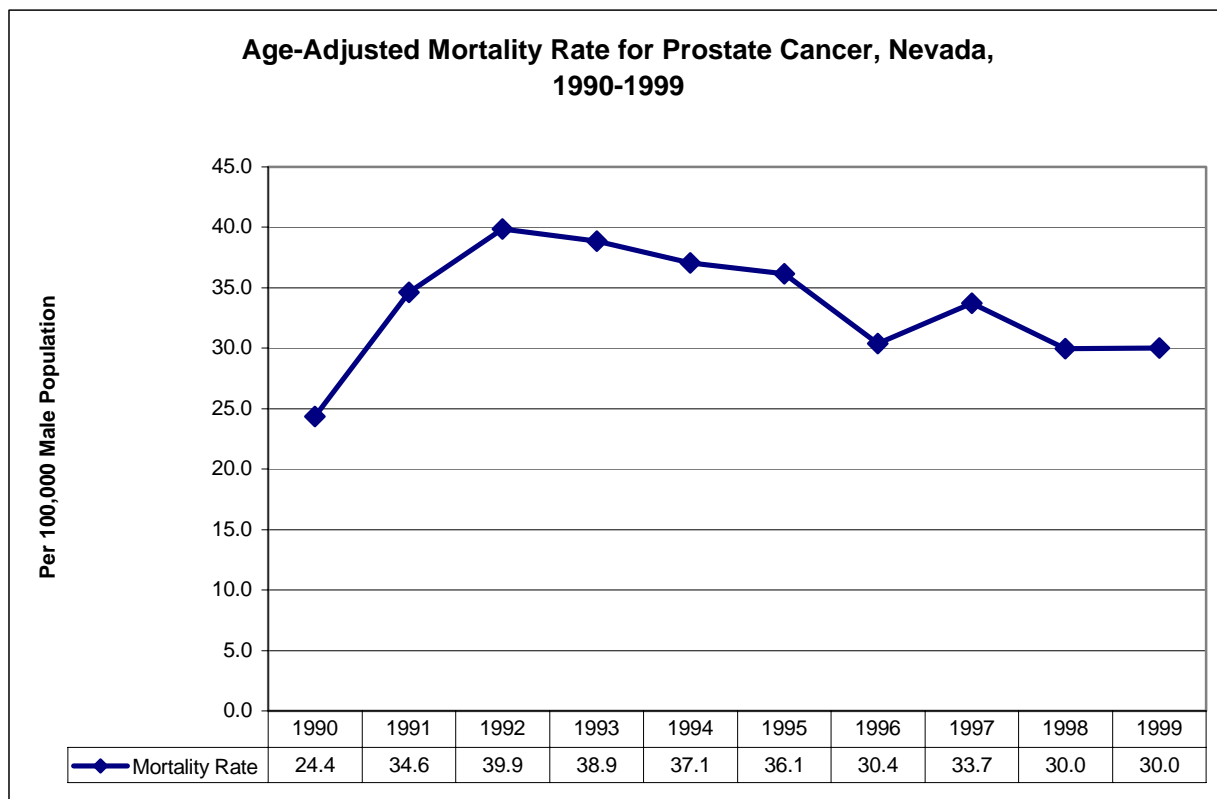
The annual number of hospitalizations for prostate cancer increased by 47% between 1995 to 1999. This was the largest increase of any of the other major cancers. By

contrast the annual number of patient days increased by only 16%. Average length of stay (ALOS) dropped almost one full day from a relatively low 4.4 days in 1995 to 3.5 days in 1999. The only major cancer with a lower ALOS in 1999 was breast cancer.

Billed charges for the average hospitalization for prostate cancer patients showed only a slight increase during the five year period. This was the lowest increase among the major types of cancer.

	1995	1996	1997	1998	1999
<b>Patients</b>	374	466	523	493	549
<b>Patient Days</b>	1,659	1,994	2,054	1,783	1,932
<b>ALOS</b>	4.4	4.3	3.9	3.6	3.5
<b>Billed Charges</b>	\$17,485	\$17,469	\$19,431	\$17,673	\$18,620

## MORTALITY



The graph above of age-adjusted (to the year 2000) prostate cancer mortality rates for 1990-1999 shows considerable fluctuation during the period. While total prostate cancer deaths for the ten year period ranked fourth overall, prostate cancer mortality rates ranked as second highest behind lung cancer. **Nevertheless, the Nevada 1999**

**age-adjusted prostate cancer mortality rate of 30.0 is already close to the national Healthy People 2010 target of 28.7.**

There were 883 prostate cancer deaths between 1995 to 1999 which accounted for 5.5% of the total cancer deaths during those years. The number of prostate cancer deaths increased between 1995 and 1999 primarily because of the Nevada's rapid population growth. The rate actually declined.

The following table contains information concerning prostate cancer mortality between 1995 to 1999 by race/ethnicity and by county of residence. The percentage of deaths among Whites (93%) was slightly higher than their share (87%) of the state population. Blacks and Native Americans, in particular, had significantly higher age-adjusted mortality rates in 1999 than the other race/ethnic categories. The rates for Whites and Asian/ Pacific Islanders were about the same. Regarding residence, total deaths in 1999 were almost exact the same percentage as each area's share of the overall population for the state. However, the age-adjusted mortality rates varied considerably, especially Washoe County.

**Deaths by Race/Ethnicity and County of Residence 1995-1999**

	1995	1996	1997	1998	1999	1999 Rate *
<b>Total</b>	171	163	182	174	193	30.0
<b>Percent – Cancer Deaths</b>	5.8	5.2	5.9	5.1	5.5	n.a.
<b>Race/Ethnicity</b>						
<b>White</b>	154	149	163	152	174	30.1
<b>Black</b>	12	10	16	8	8	64.7
<b>Native American</b>	1	0	2	0	1	130.6
<b>Asian/Pacific Islander</b>	1	2	0	5	4	29.5
<b>Hispanic</b>	3	2	1	9	6	10.9
<b>County</b>						
<b>Clark</b>	112	102	116	101	131	29.4
<b>Washoe</b>	27	29	31	46	33	12.9
<b>Rurals</b>	32	32	35	27	29	28.8

\*age-adjusted

## SMOKING AND CANCER

Cigarette smoking is the single most preventable cause of premature death in the United States. Each year more than 400,000 Americans die from cigarette smoking. One out of every five deaths in the U.S. is smoking related. Tobacco claims more lives than drugs, alcohol, sexual behavior, firearms, and motor vehicle injuries combined. This is a significant issue for public health because cigarette smoking greatly increases the risk of premature death. Approximately half of all continuing smokers die prematurely from smoking. On average smokers die nearly seven years earlier than nonsmokers.

About 10 million people in America have died from causes attributed to smoking since the first Surgeon General's report on smoking and health in 1964. Two million of these deaths were the result of lung cancer alone.

Smoking is a significant risk factor for a number of leading types of cancer including lung cancer, oropharyngeal cancer, pancreatic cancer, and cancer of the bladder. Smoking's greatest impact is as a cause of lung cancer. In 1999 cancer of the lung and bronchus was the leading site of new cancer cases in Nevada and the nation. Lung cancer was the leading type of cancer for Nevada men and the second leading type of cancer among Nevada women in 1999.

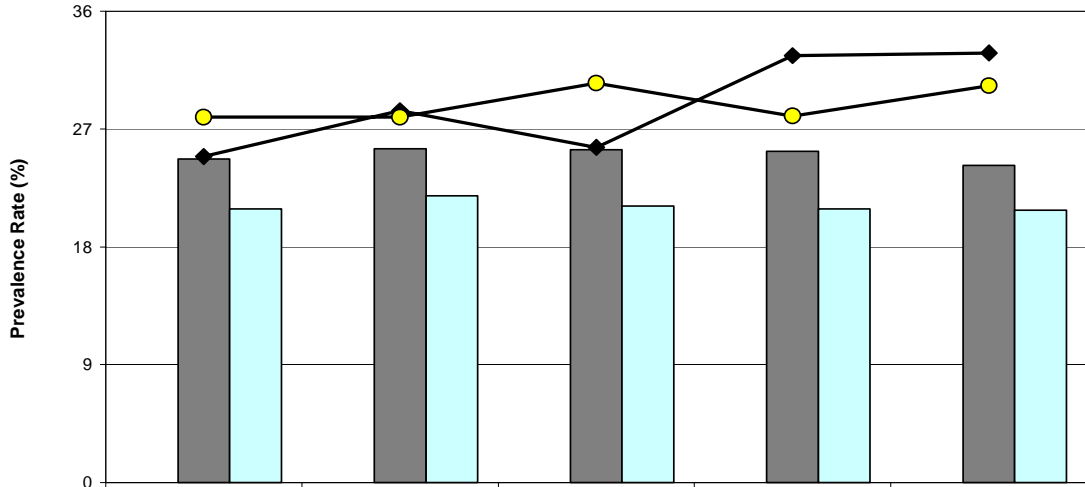
Lung cancer causes more deaths than any other type of cancer for both men and women. In 1999, 1,114 lung cancer deaths accounted for almost one out of every three cancer deaths among Nevada residents. The 1999 Nevada lung cancer mortality rate (age-adjusted to the year 2000) of 64.2 deaths per 100,000 residents is significantly higher than the national Healthy People 2010 target of 44.8.

State and sex-specific prevalence of current smoking among persons aged 18 and over was obtained from the annual Behavioral Risk Factor Surveillance System (BRFSS) survey. Current smokers are defined as those who reported having smoked more than 100 cigarettes during their lives and who currently smoke every day or some days.

In 1999 Nevada had the highest percentage of current smokers of any state in the nation at 31.5%. State-specific prevalence rates varied more than twofold from a low of 13.9% in Utah to Nevada's 31.5%. The median adult prevalence nationally was 22.7 percent - 24.2% for men and 20.9% for women. Nevada's rate is more than two and one-half times as high as the national Healthy People 2010 target of 12%.

The graph on the following page examines prevalence rates of current smokers for the nation and Nevada by males and females age 18 and over for the years 1995 to 1999 according to the BRFSS survey. The 1999 national rates showed men at 3.4% higher than women. The 1999 Nevada figures showed males at only 1.5% higher than females. Over the five year period the average rate for Nevada men and women was the same.

**Prevalence Rates of Current Smokers by Gender,  
United States and Nevada, 1995-1999**



	1995	1996	1997	1998	1999
US Total	22.4	23.4	23.2	22.9	22.6
■ US Male	24.7	25.5	25.4	25.3	24.2
■ US Female	20.9	21.9	21.1	20.9	20.8
Nevada Total	26.4	28.2	28	30.3	31.5
◆ Nv Male	24.9	28.4	25.6	32.6	32.8
● Nv Female	27.9	27.9	30.5	28	30.3

## TECHNICAL NOTES

### TOTAL CASES AND INCIDENCE RATES

New cancer cases among Nevada residents are reported to the Nevada Cancer Registry which is part of the State Health Division. Nevada hospitals were the sole source of new cases reported to the Cancer Registry between 1995 to 1999. As a result, the total number of reported Cancer Registry cases understates the actual number of new cancer cases among Nevada residents.

Another source of cancer case estimates which is used across the nation is a report by the American Cancer Society (ACS) entitled *Cancer Facts and Figures*. The report, which is published annually, uses estimates of new cases based on incidence rates from the National Cancer Institute's (NCI) Surveillance Epidemiology and End Results (SEER) program. The estimates exclude in situ carcinomas.

The following table contains case totals for all cancers from the Cancer Registry and estimates from ACS reports for 1995 to 1999. Whereas in situ cases are excluded from the ACS estimates, they are deducted from the Registry's count of reported cases for reasons of comparison. Both the Registry and ACS also exclude basal and squamous cell skin cancers. The difference between the Nevada totals and the ACS estimates is significant because it reflects the incomplete reporting of cases to the Registry.

	1995	1996	1997	1998	1999
<b>NV Total exc. In Situ</b>	6,085	6,013	6,281	6,334	5,699
<b>ACS Estimate</b>	6,400	8,000	8,600	7,600	8,100

In February 2001 the SEER program calculated the following set of percentages regarding its estimate of the percentage of new Nevada cancer cases reported to the Cancer Registry each year from 1995 to 1999.

	1995	1996	1997	1998	1999
<b>SEER Estimate</b>	93.4%	95.6%	95.8%	92.4%	85.2%

Incidence rates are usually age-adjusted. Crude rates are not age-adjusted and can be deceptive because differences in the distributions among various age groups are not considered. Since cancer is age-dependent, crude rates can be very misleading. Note – because of incomplete reporting and the resultant underestimate of actual cancer cases, it is not possible to accurately compare Nevada incidence rates to other states or to national incidence rates. This report does not calculate incidence rates.

In summary, an accurate measurement of incidence rates for overall cancer cases and specific types of cancer cases among Nevada residents does not exist at this time. It is anticipated that the addition of reporting by laboratories and physician offices in Nevada will fill in the gap of previously unreported cases.

## DEFINITIONS

**Age-Adjustment** – is the application of age-specific rates in a population to a standardized age distribution (year 2000) in order to eliminate differences in observed rates that result from age differences in the population. Age-adjusted rates are useful for comparison purposes only, not to measure absolute magnitude.

**Case** – a primary diagnosis of cancer in contrast to a cancer that has spread or metastasized from another site. Each separate primary diagnosis of cancer is counted as a case. A cancer patient may have more than one primary diagnosis.

**Histology** – a branch of anatomy which deals with the microscopic structure, composition and function of tissue. Histology refers to microscopic diagnosis based upon tissue specimens.

**Adenocarcinoma** – is a carcinoma developed from glandular tissue or in which the tumor cells form recognizable glandular structures. May be classified according to the predominant pattern of cell arrangement i.e. papillary, alveolar, etc. or according to a particular product of the cells i.e. mucinous adenocarcinoma.

**Basal Cell Carcinoma** – is an epithelial tumor that seldom metastasizes, but has the potential for general invasion and destruction.

**Carcinoma** – is a malignant new growth made up of epithelial cells which tend to infiltrate surrounding tissues and give rise to metastases.

**Clear Cell Carcinoma** – resembles renal cell carcinoma with clear cells and hobnail-shaped cells. A rare malignant tumor, most often in the ovary. Resembles renal cell carcinoma.

**Duct Cell Carcinoma** - is also known as ductal in situ. Any of a large group of in situ carcinomas of the lactiferous ducts.

**Lobular Carcinoma (in situ)** – is a type of precancerous neoplasia found in the lobules of mammary glands. Usually small and widely dispersed. Identified only by microscopic examination.

**Mucinous Adenocarcinoma** – is an adenocarcinoma that produces mucinous deposits.

**Papillary Transitional Cell Carcinoma** – pertains to or resembles a papilla or nipple. Carcinoma in which there are papillary excrescences.

**Small Cell Carcinoma** – is a common, highly malignant form of bronchogenic carcinoma in the wall of a major bronchus.

**Squamous Cell Carcinoma** – are carcinoma developed from squamous epithelium. Has cube-shaped cells.

**Transitional Cell Carcinoma** – is a malignant tumor arising from a transitional type of stratified epithelium. Usually affects the urinary bladder.

**Incidence Rates** – measure the number of new primary cases of cancer diagnosed per 100,000 population during a specified period of time, usually a year.

**Mortality Rates** – measure the number of deaths for which cancer was the underlying cause per 100,000 persons in a population during a specified period of time.

**Race** – In this report race is divided into only three categories: White, Black and Other. Other includes population groups such as Asian/Pacific Islanders and American Indians. Hispanics are regarded as an ethnicity, not a race and are included within the three racial categories.

**Stage of Disease** – refers to the extent to which a tumor has metastasized or spread at the time of diagnosis and is classified according to the following phases:

**In Situ** refers to a tumor that fulfills all the criteria for malignancy, but lacks invasion.

**Localized** refers to a tumor that appears to be confined to the organ of origin.

**Regional** refers to a tumor that has spread beyond the limits of the organ into (1) surrounding organs or tissues; (2) regional lymph nodes by metastasis; or (3) a combination of (1) and (2) and appears to have spread no further.

**Distant** refers to a tumor that has spread to parts of the body remote from the primary organ.

**Treatment Modality** – refers to therapy directed toward reduction or elimination of cancer cells. Major treatment modalities include:

**Surgery** is an operative procedure performed to remove cancerous tissue.

**Chemotherapy** is the use of chemicals and drugs to destroy cancer cells or tissue.

**Radiation** is the use of external beams or internal radioactive implants independently or before, during or after surgery to kill tumor cells.

## SOURCES



**Demographic Data:** The source of demographic data related to age, gender, and race contained in this report is *Population Characteristics: Official Nevada Estimates (1990-98) and Projections (1999+)* dated April 12, 1999 by the Nevada State Demographer and the Nevada Department of Taxation. This was the most current report available which contains complete age, gender, and race estimates for each of Nevada's 17 counties and the state as a whole. The estimates for each year are as of July 1 for that year.

**Mortality Data:** The source for statistics regarding resident deaths in which cancer was the underlying cause for the years 1995 to 1999 in Nevada are death records compiled by the Office of Vital Records, Bureau of Health Planning and Statistics, Division of Health of the State of Nevada. Death records filed with the Office of Vital Records utilize standard forms recommended by the National Center for Health Statistics.

**New Cancer Cases:** The source of data regarding newly diagnosed cancer cases for all of the subsections of this report is the Nevada Statewide Cancer Registry of the Bureau of Health Planning and Statistics, Division of Health of the State of Nevada. For the years 1995 to 1999 Nevada hospitals were the source of all of the new cancer cases reported to the Cancer Registry. This report covers all cases among Nevada residents for those five years that were reported to the Cancer Registry as of February 14, 2001.

**Inpatient Care:** The sections entitled Inpatient Care contain statistics regarding patients, patient days, average length of stay, and billed charges. The inpatient care statistics were compiled by the Center for Health Data Analysis at the University of Nevada – Las Vegas from hospital records for patients discharged from Nevada acute care hospitals during calendar year 1999.

The Bureau of Health Planning and Statistics would appreciate your comments and suggestions regarding this report. Address your comments to:

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## NEVADA REPORT ON CANCER

**1995 - 1999**

**February 2001**

**Kenny Guinn, Governor  
Charlotte Crawford, Director  
Department of Human Resources**

**Yvonne Sylva, Administrator  
Mary Guinan, M.D., State Health Officer  
State Health Division**