

Cancer In Nevada: 2003 - 2007

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**A Report on Cancer
Incidence and
Mortality in
Nevada.**

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Cancer in Nevada: 2003-2007

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Preface

This report presents cancer incidence and mortality in Nevada for the 2003-2007 years and is based on 53,027 newly diagnosed cancer cases and 20,694 cancer-related deaths among Nevada residents during this time period. Nationwide data are also presented for comparison purposes only. The American Cancer Society estimates that 12,230 people in Nevada will be diagnosed with cancer in 2010, excluding basal and squamous cell skin cancers and in situ carcinomas except for urinary bladder.¹ The cost of cancer nationwide in 2010 is estimated to be \$263.8 billion overall, including \$102.8 billion in direct medical costs, 20.9 billion due to morbidity and \$140.1 billion due to mortality.²

Cancer incidence and mortality for all types of cancers is covered in general as well as the highlights of the top leading cancers and the leading causes of cancer deaths in Nevada. The top ten most prevalent malignancies in Nevada include: lung and bronchus, prostate, breast, colorectal, urinary bladder, non-Hodgkin lymphoma, melanomas of the skin, kidney and renal pelvis, leukemia, and thyroid. The ten leading causes of cancer-related deaths include: trachea, lung and bronchus; colon, rectum, and anus; breast; pancreas; prostate; leukemia; liver and intrahepatic bile duct; non-Hodgkin lymphoma; bladder; and brain and other central nervous system.

The report includes gender and race/ethnicity information in order to highlight potential areas for cancer control programs, which will go a long way in reducing the risk and impact of cancer in Nevada.

This publication and other publications are available from the Nevada State Health Division website at: http://health.nv.gov/FP_Publications.htm.

This report contains information from the Nevada Central Cancer Registry (NCCR) within the Bureau of Health Statistics, Planning, Epidemiology and Response. The goal of the Nevada Central Cancer Registry is to gather comprehensive, timely, and accurate data on the incidence of cancer in Nevada.

Technical Notes

Mortality

Nevada Office of Vital Records

The Bureau of Health Statistics, Planning, Epidemiology and Response oversees the Nevada Office of Vital Records, which collects, processes, analyzes, and maintains the Nevada birth and death records. Funeral directors, or persons acting as such, are legally responsible for filing death certificates. The vital records statistical database includes those individuals who died in Nevada (residents and non-residents) and includes Nevada residents who died outside the state of Nevada.

Mortality data in this report includes only Nevada residents. Also included in this report are demographic data of the individual, including gender and race/ethnicity, and cancer-related cause of death (identified by International Classification of Disease (ICD-10) codes).

Incidence

Data Inclusion and Exclusion Criteria

The National Program of Cancer Registries (NPCR) 2011 data submission specifications were used for this report. The following are the specifications as outlined by NPCR:

Diagnosis Years: Include cases diagnosed in all residents of your catchment area beginning with your NPCR reference year (e.g., 1995) through **December 31, 2007**. For guidance on residency, refer to Chapter III of *NAACCR Standards for Cancer Registries*, Volume II.

Reportable Diagnoses: All histologies with a behavior code of /2 or /3 (or in some cases behavior code of /0 [see 3h] or behavior code of /1 [see 3g]) in the *International Classification of Diseases for Oncology*, Third Edition (ICD-O-3) are reportable with the following exceptions or restrictions:

a. Exclude neoplasms of the skin (C44.0–C44.9) with the following histologies **UNLESS** they occur at the mucoepidermoid sites [vagina (C52.9), clitoris (C51.2), vulva (C51.0–51.9), prepuce (C60.0), penis (C60.9), and scrotum (C63.2)]:

- 8000–8005 Neoplasms, malignant, NOS
- 8010–8046 Epithelial carcinomas
- 8050–8084 Papillary and squamous cell carcinomas
- 8090–8110 Basal cell carcinomas

b. Exclude carcinoma *in situ* of the cervix (C53.0–C53.9, any morphology and /2) after January 1, 1996.

c. Exclude prostate intraepithelial neoplasia, grade III (PIN III) (C61.9, 8148/2) after January 1, 2001.

- d.** Exclude squamous intraepithelial neoplasia, grade III (8077/2) of the following sites: anus (C21.1, AIN III), cervix (C53, CIN III), vagina (C52.9, VAIN III), and vulvar (C51, VIN III).
- e.** If a pathologist reports a case as invasive (/3) and the histology is usually associated with a benign (/0) or borderline (/1) behavior code, the case is reportable. Include any appropriate over-ride codes.
- f.** Include all pilocytic astrocytomas. If necessary, convert behavior code to /3 before submitting cases.
- g.** Include all cases as reportable in the year they were diagnosed. For example, those cases reportable in ICD–O–2 but not ICD–O–3 would be included for diagnosis years 1995-2000 only. However, as noted above, all ICD–O–2 codes should be converted to the corresponding ICD–O–3 codes prior to submission.

The following histologies should be reported for all cases diagnosed prior to January 1, 2001. These histologies are generally coded to ovary (C56.9), but are not limited to this primary site.

Descriptive Terms and Topography Codes	ICD-O-3	ICD-O-2
Serous cystadenoma, borderline malignancy (C56.9)	8442/1	8442/3
Serous tumor, NOS, of low malignant potential (C56.9)	8442/1	8442/3
Papillary cystadenoma, borderline malignancy (C56.9)	8451/1	8451/3
Serous papillary cystic tumor of borderline malignancy (C56.9)	8462/1	8462/3
Papillary serous cystadenoma, borderline malignancy (C56.9)	8462/1	8462/3
Papillary serous tumor of low malignant potential (C56.9)	8462/1	8462/3
Atypical proliferative papillary serous tumor (C56.9)	8462/1	8462/3
Mucinous cystic tumor of borderline malignancy (C56.9)	8462/1	8462/3
Mucinous cystadenoma, borderline malignancy (C56.9)	8462/1	8462/3
Pseudomucinous cystadenoma, borderline malignancy (C56.9)	8472/1	8472/3
Mucinous tumor, NOS, of low malignant potential (C56.9)	8472/1	8472/3
Papillary mucinous cystadenoma, borderline malignancy (C56.9)	8473/1	8473/3
Papillary pseudomucinous cystadenoma, borderline malignancy (C56.9)	8473/1	8473/3
Papillary mucinous tumor of low malignant potential (C56.9)	8473/1	8473/3

h. Beginning January 1, 2004, all nonmalignant primary intracranial and central nervous system tumors (see following table) with a benign (/0) or borderline (/1) behavior code are reportable, and are to be included in the data submission. However, exclude benign and borderline tumors of the cranial bones (C41.0). For further guidance, please refer to the following table.

Required Sites for Benign and Borderline Primary Intracranial and Central Nervous System Tumors			
General Term	Specific Sites	ICD-O-3 Topography Code	
Meninges	Cerebral Meninges	C70.0	
	Spinal Meninges	C70.1	
	Meninges, NOS	C70.9	
Brain	Cerebrum	C71.0	
	Frontal lobe	C71.1	
	Temporal lobe	C71.2	
	Parietal lobe	C71.3	
	Occipital lobe	C71.4	
	Ventricle, NOS	C71.5	
	Cerebellum, NOS	C71.6	
	Brain stem	C71.7	
	Overlapping lesion of brain	C71.8	
	Brain, NOS	C71.9	
Spinal cord, cranial nerves, and other parts of the central nervous system	Spinal cord	C72.0	
	Cauda equine	C72.1	
	Olfactory nerve	C72.2	
	Optic nerve	C72.3	
	Acoustic nerve	C72.4	
	Cranial nerve, NOS	C72.5	
	Overlapping lesion of brain and central nervous system	C72.8	
	Nervous system, NOS	C72.9	
	Pituitary, craniopharyngeal duct, and pineal gland	Pituitary gland	C75.1
		Craniopharyngeal duct	C75.2
Pineal gland		C75.3	

General considerations for this report include:

Updated Data

The NCCR database is constantly being updated with new information, so the numbers published in this report may not match, or be directly comparable, with previously published data. The data that are presented in this report are from the NCCR as of the January 2011 NPCR submission.

Cancer Cases Reported

The number of cases included in this report are those reported as having invasive cancer, except for urinary bladder cancer, which includes cases diagnosed with *in situ* cancer. Both melanomas of the skin and non-epithelial skin cancers exclude basal and squamous cancers.

Suppression of Data

For all tables in this report, rates for categories with a count of less than five have been suppressed (indicated by “- -”), because when the number of cases in a cell is very small, the calculated rate is unstable.³ In addition, counts of less than five and their counterparts have been suppressed for, statistical reliability, data quality, or confidentiality (indicated by “~”).

Cancer Classification

The NCCR uses the International Classification of Diseases for Oncology coding structure (ICD-O-3) which includes topography (primary site) and morphology (tumor type). A detailed list of the actual groupings used for cancer incidence data, using both topography and morphology codes, can be found in Appendix A.

Gender Specific Cancer Rates

For gender specific cancers, such as prostate and female breast, the rates listed in this report are per 100,000 gender-specific population, unless otherwise noted.

Race/Ethnicity Groups

Race/ethnicity groups used in this report include: White (non-Hispanic), Black (non-Hispanic), American Indian/Alaska Native (non-Hispanic), Asian (non-Hispanic), and Hispanic; where all individuals of Hispanic ethnicity are represented in this report as Hispanic regardless of racial identity. These race/ethnicity groups were calculated to be mutually exclusive.

Population Estimates

2003 through 2005 populations used in this report were provided by the Nevada State Demographer. Interim 2006 and 2007 population estimates were also used in this report and are based on the 2005 population. The 2006 and 2007 population estimates were updated in July 2007 and July 2008 respectively by the Nevada State Health Division, Bureau of Health Statistics, Planning, Epidemiology and Response. The aggregated 2003 through 2007 populations used for the denominator in incidence and mortality rates are race-specific and sex-specific (See Appendix B). Therefore, slight variations may occur when comparing rates in this report with other sources that use United States Census population estimates.

✦ Definitions

Crude Rate: In this report, crude rates are the number of cases which occur per 100,000 Nevada population and are not adjusted for other factors, such as age. Gender and/or race/ethnicity specific populations are used in the denominator when applicable.

Age-adjusted Incidence Rate (direct method): These are observed age-specific crude rates which are applied to the 2000 U.S. standard population 11 age groups to eliminate differences in crude rates and allow for comparison among populations with different age distributions.⁴

Standard Population: This is the standard population or weights that are used in the calculation of age-adjusted rates to serve as an index.⁵ The 2000 U.S. standard population has been used in this report and it is also used as the standard population by many national agencies.

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CANCER IN NEVADA

Highlights
2003-2007

Incidence

In Nevada, 53,027 (28,568 males, 24,454 females and five other gender) cancer cases were reported among Nevada residents during the 2003-2007 period. Nevada's age-adjusted incidence rate, of 442.6 per 100,000, for all cancers combined was lower than the national age-adjusted rate of 471.0⁶ during the same period.

Nevada males had higher incidence rates, both age-adjusted (506.4) and crude (448.4), for all cancers combined compared to Nevada females (392.2 and 396.0 respectively).

Whites had the highest incidence rates, both age-adjusted (456.7) and crude (548.4), compared to Blacks (438.2 and 331.8 respectively), Hispanics (336.2 and 126.1 respectively), Asians (293.7 and 236.4 respectively), and American Indian/Alaska Natives (192.3 and 148.7 respectively).

Compared to the national rates, Nevada had higher age-adjusted incidence rates for the following malignancies: lung and bronchus, urinary bladder, and thyroid gland. Lower incidence rates were observed for the following types of cancer: prostate, female breast, colorectal, non-Hodgkin lymphoma, melanomas of the skin, kidney and renal pelvis, and leukemia.

Lung and bronchus cancer was the most common reportable malignancy among Nevada residents, accounting for 16.0% of all invasive cases during 2003-2007 period. Prostate cancer was the second most common reportable malignancy among Nevada residents, accounting for 14.6% of all invasive cases during 2003-2007 period. Prostate cancer was the leading type of malignancy among males, followed by lung and bronchus, colorectal, urinary bladder, and melanomas of the skin.

Breast cancer was the third most common malignancy among Nevada residents, accounting for 13.0% of all invasive cases during the 2003-2007 period. Breast cancer was also the leading type of malignancy among females, followed by lung and bronchus, colorectal, corpus uteri and uterus not otherwise specified, and thyroid.

The following disparities were found:

- Of the top ten cancers in Nevada, from 2003 to 2007, males had higher age-adjusted incidence rates than females for seven. More specifically, males had higher age-adjusted incidence rates than females for the following malignancies: lung and bronchus, colorectal, urinary bladder, non-Hodgkin lymphoma, melanomas of the skin, kidney and renal pelvis, and leukemia.
- Of the top ten cancers in Nevada, from 2003 to 2007, female Nevada residents had higher age-adjusted incidence rates than male in breast cancer and thyroid cancer.
- Whites had the highest age-adjusted incidence rates when compared to Blacks, American Indian/Alaska Natives, Asians, and Hispanics for six of the top ten types of cancer in Nevada in 2003-2007. These included the following malignancies: lung and bronchus, breast, urinary bladder, non-Hodgkin lymphoma, melanomas of the skin, and leukemia.
- Blacks had the highest incidence rates for prostate, colorectal, and kidney and renal pelvis malignancies compared to Whites, American Indian/Alaska Natives, Asians, and Hispanics.
- Asians had the highest age-adjusted incidence rate for thyroid cancer in Nevada in the 2003-2007 period.
- Hispanics and American Indian/Alaska Natives did not have the highest age-adjusted incidence rate for any of the top ten cancers in Nevada from 2003-2007.

Table 1. Percentage of Cancer Cases by Cancer Type, by Gender, Nevada Residents, 2003-2007

Type of Cancer	Male		Female		Total	
Lung and Bronchus	4,357	15.3%	4,123	16.9%	8,481	16.0%
Prostate	7,736	27.1%	NA	NA	7,736	14.6%
Breast	82	0.3%	6,806	27.8%	6,889	13.0%
Urinary Bladder	2,028	7.1%	620	2.5%	2,648	5.0%
Other, Ill-Defined and Unspecified Sites	1,235	4.3%	977	4.0%	2,213	4.2%
Non-Hodgkin Lymphoma	1,189	4.2%	908	3.7%	2,097	4.0%
Melanomas of the Skin	1,155	4.0%	700	2.9%	1,855	3.5%
Kidney	957	3.4%	517	2.1%	1,474	2.8%
Thyroid Gland	343	1.2%	1,047	4.3%	1,390	2.6%
Pancreas	671	2.4%	632	2.6%	1,303	2.5%
Corpus Uteri	NA	NA	1,105	4.5%	1,105	2.1%
Rectum	652	2.3%	442	1.8%	1,094	2.1%
Sigmoid Colon	596	2.1%	491	2.0%	1,087	2.1%
Cecum	414	1.5%	407	1.7%	821	1.6%
Ovary	NA	NA	725	3.0%	725	1.4%
Stomach	459	1.6%	258	1.1%	717	1.4%
Liver	522	1.8%	193	0.8%	715	1.4%
Brain	407	1.4%	302	1.2%	709	1.3%
Ascending Colon	305	1.1%	335	1.4%	640	1.2%
Esophagus	459	1.6%	111	0.5%	570	1.1%
Cervix Uteri	NA	NA	533	2.2%	533	1.0%
Large Intestine, NOS	282	1.0%	211	0.9%	493	0.9%
Myeloma	301	1.1%	192	0.8%	493	0.9%
Rectosigmoid Junction	225	0.8%	220	0.9%	445	0.8%
Chronic Lymphocytic Leukemia	289	1.0%	131	0.5%	420	0.8%
Acute Myeloid Leukemia	239	0.8%	161	0.7%	401	0.8%
Larynx	303	1.1%	88	0.4%	391	0.7%
Connective, Subcutaneous and Other Soft Tissues	175	0.6%	145	0.6%	320	0.6%
Testis	320	1.1%	NA	NA	320	0.6%
Hodgkin Lymphoma	179	0.6%	123	0.5%	302	0.6%
Transverse Colon	152	0.5%	149	0.6%	301	0.6%

Notes: NOS - Not otherwise specified

CNS - central nervous system

NA - Not Applicable

~ Data do not meet the criteria for statistical reliability, data quality, or confidentiality.

- - - Sufficient data are not available to calculate reliable rates.

Table 1. Percentage of Cancer Cases by Cancer Type, by Gender, Nevada Residents, 2003-2007 (continued)

Type of Cancer	Male		Female		Total	
	Count	Percentage	Count	Percentage	Count	Percentage
Base of Tongue	160	0.6%	44	0.2%	204	0.4%
Other Non-Epithelial Skin	127	0.4%	76	0.3%	203	0.4%
Acute Lymphocytic Leukemia	104	0.4%	87	0.4%	191	0.4%
Descending Colon	114	0.4%	71	0.3%	186	0.4%
Other and Unspecified Parts of Tongue	119	0.4%	65	0.3%	184	0.4%
Other and Unspecified Biliary Tract	112	0.4%	71	0.3%	183	0.4%
Tonsil	139	0.5%	44	0.2%	183	0.4%
Anus, Anal Canal and Anorectum	56	0.2%	103	0.4%	159	0.3%
Small Intestine	90	0.3%	65	0.3%	155	0.3%
Chronic Myeloid Leukemia	86	0.3%	64	0.3%	150	0.3%
Hepatic Flexure	73	0.3%	75	0.3%	148	0.3%
Parotid Gland	85	0.3%	43	0.2%	128	0.2%
Vulva	NA	NA	127	0.5%	127	0.2%
Other Urinary Organs	79	0.3%	22	0.1%	101	0.2%
Mesothelioma	74	0.3%	21	0.1%	95	0.2%
Splenic Flexure	49	0.2%	43	0.2%	92	0.2%
Aleukemic, Subleukemic and NOS Leukemia	55	0.2%	36	0.2%	91	0.2%
Floor of Mouth	58	0.2%	33	0.1%	91	0.2%
Gallbladder	35	0.1%	54	0.2%	89	0.2%
Renal Pelvis	55	0.2%	28	0.1%	83	0.2%
Lip	65	0.2%	15	0.1%	80	0.2%
Eye and Orbit	47	0.2%	28	0.1%	75	0.1%
Nasopharynx	48	0.2%	19	0.1%	67	0.1%
Appendix	32	0.1%	30	0.1%	62	0.1%
Other and Unspecified Parts of Mouth	29	0.1%	31	0.1%	60	0.1%
Oropharynx	41	0.1%	17	0.1%	58	0.1%
Kaposi Sarcoma	~	0.2%	~	---	53	0.1%
Bones, Joints and Articular Cartilage and Other Unspecified Sites	35	0.1%	14	0.1%	49	0.1%
Other Acute Leukemia	30	0.1%	19	0.1%	49	0.1%
Other Lymphocytic Leukemia	41	0.1%	7	0.0%	48	0.1%
Palate	23	0.1%	24	0.1%	47	0.1%

Notes: NOS - Not otherwise specified

CNS - central nervous system

NA - Not Applicable

~ Data do not meet the criteria for statistical reliability, data quality, or confidentiality.

--- Sufficient data are not available to calculate reliable rates.

Table 1. Percentage of Cancer Cases by Cancer Type, by Gender, Nevada Residents, 2003-2007 (continued)

Type of Cancer	Male		Female		Total	
	Count	Rate	Count	Rate	Count	Rate
Ureter	23	0.1%	23	0.1%	46	0.1%
Accessory Sinuses	29	0.1%	15	0.1%	44	0.1%
Hypopharynx	30	0.1%	14	0.1%	44	0.1%
Bones, Joints and Articular Cartilage of Limbs	25	0.1%	18	0.1%	43	0.1%
Other Female Genital Organs	NA	NA	42	0.2%	42	0.1%
Pyriform Sinus	32	0.1%	9	0.0%	41	0.1%
Peritoneum, Omentum and Mesentery	~	---	~	0.2%	40	0.1%
Nose, Nasal Cavity and Middle Ear	26	0.1%	13	0.1%	39	0.1%
Uterus, NOS	NA	NA	39	0.2%	39	0.1%
Intrahepatic Bile Duct	17	0.1%	21	0.1%	38	0.1%
Penis	35	0.1%	NA	NA	35	0.1%
Other and Unspecified Major Salivary Glands	20	0.1%	13	0.1%	33	0.1%
Other Endocrine (Including Thymus)	20	0.1%	13	0.1%	33	0.1%
Gum	20	0.1%	12	0.1%	32	0.1%
Retroperitoneum	13	0.1%	18	0.1%	31	0.1%
Vagina	NA	NA	31	0.1%	31	0.1%
Other and Unspecified Oral (Buccal) Cavity and Pharynx	24	0.1%	5	0.0%	29	0.1%
Other Digestive Organs	13	0.1%	14	0.1%	27	0.1%
Other Myeloid/Monocytic Leukemia	14	0.1%	12	0.1%	26	0.1%
Spinal Cord, Cranial Nerves, and Other Parts of CNS	7	0.0%	19	0.1%	26	0.1%
Acute Monocytic Leukemia	13	0.1%	12	0.1%	25	0.1%
Adrenal Gland	16	0.1%	9	0.0%	25	0.1%
Meninges	9	0.0%	12	0.1%	21	0.0%
Other Male Genital Organs	14	0.1%	NA	NA	14	0.0%
Mediastinum and Other Respiratory Organs	8	0.0%	5	0.0%	13	0.0%
Peripheral Nerves and Autonomic Nervous System	8	0.0%	5	0.0%	13	0.0%
Placenta	NA	NA	7	0.0%	7	0.0%
Trachea	~	---	~	---	~	0.0%
Pleura	~	---	~	---	~	---
Heart	~	---	~	---	~	---
Total	28,568	100.0%	24,454	100.0%	53,027	100.0%

Notes: NOS - Not otherwise specified

CNS - central nervous system

NA - Not Applicable

~ Data do not meet the criteria for statistical reliability, data quality, or confidentiality.

--- Sufficient data are not available to calculate reliable rates.

Cancer Incidence in Nevada

Table 2. Nevada Cancer Incidence, by Cancer Type and Gender, Nevada Residents, 2003-2007

Cancer Type	Male Count	Male Age-Adjusted Rate*	Male Crude Rate	Female Count	Female Age-Adjusted Rate*	Female Crude Rate	Total Count	Total Age-Adjusted Rate*	Total Crude Rate
Brain and CNS	423	6.9	6.6	333	5.4	5.4	756	6.1	6.0
Breast	82	1.5	1.3	6,806	107.6	110.2	6,889	56.2	54.9
Cervix Uteri	NA	NA	NA	533	8.6	8.6	533	4.3	4.3
Colorectal	2,894	52.7	45.4	2,474	40.6	40.1	5,369	46.2	42.8
Corpus Uteri and Uterus NOS	NA	NA	NA	1,144	17.9	18.5	1,144	9.3	9.1
Esophagus	459	7.9	7.2	111	1.8	1.8	570	4.7	4.5
Hodgkin Lymphoma	179	2.9	2.8	123	2.0	2.0	302	2.4	2.4
Kidney and Renal Pelvis	1,012	17.3	15.9	545	8.6	8.8	1,557	12.7	12.4
Larynx	303	5.2	4.8	88	1.4	1.4	391	3.2	3.1
Leukemia	871	16.1	13.7	529	8.6	8.6	1,401	12.0	11.2
Lip, Oral Cavity and Pharynx	893	14.8	14.0	388	6.2	6.3	1,281	10.4	10.2
Liver and Bile Ducts	539	9.2	8.5	214	3.5	3.5	753	6.3	6.0
Lung and Bronchus	4,357	78.6	68.4	4,123	66.2	66.8	8,481	71.8	67.6
Melanomas of the Skin	1,155	20.2	18.1	700	11.2	11.3	1,855	15.2	14.8
Myeloma	301	5.4	4.7	192	3.1	3.1	493	4.2	3.9
Non-Hodgkin Lymphoma	1,189	20.8	18.7	908	14.9	14.7	2,097	17.8	16.7
Ovary	NA	NA	NA	725	11.5	11.7	725	5.9	5.8
Pancreas	671	12.1	10.5	632	10.3	10.2	1,303	11.2	10.4
Prostate	7,736	135.1	121.4	NA	NA	NA	7,736	63.4	61.7
Stomach	459	8.6	7.2	258	4.2	4.2	717	6.2	5.7
Testis	320	4.9	5.0	NA	NA	NA	320	2.5	2.6
Thyroid Gland	343	5.5	5.4	1,047	16.7	17.0	1,390	11.0	11.1
Urinary Bladder	2,028	37.9	31.8	620	10.2	10.0	2,648	22.9	21.1
Vulva	NA	NA	NA	127	2.1	2.1	127	1.1	1.0
All Other Sites	2,354	42.8	37.0	1,834	29.8	29.7	4,189	35.8	33.4
Total	28,568	506.4	448.4	24,454	392.2	396.0	53,027	442.6	422.7

Notes: NOS - Not otherwise specified

CNS - central nervous system

NA - Not Applicable

~ Data do not meet the criteria for statistical reliability, data quality, or confidentiality.

--- Sufficient data are not available to calculate reliable rates.

*Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 Nevada residents.

Cancer Incidence in Nevada

Table 3. Cancer Incidence, by Cancer Type and Gender, White Nevada Residents, 2003-2007

Cancer Type	Male Count	Male Age-Adjusted Rate*	Male Crude Rate	Female Count	Female Age-Adjusted Rate*	Female Crude Rate	Total Count	Total Age-Adjusted Rate*	Total Crude Rate
Brain and CNS	342	7.6	8.6	264	6.0	6.8	606	6.8	7.7
Breast	73	1.6	1.8	5,426	112.4	139.6	5,500	58.1	70.1
Cervix Uteri	NA	NA	NA	355	8.3	9.1	355	4.1	4.5
Colorectal	2,365	53.1	59.7	1,959	40.3	50.4	4,325	46.3	55.1
Corpus Uteri and Uterus NOS	NA	NA	NA	919	18.7	23.7	919	9.6	11.7
Esophagus	403	8.6	10.2	86	1.8	2.2	489	5.0	6.2
Hodgkin Lymphoma	127	3.1	3.2	93	2.3	2.4	220	2.7	2.8
Kidney and Renal Pelvis	804	17.3	20.3	425	8.8	10.9	1,229	12.8	15.7
Larynx	254	5.4	6.4	81	1.6	2.1	335	3.4	4.3
Leukemia	666	15.9	16.8	378	8.3	9.7	1,045	11.8	13.3
Lip, Oral Cavity and Pharynx	762	16.2	19.2	320	6.6	8.2	1,082	11.3	13.8
Liver and Bile Ducts	375	8.2	9.5	139	2.9	3.6	514	5.5	6.6
Lung and Bronchus	3,767	82.5	95.1	3,650	72.7	93.9	7,417	77.0	94.5
Melanomas of the Skin	1,107	24.9	28.0	657	14.6	16.9	1,764	19.4	22.5
Myeloma	232	5.2	5.9	128	2.6	3.3	360	3.8	4.6
Non-Hodgkin Lymphoma	949	21.3	24.0	733	15.4	18.9	1,682	18.3	21.4
Ovary	NA	NA	NA	582	12.1	15.0	582	6.2	7.4
Pancreas	543	12.1	13.7	506	10.3	13.0	1,049	11.1	13.4
Prostate	6,007	127.8	151.7	NA	NA	NA	6,007	60.8	76.6
Stomach	317	7.3	8.0	179	3.7	4.6	496	5.4	6.3
Testis	234	6.0	5.9	NA	NA	NA	234	3.1	3.0
Thyroid Gland	274	6.1	6.9	744	17.5	19.2	1,018	11.7	13.0
Urinary Bladder	1,802	40.7	45.5	538	11.0	13.9	2,340	47.1	29.8
Vulva	NA	NA	NA	103	2.2	2.7	103	2.5	1.3
All Other Sites	1,903	43.9	48.0	1,454	30.3	37.4	3,358	36.6	42.8
Total	23,306	514.6	588.4	19,719	410.3	507.5	43,029	456.7	548.4

Notes: NOS - Not otherwise specified

CNS - central nervous system

NA - Not Applicable

~ Data do not meet the criteria for statistical reliability, data quality, or confidentiality.

--- Sufficient data are not available to calculate reliable rates.

*Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 Nevada residents.

Cancer Incidence in Nevada

Table 4. Cancer Incidence, by Cancer Type and Gender, Black Nevada Residents, 2003-2007

Cancer Type	Male Count	Male Age-Adjusted Rate*	Male Crude Rate	Female Count	Female Age-Adjusted Rate*	Female Crude Rate	Total Count	Total Age-Adjusted Rate*	Total Crude Rate
Brain and CNS	18	5.0	4.2	16	4.2	3.7	34	4.6	3.9
Breast	~	---	---	~	110.1	93.2	404	57.7	46.7
Cervix Uteri	NA	NA	NA	37	9.7	8.6	37	4.9	4.3
Colorectal	191	63.4	44.1	173	52.5	40.1	364	57.5	42.1
Corpus Uteri and Uterus NOS	NA	NA	NA	46	13.6	10.7	46	7.3	5.3
Esophagus	21	7.1	4.8	12	3.8	2.8	33	5.4	3.8
Hodgkin Lymphoma	13	3.3	3.0	10	2.2	2.3	23	2.7	2.7
Kidney and Renal Pelvis	56	18.4	12.9	42	11.7	9.7	98	14.6	11.3
Larynx	~	5.9	3.5	~	---	---	19	3.2	2.2
Leukemia	46	13.5	10.6	29	7.5	6.7	75	10.3	8.7
Lip, Oral Cavity and Pharynx	37	10.9	8.5	15	4.5	3.5	52	7.6	6.0
Liver and Bile Ducts	39	11.3	9.0	10	2.7	2.3	49	6.8	5.7
Lung and Bronchus	216	73.5	49.8	179	53.5	41.5	395	62.8	45.7
Melanomas of the Skin	~	---	---	~	---	---	~	---	---
Myeloma	27	10.4	6.2	25	7.8	5.8	52	8.8	6.0
Non-Hodgkin Lymphoma	65	18.6	15.0	37	10.3	8.6	102	14.6	11.8
Ovary	NA	NA	NA	30	9.4	7.0	30	5.2	3.5
Pancreas	48	16.8	11.1	54	17.0	12.5	102	16.9	11.8
Prostate	518	168.2	119.5	NA	NA	NA	518	77.8	59.9
Stomach	36	13.6	8.3	24	7.6	5.6	60	10.2	6.9
Testis	7	1.6	1.6	NA	NA	NA	7	0.8	0.8
Thyroid Gland	8	2.0	1.9	41	10.4	9.5	49	6.3	5.7
Urinary Bladder	51	20.6	11.8	24	7.7	5.6	75	24.2	8.7
Vulva	NA	NA	NA	9	2.6	2.1	9	3.2	1.0
All Other Sites	124	42.0	28.6	109	32.8	25.3	233	36.8	26.9
Total	1,539	506.6	355.0	1,331	383.5	308.5	2,870	438.2	331.8

Notes: NOS - Not otherwise specified

CNS - central nervous system

NA - Not Applicable

~ Data do not meet the criteria for statistical reliability, data quality, or confidentiality.

--- Sufficient data are not available to calculate reliable rates.

*Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 Nevada residents.

Cancer Incidence in Nevada

Table 5. Cancer Incidence, by Cancer Type and Gender, American Indian/Alaska Native Nevada Residents, 2003-2007

Cancer Type	Male Count	Male Age-Adjusted Rate*	Male Crude Rate	Female Count	Female Age-Adjusted Rate*	Female Crude Rate	Total Count	Total Age-Adjusted Rate*	Total Crude Rate
Brain and CNS	~	---	---	0	0.0	0.0	~	---	---
Breast	~	---	---	~	46.7	45.4	40	25.7	23.8
Cervix Uteri	NA	NA	NA	~	---	---	~	---	---
Colorectal	11	20.9	13.4	13	16.4	15.1	24	17.8	14.3
Corpus Uteri and Uterus NOS	NA	NA	NA	14	18.5	16.3	14	10.1	8.3
Esophagus	~	---	---	0	0.0	0.0	~	---	---
Hodgkin Lymphoma	~	---	---	0	0.0	0.0	~	---	---
Kidney and Renal Pelvis	~	15.2	12.2	~	---	---	13	9.8	7.7
Larynx	~	---	---	0	0.0	0.0	~	---	---
Leukemia	~	---	---	~	---	---	~	---	---
Lip, Oral Cavity and Pharynx	7	12.5	8.5	0	0.0	0.0	7	5.8	4.2
Liver and Bile Ducts	~	---	---	~	11.3	7.0	9	9.1	5.4
Lung and Bronchus	29	52.2	35.3	9	13.2	10.5	38	30.8	22.6
Melanomas of the Skin	~	---	---	~	---	---	~	3.8	3.0
Myeloma	0	0.0	0.00	~	---	---	~	---	---
Non-Hodgkin Lymphoma	~	---	---	~	---	---	7	6.8	4.2
Ovary	NA	NA	NA	~	---	---	~	---	---
Pancreas	~	---	---	~	---	---	6	5.6	3.6
Prostate	32	60.3	38.9	NA	NA	NA	32	26.5	19.0
Stomach	5	10.2	6.1	0	0.0	0.0	5	4.6	3.0
Testis	~	---	---	NA	NA	NA	~	---	---
Thyroid Gland	~	---	---	~	8.4	9.3	9	4.9	5.4
Urinary Bladder	~	---	---	~	---	---	6	10.3	3.6
Vulva	NA	NA	NA	~	---	---	~	---	---
All Other Sites	7	9.9	8.5	10	14.1	11.6	17	12.2	10.1
Total	126	225.8	153.2	124	168.0	144.4	250	192.3	148.7

Notes: NOS - Not otherwise specified

CNS - central nervous system

NA - Not Applicable

~ Data do not meet the criteria for statistical reliability, data quality, or confidentiality.

--- Sufficient data are not available to calculate reliable rates.

*Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 Nevada residents.

Cancer Incidence in Nevada

Table 6. Cancer Incidence, by Cancer Type and Gender, Asian Nevada Residents, 2003-2007

Cancer Type	Male Count	Male Age-Adjusted Rate*	Male Crude Rate	Female Count	Female Age-Adjusted Rate*	Female Crude Rate	Total Count	Total Age-Adjusted Rate*	Total Crude Rate
Brain and CNS	12	3.4	3.3	15	3.7	3.6	27	3.6	3.4
Breast	~	---	---	~	75.6	72.9	310	44.0	39.4
Cervix Uteri	NA	NA	NA	38	9.1	9.0	38	5.2	4.8
Colorectal	101	40.6	27.8	128	38.9	30.3	229	39.7	29.1
Corpus Uteri and Uterus NOS	NA	NA	NA	59	13.0	14.0	59	7.5	7.5
Esophagus	9	4.0	2.5	6	1.7	1.4	15	2.7	1.9
Hodgkin Lymphoma	8	2.0	2.2	6	1.2	1.4	14	1.7	1.8
Kidney and Renal Pelvis	32	12.4	8.8	18	5.0	4.3	50	8.1	6.4
Larynx	~	1.6	1.4	~	---	---	7	0.9	0.9
Leukemia	22	8.3	6.1	21	6.0	5.0	43	7.0	5.5
Lip, Oral Cavity and Pharynx	26	7.8	7.2	20	5.7	4.7	46	6.6	5.9
Liver and Bile Ducts	47	17.0	12.9	31	9.8	7.3	78	12.9	9.9
Lung and Bronchus	138	56.0	38.0	117	32.3	27.7	255	42.1	32.4
Melanomas of the Skin	~	---	---	0	0.0	0.0	~	---	---
Myeloma	10	3.7	2.8	5	2.0	1.2	15	2.7	1.9
Non-Hodgkin Lymphoma	26	11.6	7.2	29	8.7	6.9	55	9.9	7.0
Ovary	NA	NA	NA	42	9.8	9.9	42	5.7	5.3
Pancreas	20	8.1	5.5	26	7.9	6.2	46	8.0	5.9
Prostate	170	68.9	46.8	NA	NA	NA	170	28.4	21.6
Stomach	32	13.2	8.8	27	7.6	6.4	59	9.9	7.5
Testis	8	2.1	2.2	NA	NA	NA	8	1.0	1.0
Thyroid Gland	17	5.5	4.7	89	20.2	21.1	106	13.8	13.5
Urinary Bladder	29	13.5	8.0	12	2.9	2.8	41	12.4	5.2
Vulva	NA	NA	NA	~	---	---	~	---	---
All Other Sites	68	28.0	18.7	75	22.8	17.8	143	25.0	18.2
Total	783	308.6	215.4	1,075	284.8	254.4	1,858	293.7	236.4

Notes: NOS - Not otherwise specified

CNS - central nervous system

NA - Not Applicable

~ Data do not meet the criteria for statistical reliability, data quality, or confidentiality.

--- Sufficient data are not available to calculate reliable rates.

*Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 Nevada residents.

Cancer Incidence in Nevada

Table 7. Cancer Incidence, by Cancer Type and Gender, Hispanic Nevada Residents, 2003-2007

Cancer Type	Male Count	Male Age-Adjusted Rate*	Male Crude Rate	Female Count	Female Age-Adjusted Rate*	Female Crude Rate	Total Count	Total Age-Adjusted Rate*	Total Crude Rate
Brain and CNS	43	6.3	2.8	36	5.0	2.7	79	5.6	2.7
Breast	~	---	---	~	72.7	36.5	495	37.5	17.2
Cervix Uteri	NA	NA	NA	98	11.8	7.3	98	5.8	3.4
Colorectal	184	45.1	12.0	169	34.4	12.5	353	39.0	12.3
Corpus Uteri and Uterus NOS	NA	NA	NA	93	14.5	6.9	93	7.5	3.2
Esophagus	17	4.0	1.1	6	1.3	0.4	23	2.5	0.8
Hodgkin Lymphoma	23	1.6	1.5	11	0.8	0.8	34	1.2	1.2
Kidney and Renal Pelvis	95	20.3	6.2	47	7.6	3.5	142	13.0	4.9
Larynx	~	6.1	1.6	~	---	---	25	2.8	0.9
Leukemia	90	12.6	5.9	76	8.9	5.6	166	10.4	5.8
Lip, Oral Cavity and Pharynx	42	8.2	2.7	21	3.8	1.6	63	5.8	2.2
Liver and Bile Ducts	69	15.6	4.5	25	5.1	1.9	94	10.0	3.3
Lung and Bronchus	177	44.9	11.6	148	36.1	11.0	326	40.5	11.3
Melanomas of the Skin	12	2.2	0.8	23	2.9	1.7	35	2.5	1.2
Myeloma	22	3.9	1.4	19	3.6	1.4	41	3.8	1.4
Non-Hodgkin Lymphoma	105	18.0	6.9	70	11.7	5.2	175	14.4	6.1
Ovary	NA	NA	NA	63	9.7	4.7	63	5.0	2.2
Pancreas	54	13.3	3.5	36	8.2	2.7	90	10.4	3.1
Prostate	482	127.8	31.5	NA	NA	NA	482	56.9	16.7
Stomach	62	16.7	4.1	26	5.3	1.9	88	10.1	3.1
Testis	59	3.3	3.9	NA	NA	NA	59	1.8	2.1
Thyroid Gland	38	5.1	2.5	140	15.3	10.4	178	9.9	6.2
Urinary Bladder	75	20.3	4.9	17	3.9	1.3	92	20.5	3.2
Vulva	NA	NA	NA	10	2.2	0.7	10	3.1	0.4
All Other Sites	188	30.2	12.3	141	24.9	10.5	329	27.6	11.4
Total	1,863	405.7	121.7	1,769	289.9	131.1	3,633	336.2	126.1

Notes: NOS - Not otherwise specified

CNS - central nervous system

NA - Not Applicable

~ Data do not meet the criteria for statistical reliability, data quality, or confidentiality.

--- Sufficient data are not available to calculate reliable rates.

*Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 Nevada residents.

CANCER IN NEVADA

Highlights
2003-2007

Mortality

In Nevada, 20,694 (11,097 males and 9,597 females) died from cancer during the 2003-2007 period. Nevada's age-adjusted cancer mortality rate, of 182.2 per 100,000, for all cancers combined was lower than the national age-adjusted rate of 183.8⁶ during the same period.

Nevada males had higher overall cancer mortality rates, both age-adjusted (214.0) and crude (174.2), compared to Nevada females (155.4 and 157.7 respectively).

Blacks had the highest age-adjusted mortality rate (206.8), compared to Whites (190.1), Asians (129.2), Hispanics (121.2), and American Indian/Alaska Natives (85.4). Whites had the highest crude mortality rate (224.3), compared to Blacks (143.8), Asian (92.5), American Indian/Alaska Native (55.3), and Hispanics (34.0).

Compared to the national rates, Nevada had higher age-adjusted mortality rates for the following of these malignancies: trachea, lung and bronchus; colon, rectum and anus; prostate; liver and intrahepatic bile duct; and bladder.

From 2003 to 2007, 73.8% of all cancer mortalities in Nevada were attributed to the following malignancies: trachea, lung and bronchus; colon, rectum, and anus; breast; pancreas; prostate; leukemia; liver and intrahepatic bile duct; non-Hodgkin lymphoma; bladder; and brain and other central nervous system.

Trachea, lung and bronchus cancer was the leading cause of cancer death among Nevada residents, accounting for 30.7% of all cancer-related deaths during the 2003-2007 period.

Cancers of the colon, rectum, and anus were the second leading cause of cancer death among Nevada residents, accounting for 11.0% of all cancer-related deaths during the 2003-2007 period.

Breast cancer was the third leading cause of cancer death among female Nevada residents, accounting for 10.0% of all cancer related deaths among female Nevada residents while prostate cancer was the third leading cause of cancer death among male Nevada residents, accounting for 9.7% of all cancer death among male Nevada residents during the 2003-2007 period.

The following disparities were found:

- Of the top ten leading causes of cancer death in Nevada from 2003 to 2007, males had higher age-adjusted mortality rates than females for eight. More specifically, males had higher age-adjusted mortality rates than females for the following causes of cancer death: trachea, lung and bronchus; colon, rectum and anus; pancreas; leukemia; liver and intrahepatic bile ducts; non-Hodgkin lymphoma; bladder; and brain and other central nervous system.
- Of the top ten leading causes of cancer death in Nevada, from 2003 to 2007, Whites had the highest age-adjusted mortality rates when compared to Blacks, American Indian/Alaska Natives, Asians, and Hispanics for five. These included the following malignancies: trachea, lung and bronchus; leukemia; non-Hodgkin lymphoma; bladder, and brain and other central nervous system.
- Blacks had the highest age-adjusted mortality rates for colon, rectum, and anus; breast; pancreas; and prostate compared to Whites, American Indian/Alaska Natives, Asians, and Hispanics.
- Asians had the highest age-adjusted mortality rate for liver and intrahepatic bile duct in Nevada in the 2003-2007 period.
- Hispanics and American Indian/Alaska Natives did not have the highest age-adjusted mortality rates for any of the top ten leading causes of cancer death in Nevada from 2003-2007.

Table 8. Percentage of Cancer Mortality by Cancer Type, by Gender, Nevada Residents, 2003-2007

Type of Cancer	Male		Female		Total	
Trachea, Bronchus and Lung	3,386	30.5%	2,969	30.9%	6,355	30.7%
Colon, Rectum and Anus	1,111	10.0%	962	10.0%	2,073	10.0%
Breast	13	0.1%	1,414	14.7%	1,427	6.9%
Pancreas	631	5.7%	547	5.7%	1,178	5.7%
Prostate	1,072	9.7%	NA	NA	1,072	5.2%
Leukemia	429	3.9%	261	2.7%	690	3.3%
Liver and Intrahepatic Bile Duct	444	4.0%	210	2.2%	654	3.2%
Non-Hodgkin Lymphoma	359	3.2%	294	3.1%	653	3.2%
Bladder	403	3.6%	147	1.5%	550	2.7%
Brain and Other Central Nervous System	286	2.6%	206	2.2%	492	2.4%
Ovary	NA	NA	486	5.1%	487	2.4%
Esophagus	393	3.5%	93	1.0%	486	2.4%
Kidney and Renal Pelvis	297	2.7%	144	1.5%	441	2.1%
Stomach	242	2.2%	158	1.7%	400	1.9%
Skin	240	2.2%	90	0.9%	330	1.6%
Multiple Myeloma and Immunoproliferative Neoplasms	189	1.7%	137	1.4%	326	1.6%
Lip, Oral Cavity and Pharynx	196	1.8%	92	1.0%	288	1.4%
Corpus Uteri and Uterus, Part Unspecified	NA	NA	175	1.8%	176	0.9%
Cervix Uteri	NA	NA	156	1.6%	156	0.8%
Larynx	101	0.9%	30	0.3%	131	0.6%
Hodgkin Lymphoma	28	0.3%	21	0.2%	49	0.2%
Other and Unspecified Cancers	1,275	11.5%	1,005	10.5%	2,280	11.0%
Total	11,097	100.0%	9,597	100.0%	20,694	100.0%

Notes: ~ Data do not meet the criteria for statistical reliability, data quality, or confidentiality.

- - - Sufficient data are not available to calculate reliable rates.

NA - Not Applicable

Cancer Mortality in Nevada

Table 9. Nevada Cancer Mortality, by Cancer Type and Gender, Nevada Residents, 2003-2007

Cancer Type	Male Count	Male Age-Adjusted Rate*	Male Crude Rate	Female Count	Female Age-Adjusted Rate*	Female Crude Rate	Total Count	Total Age-Adjusted Rate*	Total Crude Rate
Bladder	403	8.5	6.3	147	2.5	2.4	550	5.2	4.4
Brain and Other Central Nervous System	286	4.9	4.5	206	3.3	3.3	492	4.1	3.9
Breast	13	0.2	0.2	1,414	23.0	22.9	1,427	12.4	11.4
Cervix Uteri	NA	NA	NA	156	2.5	2.5	156	1.3	1.2
Colon, Rectum and Anus	1,111	21.8	17.4	962	16.2	15.6	2,073	18.8	16.5
Corpus Uteri and Uterus, Part Unspecified	NA	NA	NA	175	2.8	2.8	176	1.5	1.4
Esophagus	393	7.0	6.2	93	1.5	1.5	486	4.1	3.9
Hodgkin Lymphoma	28	0.5	0.4	21	0.4	0.3	49	0.4	0.4
Kidney and Renal Pelvis	297	5.5	4.7	144	2.4	2.3	441	3.8	3.5
Larynx	101	1.9	1.6	30	0.5	0.5	131	1.1	1.0
Leukemia	429	8.6	6.7	261	4.4	4.2	690	6.2	5.5
Lip, Oral Cavity and Pharynx	196	3.5	3.1	92	1.5	1.5	288	2.4	2.3
Liver and Intrahepatic Bile Duct	444	7.8	7.0	210	3.5	3.4	654	5.6	5.2
Multiple Myeloma and Immunoproliferative Neoplasms	189	3.7	3.0	137	2.3	2.2	326	2.9	2.6
Non-Hodgkin Lymphoma	359	6.7	5.6	294	5.0	4.8	653	5.9	5.2
Ovary	NA	NA	NA	486	7.8	7.9	487	4.1	3.9
Pancreas	631	11.8	9.9	547	9.0	8.9	1,178	10.3	9.4
Prostate	1,072	25.2	16.8	NA	NA	NA	1,072	10.5	8.5
Skin	240	4.3	3.8	90	1.4	1.5	330	2.8	2.6
Stomach	242	4.8	3.8	158	2.7	2.6	400	3.6	3.2
Trachea, Bronchus, and Lung	3,386	63.0	53.2	2,969	48.3	48.1	6,355	55.0	50.7
Other and Unspecified Cancers	1,275	24.3	20.0	1,005	16.7	16.3	2,280	20.2	18.2
Total	11,097	214.0	174.2	9,597	157.7	155.4	20,694	182.2	164.9

Notes: ~ Data do not meet the criteria for statistical reliability, data quality, or confidentiality.

--- Sufficient data are not available to calculate reliable rates.

*Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 Nevada residents.

NA - Not Applicable

Cancer Mortality in Nevada

Table 10. Cancer Mortality, by Cancer Type and Gender, White Nevada Residents, 2003-2007

Cancer Type	Male Count	Male Age-Adjusted Rate*	Male Crude Rate	Female Count	Female Age-Adjusted Rate*	Female Crude Rate	Total Count	Total Age-Adjusted Rate*	Total Crude Rate
Bladder	367	9.2	9.3	125	2.6	3.2	492	5.5	6.3
Brain and Other Central Nervous System	248	5.5	6.3	171	3.6	4.4	419	4.5	5.3
Breast	13	0.3	0.3	1,168	23.9	30.1	1,181	12.9	15.1
Cervix Uteri	NA	NA	NA	123	2.6	3.2	123	1.3	1.6
Colon, Rectum and Anus	939	22.3	23.7	795	16.5	20.5	1,734	19.2	22.1
Corpus Uteri and Uterus, Part Unspecified	NA	NA	NA	145	2.9	3.7	146	1.6	1.9
Esophagus	355	7.7	9.0	79	1.6	2.0	434	4.5	5.5
Hodgkin Lymphoma	22	0.5	0.6	17	0.4	0.4	39	0.4	0.5
Kidney and Renal Pelvis	239	5.4	6.0	124	2.5	3.2	363	3.9	4.6
Larynx	93	2.1	2.4	28	0.6	0.7	121	1.3	1.5
Leukemia	368	9.1	9.3	214	4.5	5.5	582	6.6	7.4
Lip, Oral Cavity and Pharynx	169	3.7	4.3	74	1.5	1.9	243	2.5	3.1
Liver and Intrahepatic Bile Duct	325	7.2	8.2	150	3.1	3.9	475	5.1	6.1
Multiple Myeloma and Immunoproliferative Neoplasms	158	3.7	4.0	105	2.1	2.7	263	2.8	3.4
Non-Hodgkin Lymphoma	306	7.1	7.7	255	5.3	6.6	561	6.2	7.2
Ovary	NA	NA	NA	414	8.4	10.7	415	4.4	5.3
Pancreas	521	11.8	13.2	450	9.1	11.6	971	10.4	12.4
Prostate	902	25.0	22.8	NA	NA	NA	902	10.5	11.5
Skin	236	5.3	6.0	85	1.8	2.2	321	3.4	4.1
Stomach	152	3.8	3.8	115	2.4	3.0	267	3.0	3.4
Trachea, Bronchus, and Lung	2,958	66.4	74.7	2,676	53.6	68.9	5,634	59.3	71.8
Other and Unspecified Cancers	1,091	25.7	27.5	820	16.8	21.1	1,911	20.9	24.4
Total	9,464	221.7	238.9	8,133	165.6	209.3	17,597	190.2	224.3

Notes: ~ Data do not meet the criteria for statistical reliability, data quality, or confidentiality.

--- Sufficient data are not available to calculate reliable rates.

*Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 Nevada residents.

NA - Not Applicable

Cancer Mortality in Nevada

Table 11. Cancer Mortality, by Cancer Type and Gender, Black Nevada Residents, 2003-2007

Cancer Type	Male Count	Male Age-Adjusted Rate*	Male Crude Rate	Female Count	Female Age-Adjusted Rate*	Female Crude Rate	Total Count	Total Age-Adjusted Rate*	Total Crude Rate
Bladder	15	6.6	3.5	10	3.3	2.3	25	4.7	2.9
Brain and Other Central Nervous System	10	3.5	2.3	13	3.7	3.0	23	3.5	2.7
Breast	0	0.0	0.0	100	29.6	23.2	100	16.0	11.6
Cervix Uteri	NA	NA	NA	8	2.3	1.9	8	1.2	0.9
Colon, Rectum and Anus	81	30.4	18.7	68	21.0	15.8	149	24.9	17.2
Corpus Uteri and Uterus, Part Unspecified	NA	NA	NA	10	2.6	2.3	10	1.4	1.2
Esophagus	17	6.0	3.9	9	3.1	2.1	26	4.5	3.0
Hodgkin Lymphoma	~	---	---	~	---	---	~	---	---
Kidney and Renal Pelvis	22	8.1	5.1	8	2.4	1.9	30	4.8	3.5
Larynx	~	---	---	~	---	---	~	0.9	0.6
Leukemia	19	6.2	4.4	9	2.2	2.1	28	4.1	3.2
Lip, Oral Cavity and Pharynx	10	2.8	2.3	8	2.9	1.9	18	3.0	2.1
Liver and Intrahepatic Bile Duct	~	11.5	8.5	~	---	---	41	6.2	4.7
Multiple Myeloma and Immunoproliferative Neoplasms	14	6.3	3.2	19	6.3	4.4	33	6.1	3.8
Non-Hodgkin Lymphoma	13	3.7	3.0	14	5.0	3.2	27	4.7	3.1
Ovary	NA	NA	NA	22	6.8	5.1	22	3.7	2.5
Pancreas	48	17.7	11.1	42	13.3	9.7	90	15.1	10.4
Prostate	89	40.2	20.5	NA	NA	NA	89	17.3	10.3
Skin	~	---	---	~	---	---	~	---	---
Stomach	30	10.5	6.9	15	5.2	3.5	45	7.8	5.2
Trachea, Bronchus, and Lung	193	66.1	44.5	128	39.6	29.7	321	51.9	37.1
Other and Unspecified Cancers	75	26.2	17.3	73	22.6	16.9	148	24.3	17.1
Total	679	248.0	156.6	565	174.8	131.0	1,244	206.9	143.8

Notes: ~ Data do not meet the criteria for statistical reliability, data quality, or confidentiality.

--- Sufficient data are not available to calculate reliable rates.

*Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 Nevada residents.

NA - Not Applicable

Cancer Mortality in Nevada

Table 12. Cancer Mortality, by Cancer Type and Gender, American Indian/Alaska Native Nevada Residents, 2003-2007

Cancer Type	Male Count	Male Age-Adjusted Rate*	Male Crude Rate	Female Count	Female Age-Adjusted Rate*	Female Crude Rate	Total Count	Total Age-Adjusted Rate*	Total Crude Rate
Bladder	~	---	---	~	---	---	~	---	---
Brain and Other Central Nervous System	~	---	---	0	0.0	0.0	~	---	---
Breast	0	0.0	0.0	12	16.3	14.0	12	8.9	7.1
Cervix Uteri	NA	NA	NA	0	0.0	0.0	0	0.0	0.0
Colon, Rectum and Anus	~	---	---	~	---	---	~	3.7	3.0
Corpus Uteri and Uterus, Part Unspecified	NA	NA	NA	~	---	---	~	---	---
Esophagus	~	---	---	0	0.0	0.0	~	---	---
Hodgkin Lymphoma	0	0.0	0.0	~	---	---	~	---	---
Kidney and Renal Pelvis	~	13.7	8.5	~	---	---	9	7.6	5.4
Larynx	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Leukemia	0	0.0	0.0	~	---	---	~	---	---
Lip, Oral Cavity and Pharynx	~	---	---	0	0.0	0.0	~	---	---
Liver and Intrahepatic Bile Duct	~	---	---	~	9.8	5.8	7	7.0	4.2
Multiple Myeloma and Immunoproliferative Neoplasms	~	---	---	~	---	---	~	---	---
Non-Hodgkin Lymphoma	~	---	---	~	---	---	~	---	---
Ovary	NA	NA	NA	0	0.0	0.0	0	0.0	0.0
Pancreas	0	0.0	0.0	~	---	---	~	---	---
Prostate	~	---	---	NA	NA	NA	~	---	---
Skin	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Stomach	~	---	---	0	0.0	0.0	~	---	---
Trachea, Bronchus, and Lung	17	30.3	20.7	10	18.2	11.6	27	24.4	16.1
Other and Unspecified Cancers	~	---	---	~	11.4	7.0	7	7.5	4.2
Total	44	88.7	53.5	49	82.5	57.1	93	85.4	55.3

Notes: ~ Data do not meet the criteria for statistical reliability, data quality, or confidentiality.

--- Sufficient data are not available to calculate reliable rates.

*Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 Nevada residents.

NA - Not Applicable

Cancer Mortality in Nevada

Table 13. Cancer Mortality, by Cancer Type and Gender, Asian Nevada Residents, 2003-2007

Cancer Type	Male Count	Male Age-Adjusted Rate*	Male Crude Rate	Female Count	Female Age-Adjusted Rate*	Female Crude Rate	Total Count	Total Age-Adjusted Rate*	Total Crude Rate
Bladder	~	4.8	1.7	~	---	---	10	2.2	1.3
Brain and Other Central Nervous System	~	---	---	~	1.2	1.2	9	1.3	1.1
Breast	0	0.0	0.0	65	16.9	15.4	65	9.9	8.3
Cervix Uteri	NA	NA	NA	7	1.4	1.7	7	0.8	0.9
Colon, Rectum and Anus	34	15.4	9.4	44	15.8	10.4	78	15.7	9.9
Corpus Uteri and Uterus, Part Unspecified	NA	NA	NA	6	1.3	1.4	6	0.8	0.8
Esophagus	~	4.5	2.2	~	---	---	11	2.2	1.4
Hodgkin Lymphoma	~	---	---	0	0.0	0.0	~	---	---
Kidney and Renal Pelvis	13	4.3	3.6	6	2.4	1.4	19	3.2	2.4
Larynx	~	---	---	0	0.0	0.0	~	---	---
Leukemia	17	7.6	4.7	15	4.1	3.6	32	5.5	4.1
Lip, Oral Cavity and Pharynx	7	2.0	1.9	8	2.0	1.9	15	2.0	1.9
Liver and Intrahepatic Bile Duct	33	10.6	9.1	29	8.5	6.9	62	9.4	7.9
Multiple Myeloma and Immunoproliferative Neoplasms	5	3.1	1.4	5	1.3	1.2	10	2.0	1.3
Non-Hodgkin Lymphoma	12	4.2	3.3	6	2.5	1.4	18	3.2	2.3
Ovary	NA	NA	NA	25	6.6	5.9	25	3.8	3.2
Pancreas	18	8.5	5.0	24	6.5	5.7	42	7.3	5.3
Prostate	22	14.8	6.1	NA	NA	NA	22	6.0	2.8
Skin	0	0.0	0.0	~	---	---	~	---	---
Stomach	23	12.0	6.3	16	4.4	3.8	39	7.5	5.0
Trachea, Bronchus, and Lung	97	42.6	26.7	76	21.6	18.0	173	30.2	22.0
Other and Unspecified Cancers	35	14.3	9.6	45	16.1	10.7	80	15.4	10.2
Total	337	150.6	92.7	390	114.5	92.3	727	129.2	92.5

Notes: ~ Data do not meet the criteria for statistical reliability, data quality, or confidentiality.

--- Sufficient data are not available to calculate reliable rates.

*Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 Nevada residents.

NA - Not Applicable

Cancer Mortality in Nevada

Table 14. Cancer Mortality, by Cancer Type and Gender, Hispanic Nevada Residents, 2003-2007

Cancer Type	Male Count	Male Age-Adjusted Rate*	Male Crude Rate	Female Count	Female Age-Adjusted Rate*	Female Crude Rate	Total Count	Total Age-Adjusted Rate*	Total Crude Rate
Bladder	13	4.8	0.9	5	1.5	0.4	18	2.8	0.6
Brain and Other Central Nervous System	20	3.5	1.3	17	3.7	1.3	37	3.6	1.3
Breast	0	0.0	0.0	66	12.9	4.9	66	7.2	2.3
Cervix Uteri	NA	NA	NA	17	2.7	1.3	17	1.4	0.6
Colon, Rectum and Anus	50	16.8	3.3	51	11.7	3.8	101	13.6	3.5
Corpus Uteri and Uterus, Part Unspecified	NA	NA	NA	13	2.2	1.0	13	1.1	0.5
Esophagus	~	2.7	0.7	~	---	---	13	1.6	0.5
Hodgkin Lymphoma	~	---	---	0	0.0	0.0	~	---	0.1
Kidney and Renal Pelvis	~	4.0	1.1	~	---	---	20	2.1	0.7
Larynx	~	---	---	0	0.0	0.0	~	---	0.1
Leukemia	23	5.2	1.5	22	3.4	1.6	45	4.1	1.6
Lip, Oral Cavity and Pharynx	~	1.6	0.6	~	---	---	10	0.9	0.4
Liver and Intrahepatic Bile Duct	46	13.1	3.0	22	4.6	1.6	68	8.2	2.4
Multiple Myeloma and Immunoproliferative Neoplasms	10	2.3	0.7	7	1.5	0.5	17	1.9	0.6
Non-Hodgkin Lymphoma	26	5.9	1.7	14	3.0	1.0	40	4.2	1.4
Ovary	NA	NA	NA	24	4.6	1.8	24	2.5	0.8
Pancreas	41	12.4	2.7	25	6.5	1.9	66	8.9	2.3
Prostate	56	26.1	3.7	NA	NA	NA	56	10.5	1.9
Skin	~	---	---	~	---	---	~	0.5	0.2
Stomach	31	7.7	2.0	12	2.7	0.9	43	4.9	1.5
Trachea, Bronchus, and Lung	114	33.8	7.5	75	21.5	5.6	189	27.2	6.6
Other and Unspecified Cancers	69	14.9	4.5	55	11.8	4.1	124	13.5	4.3
Total	543	157.2	35.5	435	95.9	32.2	978	121.2	34.0

Notes: ~ Data do not meet the criteria for statistical reliability, data quality, or confidentiality.

--- Sufficient data are not available to calculate reliable rates.

*Rates are age-adjusted to the 2000 U.S. standard population and are per 100,000 Nevada residents.

NA - Not Applicable

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Appendix A: Nevada Population Estimates, 2003-2007

Age	Race/Ethnicity												
	White		Black		American Indian/Alaska Native		Asian		Hispanic		Total		
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Total
<1	45,185	42,723	7,563	7,258	1,164	1,130	6,247	5,963	35,169	33,845	95,328	90,919	186,248
1-4	171,049	161,974	29,214	27,830	4,693	4,453	25,312	24,016	134,027	128,078	364,295	346,352	710,647
5-14	458,773	435,476	75,817	72,643	12,778	12,296	52,281	49,917	293,702	276,893	893,351	847,226	1,740,577
15-24	493,682	468,842	74,378	71,566	14,350	13,800	53,725	55,257	298,566	255,351	934,702	864,816	1,799,518
25-34	503,782	485,980	60,284	60,663	12,237	12,790	61,554	68,291	318,425	249,830	956,282	877,554	1,833,836
35-44	605,201	567,251	66,438	62,424	12,937	13,370	57,831	70,051	231,390	187,302	973,798	900,398	1,874,196
45-54	626,027	596,257	56,652	55,176	10,743	12,247	48,145	65,786	125,185	112,167	866,752	841,632	1,708,385
55-64	508,215	507,767	31,599	36,803	7,508	8,663	31,392	44,884	56,294	58,728	635,007	656,845	1,291,852
65-74	333,444	334,581	20,580	22,550	3,885	4,404	18,120	25,801	26,399	30,747	402,429	418,083	820,513
75-84	179,980	216,305	9,563	11,398	1,606	1,988	7,874	11,091	10,344	13,317	209,367	254,100	463,467
85+	35,557	68,576	1,486	3,165	350	752	1,005	1,532	1,480	2,927	39,879	76,952	116,831
Total	3,960,896	3,885,731	433,574	431,476	82,250	85,894	363,487	422,590	1,530,983	1,349,188	6,371,191	6,174,879	12,546,069

Appendix B: ICD-0-3 Codes Used for Incidence

Type of Cancer	ICD-O-3 Codes		
	ICD-O-3 Site	ICD-O-3 Histology	Excluded Histology/Site
Lip, Oral Cavity and Pharynx			
Lip	C00		
Base of Tongue	C01		
Other and Unspecified Parts of the Tongue	C02		
Parotid Gland	C07		
Other and Unspecified Major Salivary Glands	C08		
Floor of Mouth	C04		
Gum	C03		9590-9989
Palate	C05		9050-9055
Other and Unspecified Parts of the Mouth	C06		9140
Nasopharynx	C11		
Tonsil	C09		
Oropharynx	C10		
Pyriform Sinus	C12		
Hypopharynx	C13		
Other and Unspecified Oral Cavity and Pharynx	C14		
Digestive System			
Esophagus	C15		
Stomach	C16		
Small Intestine	C17		
Colon (excluding Rectum)			
Cecum	C18.0		
Appendix	C18.1		
Ascending Colon	C18.2		9590-9989
Hepatic Flexure	C18.3		9050-9055
Transverse Colon	C18.4		9140

Type of Cancer	ICD-O-3 Codes		
	ICD-O-3 Site	ICD-O-3 Histology	Excluded Histology/Site
Splenic Flexure	C18.5		
Descending Colon	C18.6		
Sigmoid Colon	C18.7		
Large Intestine, NOS	C18.8-C18.9, C26.0		
Rectum	C20		
Rectosigmoid Junction	C19		
Anus, Anal Canal and Anorectum	C21		
Liver	C22.0		
Intrahepatic Bile Ducts	C22.1		
Gallbladder	C23		
Other and Unspecified Biliary Tract	C24		
Pancreas	C25		
Retroperitoneum	C48.0		
Peritoneum, Omentum and Mesentery	C48.1-C48.2		
Other Digestive Organs	C26.8-C26.9, C48.8		
Respiratory System			
Nose, Nasal Cavity and Middle Ear	C30		9590-9989 9050-9055 9140
Accessory Sinuses	C31		
Larynx	C32		
Lung and Bronchus	C34		
Pleura	C38.4		
Trachea	C33		
Mediastinum and Other Respiratory Organs	C38.1-C38.3, C38.8, C39.0, C39.8, C39.9		
Bones, Joints and Articular Cartilage			
Bones, Joints and Articular Cartilage of Limbs	C40		9590-9989 9050-9055 9140
Bones, Joints and Articular Cartilage of Other and Unspecified Sites	C41		

Type of Cancer	ICD-O-3 Codes		
	ICD-O-3 Site	ICD-O-3 Histology	Excluded Histology/Site
Soft Tissue Including Heart			
Heart	C38		9590-9989
Peripheral Nerves and Autonomic Nervous System	C47		9050-9055
Connective, Subcutaneous and Other Soft Tissues	C49		9140
Skin (excluding basal and squamous)			
Melanoma of the Skin	C44	8720-8790	
Other Non-Epithelial Skin	C44		8000-8005, 8010-8045, 8050-8084, 8090-8110, 8720-8790, 9590-9989 9050-9055, 9140
Breast	C50		9590-9989 9050-9055, 9140
Female Genital System			
Cervix Uteri	C53		
Corpus Uteri	C54		
Uterus, NOS	C55		
Ovary	C56		9590-9989
Vagina	C52		9050-9055
Vulva	C51		9140
Placenta	C58		
Other Female Genital Organs	C57		
Male Genital System			
Prostate	C61		9590-9989
Testis	C62		9050-9055
Penis	C60		9140
Other Male Genital Organs	C63		

Type of Cancer	ICD-O-3 Codes		
	ICD-O-3 Site	ICD-O-3 Histology	Excluded Histology/Site
Urinary System			
Urinary Bladder	C67		9590-9989 9050-9055 9140
Kidney	C64		
Renal Pelvis	C65		
Ureter	C66		
Other Urinary Organs	C68		
Eye and Orbit	C69		9590-9989 9050-9055, 9140
Brain and Other Central Nervous System (CNS)			
Brain	C71		9530-9539 9590-9989 9050-9055, 9140
Meninges	C70		9590-9989 9050-9055, 9140
Spinal Cord, Cranial Nerves and Other Parts of CNS	C72		9590-9989 9050-9055, 9140
	C71	9530-9539	
Endocrine System			
Thyroid gland	C73		9590-9989
Adrenal gland	C74		9050-9055
Other Endocrine (including Thymus)	C37, C75		9140
Hodgkin Lymphoma		9650-9667	
Non-Hodgkin Lymphoma		9590-9596, 9670-9671, 9678-9680, 9689-9691, 9698-9702,	

Type of Cancer	ICD-O-3 Codes		
	ICD-O-3 Site	ICD-O-3 Histology	Excluded Histology/Site
Non-Hodgkin Lymphoma (continued)		9708-9709, 9714-9719, 9727-9729, 9673, 9675, 9684, 9687, 9695, 9705	
		9823, 9827	C42.0,C42.1,C42.4
Myeloma		9731-9732, 9734	
Leukemia			
<i>Lymphocytic</i>			
Acute Lymphocytic		9826, 9835-9837	
Chronic Lymphocytic	C42.0,C42.1,C42.4	9823	
Other Lymphocytic		9820, 9832-9834, 9940	
<i>Myeloid and Monocytic</i>			
Acute Myeloid		9840, 9861, 9866. 9867, 9910, 9920 9871-9874, 9895-9897	
Acute Monocytic		9891	
Chronic Myeloid		9863, 9875, 9876 9945, 9946	
Other Myeloid/Monocytic		9860, 9930	
<i>Other</i>			
Other, Acute		9801, 9805, 9931	
Aleukemic, Subleukemic and NOS		9733, 9742, 9800, 9831, 9870, 9948, 9963, 9964	

Type of Cancer	ICD-O-3 Codes		
	ICD-O-3 Site	ICD-O-3 Histology	Excluded Histology/Site
	C42.0, C42.1, C42.4	9827	
Mesothelioma		9050-9055	
Kaposi Sarcoma		9140	
Other, Ill-Defined and Unspecified Sites	All other sites and histologies		



Appendix C: Formulas

CRUDE RATE:

$$\frac{\text{Number of Events}}{\text{Population}} \times 100,000$$

AGE-SPECIFIC CRUDE RATE:

$$\frac{\text{Number of Events in a specific age group}}{\text{Population in specific age group}} \times 100,000$$

AGE-ADJUSTED RATE (ADR):

If k = the number of age groups,

d_i = the number of events in the i -th age interval,

p_i = the population size in the i -th age interval,

m_i = the age-specific crude rate in the i -th age interval = $(d_i / p_i) \times 100,000$, and

P_{si} = proportion of the population in the i -th age group in the standard population (2000 U.S. population),

Then

$$ADR = \sum_{i=1}^k (m_i * P_{si})$$

Appendix D: ICD-10 Codes Used for Mortality

Cancer Type	ICD-10 Codes
Bladder	C67
Brain and Other Central Nervous System	C70-C72
Breast	C50
Cervix Uteri	C53
Colon, Rectum, and Anus	C18-C21
Corpus Uteri and Uterus, Part Unspecified	C54-C55
Esophagus	C15
Hodgkin Lymphoma	C81
Kidney and Renal Pelvis	C64-C65
Larynx	C32
Leukemia	C91-C95
Lip, Oral Cavity and Pharynx	C00-C14
Liver and Intrahepatic Bile Duct	C22
Multiple Myeloma and Immunoproliferative Neoplasms	C88, C90
Non-Hodgkin Lymphoma	C82-C85
Other and Unspecified Cancers	C17, C23-C24, C26-C31, C37-C41, C44-C49, C51-C52, C57-C60, C62-C62, C66, C68-C69, C73-C80, C96, C97
Ovary	C56
Pancreas	C25
Prostate	C61
Skin	C43
Stomach	C16
Trachea, Bronchus, and Lung	C33-C34