

Cancer in Nevada: 2004 - 2008

Bureau of Health Statistics, Planning, Epidemiology and Response
Nevada Central Cancer Registry

Brian Sandoval, Governor
Michael J. Willden, Director
Department of Health and Human Services

Richard Whitley, MS, Administrator
Tracey D. Green, MD, State Health Officer
Nevada State Health Division



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Requests for additional information regarding this report can be made to:

Kyra Morgan
Biostatistician II
Office of Public Health Informatics and Epidemiology
Bureau of Health Statistics, Planning, Epidemiology, and Response
4150 Technology Way, Suite 305
Carson City, NV 89706
775-684-5965
kmorgan@health.nv.gov

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Preface

This report presents cancer incidence and mortality in Nevada for the 2004-2008 years and is based on 54,223 newly diagnosed cancer cases and 20,977 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 are 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, thyroid, and leukemia. The ten leading causes of cancer-related deaths include: trachea, lung and bronchus; colon, rectum, and anus; breast; pancreas; prostate; liver and intrahepatic bile duct; leukemia; non-Hodgkin lymphoma; bladder; and esophagus.

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: 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

Office of Vital Records

The Bureau of Health Statistics, Planning, Epidemiology and Response oversees the Office of Vital Records, which collects, processes, analyzes, and maintains the birth and death records for Nevada. 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 these data. 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, 2008**. 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, borline 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 B.

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

2004 through 2008 populations used in this report were provided by the Nevada State Demographer in April, 2012. The aggregated 2004 through 2008 populations used for the denominator in incidence and mortality rates are race-specific and sex-specific (See Appendix A). 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 as 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
2004-2008

Incidence

In Nevada, 54,223 (29,098 males, 25,116 females and nine other gender) cancer cases were reported among Nevada residents during the 2004-2008 period. Nevada's age-adjusted incidence rate, of 432.4 per 100,000, for all cancers combined was lower than the national age-adjusted rate of 464.4⁶ during the same period.

Nevada males had higher incidence rates, both age-adjusted (492.6) and crude (441.5), for all cancers combined compared to Nevada females (385.2 and 392.8 respectively).

Whites had the highest incidence rates, both age-adjusted (448.3) and crude (548.3), compared to Blacks (423.7 and 332.2 respectively), Hispanics (316.7 and 120.8 respectively), Asians (289.4 and 238.0 respectively), and American Indian/Alaska Natives (173.4 and 135.4 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, 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 15.7% of all invasive cases during 2004-2008 period. Prostate cancer was the second most common reportable malignancy among Nevada residents, accounting for 14.6% of all invasive cases during 2004-2008 period. Prostate cancer was the leading type of malignancy among males, followed by lung and bronchus, colorectal, urinary bladder, and non-Hodgkin lymphoma.

Breast cancer was the third most common malignancy among Nevada residents, accounting for 13.1% of all invasive cases during the 2004-2008 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 2004 to 2008, 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 2004 to 2008, female Nevada residents had higher age-adjusted incidence rates than males for thyroid cancer.
- Whites had the highest age-adjusted incidence rates when compared to Blacks, American Indian/Alaska Natives, Asians, and Hispanics for five of the top ten types of cancer in Nevada in 2004-2008. These included the following malignancies: lung and bronchus, urinary bladder, non-Hodgkin lymphoma, melanomas of the skin, and leukemia.
- Blacks had the highest incidence rates for prostate, breast, 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 over the 2004-2008 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 2004-2008.

Table 1. Percentage of Cancer Cases by Cancer Type, by Gender, Nevada Residents, 2004-2008

Type of Cancer	Male		Female		Total	
	Count	Percentage	Count	Percentage	Count	Percentage
Lung and Bronchus	4,391	15.1%	4,122	16.4%	8,515	15.7%
Prostate	7,909	27.2%	NA	NA	7,910	14.6%
Breast	83	0.3%	7,040	28.0%	7,124	13.1%
Urinary Bladder	2,050	7.0%	645	2.6%	2,695	5.0%
Non-Hodgkin Lymphoma	1,185	4.1%	960	3.8%	2,145	4.0%
Melanomas of the Skin	1,119	3.8%	673	2.7%	1,792	3.3%
Kidney	1,029	3.5%	578	2.3%	1,607	3.0%
Thyroid Gland	373	1.3%	1,149	4.6%	1,522	2.8%
Pancreas	718	2.5%	655	2.6%	1,373	2.5%
Corpus Uteri	NA	NA	1,147	4.6%	1,147	2.1%
Rectum	664	2.3%	479	1.9%	1,143	2.1%
Sigmoid Colon	609	2.1%	489	1.9%	1,100	2.0%
Cecum	399	1.4%	399	1.6%	798	1.5%
Liver	533	1.8%	199	0.8%	732	1.3%
Ovary	NA	NA	724	2.9%	724	1.3%
Brain	425	1.5%	295	1.2%	720	1.3%
Stomach	465	1.6%	253	1.0%	718	1.3%
Ascending Colon	315	1.1%	363	1.4%	678	1.3%
Esophagus	482	1.7%	114	0.5%	596	1.1%
Cervix Uteri	NA	NA	537	2.1%	537	1.0%
Myeloma	318	1.1%	196	0.8%	514	0.9%
Chronic Lymphocytic Leukemia	304	1.0%	152	0.6%	456	0.8%
Large Intestine, NOS	259	0.9%	194	0.8%	453	0.8%
Rectosigmoid Junction	233	0.8%	198	0.8%	431	0.8%
Acute Myeloid Leukemia	239	0.8%	169	0.7%	408	0.8%
Larynx	305	1.0%	84	0.3%	389	0.7%
Connective, Subcutaneous, and Other Soft Tissues	193	0.7%	141	0.6%	334	0.6%
Hodgkin Lymphoma	198	0.7%	133	0.5%	331	0.6%
Testis	305	1.0%	NA	NA	306	0.6%
Transverse Colon	147	0.5%	154	0.6%	301	0.6%
Other Non-Epithelial Skin	132	0.5%	82	0.3%	214	0.4%

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.

Table 1. Percentage of Cancer Cases by Cancer Type, by Gender, Nevada Residents, 2004-2008 (continued)

Type of Cancer	Male		Female		Total	
	Count	Percentage	Count	Percentage	Count	Percentage
Base of Tongue	171	0.6%	42	0.2%	213	0.4%
Acute Lymphocytic Leukemia	121	0.4%	87	0.3%	208	0.4%
Other and Unspecified Biliary Tract	119	0.4%	70	0.3%	189	0.3%
Tonsil	139	0.5%	46	0.2%	186	0.3%
Other and Unspecified Parts of Tongue	119	0.4%	65	0.3%	184	0.3%
Descending Colon	102	0.4%	77	0.3%	180	0.3%
Anus, Anal Canal, and Anorectum	62	0.2%	109	0.4%	171	0.3%
Small Intestine	98	0.3%	66	0.3%	164	0.3%
Hepatic Flexure	74	0.3%	71	0.3%	145	0.3%
Chronic Myeloid Leukemia	82	0.3%	59	0.2%	141	0.3%
Vulva	NA	NA	135	0.5%	135	0.2%
Parotid Gland	80	0.3%	44	0.2%	124	0.2%
Aleukemic, Subleukemic, and NOS Leukemia	66	0.2%	46	0.2%	112	0.2%
Mesothelioma	84	0.3%	24	0.1%	108	0.2%
Other Urinary Organs	82	0.3%	23	0.1%	105	0.2%
Gallbladder	39	0.1%	64	0.3%	103	0.2%
Splenic Flexure	50	0.2%	50	0.2%	100	0.2%
Eye and Orbit	54	0.2%	38	0.2%	92	0.2%
Lip	75	0.3%	15	0.1%	90	0.2%
Renal Pelvis	61	0.2%	26	0.1%	87	0.2%
Floor Of Mouth	54	0.2%	30	0.1%	84	0.2%
Oropharynx	51	0.2%	16	0.1%	67	0.1%
Other and Unspecified Parts of Mouth	36	0.1%	30	0.1%	66	0.1%
Appendix	30	0.1%	31	0.1%	61	0.1%
Nasopharynx	46	0.2%	15	0.1%	61	0.1%
Bones, Joints, and Articular Cartilage of Other and Unspecified Sites	36	0.1%	19	0.1%	55	0.1%
Kaposi Sarcoma	~	0.2%	~	---	53	0.1%
Palate	21	0.1%	32	0.1%	53	0.1%
Peritoneum, Omentum, and Mesentery	~	---	~	0.2%	50	0.1%
Other Lymphocytic Leukemia	41	0.1%	7	0.0%	48	0.1%
Ureter	24	0.1%	22	0.1%	46	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, 2004-2008 (continued)

Type of Cancer	Male		Female		Total	
Bones, Joints, and Articular Cartilage of Limbs	28	0.1%	17	0.1%	45	0.1%
Intrahepatic Bile Ducts	21	0.1%	21	0.1%	42	0.1%
Other Acute Leukemia	26	0.1%	16	0.1%	42	0.1%
Nose, Nasal Cavity, and Middle Ear	23	0.1%	18	0.1%	41	0.1%
Pyriform Sinus	31	0.1%	10	0.0%	41	0.1%
Accessory Sinuses	25	0.1%	15	0.1%	40	0.1%
Other Female Genital Organs	NA	NA	40	0.2%	40	0.1%
Hypopharynx	29	0.1%	10	0.0%	39	0.1%
Penis	38	0.1%	NA	NA	38	0.1%
Other Digestive Organs	18	0.1%	17	0.1%	35	0.1%
Other and Unspecified Major Salivary Glands	18	0.1%	16	0.1%	34	0.1%
Uterus, NOS	NA	NA	34	0.1%	34	0.1%
Other and Unspecified Oral (Buccal) Cavity and Pharynx	25	0.1%	6	0.0%	31	0.1%
Other Endocrine (Including Thymus)	18	0.1%	12	0.0%	30	0.1%
Vagina	NA	NA	30	0.1%	30	0.1%
Other Myeloid/Monocytic Leukemia	16	0.1%	12	0.0%	28	0.1%
Retroperitoneum	11	0.0%	17	0.1%	28	0.1%
Adrenal Gland	15	0.1%	12	0.0%	27	0.0%
Gum	16	0.1%	11	0.0%	27	0.0%
Spinal Cord, Cranial Nervous, and Other Parts of CNS	8	0.0%	18	0.1%	26	0.0%
Acute Monocytic Leukemia	14	0.0%	8	0.0%	22	0.0%
Mediastinum and Other Respiratory Organs	12	0.0%	6	0.0%	18	0.0%
Meninges	8	0.0%	8	0.0%	16	0.0%
Peripheral Nerves and Autonomic Nervous System	9	0.0%	7	0.0%	16	0.0%
Other Male Genital Organs	12	0.0%	NA	NA	12	0.0%
Placenta	NA	NA	6	0.0%	6	0.0%
Pleura	~	---	~	---	6	0.0%
Trachea	~	---	~	---	~	---
Heart	~	---	0	0.0%	~	---
Other, Ill-Defined, and Unspecified Sites	1,219	4.2%	1,012	4.0%	2,231	4.1%
Total	29,098	100.0%	25,116	100.0%	54,223	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. Cancer Incidence, by Cancer Type and Gender, Nevada Residents, 2004-2008

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 Other Central Nervous	441	6.9	6.7	321	5.0	5.0	762	5.9	5.9
Breast	83	1.4	1.3	7,040	106.7	110.1	7,124	55.6	54.9
Cervix Uteri	NA	NA	NA	537	8.3	8.4	537	4.1	4.1
Colorectal	2,882	49.8	43.7	2,505	39.3	39.2	5,390	44.2	41.5
Connective, Subcutaneous, and	193	3.2	2.9	141	2.2	2.2	334	2.7	2.6
Corpus Uteri and Uterus NOS	NA	NA	NA	1,181	17.6	18.5	1,181	9.1	9.1
Esophagus	482	8.1	7.3	114	1.8	1.8	596	4.8	4.6
Hodgkin Lymphoma	198	3.0	3.0	133	2.1	2.1	331	2.5	2.5
Kidney and Renal Pelvis	1,090	17.7	16.5	604	9.1	9.4	1,694	13.2	13.0
Larynx	305	5.0	4.6	84	1.3	1.3	389	3.0	3.0
Leukemia	909	16.1	13.8	556	8.7	8.7	1,465	12.0	11.3
Lip, Oral Cavity, and Pharynx	911	14.6	13.8	388	5.9	6.1	1,300	10.1	10.0
Liver and Intrahepatic Bile Ducts	554	8.9	8.4	220	3.4	3.4	774	6.1	6.0
Lung and Bronchus	4,391	76.5	66.6	4,122	63.2	64.5	8,515	69.1	65.6
Melanomas of the Skin	1,119	18.7	17.0	673	10.3	10.5	1,792	14.1	13.8
Myeloma	318	5.4	4.8	196	3.0	3.1	514	4.1	4.0
Non-Hodgkin Lymphoma	1,185	19.8	18.0	960	14.9	15.0	2,145	17.3	16.5
Other non-Epithelial Skin	132	2.3	2.0	82	1.3	1.3	214	1.8	1.6
Ovary	NA	NA	NA	724	11.0	11.3	724	5.7	5.6
Pancreas	718	12.4	10.9	655	10.2	10.2	1,373	11.2	10.6
Prostate	7,909	131.2	120.0	NA	NA	NA	7,910	61.7	60.9
Stomach	465	8.3	7.1	253	4.0	4.0	718	6.0	5.5
Testis	305	4.5	4.6	NA	NA	NA	306	2.3	2.4
Thyroid Gland	373	5.7	5.7	1,149	17.6	18.0	1,522	11.6	11.7
Urinary Bladder	2,050	36.5	31.1	645	10.1	10.1	2,695	22.2	20.8
All Other Sites	2,085	36.4	31.6	1,833	28.5	28.7	3,918	32.1	30.2
Total	29,098	492.6	441.5	25,116	385.2	392.8	54,223	432.4	417.5

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, 2004-2008

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 Other Central Nervous	353	7.6	8.8	254	5.6	6.4	607	6.6	7.6
Breast	72	1.5	1.8	5,554	111.8	140.6	5,627	57.7	70.6
Cervix Uteri	NA	NA	NA	350	8.0	8.9	350	4.0	4.4
Colorectal	2,341	50.6	58.2	1,993	39.7	50.4	4,337	44.8	54.4
Connective, Subcutaneous, and	150	3.4	1.9	105	2.3	1.3	255	2.8	3.2
Corpus Uteri and Uterus NOS	NA	NA	NA	927	18.0	23.5	927	9.2	11.6
Esophagus	420	8.7	10.4	91	1.8	2.3	511	5.1	6.4
Hodgkin Lymphoma	141	3.4	3.5	99	2.5	2.5	240	2.9	3.0
Kidney and Renal Pelvis	880	18.2	21.9	485	9.7	12.3	1,365	13.7	17.1
Larynx	256	5.2	6.4	76	1.5	1.9	332	3.3	4.2
Leukemia	692	16.0	17.2	398	8.5	10.1	1,090	11.9	13.7
Lip, Oral Cavity, and Pharynx	780	16.1	19.4	320	6.4	8.1	1,101	11.1	13.8
Liver and Intrahepatic Bile Ducts	389	8.1	9.7	143	2.8	3.6	532	5.4	6.7
Lung and Bronchus	3,761	80.0	93.5	3,646	70.1	92.3	7,408	74.3	92.9
Melanomas of the Skin	1,070	23.3	26.6	639	13.7	16.2	1,709	18.2	21.4
Myeloma	240	5.1	6.0	136	2.6	3.4	376	3.8	4.7
Non-Hodgkin Lymphoma	940	20.5	23.4	761	15.4	19.3	1,701	17.9	21.3
Other non-Epithelial Skin	116	2.6	2.9	70	1.5	1.8	186	2.0	2.3
Ovary	NA	NA	NA	582	11.7	14.7	582	6.0	7.3
Pancreas	580	12.5	14.4	524	10.2	13.3	1,104	11.2	13.8
Prostate	6,091	124.3	151.5	NA	NA	NA	6,091	59.2	76.4
Stomach	310	6.9	7.7	175	3.5	4.4	485	5.1	6.1
Testis	221	5.6	5.5	NA	NA	NA	221	2.9	2.8
Thyroid Gland	294	6.3	7.3	795	18.2	20.1	1,089	24.6	13.7
Urinary Bladder	1,817	39.4	45.2	558	10.9	14.1	2,375	52.1	29.8
All Other Sites	1,657	36.8	41.2	1,449	29.1	36.7	3,106	32.6	39.0
Total	23,571	502.1	586.2	20,130	405.6	509.5	43,707	448.3	548.3

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, 2004-2008

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 Other Central Nervous System	21	5.5	4.7	18	4.5	4.0	39	5.0	4.4
Breast	~	---	---	~	114.0	97.9	442	59.8	49.3
Cervix Uteri	NA	NA	NA	41	10.1	9.2	41	5.1	4.6
Colorectal	191	56.9	42.6	179	50.1	40.0	370	53.5	41.3
Connective, Subcutaneous, and Other Soft Tissues	12	3.4	1.3	12	3.1	1.3	24	3.3	2.7
Corpus Uteri and Uterus NOS	NA	NA	NA	53	14.2	11.9	53	7.6	5.9
Esophagus	24	7.9	5.3	12	3.8	2.7	36	5.7	4.0
Hodgkin Lymphoma	13	3.1	2.9	9	1.9	2.0	22	2.5	2.5
Kidney and Renal Pelvis	60	18.1	13.4	43	11.7	9.6	103	14.6	11.5
Larynx	~	6.4	4.0	~	---	---	22	3.4	2.5
Leukemia	44	12.5	9.8	27	7.2	6.0	71	9.7	7.9
Lip, Oral Cavity, and Pharynx	34	9.5	7.6	11	3.0	2.5	45	6.1	5.0
Liver and Intrahepatic Bile Ducts	46	12.5	10.3	7	1.9	1.6	53	7.0	5.9
Lung and Bronchus	236	75.2	52.6	180	50.1	40.3	416	61.8	46.4
Melanomas of the Skin	~	---	---	~	---	---	~	---	---
Myeloma	27	9.4	6.0	23	6.5	5.1	50	7.7	5.6
Non-Hodgkin Lymphoma	63	17.4	14.0	42	11.0	9.4	105	14.2	11.7
Other non-Epithelial Skin	~	2.3	1.3	~	---	---	10	1.6	1.1
Ovary	NA	NA	NA	22	5.8	4.9	22	3.1	2.5
Pancreas	52	16.2	11.6	58	17.4	13.0	110	17.0	12.3
Prostate	524	157.9	116.8	NA	NA	NA	524	73.2	58.5
Stomach	38	12.8	8.5	25	7.0	5.6	63	9.5	7.0
Testis	5	1.1	1.1	NA	NA	NA	5	0.6	0.6
Thyroid Gland	10	2.4	2.2	43	10.4	9.6	53	12.7	5.9
Urinary Bladder	47	17.8	10.5	29	8.5	6.5	76	28.6	8.5
All Other Sites	117	36.9	26.1	100	28.2	22.4	217	32.0	24.2
Total	1,594	486.6	355.3	1,382	373.2	309.0	2,976	423.7	332.2

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, 2004-2008

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 Other Central Nervous	~	---	---	0	0.0	0.0	~	---	---
Breast	~	---	---	~	42.6	39.6	36	23.8	20.8
Cervix Uteri	NA	NA	NA	~	---	---	~	---	---
Colorectal	10	16.0	11.8	11	15.4	12.4	21	15.1	12.2
Connective, Subcutaneous, and	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Corpus Uteri and Uterus NOS	NA	NA	NA	10	12.1	11.3	10	6.6	5.8
Esophagus	~	---	---	0	0.0	0.0	~	---	---
Hodgkin Lymphoma	~	---	---	0	0.0	0.0	~	---	---
Kidney and Renal Pelvis	~	9.0	8.3	~	---	---	10	6.8	5.8
Larynx	~	---	---	0	0.0	0.0	~	---	---
Leukemia	~	---	---	~	---	---	~	---	---
Lip, Oral Cavity, and Pharynx	6	9.7	7.1	0	0.0	0.0	6	4.5	3.5
Liver and Intrahepatic Bile Ducts	~	---	---	~	8.8	5.7	~	~7.7	5.2
Lung and Bronchus	26	49.6	30.8	9	12.9	10.2	35	29.4	20.3
Melanomas of the Skin	~	---	---	~	---	---	~	---	---
Myeloma	0	0.0	0.0	~	---	---	~	---	---
Non-Hodgkin Lymphoma	~	10.0	7.1	~	---	---	10	8.8	5.8
Other non-Epithelial Skin	~	---	---	~	---	---	~	---	---
Ovary	NA	NA	NA	~	---	---	~	---	---
Pancreas	~	---	---	~	---	---	~	6.3	4.6
Prostate	26	46.8	30.8	NA	NA	NA	26	20.4	15.0
Stomach	5	9.5	5.9	0	0.0	0.0	5	4.3	2.9
Testis	~	---	---	NA	NA	NA	~	---	---
Thyroid Gland	~	---	---	~	7.0	7.9	~	7.9	4.6
Urinary Bladder	~	---	---	~	---	---	~	15.1	3.5
All Other Sites	9	12.2	10.7	9	12.2	10.2	18	12.3	10.4
Total	122	207.4	144.5	112	148.1	126.8	234	173.4	135.4

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 6. Cancer Incidence, by Cancer Type and Gender, Asian Nevada Residents, 2004-2008

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 Other Central Nervous System	14	3.8	3.6	11	2.4	2.4	25	3.0	3.0
Breast	~	---	---	~	77.6	76.2	346	45.2	41.2
Cervix Uteri	NA	NA	NA	41	9.0	9.1	41	5.2	4.9
Colorectal	110	39.1	28.3	125	33.2	27.7	235	35.7	28.0
Connective, Subcutaneous, and Other Soft Tissues	~	---	---	~	2.0	1.1	13	1.7	1.5
Corpus Uteri and Uterus NOS	NA	NA	NA	65	13.4	14.4	65	7.7	7.7
Esophagus	9	3.9	2.3	8	2.7	1.8	17	3.2	2.0
Hodgkin Lymphoma	7	1.7	1.8	8	1.7	1.8	15	1.7	1.8
Kidney and Renal Pelvis	34	12.0	8.7	19	4.5	4.2	53	7.6	6.3
Larynx	~	1.7	1.5	~	---	---	~	1.1	1.1
Leukemia	18	6.5	4.6	27	6.8	6.0	45	6.7	5.4
Lip, Oral Cavity, and Pharynx	28	8.3	7.2	21	5.3	4.6	49	6.6	5.8
Liver and Intrahepatic Bile Ducts	45	15.7	11.6	36	10.3	8.0	81	12.6	9.6
Lung and Bronchus	147	56.8	37.8	117	30.4	25.9	264	41.2	31.4
Melanomas of the Skin	~	---	---	0	0.0	0.0	~	---	---
Myeloma	13	4.4	3.3	6	1.9	1.3	19	3.0	2.3
Non-Hodgkin Lymphoma	27	10.6	6.9	36	9.6	8.0	63	10.1	7.5
Other non-Epithelial Skin	~	---	---	~	---	---	~	---	---
Ovary	NA	NA	NA	44	9.2	9.7	44	5.3	5.2
Pancreas	24	8.6	6.2	23	6.3	5.1	47	7.3	5.6
Prostate	181	66.3	46.5	NA	NA	NA	182	27.3	21.6
Stomach	41	16.0	10.5	21	5.8	4.6	62	10.0	7.4
Testis	8	2.0	2.1	NA	NA	NA	8	0.9	1.0
Thyroid Gland	23	6.8	5.9	111	22.9	24.6	134	28.0	15.9
Urinary Bladder	30	12.8	7.7	9	2.1	2.0	39	15.7	4.6
All Other Sites	68	28.9	17.5	73	20.2	16.2	141	23.7	16.8
Total	842	308.5	216.4	1,158	278.2	256.4	2,001	289.4	238.0

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.

*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, 2004-2008

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 Other Central Nervous	44	4.7	2.7	36	4.4	2.5	80	4.6	2.6
Breast	~	---	---	~	69.3	35.8	523	35.5	16.8
Cervix Uteri	NA	NA	NA	97	10.7	6.7	97	5.3	3.1
Colorectal	186	40.3	11.3	162	30.9	11.1	348	35.3	11.2
Connective, Subcutaneous, and	23	2.1	0.7	13	1.1	0.4	36	1.6	1.2
Corpus Uteri and Uterus NOS	NA	NA	NA	114	16.3	7.8	114	8.4	3.7
Esophagus	~	4.6	1.2	~	---	---	22	2.4	0.7
Hodgkin Lymphoma	29	2.4	1.8	15	1.0	1.0	44	1.7	1.4
Kidney and Renal Pelvis	97	17.2	5.9	45	5.9	3.1	142	10.8	4.6
Larynx	~	4.7	1.2	~	---	---	21	2.2	0.7
Leukemia	99	13.9	6.0	76	8.3	5.2	175	10.5	5.6
Lip, Oral Cavity, and Pharynx	45	8.2	2.7	23	3.8	1.6	68	5.8	2.2
Liver and Intrahepatic Bile Ducts	64	12.7	3.9	27	5.6	1.9	91	9.0	2.9
Lung and Bronchus	185	46.2	11.2	142	31.4	9.7	328	38.1	10.6
Melanomas of the Skin	15	2.5	0.9	16	2.0	1.1	31	2.2	1.0
Myeloma	29	5.0	1.8	18	3.2	1.2	47	4.1	1.5
Non-Hodgkin Lymphoma	109	16.3	6.6	79	13.5	5.4	188	14.8	6.1
Other non-Epithelial Skin	~	---	---	~	---	---	~	0.4	0.2
Ovary	NA	NA	NA	67	9.9	4.6	67	5.2	2.2
Pancreas	53	11.4	3.2	38	8.2	2.6	91	9.7	2.9
Prostate	481	113.5	29.2	NA	NA	NA	481	51.0	15.5
Stomach	62	14.0	3.8	30	5.3	2.1	92	9.0	3.0
Testis	56	2.9	3.4	NA	NA	NA	57	1.6	1.8
Thyroid Gland	40	5.6	2.4	153	15.4	10.5	193	20.2	6.2
Urinary Bladder	72	18.7	4.4	16	3.6	1.1	88	23.0	2.8
All Other Sites	169	24.9	10.3	154	27.9	10.6	323	27.2	10.4
Total	1,902	372.6	115.4	1,848	278.9	126.8	3,752	316.7	120.8

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 IN NEVADA

Highlights
2004-2008

Mortality

In Nevada, 20,977 (11,221 males and 9,756 females) died from cancer during the 2004-2008 period. Nevada's age-adjusted cancer mortality rate, of 176.6 per 100,000, for all cancers combined was lower than the national age-adjusted rate of 181.3⁶ during the same period.

Nevada males had higher overall cancer mortality rates, both age-adjusted (207.7) and crude (170.2), compared to Nevada females (153.0 and 152.6 respectively).

Blacks had the highest age-adjusted mortality rate (197.8), compared to Whites (184.7), Asians (129.3), Hispanics (115.7), and American Indian/Alaska Natives (88.2). Whites had the highest crude mortality rate (222.0), compared to Blacks (143.0), Asian (95.4), American Indian/Alaska Natives (59.6), and Hispanics (33.2).

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

From 2004 to 2008, 73.1% 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 esophagus.

Trachea, lung and bronchus cancer was the leading cause of cancer death among Nevada residents, accounting for 30.4% of all cancer-related deaths during the 2004-2008 period.

Cancers of the colon, rectum, and anus were the second leading cause of cancer death among Nevada residents, accounting for 10.0% of all cancer-related deaths during the 2004-2008 period.

Breast cancer was the second leading cause of cancer death among female Nevada residents, accounting for 14.6% of all cancer related deaths among female Nevada residents while prostate cancer was the second leading cause of cancer death among male Nevada residents, accounting for 9.7% of all cancer death among male Nevada residents during the 2004-2008 period.

The following disparities were found:

- Of the top ten leading causes of cancer death in Nevada from 2004 to 2008, 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 duct; non-Hodgkin lymphoma; bladder; and esophagus.
- Of the top ten leading causes of cancer death in Nevada, from 2004 to 2008, Whites had the highest age-adjusted mortality rates when compared to Blacks, American Indian/Alaska Natives, Asians, and Hispanics for four. These included the following malignancies: trachea, lung, and bronchus; leukemia; non-Hodgkin lymphoma; and bladder.
- Blacks had the highest age-adjusted mortality rates for colon, rectum, and anus; breast; pancreas; prostate; and esophagus 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 2004-2008 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 2004-2008.

Table 8. Percentage of Cancer Mortality by Cancer Type, by Gender, Nevada Residents, 2004-2008

Type of Cancer	Male		Female		Total	
Trachea, Bronchus, and Lung	3,359	29.9%	3,010	30.9%	6,369	30.4%
Colon, Rectum, and Anus	1,110	9.9%	981	10.1%	2,091	10.0%
Breast	12	0.1%	1,428	14.6%	1,440	6.9%
Pancreas	660	5.9%	592	6.1%	1,252	6.0%
Prostate	1,094	9.7%	NA	NA	1,094	5.2%
Leukemia	462	4.1%	228	2.3%	690	3.3%
Liver and Intrahepatic Bile Ducts	430	3.8%	258	2.6%	688	3.3%
Non-Hodgkin Lymphoma	358	3.2%	287	2.9%	645	3.1%
Bladder	405	3.6%	159	1.6%	564	2.7%
Esophagus	410	3.7%	98	1.0%	508	2.4%
Brain and Other Central Nervous System	306	2.7%	199	2.0%	505	2.4%
Ovary	NA	NA	477	4.9%	478	2.3%
Kidney and Renal Pelvis	298	2.7%	147	1.5%	445	2.1%
Stomach	232	2.1%	157	1.6%	389	1.9%
Skin	245	2.2%	89	0.9%	334	1.6%
Multiple Myeloma and Immunoproliferative Neoplasms	188	1.7%	127	1.3%	315	1.5%
Lip, Oral Cavity, and Pharynx	201	1.8%	92	0.9%	293	1.4%
Corpus Uteri and Uterus, Part Unspecified	NA	NA	184	1.9%	185	0.9%
Cervix Uteri	NA	NA	167	1.7%	167	0.8%
Larynx	107	1.0%	41	0.4%	148	0.7%
Hodgkin Lymphoma	30	0.3%	16	0.2%	46	0.2%
Other and Unspecified Cancers	1,312	11.7%	1,019	10.4%	2,331	11.1%
Total	11,221	100.0%	9,756	100.0%	20,977	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. Cancer Mortality, by Cancer Type and Gender, Nevada Residents, 2004-2008

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	405	8.2	6.1	159	2.6	2.5	564	5.1	4.3
Brain and Other Central Nervous System	306	5.0	4.6	199	3.0	3.1	505	4.0	3.9
Breast	12	0.2	0.2	1,428	22.2	22.3	1,440	12.0	11.1
Cervix Uteri	NA	NA	NA	167	2.5	2.6	167	1.3	1.3
Colon, Rectum, and Anus	1,110	20.8	16.8	981	15.7	15.3	2,091	18.1	16.1
Corpus Uteri and Uterus, Part Unspecified	NA	NA	NA	184	2.8	2.9	185	1.5	1.4
Esophagus	410	7.1	6.2	98	1.5	1.5	508	4.1	3.9
Hodgkin Lymphoma	30	0.5	0.5	16	0.3	0.3	46	0.4	0.4
Kidney and Renal Pelvis	298	5.3	4.5	147	2.3	2.3	445	3.7	3.4
Larynx	107	1.9	1.6	41	0.6	0.6	148	1.2	1.1
Leukemia	430	8.3	6.5	258	4.1	4.0	688	6.0	5.3
Lip, Oral Cavity, and Pharynx	201	3.4	3.0	92	1.4	1.4	293	2.4	2.3
Liver and Intrahepatic Bile Ducts	462	7.8	7.0	228	3.6	3.6	690	5.6	5.3
Multiple Myeloma and Immunoproliferative Neoplasms	188	3.6	2.9	127	2.0	2.0	315	2.7	2.4
Non-Hodgkin Lymphoma	358	6.4	5.4	287	4.6	4.5	645	5.5	5.0
Ovary	NA	NA	NA	477	7.3	7.5	478	3.9	3.7
Pancreas	660	11.7	10.0	592	9.3	9.3	1,252	10.4	9.6
Prostate	1,094	24.6	16.6	NA	NA	NA	1,094	10.3	8.4
Skin	245	4.2	3.7	89	1.4	1.4	334	2.7	2.6
Stomach	232	4.3	3.5	157	2.5	2.5	389	3.3	3.0
Trachea, Bronchus, and Lung	3,359	60.2	51.0	3,010	46.8	47.1	6,369	52.8	49.0
Other and Unspecified Cancers	1,312	24.0	19.9	1,019	16.1	15.9	2,331	19.8	18.0
Total	11,221	207.7	170.2	9,756	153.0	152.6	20,977	176.6	161.5

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 10. Cancer Mortality, by Cancer Type and Gender, White Nevada Residents, 2004-2008

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	373	9.0	9.3	137	2.7	3.5	510	5.5	6.4
Brain and Other Central Nervous System	263	5.6	6.5	168	3.4	4.3	431	4.4	5.4
Breast	12	0.2	0.3	1,187	23.5	30.0	1,199	12.6	15.0
Cervix Uteri	NA	NA	NA	123	2.6	3.1	123	1.3	1.5
Colon, Rectum, and Anus	916	21.1	22.8	811	16.1	20.5	1,727	18.4	21.7
Corpus Uteri and Uterus, Part Unspecified	NA	NA	NA	152	2.9	3.8	153	1.6	1.9
Esophagus	365	7.8	9.1	80	1.6	2.0	445	4.5	5.6
Hodgkin Lymphoma	24	0.6	0.6	13	0.3	0.3	37	0.4	0.5
Kidney and Renal Pelvis	238	5.2	5.9	129	2.5	3.3	367	3.8	4.6
Larynx	96	2.1	2.4	37	0.7	0.9	133	1.4	1.7
Leukemia	359	8.7	8.9	205	4.2	5.2	564	6.2	7.1
Lip, Oral Cavity, and Pharynx	168	3.5	4.2	77	1.5	1.9	245	2.5	3.1
Liver and Intrahepatic Bile Ducts	331	7.0	8.2	157	3.1	4.0	488	5.0	6.1
Multiple Myeloma and Immunoproliferative Neoplasms	152	3.5	3.8	96	1.9	2.4	248	2.6	3.1
Non-Hodgkin Lymphoma	307	6.9	7.6	253	5.1	6.4	560	6.0	7.0
Ovary	NA	NA	NA	405	7.9	10.3	406	4.1	5.1
Pancreas	537	11.8	13.4	480	9.4	12.1	1,017	10.5	12.8
Prostate	918	24.5	22.8	NA	NA	NA	918	10.3	11.5
Skin	240	5.2	6.0	83	1.7	2.1	323	3.3	4.1
Stomach	138	3.2	3.4	109	2.2	2.8	247	2.6	3.1
Trachea, Bronchus, and Lung	2,915	63.4	72.5	2,702	52.2	68.4	5,617	57.1	70.5
Other and Unspecified Cancers	1,117	25.4	27.8	823	16.2	20.8	1,940	20.5	24.3
Total	9,471	214.9	235.5	8,227	161.5	208.2	17,698	184.7	222.0

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

Cancer Mortality in Nevada

Table 11. Cancer Mortality, by Cancer Type and Gender, Black Nevada Residents, 2004-2008

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	10	3.9	2.2	12	3.7	2.7	22	3.8	2.5
Brain and Other Central Nervous System	11	3.7	2.5	12	3.2	2.7	23	3.3	2.6
Breast	0	0.0	0.0	98	27.8	21.9	98	15.0	10.9
Cervix Uteri	NA	NA	NA	12	2.8	2.7	12	1.4	1.3
Colon, Rectum, and Anus	89	29.3	19.8	70	19.5	15.7	159	23.7	17.7
Corpus Uteri and Uterus, Part Unspecified	NA	NA	NA	11	2.7	2.5	11	1.4	1.2
Esophagus	19	6.7	4.2	12	3.8	2.7	31	5.1	3.5
Hodgkin Lymphoma	~	---	---	~	---	---	~	---	---
Kidney and Renal Pelvis	20	7.0	4.5	6	1.7	1.3	26	4.0	2.9
Larynx	~	2.1	1.1	~	---	---	~	1.1	0.8
Leukemia	22	6.8	4.9	10	2.4	2.2	32	4.4	3.6
Lip, Oral Cavity, and Pharynx	9	2.4	2.0	5	1.7	1.1	14	2.1	1.6
Liver and Intrahepatic Bile Ducts	39	12.6	8.7	8	2.3	1.8	47	6.9	5.2
Multiple Myeloma and Immunoproliferative Neoplasms	16	6.3	3.6	17	5.2	3.8	33	5.6	3.7
Non-Hodgkin Lymphoma	11	3.1	2.5	12	3.7	2.7	23	3.5	2.6
Ovary	NA	NA	NA	22	6.2	4.9	22	3.4	2.5
Pancreas	52	16.4	11.6	46	13.7	10.3	98	15.1	10.9
Prostate	87	35.4	19.4	NA	NA	NA	87	15.5	9.7
Skin	~	---	---	0	0.0	0.0	~	---	---
Stomach	33	11.4	7.4	14	4.4	3.1	47	7.6	5.2
Trachea, Bronchus, and Lung	194	63.4	43.2	136	39.9	30.4	330	50.8	36.8
Other and Unspecified Cancers	81	25.7	18.1	74	21.4	16.5	155	23.4	17.3
Total	700	236.6	156.0	581	167.0	129.9	1,281	197.8	143.0

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

Cancer Mortality in Nevada

Table 12. Cancer Mortality, by Cancer Type and Gender, American Indian/Alaska Native Nevada Residents, 2004-2008

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	~	---	---	~	---	---	~	5.0	2.9
Brain and Other Central Nervous System	~	---	---	0	0.0	0.0	~	---	---
Breast	0	0.0	0.0	9	12.1	10.2	9	6.7	5.2
Cervix Uteri	NA	NA	NA	~	---	---	~	---	---
Colon, Rectum, and Anus	~	---	---	~	---	---	~	---	---
Corpus Uteri and Uterus, Part Unspecified	NA	NA	NA	0	0.0	0.0	0	0.0	0.0
Esophagus	~	---	---	0	0.0	0.0	~	---	---
Hodgkin Lymphoma	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Kidney and Renal Pelvis	~	10.2	7.1	~	---	---	~	6.0	4.6
Larynx	~	---	---	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 Ducts	~	---	---	~	---	---	~	6.4	4.6
Multiple Myeloma and Immunoproliferative Neoplasms	~	---	---	~	---	---	~	---	---
Non-Hodgkin Lymphoma	~	---	---	~	---	---	~	---	---
Ovary	NA	NA	NA	0	0.0	0.0	0	0.0	0.0
Pancreas	~	---	---	~	7.7	5.7	~	6.4	4.6
Prostate	7	20.2	8.3	NA	NA	NA	7	7.6	4.1
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	18	33.6	21.3	10	18.0	11.3	28	25.7	16.2
Other and Unspecified Cancers	0	0.0	0.0	7	11.3	7.9	7	6.3	4.1
Total	57	107.9	67.5	46	73.5	52.1	103	88.2	59.6

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, 2004-2008

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	~	5.8	2.1	~	---	---	11	2.8	1.3
Brain and Other Central Nervous System	~	2.4	2.1	~	---	---	12	1.6	1.4
Breast	0	0.0	0.0	67	16.2	14.8	67	9.4	8.0
Cervix Uteri	NA	NA	NA	8	1.7	1.8	8	1.0	1.0
Colon, Rectum, and Anus	38	15.9	9.8	42	12.7	9.3	80	14.0	9.5
Corpus Uteri and Uterus, Part Unspecified	NA	NA	NA	~	---	---	~	---	---
Esophagus	~	5.3	2.8	~	---	---	15	2.6	1.8
Hodgkin Lymphoma	~	---	---	0	0.0	0.0	~	---	---
Kidney and Renal Pelvis	14	4.1	3.6	6	2.0	1.3	20	2.9	2.4
Larynx	~	---	---	~	---	---	~	---	---
Leukemia	16	6.3	4.1	17	4.1	3.8	33	5.0	3.9
Lip, Oral Cavity, and Pharynx	10	3.1	2.6	9	2.6	2.0	19	2.8	2.3
Liver and Intrahepatic Bile Ducts	37	10.8	9.5	32	9.0	7.1	69	9.9	8.2
Multiple Myeloma and Immunoproliferative Neoplasms	9	4.9	2.3	6	1.4	1.3	15	2.8	1.8
Non-Hodgkin Lymphoma	12	4.3	3.1	5	1.7	1.1	17	2.8	2.0
Ovary	NA	NA	NA	26	6.3	5.8	26	3.7	3.1
Pancreas	24	9.1	6.2	27	6.6	6.0	51	7.6	6.1
Prostate	25	15.2	6.4	NA	NA	NA	25	6.1	3.0
Skin	0	0.0	0.0	~	---	---	~	---	---
Stomach	23	9.9	5.9	19	6.0	4.2	42	7.6	5.0
Trachea, Bronchus, and Lung	109	43.6	28.0	84	21.7	18.6	193	30.6	23.0
Other and Unspecified Cancers	44	16.6	11.3	47	14.1	10.4	91	15.2	10.8
Total	390	158.1	100.2	412	109.9	91.2	802	129.3	95.4

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, 2004-2008

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	11	3.0	0.7	5	1.0	0.3	16	1.8	0.5
Brain and Other Central Nervous System	20	2.3	1.2	14	2.4	1.0	34	2.5	1.1
Breast	0	0.0	0.0	64	11.6	4.4	64	6.4	2.1
Cervix Uteri	NA	NA	NA	22	3.1	1.5	22	1.6	0.7
Colon, Rectum, and Anus	60	17.4	3.6	55	11.6	3.8	115	13.9	3.7
Corpus Uteri and Uterus, Part Unspecified	NA	NA	NA	17	2.8	1.2	17	1.4	0.5
Esophagus	~	3.0	0.7	~	---	---	12	1.5	0.4
Hodgkin Lymphoma	~	---	---	~	---	---	~	0.3	0.2
Kidney and Renal Pelvis	~	5.1	1.2	~	---	---	24	2.4	0.8
Larynx	~	---	---	0	0.0	0.0	~	---	---
Leukemia	31	6.9	1.9	25	3.6	1.7	56	4.9	1.8
Lip, Oral Cavity, and Pharynx	13	2.4	0.8	0	0.0	0.0	13	1.1	0.4
Liver and Intrahepatic Bile Ducts	50	12.0	3.0	27	5.4	1.9	77	8.3	2.5
Multiple Myeloma and Immunoproliferative Neoplasms	9	2.0	0.5	7	1.4	0.5	16	1.7	0.5
Non-Hodgkin Lymphoma	25	5.5	1.5	12	3.0	0.8	37	4.1	1.2
Ovary	NA	NA	NA	23	3.9	1.6	23	2.1	0.7
Pancreas	41	10.1	2.5	29	7.3	2.0	70	8.5	2.3
Prostate	55	22.7	3.3	NA	NA	NA	55	9.2	1.8
Skin	~	---	---	~	0.7	0.3	~	0.7	0.3
Stomach	32	7.7	1.9	15	2.5	1.0	47	4.7	1.5
Trachea, Bronchus, and Lung	116	33.2	7.0	74	18.6	5.1	190	25.1	6.1
Other and Unspecified Cancers	64	12.4	3.9	62	12.6	4.3	126	12.8	4.1
Total	569	149.0	34.5	462	92.3	31.7	1,031	115.7	33.2

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, 2004-2008

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	43,167	40,315	8,276	7,939	1,151	1,189	7,543	7,193	38,662	37,515	98,799	94,152	192,951
1-4	173,307	162,741	30,712	29,374	4,711	4,527	27,405	26,230	143,571	138,010	379,706	360,881	740,587
5-14	453,071	430,057	75,857	72,606	12,823	12,261	56,359	53,823	316,979	299,371	915,089	868,117	1,783,206
15-24	501,627	476,089	77,745	74,698	14,534	14,031	56,618	57,703	315,613	271,652	966,136	894,175	1,860,311
25-34	516,358	496,906	62,229	62,661	12,738	13,163	64,230	71,596	336,603	266,312	992,158	910,638	1,902,796
35-44	591,436	558,612	65,954	62,727	12,996	13,419	61,337	73,583	252,623	204,044	984,347	912,385	1,896,732
45-54	641,666	610,577	60,082	57,701	11,282	12,874	51,597	69,429	139,192	123,988	903,818	874,568	1,778,387
55-64	530,724	530,467	34,182	39,496	7,935	9,212	34,434	49,568	63,492	65,100	670,767	693,844	1,364,611
65-74	347,861	351,898	21,606	24,274	4,175	4,812	19,742	28,198	28,334	33,452	421,718	442,635	864,353
75-84	182,879	218,790	10,242	12,219	1,704	2,080	8,564	12,398	11,057	14,307	214,447	259,794	474,241
85+	39,127	74,181	1,758	3,491	379	791	1,261	1,956	1,671	3,249	44,196	83,667	127,863
Total	4,021,224	3,950,633	448,643	447,186	84,428	88,358	389,090	451,678	1,647,797	1,457,000	6,591,183	6,394,856	12,986,038

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		9590-9989, 9050-9055, 9140
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		
Palate	C05		
Other and Unspecified Parts of the Mouth	C06		
Nasopharynx	C11		
Tonsil	C09		
Oropharynx	C10		
Pyriform Sinus	C12		
Hypopharynx	C13		
Other and Unspecified Oral Cavity and Pharynx	C14		
Digestive System			
Esophagus	C15		9590-9989, 9050-9055, 9140
Stomach	C16		
Small Intestine	C17		
Colon (excluding Rectum)			
Cecum	C18.0		
Appendix	C18.1		
Ascending Colon	C18.2		
Hepatic Flexure	C18.3		
Transverse Colon	C18.4		

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			
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, 9050-9055, 9140
Adrenal gland	C74		
Other Endocrine (including Thymus)	C37, C75		
Hodgkin Lymphoma		9650-9667	
Non-Hodgkin Lymphoma		9590-9596, 9670-9671, 9678-9680, 9689-9691, 9698-9702	

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	
	C42.0, C42.1, 42.4	9827	
Mesothelioma		9050-9055	
Kaposi Sarcoma		9140	

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 Ducts	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