

Cancer Disparities in Colorado

A Focus on Race and Ethnicity

Cancer is a diverse group of more than 100 diseases characterized by uncontrolled growth and spread of abnormal cells.¹ If untreated, cancer cells can spread to vital organs, causing dysfunction and death. **Cancer is the leading cause of death in Colorado.** During 2007-2011, the rankings of cancer sites (the organ or tissue of origin), based on the proportion of Coloradans within a racial/ethnic group newly diagnosed with cancer, varied by race and ethnicity, as shown in the table below.

Table 1. Ten most commonly diagnosed cancers by race/ethnicity, Colorado, 2007-2011.

Rank	Site	White, non-Hispanic		White, Hispanic			Black		
		N	%	Site	N	%	Site	N	%
1	Breast	17,396	17.8	Breast	2,037	17.6	Prostate	765	20.9
2	Prostate	14,951	15.3	Prostate	1,350	11.7	Breast	633	17.3
3	Lung and Bronchus	9,579	9.8	Colon and Rectum	1,201	10.4	Lung and Bronchus	395	10.8
4	Melanoma	8,174	8.4	Lung and Bronchus	913	7.9	Colon and Rectum	340	9.3
5	Colon and Rectum	7,651	7.8	Kidney and Renal Pelvis	580	5.0	Kidney and Renal Pelvis	155	4.2
6	Urinary Bladder	4,015	4.1	Thyroid	493	4.3	Non-Hodgkin's Lymphoma	135	3.7
7	Non-Hodgkin's Lymphoma	3,790	3.9	Non-Hodgkin's Lymphoma	492	4.3	Pancreas	114	3.1
8	Thyroid	2,945	3.0	Liver	434	3.8	Liver	104	2.8
9	Leukemias	2,822	2.9	Leukemias	380	3.3	Leukemias	94	2.6
10	Kidney and Renal Pelvis	2,659	2.7	Corpus Uteri and Uterus, NOS	301	2.6	Multiple Myeloma	93	2.5

Data source and notes: Colorado Central Cancer Registry; Cervix in situ, benign tumors, and basal and squamous cell carcinomas of the skin excluded; NOS means "not otherwise specified."

Breast and prostate cancer were the leading cancer diagnoses regardless of race/ethnicity in Colorado during 2007-2011

- 4th
Melanoma ranked as the 4th most commonly diagnosed cancer among White, non-Hispanic Coloradans but was not among the top ten diagnosed cancers for White, Hispanic Coloradans or for Black Coloradans.
- 5th
Kidney cancer ranked 5th for both White, Hispanic Coloradans and for Black Coloradans, but only 10th for White, non-Hispanic Coloradans.
- 6th
Urinary bladder cancer ranked 6th for White, non-Hispanic Coloradans but did not rank in the top 10 diagnosed cancers for White, Hispanic Coloradans or for Black Coloradans.
- 8th
Liver cancer ranked 8th for White, Hispanic Coloradans and for Black Coloradans but was not among the top 10 cancer diagnoses for White, non-Hispanic Coloradans.

Variations in cancer development and diagnosis might reflect the influences of genetic, environmental and behavioral factors, including early detection.



Cancer incidence and mortality disparities exist.

Table 2. All Cancers Combined: Incidence and mortality by race/ethnicity, Colorado, 2011.

	Incidence 2011		Mortality 2011	
	N	Rate per 100,000*	N	Rate per 100,000*
Total	21,696	421.9	7,037	143.2
White, non-Hispanic	18,168	433.7	5,955	145.2
White, Hispanic	2,285	394.3 †	650	128.9 †
Black	730	413.2	250	161.1
Male	11,119	467.0	3,650	169.2
White, non-Hispanic male	9,384	479.4	3,086	171.5
White, Hispanic male	1,068	417.1 †	332	146.6 †
Black male	418	504.8	139	198.3
Female	10,573	389.6	3,387	124.3
White, non-Hispanic female	8,780	400.1	2,869	126.0
White, Hispanic female	1,217	384.5	318	115.6
Black female	312	341.7 †	111	135.3

Data source: Colorado Central Cancer Registry.

* Age-adjusted rate. The 2000 U.S. population was used as a standard.

† Statistically higher/lower than value for White, non-Hispanic.

The age-adjusted rates of cancer incidence (new cases of cancer) and mortality (deaths) among Coloradans varied by sex and race/ethnicity in 2011 (table above).



- **White, Hispanic males had a lower incidence of cancer and lower mortality rates, compared to White, non-Hispanic males.** Specifically, the age-adjusted incidence of cancer for White, Hispanic males was 417.1 cancers per 100,000 population in 2011, compared to White, non-Hispanic males whose rate was 479.4 cancers per 100,000 population. The age-adjusted cancer mortality rate for White, Hispanic males was 146.6 in 2011, compared to White, non-Hispanic males whose rate was 171.5.
- **Black females had a lower incidence of cancer, compared to White, non-Hispanic females.** The age-adjusted incidence of cancer among Black females was 341.7 in Colorado in 2011. In comparison, the age-adjusted incidence of cancer among White, non-Hispanic females was 400.1 in 2011.
- Overall in 2011, **males had higher cancer incidence and mortality rates compared to females.**

Many cancers – such as colon and rectum, lung, melanoma, breast, invasive cervix, oral cavity and pharynx, prostate, and bladder – are either preventable or detectable at an early and more survivable stage of disease.

These eight cancer sites, most of which are among the top ten commonly diagnosed cancers, accounted for 62% of all cancers diagnosed in Colorado during 2007-2011. As shown in the table on the next page, compared to White, non-Hispanic residents, Coloradans whose race/ethnicity is White, Hispanic had significantly lower incidence of cancer in 2011 for 5 of the 8 cancer sites: female breast, prostate, lung, melanoma, and bladder. Their mortality rate was also lower than the rate for White, non-Hispanic residents for two cancer sites: lung cancer and bladder cancer. In contrast, White, Hispanic females had a higher rate of invasive cervix cancer in 2011, almost double the rate of White, non-Hispanic females. Despite this large disparity in incidence of invasive cervix cancer, White, Hispanic females had the same mortality rate due to invasive cervix cancers as their non-Hispanic counterparts.

In 2011, Black Coloradans had a significantly higher incidence of prostate cancer (182.9 cancers per 100,000 persons) and a higher mortality rate of 51.5 per 100,000 persons, more than twice the death rate due to prostate cancer than White, non-Hispanic residents (22.5 deaths per 100,000 persons). Blacks had lower incidence of female breast cancer and bladder cancer compared with White, non-Hispanic residents.

Significant differences in the incidence and mortality rates of colorectal cancer or cancers of the oral cavity and pharynx were not detected among race/ethnic groups.

BLADDER

Bladder cancer incidence rates were significantly lower for White, Hispanic Coloradans and Black Coloradans compared to White, non-Hispanic Coloradans.

White, Hispanic Coloradans had significantly lower mortality rates from bladder cancer (2.5 deaths per 100,000 persons) compared to non-Hispanic White Coloradans (4.2 deaths per 100,000 persons).

BREAST

Breast cancer incidence is highest among White, non-Hispanic women (126.8 cancers per 100,000 persons). Age-adjusted incidence rates were significantly lower for Black women (98.2) and Hispanic White women (109.9), compared to White, non-Hispanic women (126.8).

Conversely, among the three racial/ethnic groups with available data, Black women were the least likely to survive five years after diagnosis, even though Hispanic White women were least likely to be diagnosed at an early stage.

COLON AND RECTUM

Early detection among White, Hispanic Coloradans and (especially) Black Coloradans with colorectal cancer diagnoses was less frequent than early detection among White, non-Hispanic Coloradans with colorectal cancer diagnoses in 2011.

LUNG

White, Hispanic Coloradans experienced significantly lower incidence and mortality rates of lung cancer compared to the other race/ethnicities.

MELANOMA

White, non-Hispanic Coloradans were over five times as likely to be diagnosed with melanoma compared to White, Hispanic Coloradans: 26.2 cancers per 100,000 persons vs. 4.9 cancers per 100,000 persons, respectively.

Melanoma patients have a high likelihood of being diagnosed at an early stage (75%), and 85% survive five years post-diagnosis.

PROSTATE

Black males were significantly more likely to be diagnosed with prostate cancer and more likely to die from the disease compared to White Hispanics and White, non-Hispanics.

The 5-year survival rate is high, ranging from 89% among Black men to 95% among White, non-Hispanic and Hispanic males.

INVASIVE CERVIX

White, Hispanic women had significantly higher incidence rates (9.3 per 100,000 persons) compared to women of other race/ethnicities (4.5-5.2 per 100,000 persons).

Table 3. Incidence, mortality and survival rates and stage of disease at diagnosis by race/ethnicity, Colorado.

	Incidence 2011		Mortality 2011		5-year survival 2005-2007		Early diagnosis 2011
	N	Rate per 100,000	N	Rate per 100,000	N	Relative survival rate (%)**	% in situ or localized stage
Colon and Rectum	1,735	35.1	632	12.8	4,195	60.6	45.9
White, non-Hispanic	1,413	34.7	519	12.5	3,417	61.7	47.1
White, Hispanic	216	39.5	69	13.5	533	53.3	41.9
Black	59	36.8	25	17.4	148	56.9	35.5
Lung and Bronchus	2,209	45.2	1,588	32.7	4,507	17.7	20.2
White, non-Hispanic	1,872	45.8	1,366	33.5	3,904	18.1	20.5
White, Hispanic	193	39.3 †	115	24.4 †	354	11.3	16.9
Black	88	55.7	67	44.2	155	16.7	17.1
Melanoma	1,127	21.8	154	3.0	2,187	85.0	75.0
White, non-Hispanic	1,084	26.2	152	3.6	2,103	84.9	74.8
White, Hispanic	33	4.9 †	^	^	58	84.5	76.3
Black	0	0.0	0	0.0	0	-	-
Female Breast	3,344	121.7	546	19.4	7,278	90.5	72.5
White, non-Hispanic	2,806	126.8	460	19.8	6,244	91.0	73.1
White, Hispanic	355	109.9 †	58	19.2	671	87.0	67.6
Black	90	98.2 †	19	19.8	214	80.6	69.0
Invasive Cervix	148	5.7	38	1.4	443	70.0	††
White, non-Hispanic	104	5.2	33	1.4	309	67.9	††
White, Hispanic	34	9.3 †	4	1.4	91	75.4	††
Black	4	4.5	^	^	26	77.5	††
Oral Cavity and Pharynx	569	10.6	100	2.0	1,058	65.6	35.3
White, non-Hispanic	469	10.6	91	2.2	914	66.9	35.5
White, Hispanic	56	10.5	5	0.7	94	56.2	32.7
Black	19	10.1	^	^	25	#	33.3
Prostate	3,187	125.4	415	22.4	8,606	94.7	79.5
White, non-Hispanic	2,744	129.4	354	22.5	7,427	94.9	79.1
White, Hispanic	229	92.2 †	29	16.7	638	95.0	83.1
Black	155	182.9 †	26	51.5 †	422	89.1	84.6
Bladder	932	19.1	184	3.9	844	56.1	85.1
White, non-Hispanic	859	21.0	167	4.2	764	55.8	85.3
White, Hispanic	46	9.3 †	11	2.5 †	54	54.9	84.6
Black	19	11.5 †	3	1.3	16	#	77.8

Data source: Colorado Central Cancer Registry

* Age-adjusted rate. The 2000 US population was used as a standard.

** All stages at diagnosis included.

† Statistically higher/lower than value for White, non-Hispanic.

^ Indicates 1 or 2 cases.

Fewer than 10 cases or standard error of rate over 10%.

††Cervix in situ cancers not collected by the Registry.



Cancer prevention and control.

A comprehensive approach to cancer prevention and control addresses risk reduction, early detection, better treatment for all, and enhanced survivorship. Many cancers are preventable^{2,3} by:

- Quitting tobacco use (or never starting)
- Getting the recommended level of physical activity and nutrition
- Maintaining a healthy weight or reducing obesity
- Limiting ultraviolet light exposure (sunlight and tanning beds)
- Getting vaccinated against human papillomavirus and hepatitis B virus

Early detection means that at the time of diagnosis, the cancer cells have grown only in the original site. For many cancers, early detection and treatment increases the likelihood of survival. Screening is a vital step in detection for breast cancer (using mammography), cervical cancer (using Pap tests), and colorectal cancer (using fecal occult blood testing, sigmoidoscopy, or colonoscopy). In Colorado, Women's Wellness Connection (WWC) clinics provide breast and cervical cancer screening (clinical breast exams, Pap tests, pelvic exams and mammograms) to eligible women at more than 130 sites statewide. For more information see: <https://www.colorado.gov/cdphe/womens-wellness-connection>

For information and data about environmental exposure and risk reduction, see:
<http://www.coepht.dphe.state.co.us/Health/Cancer.aspx>

For more on the Colorado Central Cancer Registry and its data, see:
<https://www.colorado.gov/cdphe/cancerregistry>

Terminology for racial/ethnic groups matches that used during data collection.

1. Learn about Cancer. American Cancer web site. <http://www.cancer.org/cancer/cancerbasics/what-is-cancer>
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2. Cancer. Healthy People 2020 web site. <https://www.healthypeople.gov/2020/topics-objectives/topic/cancer>
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3. U.S. Preventive Services Task Force. Agency for Healthcare Research and Quality web site.
<http://www.ahrq.gov/professionals/clinicians-providers/guidelines-recommendations/uspstf/index.html>
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