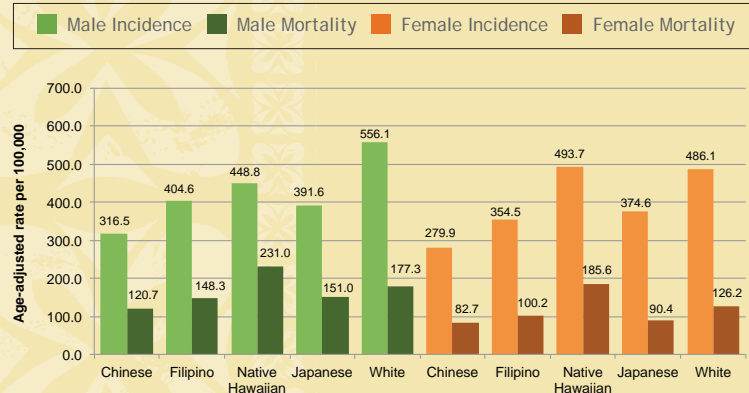


Cancer Across Racial & Ethnic Groups

- In 2009-2013, cancer incidence and mortality varied substantially across Hawai'i's five largest racial/ethnic groups (Chinese, Filipinos, Native Hawaiians, Japanese, and Whites). Overall cancer incidence was highest for White males and Native Hawaiian females. Overall cancer mortality was highest for Native Hawaiian males and females.
- Cancers with higher incidence in certain race and ethnic groups include lung & bronchus cancer in Native Hawaiians, colon & rectal cancer in Japanese, thyroid cancer in Filipinos, melanoma of the skin in Whites, breast cancer in Native Hawaiian females, pancreatic cancer in Chinese males, prostate cancer in Filipinos, and liver & intrahepatic bile duct cancer in Native Hawaiian males and Chinese females.

Overall Cancer Incidence & Mortality, by Sex, Race/Ethnicity, Hawai'i, 2009-2013



Source: Hawai'i Tumor Registry, University of Hawai'i Cancer Center. Rates are average annual and age-adjusted to the U.S. 2000 Standard Population.

Average Annual Incidence Rates, Hawai'i, 2009-2013

Cancer Site	All Rates	Male Rates	Female Rates
All Sites	416.9	444.1	402.6
Anus, Anal Canal & Anorectum	1.3	1.0	1.5
Bladder	13.7	23.3	6.1
Bones & Joints	0.8	0.9	0.6
Brain & Nervous System	4.2	4.9	3.5
Breast (Female)	70.2	0.9	134.4
Cervix	7.4	---	7.4
Colon & Rectum	44.3	53.1	36.4
Uterus/Endometrium	30.4	---	30.4
Esophagus	3.5	6.2	1.1
Eye & Orbit	0.7	0.7	0.6
Gallbladder	1.0	1.0	0.9
Hodgkin Lymphoma	1.8	2.0	1.7
Kidney & Renal Pelvis	13.5	18.8	8.8
Larynx	2.4	4.4	0.6
Leukemia	11.9	14.9	9.5
Liver & Intrahepatic Bile Duct	11.0	16.6	5.9
Lung & Bronchus	47.2	58.0	38.7
Melanoma of the Skin	20.2	27.0	14.6
Myeloma	5.6	7.1	4.3
Non-Hodgkin Lymphoma	18.0	21.8	14.9
Oral Cavity & Pharynx	11.9	17.5	6.8
Other Biliary	1.8	2.2	1.4
Ovary	9.7	---	9.7
Pancreas	13.6	15.5	12.0
Penis	0.5	0.5	---
Prostate	96.5	96.5	---
Small Intestine	1.6	2.0	1.2
Soft Tissue (including Heart)	3.4	3.8	3.0
Stomach	9.4	12.1	7.3
Testis	5.3	5.3	---
Thyroid	15.9	8.0	24.1
Vagina	0.6	---	0.6
Vulva	1.9	---	1.9

Source: Hawai'i Tumor Registry, University of Hawai'i Cancer Center. Rates are average annual and age-adjusted to the U.S. 2000 Standard Population.

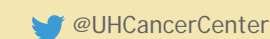
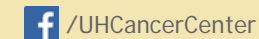


University of Hawai'i Cancer Center

The University of Hawai'i Cancer Center is one of 69 National Cancer Institute (NCI)-designated Cancer Centers in the United States and the only center in Hawai'i and the Pacific. The Center's mission is to reduce the burden of cancer through research, education, patient care and community outreach with an emphasis on the unique ethnic, cultural, and environmental characteristics of Hawai'i and the Pacific.



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HAWAI'I

Cancer at a Glance
2009 - 2013



Overview of Cancer in Hawai'i

- Each year, approximately 6,700 Hawai'i residents are diagnosed with invasive cancer.
- Cancer is the 2nd leading cause of death (after cardiovascular disease) in Hawai'i residents.
- More than 2,200 Hawai'i residents die of cancer each year.
- In 2016, there were over 58,000 Hawai'i residents living with cancer including those newly diagnosed and those diagnosed with invasive cancer in the past.

Top Cancers in Hawai'i

- The most common cancer in men is prostate cancer, which accounts for 22% of cases, followed by cancers of the lung & bronchus (13%), colon & rectum (12%), melanoma of the skin (6%), and bladder (5%).
- In women, breast cancer is the most common cancer, comprising 33% of cases, followed by cancers of the lung & bronchus (10%), colon & rectum (9%), uterus/endometrium (7%), and thyroid (5%).
- The leading cause of cancer mortality in men is lung & bronchus cancer, which accounts for 25% of cancer deaths, followed by cancers of the colon & rectum (10%), prostate (8%), pancreas (8%), and liver (7%).

- Lung & bronchus cancer is also the top cause of cancer death in women (22%) followed by cancers of the breast (12%), colon & rectum (10%), pancreas (9%), and ovary (5%).

Top Ten Cancer Incidence Sites, Hawai'i, 2009-2013			
Male		Female	
Avg. Cases/Year	Percent	Avg. Cases/Year	Percent
Prostate		Breast	
743	22.2%	1,107	33.0%
Lung & Bronchus		Lung & Bronchus	
435	13.0%	341	10.2%
Colon & Rectum		Colon & Rectum	
406	12.1 %	315	9.4%
Melanoma of the Skin		Uterus/Endometrium	
204	6.1%	248	7.4%
Bladder		Thyroid	
172	5.1 %	171	5.1%
Non-Hodgkin Lymphoma		Non-Hodgkin Lymphoma	
162	4.8 %	127	3.8%
Kidney & Renal Pelvis		Melanoma of the Skin	
141	4.2 %	116	3.5%
Oral Cavity & Pharynx		Pancreas	
136	4.1%	108	3.2%
Liver		Leukemia; Ovary*	
130	3.9%	76	2.3%
Pancreas		Kidney & Renal Pelvis	
117	3.5%	74	2.2%
Other		Other	
704	21.0%	595	17.7%
All sites		All Sites	
3,350	100.0%	3,354	100.0%

Source: Hawai'i Tumor Registry, University of Hawai'i Cancer Center. All cases are invasive except for bladder cancer which is in situ and invasive. *Same number of cases for both sites.

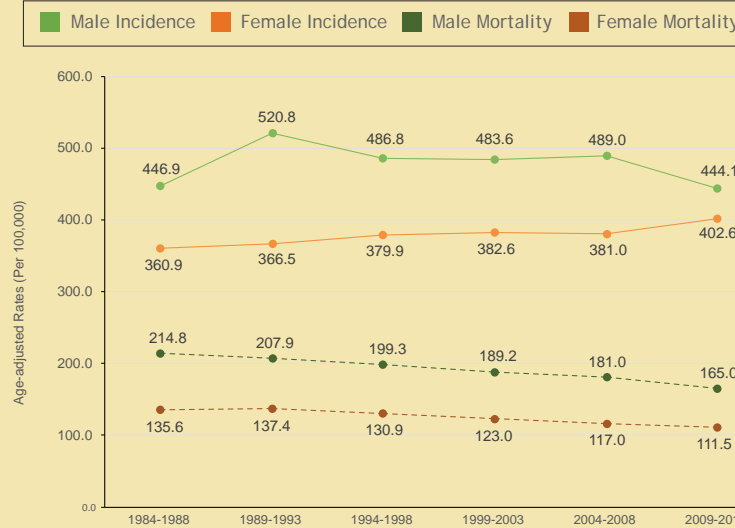
Trends in Incidence & Mortality in Hawai'i

- Over the past 30 years (1984 to 2013), overall cancer incidence rates remained relatively stable in males while increasing in females; overall cancer mortality rates steadily decreased in both sexes.
- Over the past decade (2004 to 2013), overall cancer incidence declined (1.6% per year) in males and increased (0.4% per year) in females; overall cancer mortality rates decreased in both sexes.

- From 2004 to 2013, significant changes in incidence were observed for certain cancers:

- Cancers of the thyroid, kidney & renal pelvis, liver & intrahepatic bile duct, myeloma, soft tissue (including heart), testis, leukemia, non-Hodgkin lymphoma, and pancreas increased among males.
- Cancers of the prostate, stomach, lung & bronchus, larynx, and colon & rectum declined in males.
- Cancers of the thyroid, kidney & renal pelvis, anus, melanoma, breast, soft tissue (including heart), uterus/endometrium, myeloma, liver & intrahepatic bile duct, leukemia, vulva, non-Hodgkin lymphoma, pancreas, and lung & bronchus increased among females.
- Cancers of the stomach, gallbladder, esophagus, cervix, ovary, and colon & rectum declined in females.

Cancer Incidence & Mortality Rates, All Cancers, Hawai'i, 1984-2013



Source: Hawai'i Tumor Registry, University of Hawai'i Cancer Center. Rates are average annual and age-adjusted to the U.S. 2000 Standard Population. All cases are invasive except for bladder cancer which is in situ and invasive.

Cancers with Higher Incidence in Hawai'i Compared to the U.S., 2009-2013

Site	Hawai'i	U.S.	Hawai'i Rank
Breast (Female)	134.4	123.3	6
Colon & Rectum	44.3	40.6	11
Liver & Intrahepatic Bile Duct	11.0	7.6	2
Pancreas	13.6	12.3	6
Stomach	9.4	6.7	1
Thyroid	15.9	14.0	10
Uterus/Endometrium	30.4	25.6	10

Source: Hawai'i Tumor Registry, University of Hawai'i Cancer Center. Cancers with significantly ($p < 0.05$) higher incidence rates in Hawai'i compared to U.S. overall are shown. Rates are average annual and age-adjusted to the U.S. 2000 Standard Population. Rank is based on incidence rates among the 50 U.S. states from the highest (1) to the lowest (50).

Comparison of Cancer in Hawai'i and the U.S.

- In 2009-2013, Hawai'i incidence rates were significantly higher than the U.S. overall for cancers of the female breast, colon & rectum, liver & intrahepatic bile duct, pancreas, stomach, thyroid, and uterus/endometrium.
- In 2009-2013, mortality rates for cancers of the liver & intrahepatic bile duct, thyroid, and stomach were significantly higher in Hawai'i compared to the U.S. overall.
- Among all U.S. states, Hawai'i ranks #1 for stomach cancer incidence and mortality, #1 for thyroid cancer mortality, and #2 for liver & intrahepatic bile duct cancer incidence.