

Geographic Disparities in Cancer in Hawaii



A Virtual Conference
Oncology Nursing Society Hawaii (Oahu) Chapter
October 16-17, 2020



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Learning Objectives

- To describe geographic disparities in cancer across the state of Hawaii and compared to the U.S. overall
- To describe other disparities in cancer within Hawaii's population

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Snapshot of Cancer In Hawaii

- ~ 7,000 newly diagnosed cases annually
- ~ 2,300 deaths annually
- Average age of diagnoses: 66 years (males); 64 years (females)
- 55 pediatric (19 years and younger) cases annually
- ~ 62,000 cancer survivors

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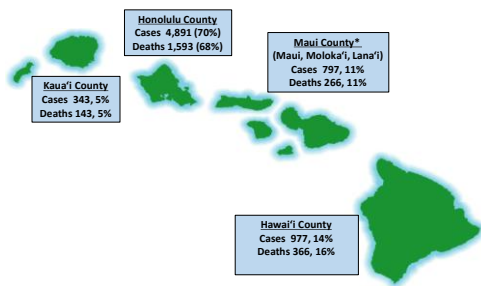
Top Causes of Death, Hawaii, 2016

Cause of Death	%
Diseases of the heart	23%
Cancer	22%
Cerebrovascular disease	6%
Influenza/pneumonia	5%
Alzheimer's disease	4%
Chronic lower respiratory diseases	3%
Diabetes mellitus	3%
Nephritis and nephrosis	2%
Intentional self-harm (suicide)	2%
Motor vehicle accidents	1%
Chronic liver disease and cirrhosis	1%
Hypertension	1%
Other	27%
Total	100%

Source: Hawaii State Department of Health

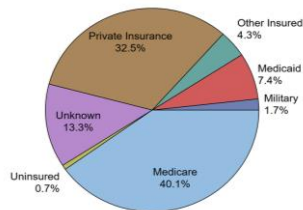
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Average Annual Number of Cancer Cases and Death, by County, Hawaii, 2012-2016



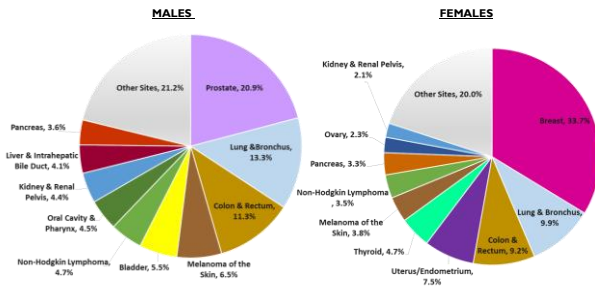
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Insurance status of cancer patients, Hawaii, 2013-2017



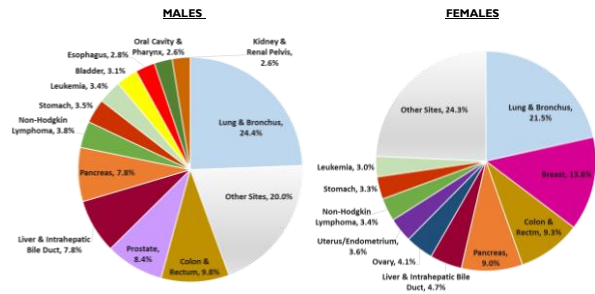
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Top Cancers in Hawaii, Newly Diagnosed Cases, 2012-2016



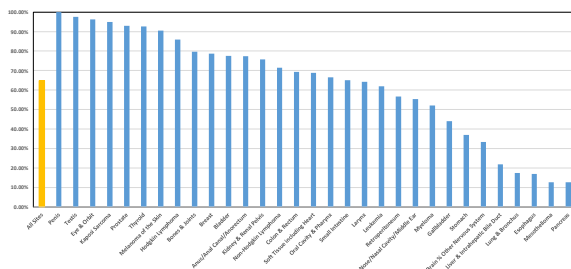
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Top Causes of Cancer Deaths in Hawaii, 2012-2016



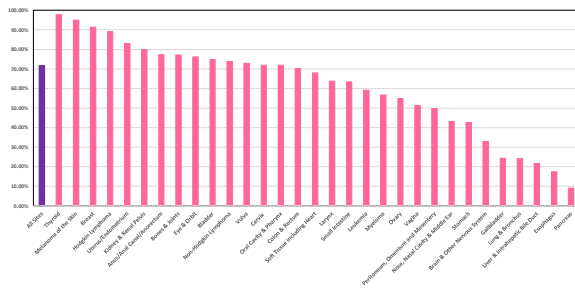
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Relative 5-Year Survival, Males, Hawaii, 2009-2016



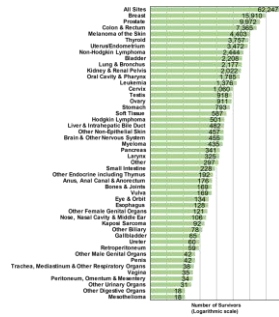
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Relative 5-Year Survival, Females, Hawaii, 2009-2016



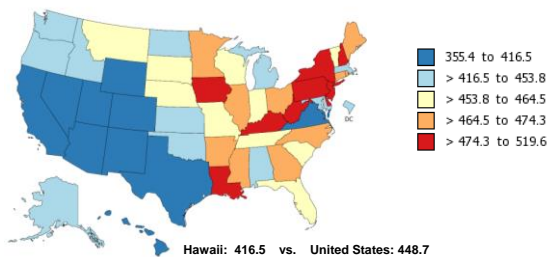
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Cancer Survivors, by Cancer Site, Hawaii, 2016



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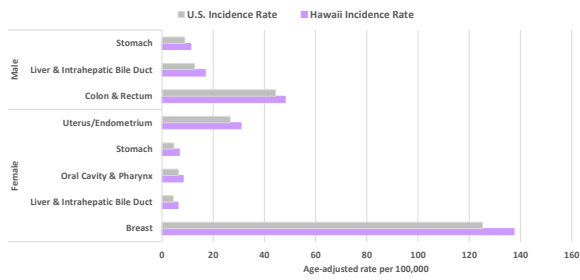
**Cancer Incidence (New Cases per 100,000), All Cancer Sites,
Both Sexes, United States, 2013-2017**



Source: Adapted from the NCI and the CDC

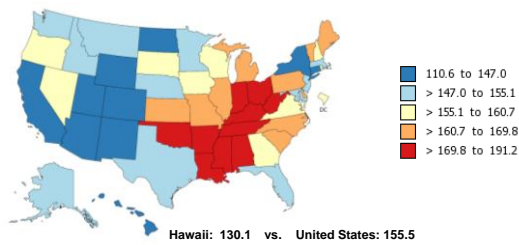
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Cancers of Higher Incidence in Hawaii Compared to the U.S., 2012-2016



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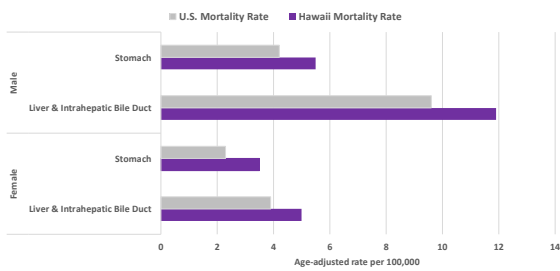
Cancers Mortality (Deaths per 100,000), All Cancer Sites, Both Sexes, United States, 2014-2018



Source: Adapted from the NCI and the U.S. National Vital Statistics System

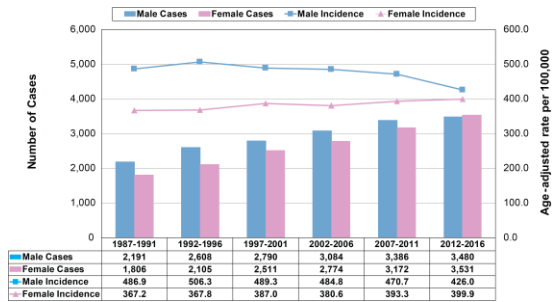
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Cancers of Higher Mortality in Hawaii Compared to the U.S., 2012-2016



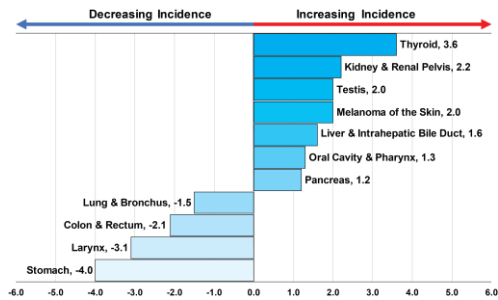
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Cancer Incidence, Average Annual Number of Cases and Age-Adjusted Rates, Hawai'i, 1987-2016



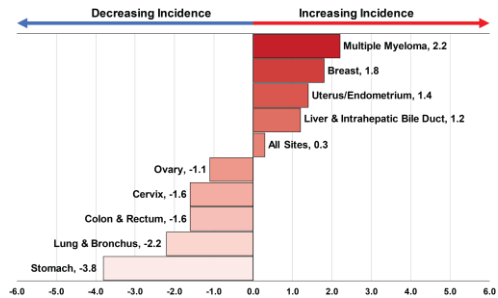
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Average Annual Percent Change in Cancer Incidence Rates, Males, Hawai'i, 2007-2016



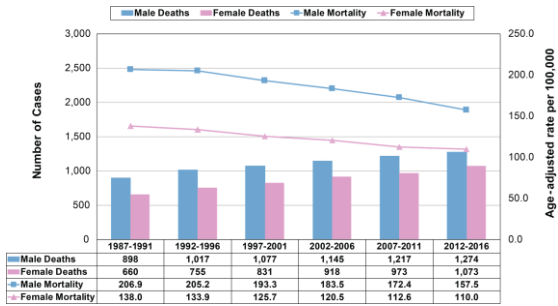
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Average Annual Percent Change in Cancer Incidence Rates, Females, Hawai'i, 2007-2016



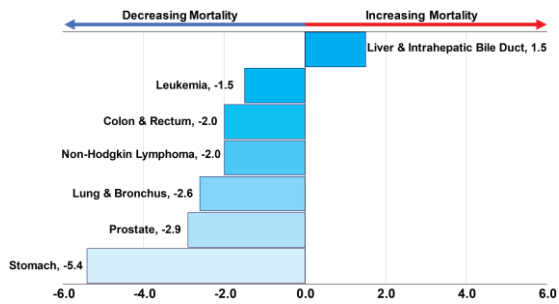
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Cancer Mortality, Average Annual Number of Cases and Age-Adjusted Rates, Hawai'i, 1987-2016



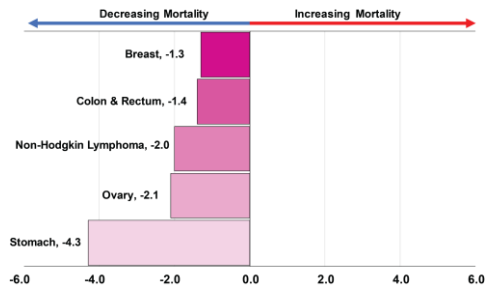
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Average Annual Percent Change in Cancer Mortality Rates, Males, Hawai'i, 2007-2016

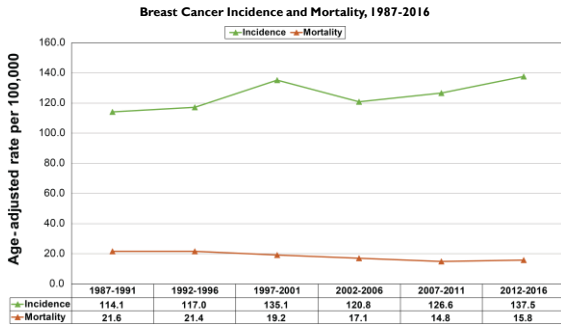


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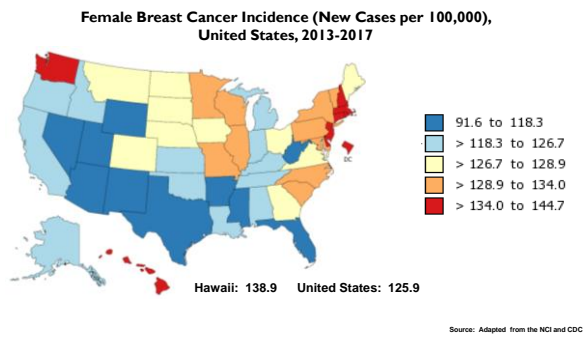
Average Annual Percent Change in Cancer Mortality Rates, Females, Hawai'i, 2007-2016



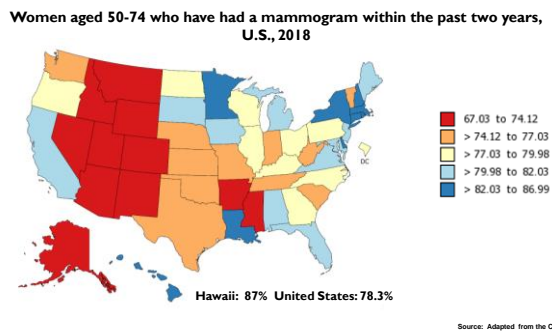
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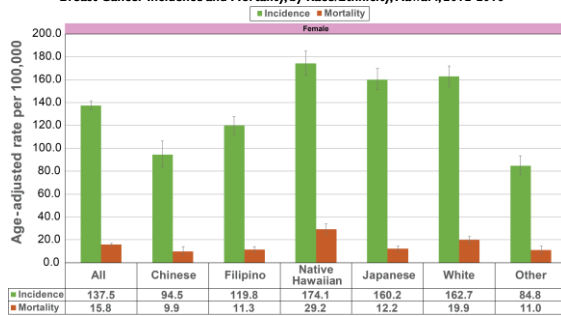


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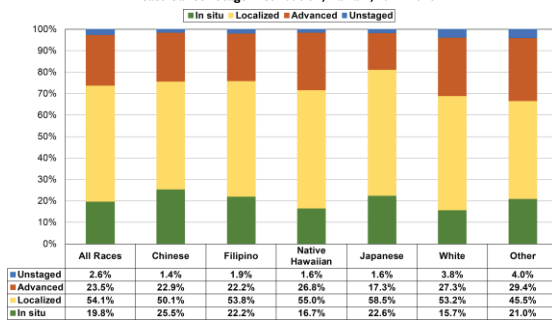
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Breast Cancer Incidence and Mortality, by Race/Ethnicity, Hawai'i, 2012-2016



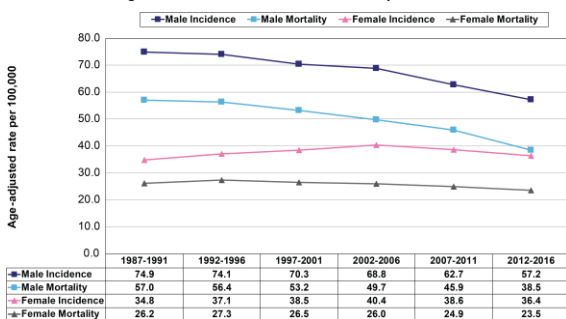
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Breast Cancer Stage Distribution, Hawai'i, 2012-2016



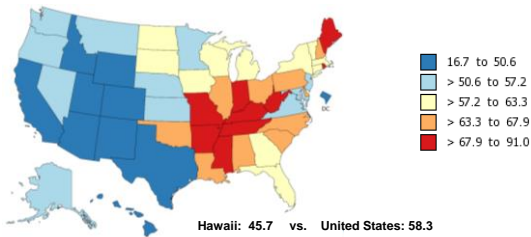
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Lung & Bronchus Cancer Incidence and Mortality, 1987-2016



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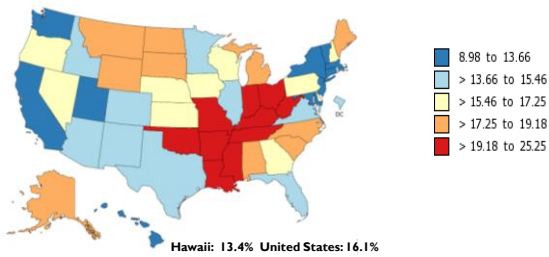
Lung & Bronchus Cancer Incidence (New Cases per 100,000), Both Sexes, United States, 2013-2017



Source: Adapted from the NCI and CDC

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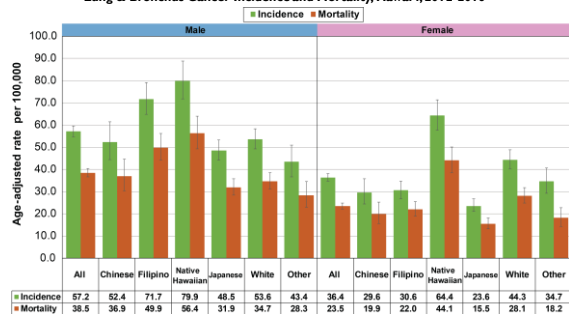
Current Smoking Among Adults Ages 18+ Years , U.S., 2018



Source: Adapted from the CDC

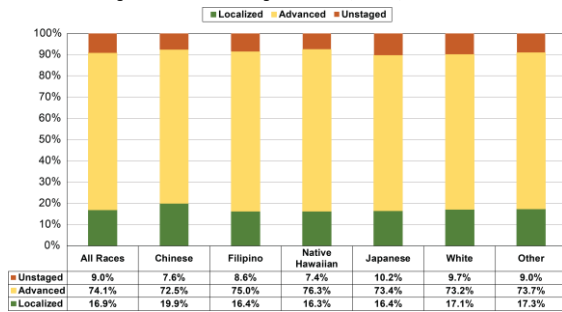
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Lung & Bronchus Cancer Incidence and Mortality, Hawai'i, 2012-2016



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Lung & Bronchus Cancer Stage Distribution, Hawai'i, 2012-2016



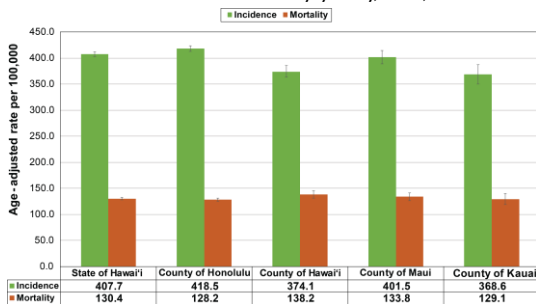
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Average Annual Number of Cancer Cases and Deaths, by County, Hawai'i, 2012-2016

County	All Sites		Breast (Female)		Prostate		Colon & Rectum		Lung & Bronchus	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Honolulu	4,891	1,593	836	98	545	72	509	152	573	380
Hawai'i	977	366	166	23	74	16	89	33	116	78
Maui	797	266	132	20	61	12	84	27	89	57
Kauai	343	123	56	<10	46	<10	34	13	37	26

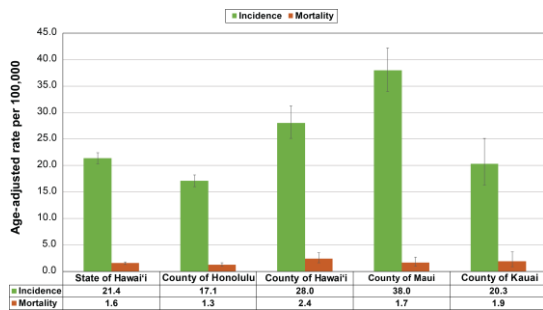
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Overall Cancer Incidence and Mortality by County, Hawai'i, 2012-2016



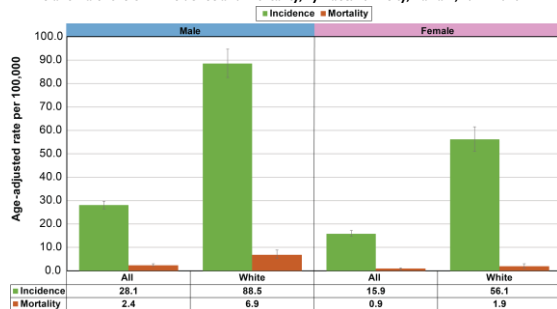
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Melanoma of the Skin Incidence and Mortality by County, Hawai'i, 2012-2016



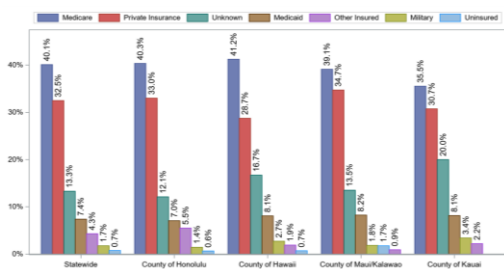
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Melanoma of the Skin Incidence and Mortality, By Race/Ethnicity, Hawai'i, 2012-2016



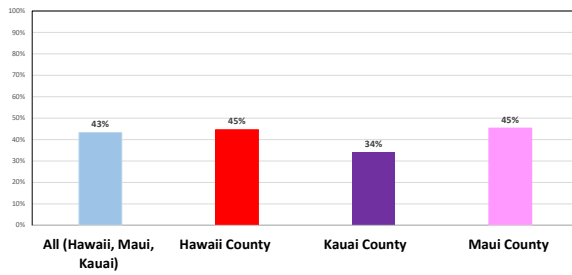
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Insurance status of cancer patients, by County, Hawaii, 2013-2017



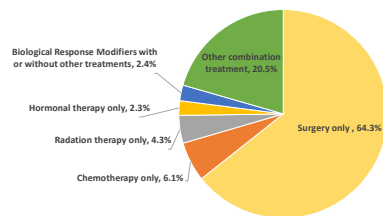
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**Proportion of Neighbor Island Patients Receiving Cancer Treatment
(All or In Part) in Oahu Medical Facilities, Hawaii, 2013-2017**



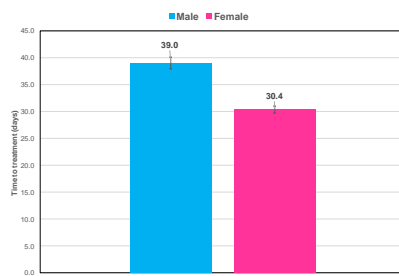
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Neighbor Island Patients Treated on Oahu, by Treatment Type, Hawaii, 2013-2017



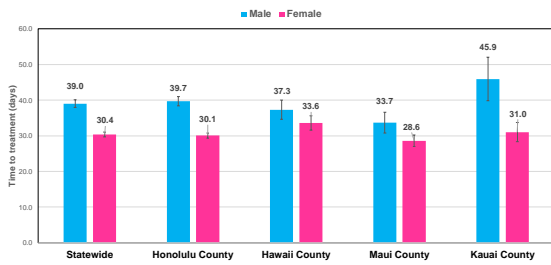
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Mean Time (Days) to Cancer Treatment Initiation, by Sex, Hawaii, 2013-2017



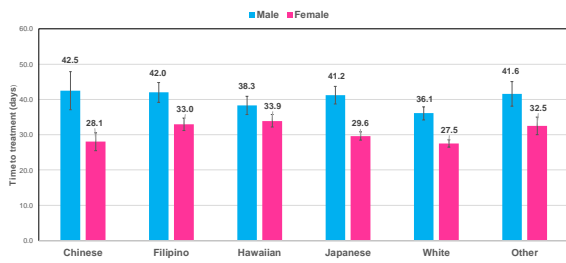
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**Mean Time (days) to Cancer Treatment Initiation,
by Sex and County, Hawaii, 2013-2017**



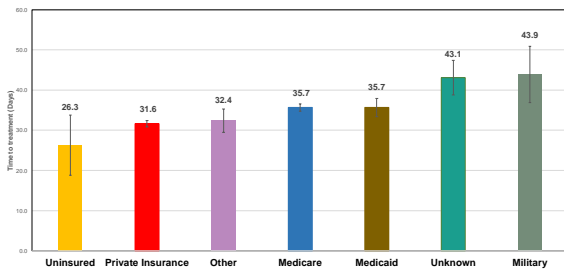
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**Mean Time (Days) to Cancer Treatment Initiation,
by Sex and Race/Ethnicity, Hawaii, 2013-2017**



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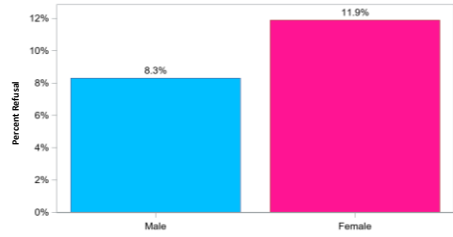
**Mean Time (Days) to Cancer Treatment, by Insurance Status,
Hawaii, 2013-2017**



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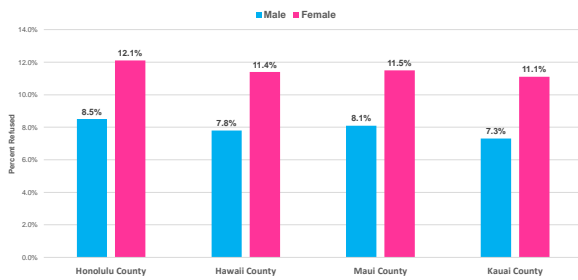
Proportion of Patients Refusing of Recommended First Course Cancer Therapy, Hawaii, 2013-2017

10% of cancer patients refused recommended first course cancer treatment



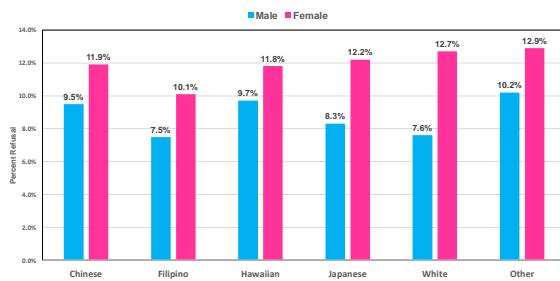
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Proportion of Patients Refusing of Recommended First Course Cancer Therapy, by County Hawaii, 2013-2017



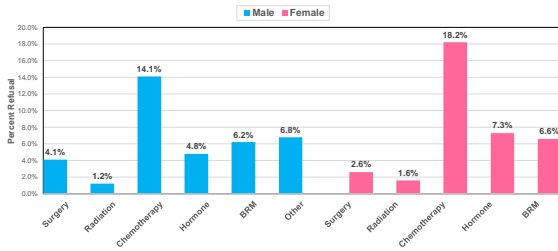
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Proportion of Patients Refusing of Recommended First Course Cancer Therapy, by Race/Ethnicity, Hawaii, 2013-2017



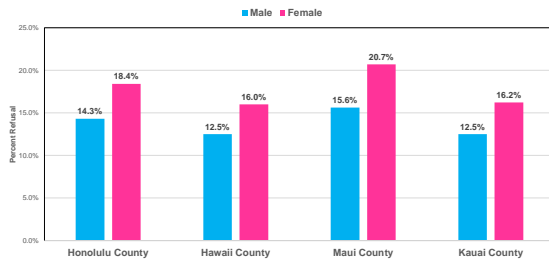
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Proportion of Cancer Patients Refusing Recommended First Course Therapy, by Treatment Type, Hawaii, 2013-2017



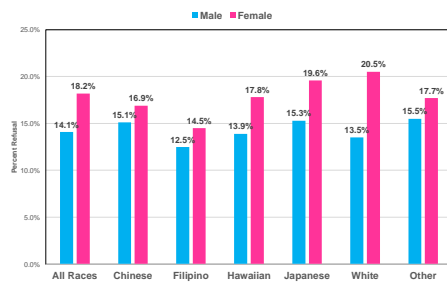
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Proportion of Cancer Patients Refusing Recommended First Course Chemotherapy, by County, Hawaii, 2013-2017



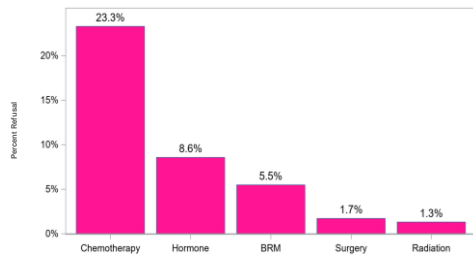
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Proportion of Cancer Patients Refusing Recommended First Course Chemotherapy, by Race/Ethnicity, Hawaii, 2013-2017



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Proportional of Breast Cancer Patients Refusing of Recommended First Course Cancer Treatment, Hawaii, 2013-2017



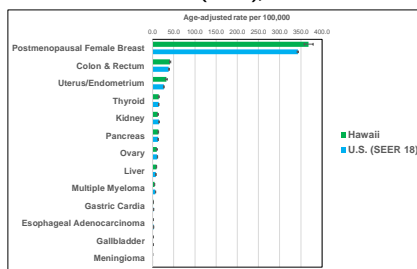
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Cited Reasons for Treatment Refusal, Breast Cancer Patients, Hawaii, 2013-2017

- Age
- Potential adverse events and side effects, e.g., risk of thromboembolic events, cardiac events, cerebrovascular accident, breast erythema
- Alternative therapy, e.g., naturopathy, organic juices, natural remedies, natural healing
- Existing comorbidities, poor health status
- Concerns of being out of work
- Religious/spiritual beliefs
- Desire to have children, nurse
- Perceived low possible benefit
- Effect on quality of life
- Homelessness

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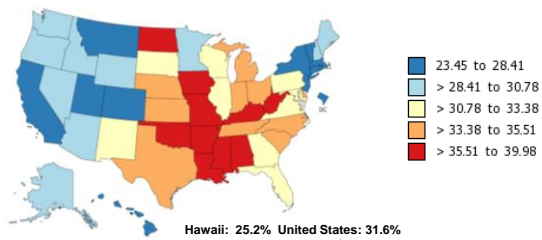
Obesity-Associated Cancer Incidence, Selected Sites, Hawaii and U.S. (SEER), 2013-2017



Source: Adapted from the NCI and CDC

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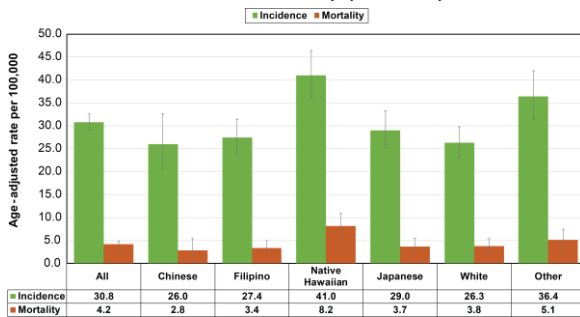
Prevalence of Obesity (Body Mass Index 30+) Among Adults Ages 20 +Years , U.S., 2018



Source: Adapted from the CDC

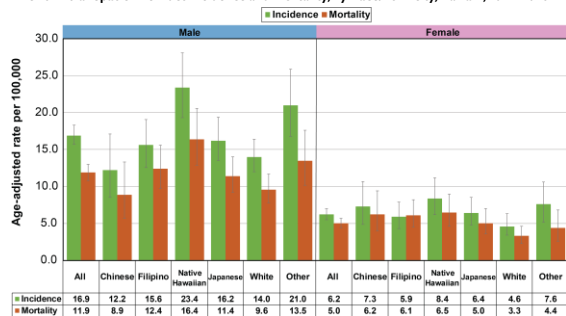
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Uterus/Endometrium Cancer Incidence and Mortality, By Race/Ethnicity, Hawai'i, 2012-2016



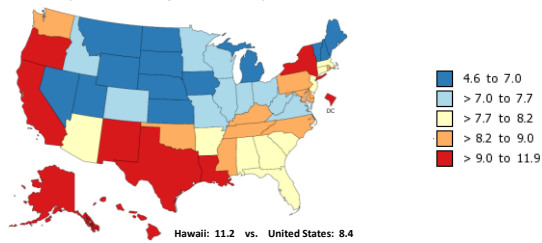
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Liver & Intrahepatic Bile Duct Incidence and Mortality, By Race/Ethnicity, Hawai'i, 2012-2016



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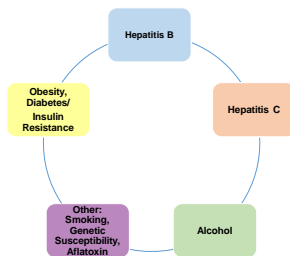
**Liver & Intrahepatic Bile Duct Cancer Incidence
(New Cases per 100,000), United States, 2013-2017**



Source: Adapted from the NCI and the CDC

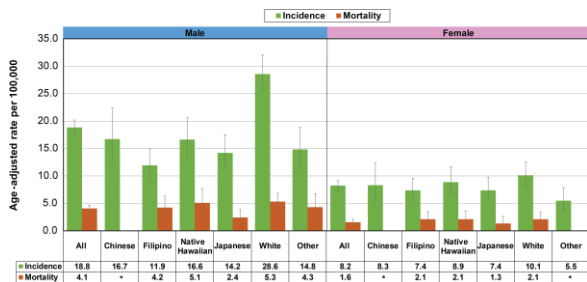
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Liver cancer risk factors



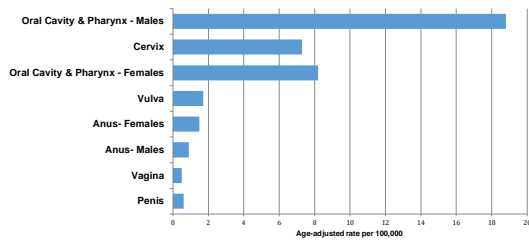
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Oral Cavity & Pharynx Incidence and Mortality, By Race/Ethnicity, Hawai'i, 2012-2016



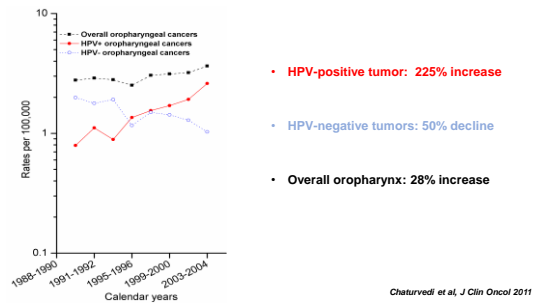
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Incidence of HPV-associated cancers by cancer Hawaii, 2012-2016



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Increased Incidence of HPV-Positive Oropharyngeal Cancers



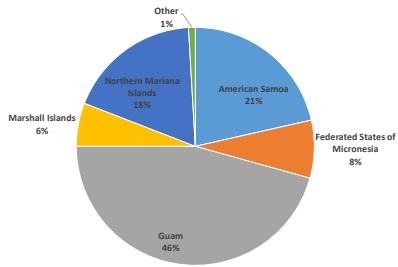
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Top Cancers in Other Racial/Ethnic Groups, Males and Females Combined, Hawai'i, 2012-2016

American Indian	Black	Korean	Micronesian	Samoan	Vietnamese
Lung & Bronchus	Prostate	Breast (Female)	Breast (Female)	Breast (Female)	Liver & Intrahepatic Bile Duct
28 (16.8%)	121 (27.7%)	111 (16.3%)	54 (12.7%)	89 (15.6%)	30 (15.2%)
Breast (Female)	Breast (Female)	Lung & Bronchus	Lung & Bronchus	Uterus/Endometrium	Breast (Female)
22 (13.2%)	51 (11.7%)	97 (14.2%)	52 (12.3%)	76 (13.3%)	27 (13.7%)
Prostate	Colon & Rectum	Colon & Rectum	Uterus/Endometrium	Lung & Bronchus	Colon & Rectum
14 (8.4%)	36 (8.2%)	72 (10.6%)	41 (9.7%)	68 (11.9%)	26 (13.2%)
Lung & Bronchus	Stomach	Oral Cavity & Pharynx	Colon & Rectum	Lung & Bronchus	Lung & Bronchus
33 (7.6%)	49 (7.2%)	37 (8.7%)	56 (9.8%)	20 (10.2%)	
All Sites	All Sites	All Sites	All Sites	All Sites	All Sites
167 (100.0%)	437 (100.0%)	681 (100.0%)	424 (100.0%)	570 (100.0%)	197 (100.0%)

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US Affiliated Pacific Island Residents Undergoing Cancer Treatment in Hawaii, 2013-2017 (n=764)



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Mahalo!



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