
State Cancer Registry Overview and Data Use in Reducing the Burden of Cancer in Oregon

Donald Shipley and Jeffrey Soule
Oregon State Cancer Registry (OSCaR)

www.healthoregon.org/oscar

Sept 25, 2013



HEALTH PROMOTION AND CHRONIC DISEASE PREVENTION

Public Health Division

Overview

- Oregon State Cancer Registry overview
- Data sources
- Data use in assessment of cancer burden
- Using data to set priorities and evaluate cancer control interventions
- OSCaR data use in 2013 Oregon Legislative Session

OSCaR Background

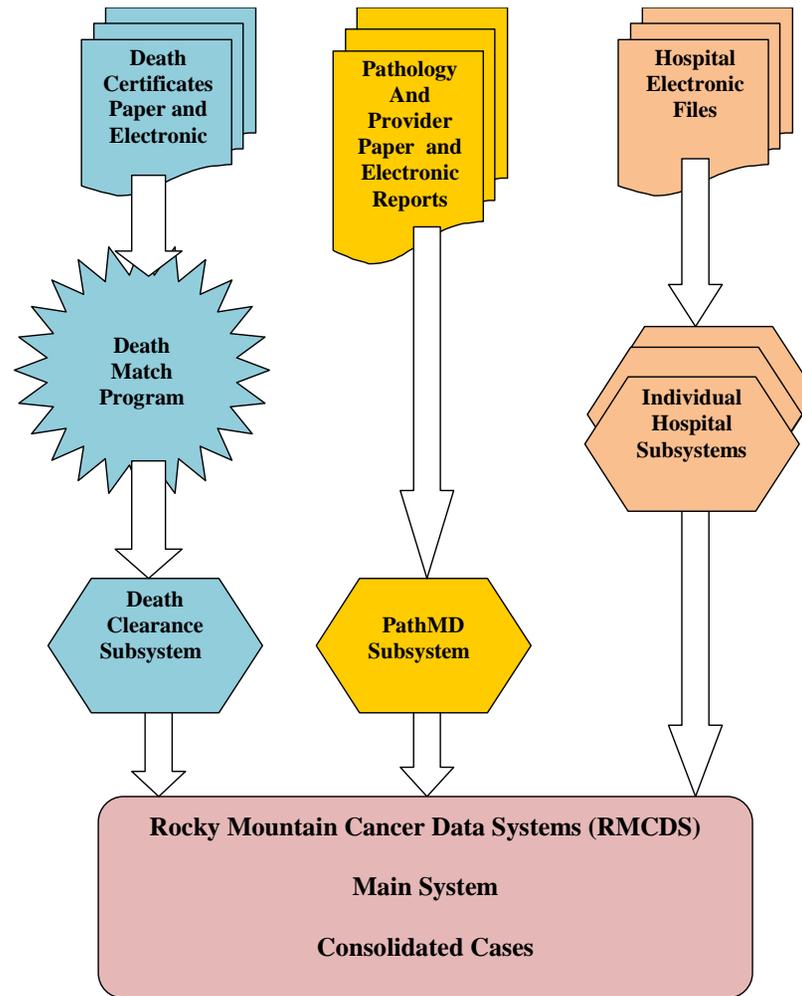
- Statewide population-based cancer registry
- Established by the 1995 Oregon legislature
- Purpose:

To provide information to design, target, monitor, facilitate and evaluate efforts to determine the causes or sources of cancer and benign tumors among the residents of Oregon and to **reduce the burden of cancer and benign tumors in Oregon.**

Reportable cancers

- Collect data on all reportable cancers
 - All invasive malignant neoplasms (except invasive basal or squamous cell carcinoma of skin) and specified benign neoplasms of the brain and central nervous system are reportable
 - All in-situ carcinomas, except carcinoma in-situ of the cervix uteri, and basal and squamous cell carcinoma in-situ of the skin

Data collection methods and storage



HEALTH PROMOTION AND CHRONIC DISEASE PREVENTION

Public Health Division

Data Elements

Patient Information

- Patient name, address, age, sex, race and ethnicity
- Type/characteristics of the cancer
 - site, histology, grade, and stage
- Details of the diagnosis (including date of diagnosis)
- Treatment given

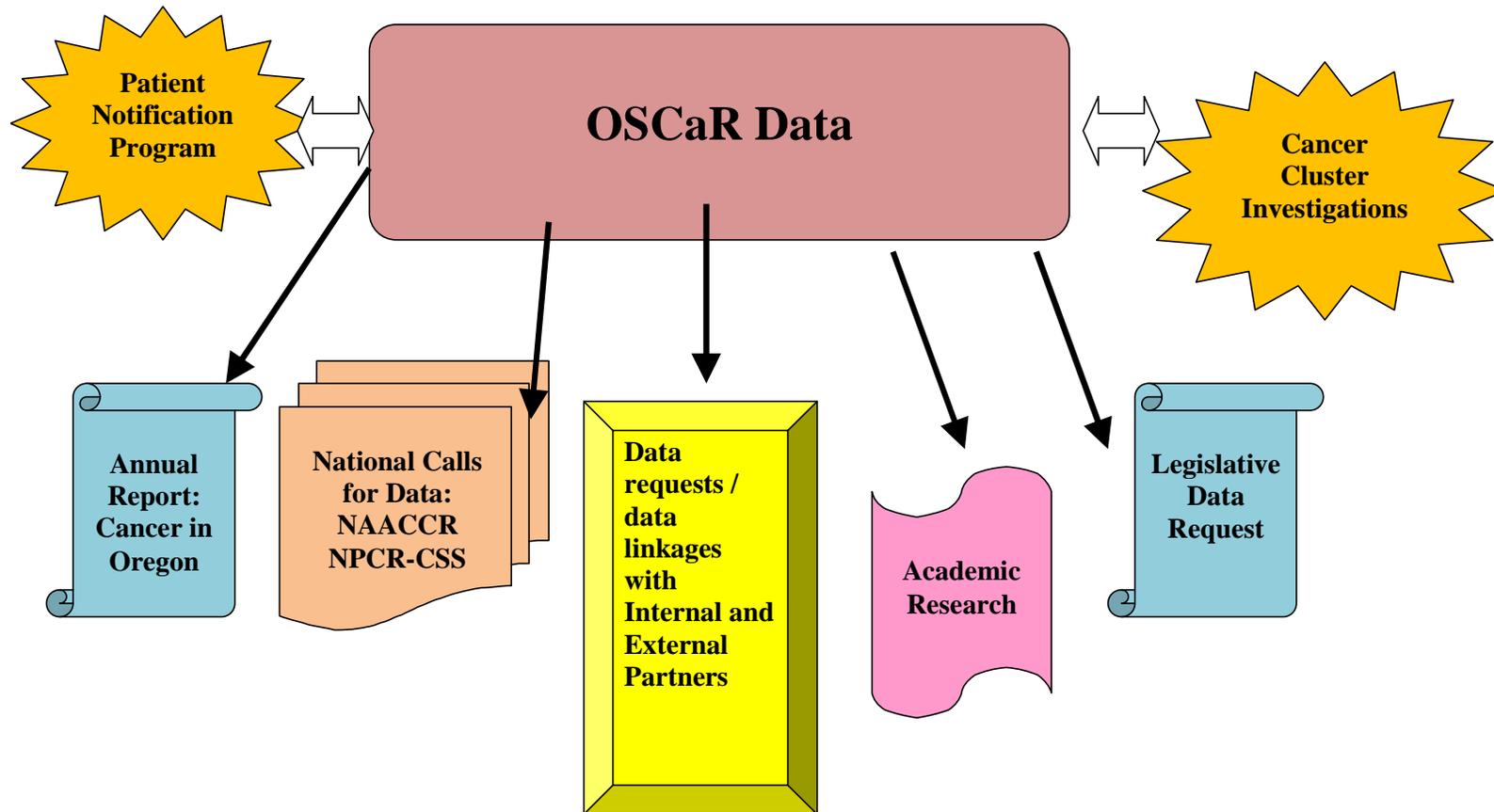
Follow-up information (date of death and cause of death)

- Passive follow-up
- Information updated using regular linkages with the Oregon death certificate database
- Linkages with Social Security Death Index database
- Linkages with National Death Index database

Data Sources

- **Incidence data** – Oregon State Cancer Registry
- **Mortality data** – Oregon Death Certificate Database
- **Population estimates** – U.S. Census
- **Cancer screening data** – Oregon Behavioral Risk Factor Surveillance System (BRFSS)

Users of OSCaR data



HEALTH PROMOTION AND CHRONIC DISEASE PREVENTION

Public Health Division

Annual Report, Oregon 2010

CANCER IN OREGON 2010



Oregon State Cancer Registry
May 2013

Annual Report 2010: <http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/Cancer/oscar/Pages/AR2010.aspx>

HEALTH PROMOTION AND CHRONIC DISEASE PREVENTION

Public Health Division

Oregon
Health
Authority

Data Use in Assessment of Cancer Burden

All cancer sites - Fast Facts (Oregon 2010)

All Cancers - Fast Facts			
Oregon 2010	Male	Female	Total
<i>Cancer Incidence</i>			
Total Cancer Cases 2010	10,191	10,674	20,870
Invasive Cases	9,234	9,371	18,610
In-situ Cases	957	1,303	2,260
Rates			
Crude Rate	507.6	489.2	498.4
Age-adjusted Rate	468.1	410.5	434.2
¹ US Age-adjusted Rate (2009)	523.5	414.3	459
² Oregon APC (2006-2010)	-2.9	-1.1	-2.0
<i>Cancer Mortality</i>			
Total Cancer Deaths 2010	4,003	3,740	7,743
Rates			
Crude Rate	210.7	193	201.7
Age-adjusted Rate	205.1	153.3	175.1
US Age-adjusted Rate (2009)	211.9	146.4	173.1
Note: Incidence and mortality rates are per 100,000 population, age-adjusted to the 19-age-group 2000 U.S. standard population. Total number includes male, female and other genders.			
¹ U.S. Cancer Statistics Working Group. United States Cancer Statistics: 1999–2009 Incidence and Mortality Web-based Report. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; 2013. Available at: www.cdc.gov/uscs .			
² APC = Average Annual Percent Change			

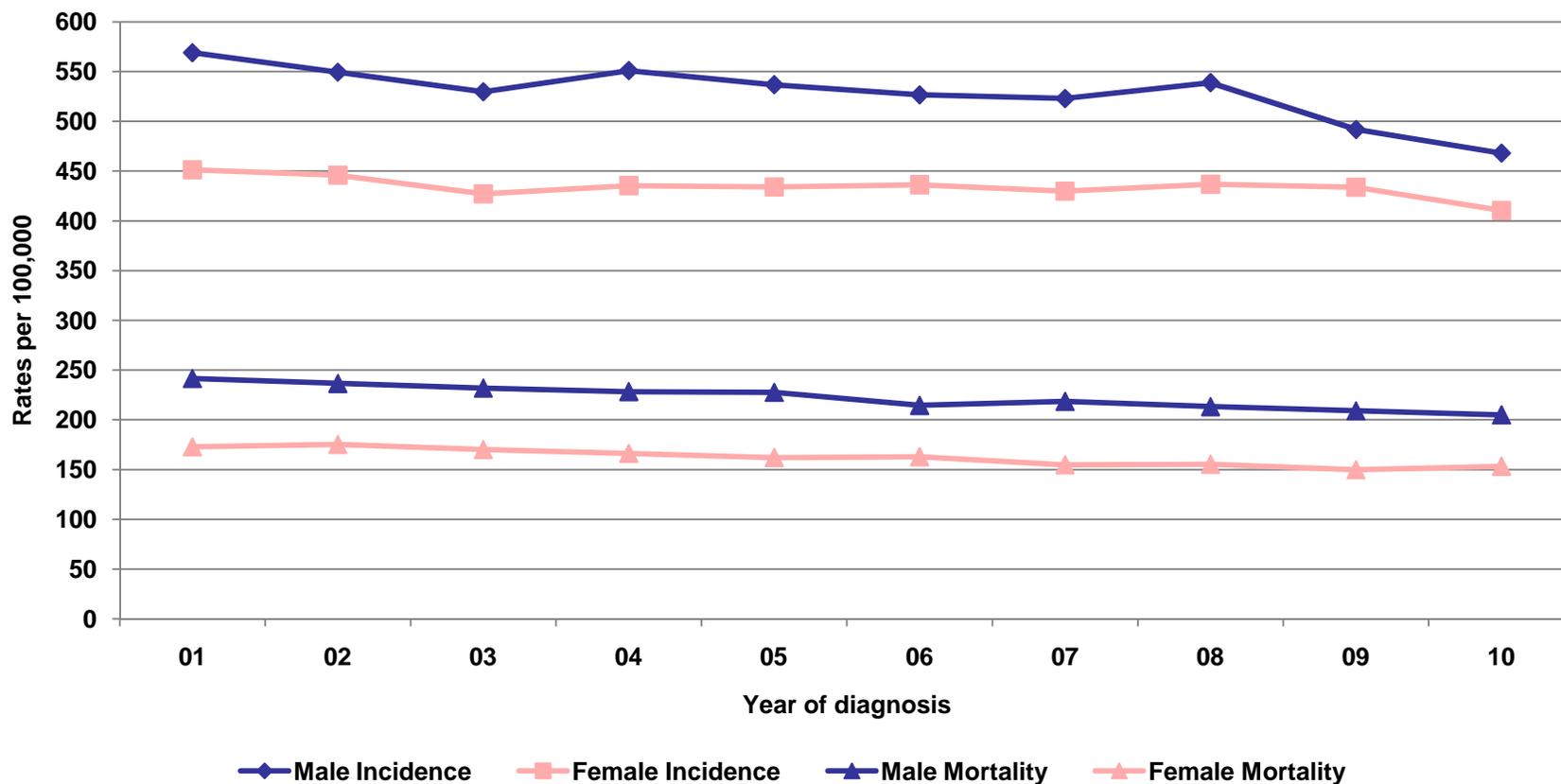
HEALTH PROMOTION AND CHRONIC DISEASE PREVENTION

Public Health Division



Data Use in Assessment of Cancer Burden

All Cancer Age-Adjusted Incidence and Mortality Rates by Year Oregon 2001-2010



Source: Oregon State Cancer Registry

HEALTH PROMOTION AND CHRONIC DISEASE PREVENTION

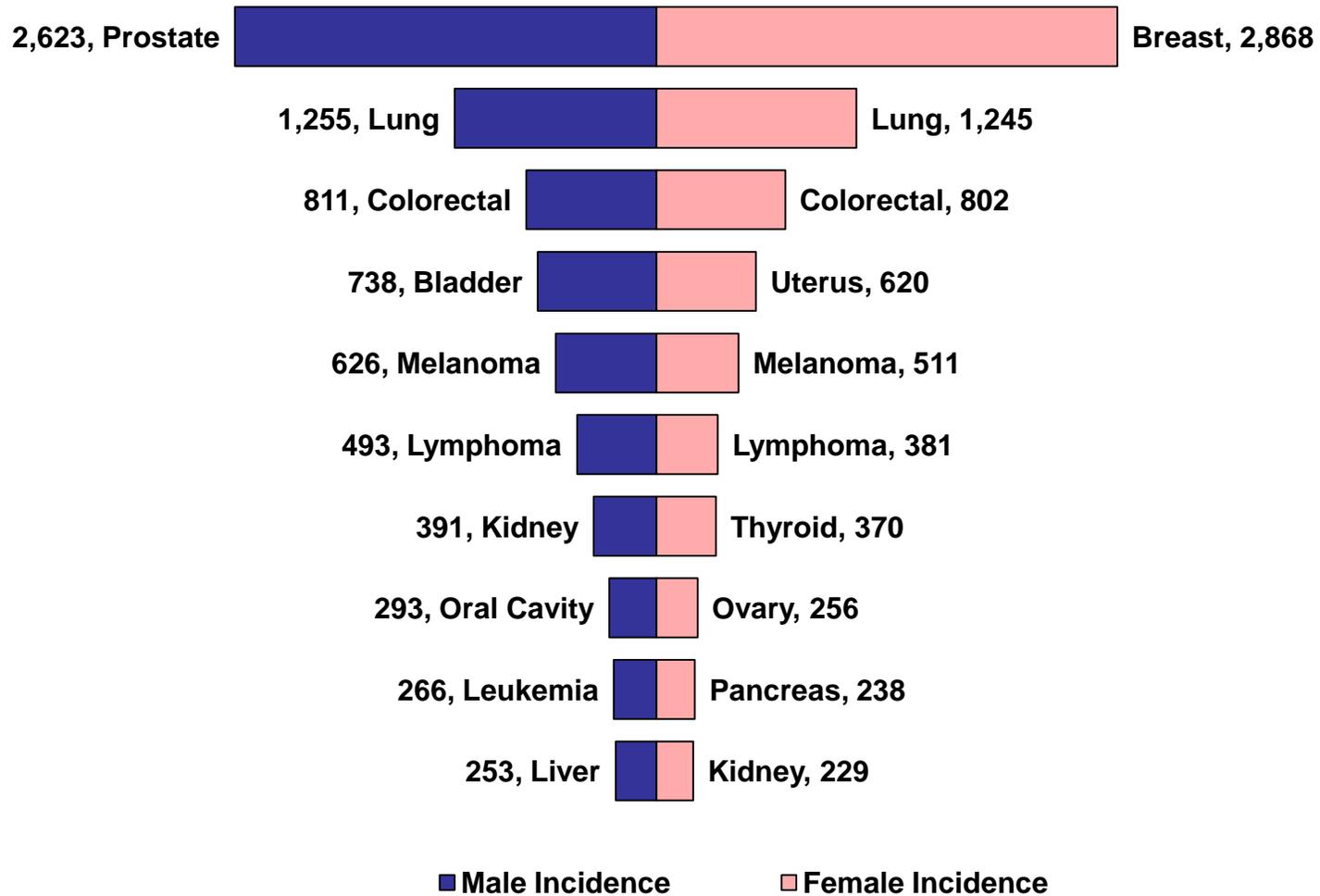
Public Health Division



Data Use in Assessment of Cancer Burden

Leading Sites of Cancer Incidence by Gender

Oregon 2010



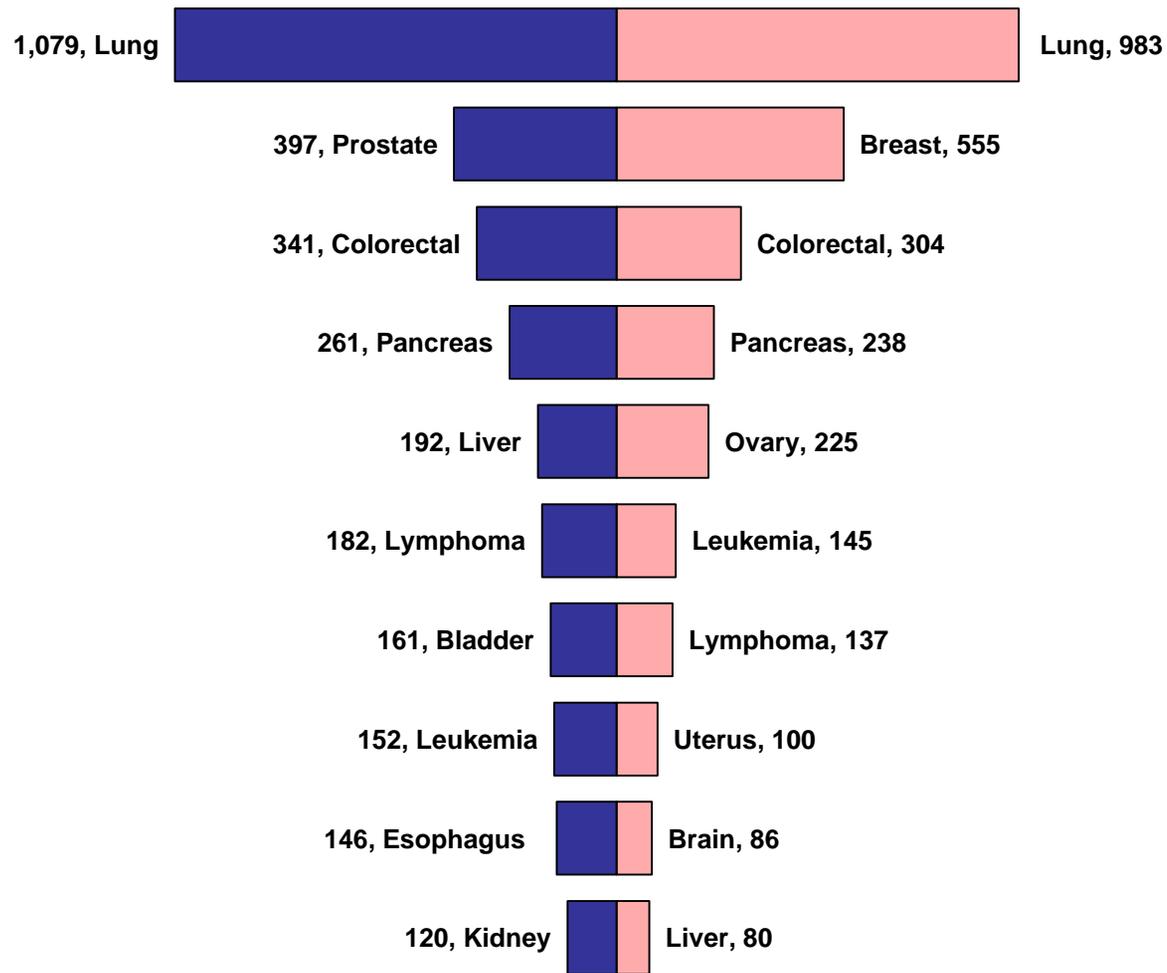
Source: Oregon State Cancer Registry

HEALTH PROMOTION AND CHRONIC DISEASE PREVENTION

Public Health Division



Data Use in Assessment of Cancer Burden Leading Sites of Cancer Mortality by Gender Oregon 2010



Source: Oregon State Cancer Registry

■ Male Mortality

■ Female Mortality

HEALTH PROMOTION AND CHRONIC DISEASE PREVENTION

Public Health Division

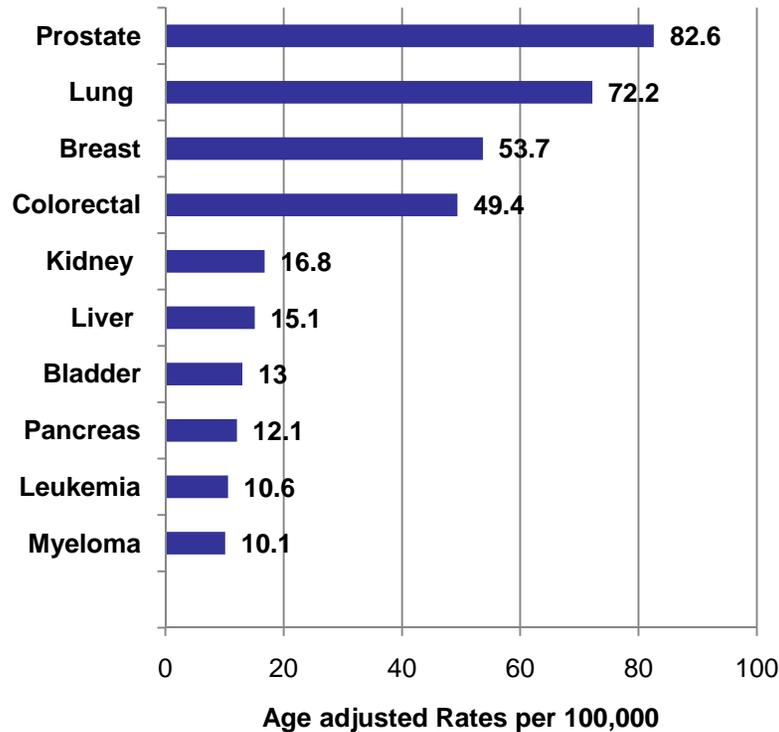


Data Use in Assessment of Cancer Burden

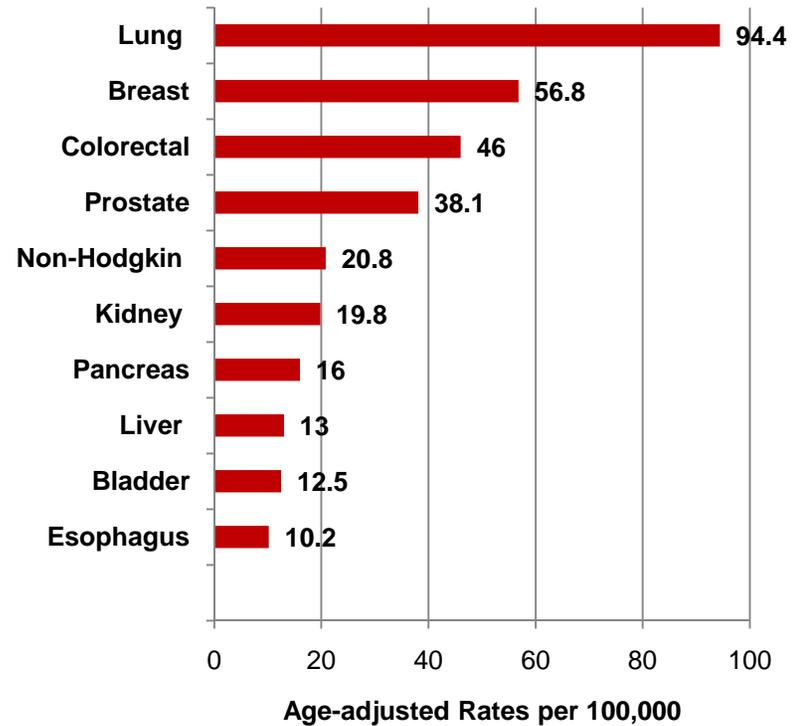
Leading Sites of Cancer Incidence among Minorities

Oregon 2006-2010

Leading Sites of Cancer Incidence Among African Americans, Oregon 2006-2010



Leading Sites of Cancer Incidence Among American Indian/Alaska Natives, Oregon 2006-2010



Source: Oregon State Cancer Registry

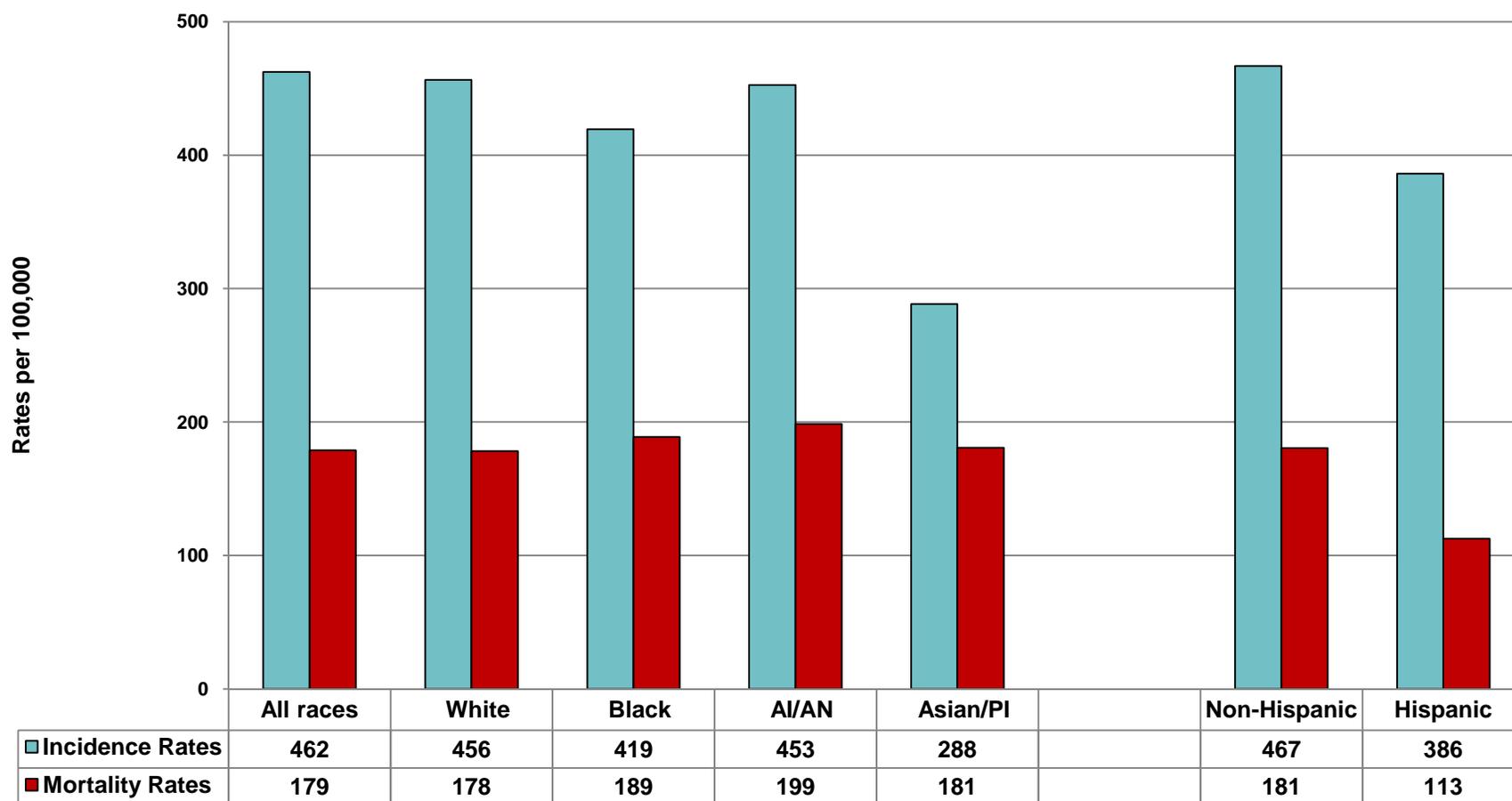
HEALTH PROMOTION AND CHRONIC DISEASE PREVENTION

Public Health Division



Data Use in Assessment of Cancer Burden

All Cancers Age-Adjusted Incidence and Mortality Rates by Race and Ethnicity, Oregon 2006-2010



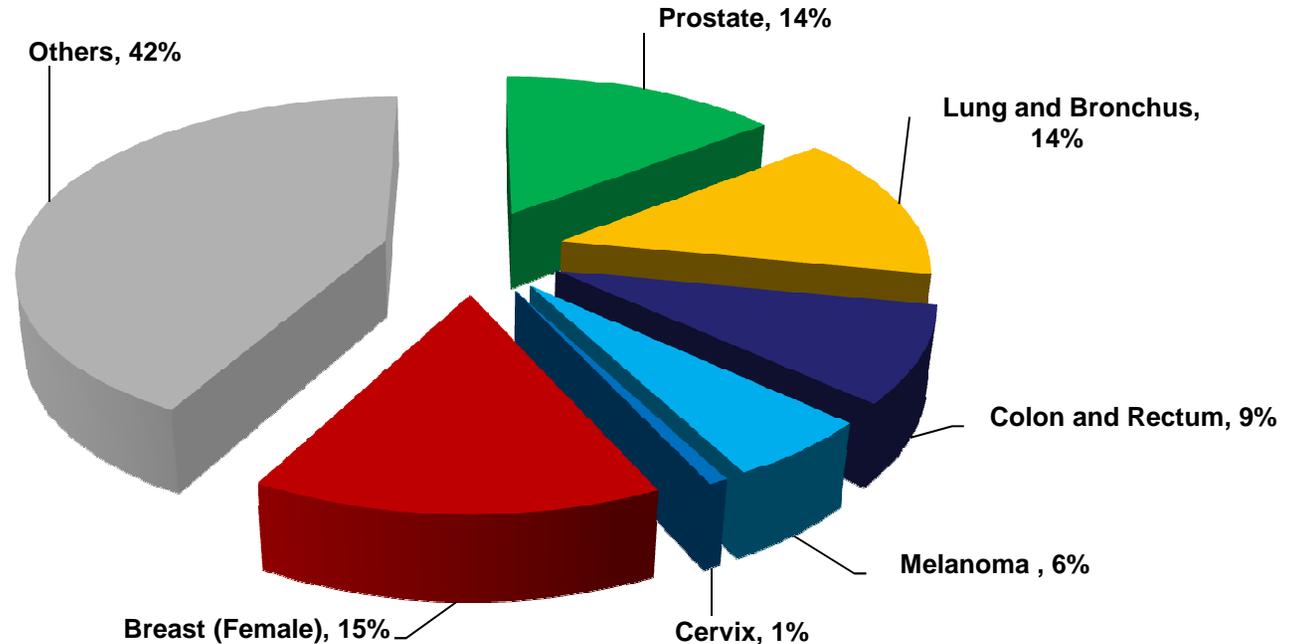
Source: Oregon State Cancer Registry

HEALTH PROMOTION AND CHRONIC DISEASE PREVENTION

Public Health Division

Most Common Cancer Sites with Evidence-Based Prevention and Early Detection Interventions, Oregon 2006-2010

Total 58% of cancer diagnosis have evidence-based interventions



Total may not add up to 100 percent as numbers are rounded.

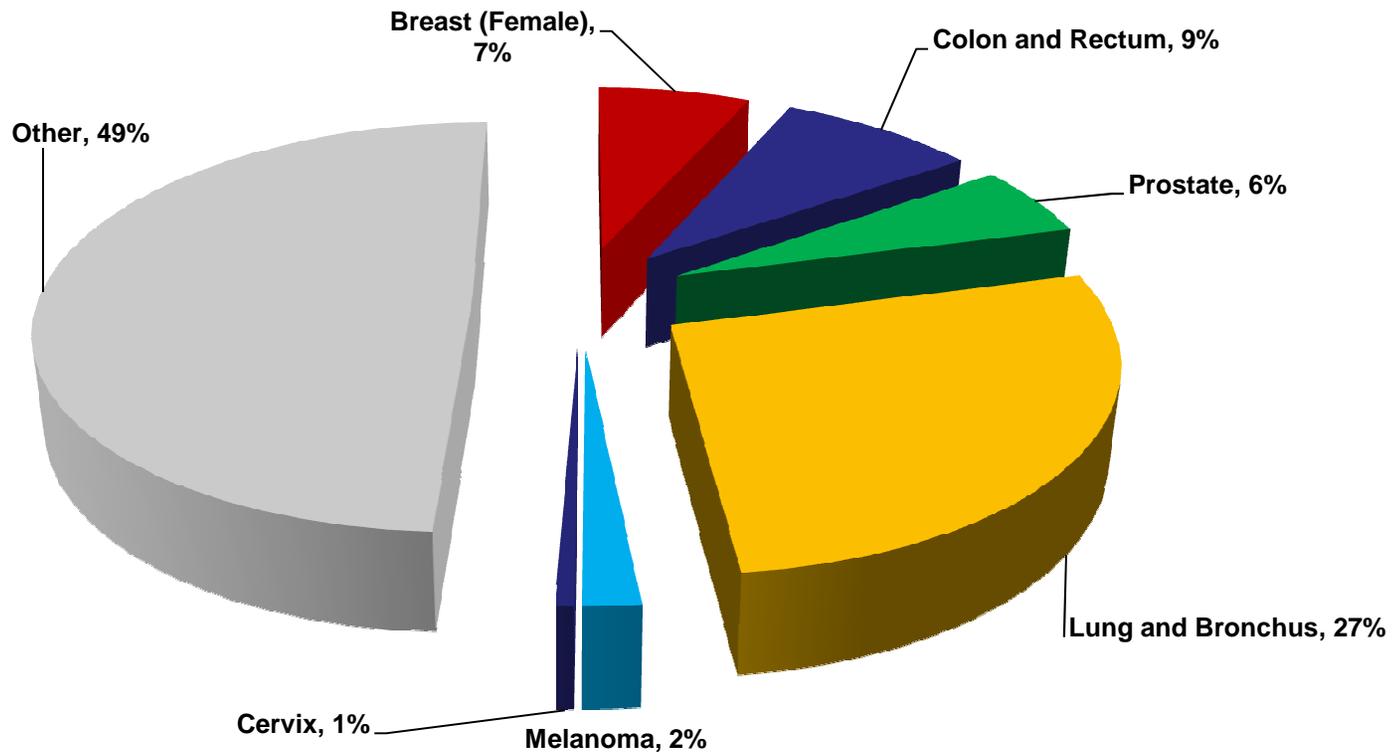
Source: Oregon State Cancer Registry

HEALTH PROMOTION AND CHRONIC DISEASE PREVENTION

Public Health Division

Most Common Cancer Deaths with Evidence-Based Prevention and Early Detection Interventions, Oregon 2006-2010

51% of Total cancer deaths have evidence-based interventions



Total may not add up to 100 percent as numbers are rounded.
Source: Oregon State Cancer Registry

HEALTH PROMOTION AND CHRONIC DISEASE PREVENTION

Public Health Division

Cancer Risk Factors with Evidence-Based Preventive Interventions

- **Tobacco-related cancers**

Lung & bronchial, laryngeal, oropharyngeal, esophageal, stomach, pancreatic, kidney and renal pelvis, urinary bladder, cervical, and acute myeloid leukemia

- **Obesity-associated cancers**

Esophagus, breast (postmenopausal), endometrium, colon and rectum, kidney, pancreas, thyroid, and gallbladder

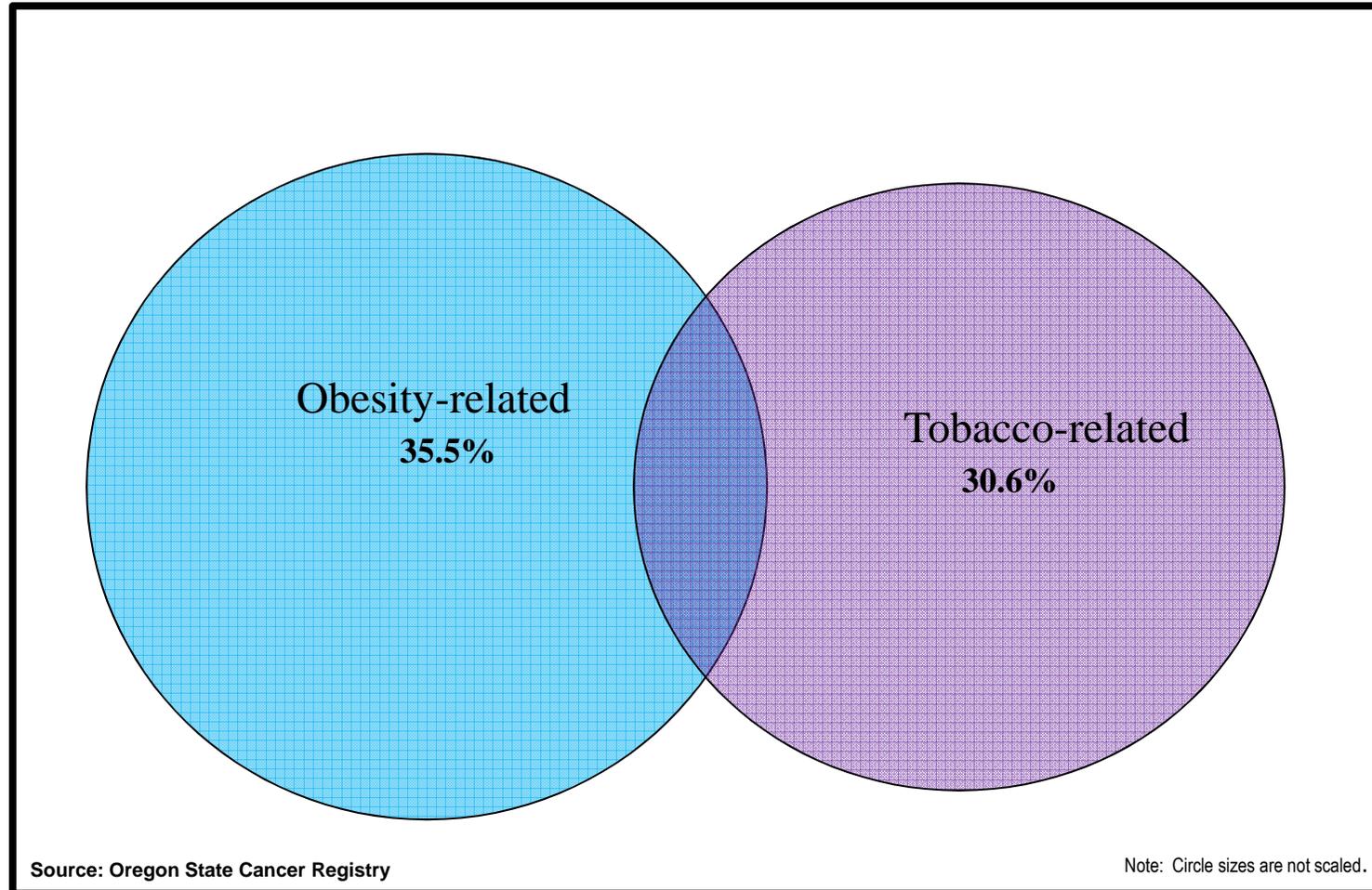
Source: National Cancer Institute Fact sheet, 01/03/2012

HEALTH PROMOTION AND CHRONIC DISEASE PREVENTION

Public Health Division

Oregon
Health
Authority

Percentages of Obesity and Tobacco-related cancers Oregon 2006-2010

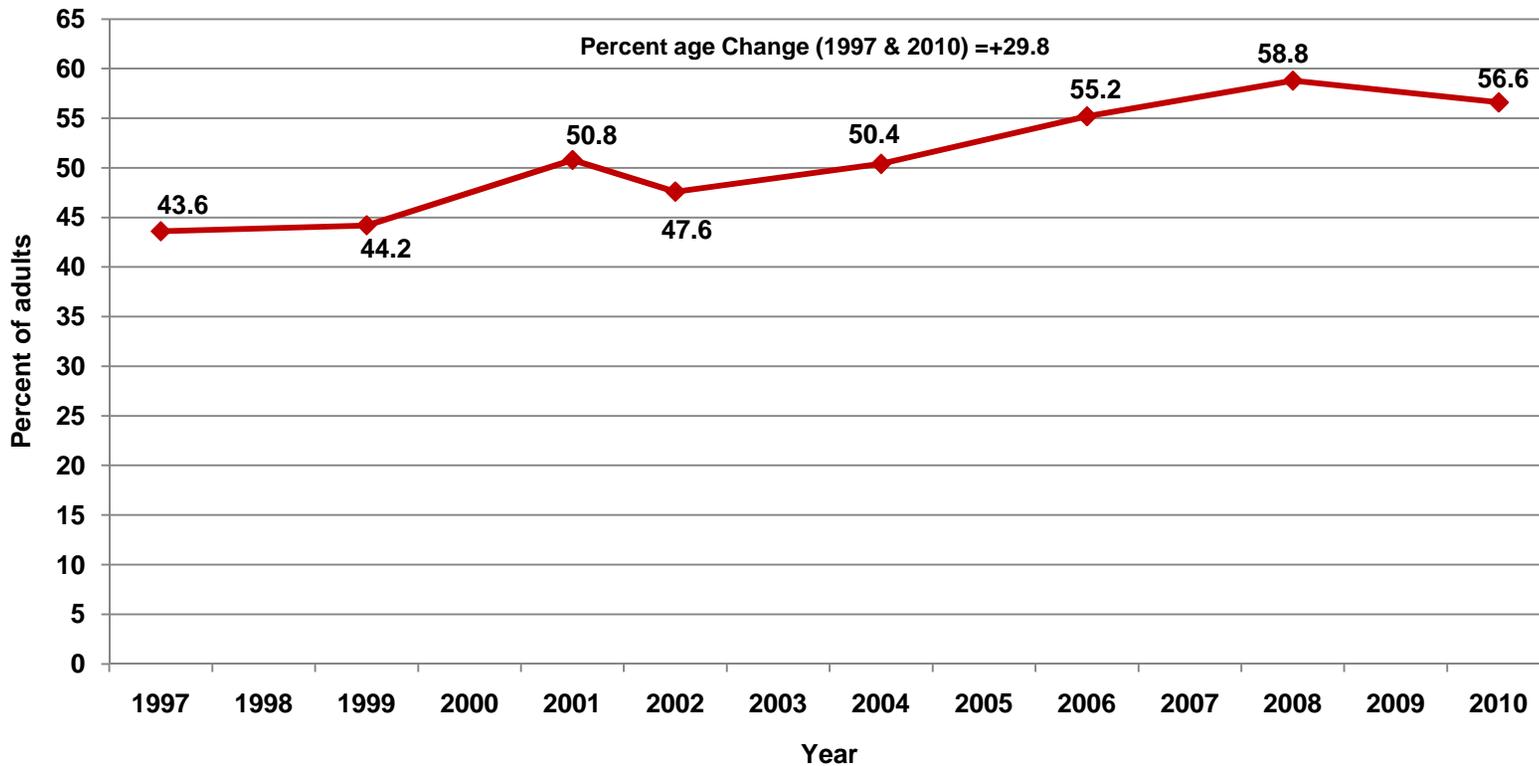


HEALTH PROMOTION AND CHRONIC DISEASE PREVENTION

Public Health Division

Using Data to Set Priorities and Evaluate Cancer Control Interventions

Colorectal cancer screening*, Ages 50 to 75, Oregon, 1997-2010



Source: Oregon BRFSS

*All respondents who had blood stool test within the past year or Sigmoidoscopy or Colonoscopy within the past 5 years

HEALTH PROMOTION AND CHRONIC DISEASE PREVENTION

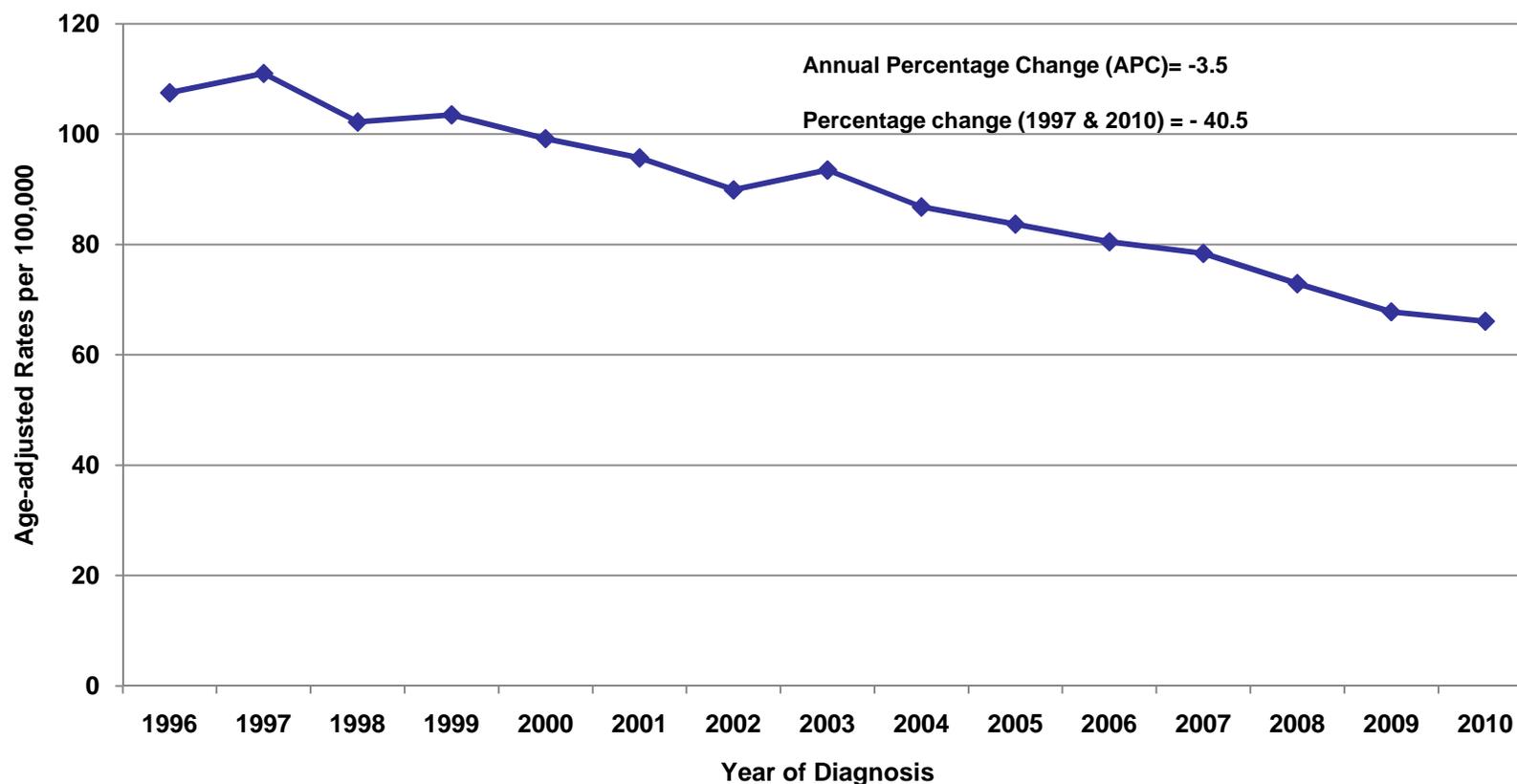
Public Health Division



Using Data to Set Priorities and Evaluate Cancer Control Interventions

Late Stage Colorectal Cancer Incidence, Ages 50 or older

Oregon, 1996-2010



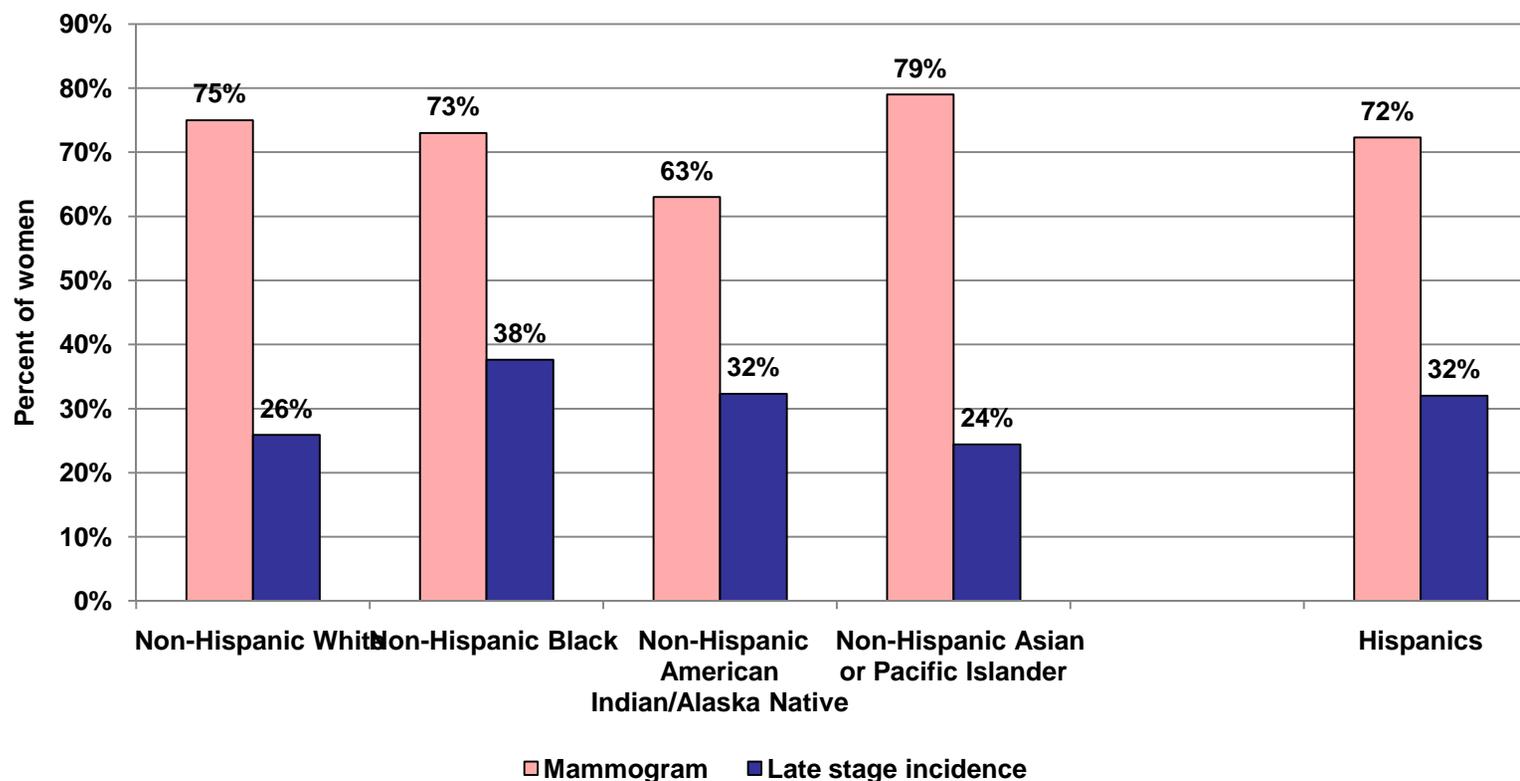
Source: Oregon State Cancer Registry

HEALTH PROMOTION AND CHRONIC DISEASE PREVENTION

Public Health Division



Using Data to Set Priorities and Evaluate Cancer Control Interventions OSCaR (2006-2010) and Oregon BRFSS Race oversample (2010-2011) Late stage breast cancer incidence and *Mammogram, women ages 50-74



Source: OSCaR and Oregon BRFSS race oversample

*All women respondents who had mammogram screening within the past two years

HEALTH PROMOTION AND CHRONIC DISEASE
 PREVENTION

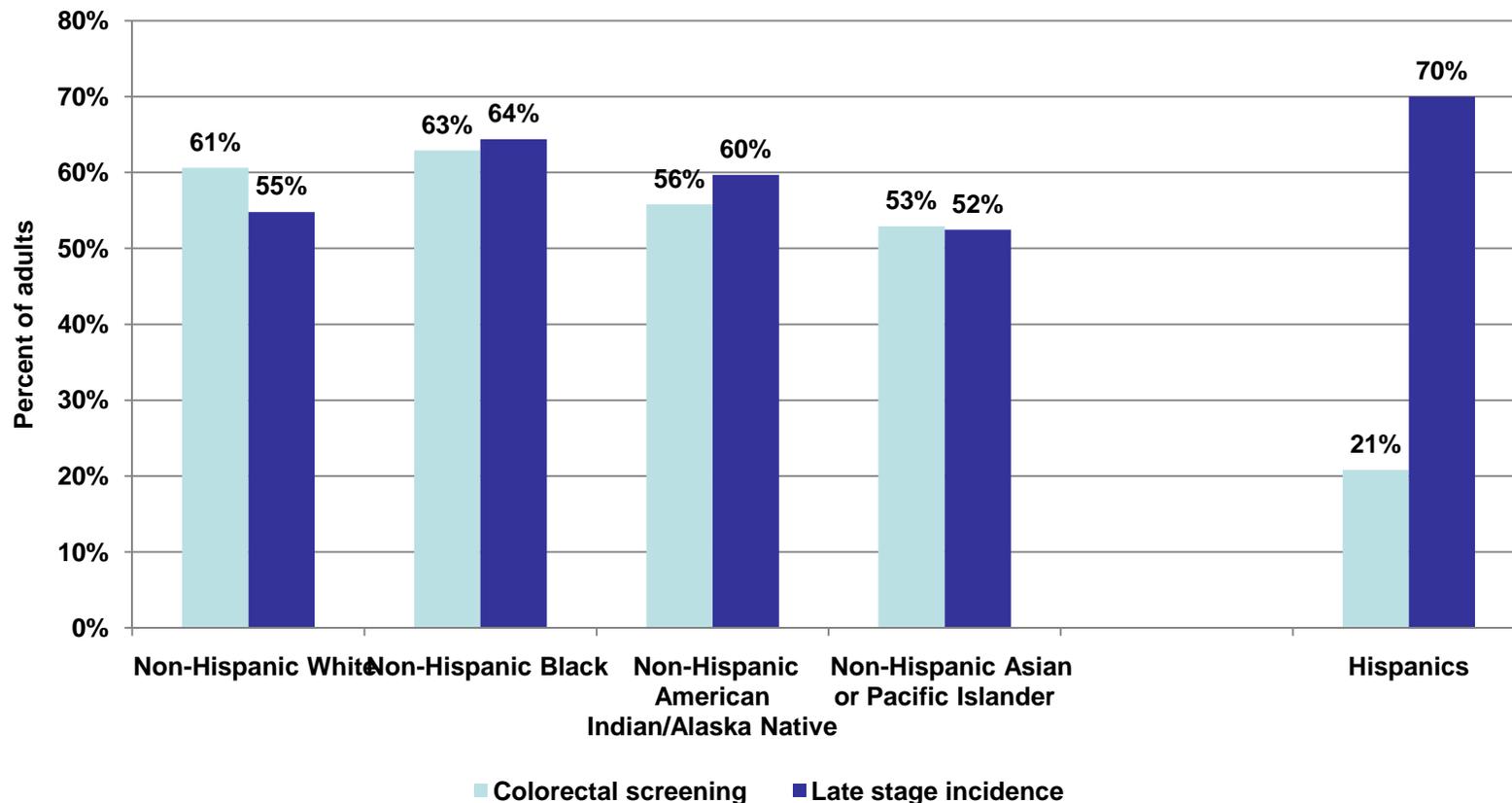
Public Health Division



Using Data to Set Priorities and Evaluate Cancer Control Interventions

OSCaR (2006-2010) and Oregon BRFSS Race oversample (2010-2011)

Late stage colorectal cancer diagnosis and *colorectal screening, Ages 50-75



Source: OSCaR and Oregon BRFSS race oversample

*Fecal occult blood test (FOBT) in the past year or colonoscopy within 10 year or sigmoidoscopy within the past 5 years with FOBT within the 3 years

HEALTH PROMOTION AND CHRONIC DISEASE PREVENTION

Public Health Division

Using Data to Set Priorities and Evaluate Cancer Control Interventions

Lung Cancer Incidence and Mortality by County (2001-2010)

Lung Cancer County	Incidence					Mortality			
	2001-2005		2006-2010		Trend	2001-2005		2006-2010	
	Count	Rate	Count	Rate		Count	Rate	Count	Rate
Oregon	13,042	70.2	13,262	63.2	↓	10,278	55.4	10,350	49.5
Baker	83	68.0	80	60.6		72	57.9	61	46.1
Benton	176	49.6	213	51.9		136	38.7	181	43.1
Clackamas	1,193	68.8	1,197	59.0	↓	869	49.6	930	45.8
Clatsop	156	70.1	172	72.1		110	48.2	154	64.7
Columbia	195	84.1	201	76.4		171	75.5	160	61.8
Coos	414	88.3	408	80.3		365	76.6	328	64.6
Crook	101	77.8	98	62.2		71	55.5	71	47.1
Curry	180	84.5	155	69.4		121	57.9	118	52.3
Deschutes	435	61.7	493	56.5		346	49.4	384	44.6
Douglas	577	78.6	618	74.5		440	60.0	489	58.6
Gilliam	12	85.0	^	^		5	^	8	^
Grant	32	61.0	34	53.6		26	49.6	22	34.5
Harney	25	51.3	36	63.9		24	51.0	28	50.1
Hood River	60	59.2	65	57.7		60	56.6	44	39.3
Jackson	866	72.6	850	62.2	↓	667	55.7	633	46.5
Jefferson	68	61.3	62	51.4		48	47.3	61	51.1
Josephine	490	80.2	502	74.0		426	69.7	394	58.0
Klamath	263	66.3	311	69.8		225	57.2	215	48.5
Lake	39	69.0	33	55.9		26	48.0	23	38.9
Lane	1,324	73.2	1,267	61.8	↓	1,049	58.0	1,070	52.1
Lincoln	275	81.0	287	75.4		216	64.5	224	59.7
Linn	464	76.0	507	73.3		367	59.0	391	57.1
Malheur	99	58.4	98	54.1		69	40.4	70	38.6
Marion	961	66.2	1,043	64.6		807	56.1	834	51.7
Morrow	52	97.3	41	69.9		35	69.3	33	57.2
Multnomah	2,373	78.4	2,193	67.4	↓	1,802	59.9	1,701	52.7
Polk	234	64.4	242	57.1		171	43.8	184	42.8
Sherman	^	^	^	^		6	^	9	^
Tillamook	121	64.8	146	72.3		98	54.0	104	52.0
Umatilla	215	59.8	222	56.8		205	57.0	171	44.3
Union	83	57.9	84	52.7		70	48.0	69	42.8
Wallowa	22	44.9	32	50.5		19	37.9	21	33.1
Wasco	125	80.6	141	84.8		98	62.9	108	63.3
Washington	1,021	56.4	1,067	49.6	↓	803	44.4	811	38.3
Wheeler	12	81.2	^	^		10	^	4	^

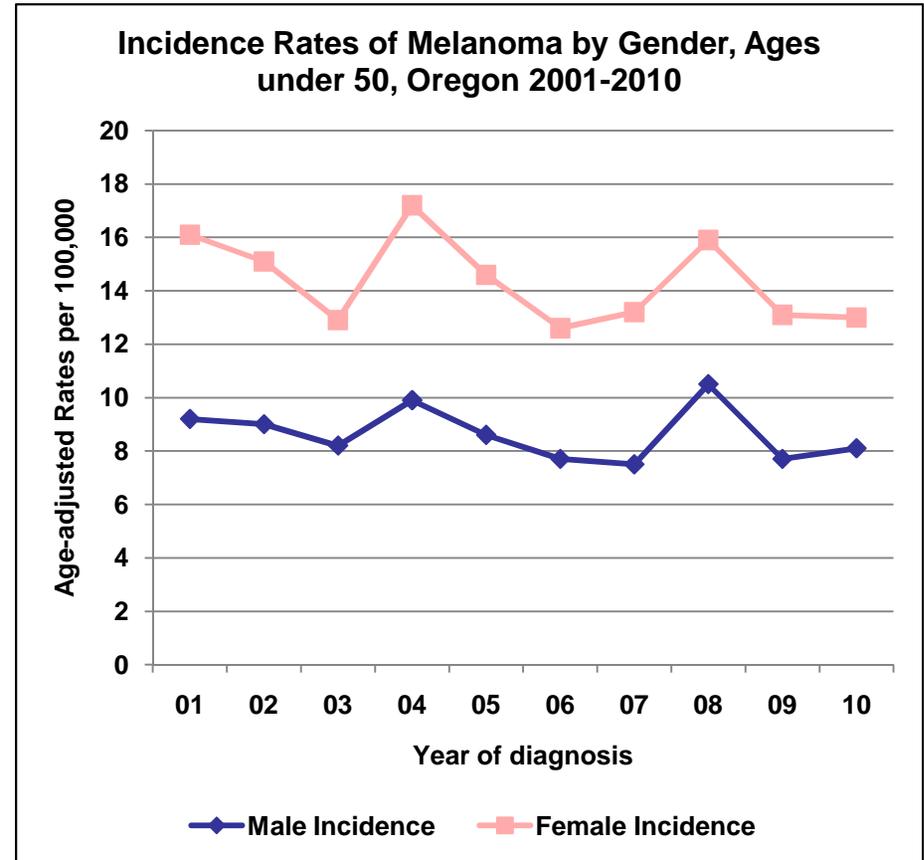
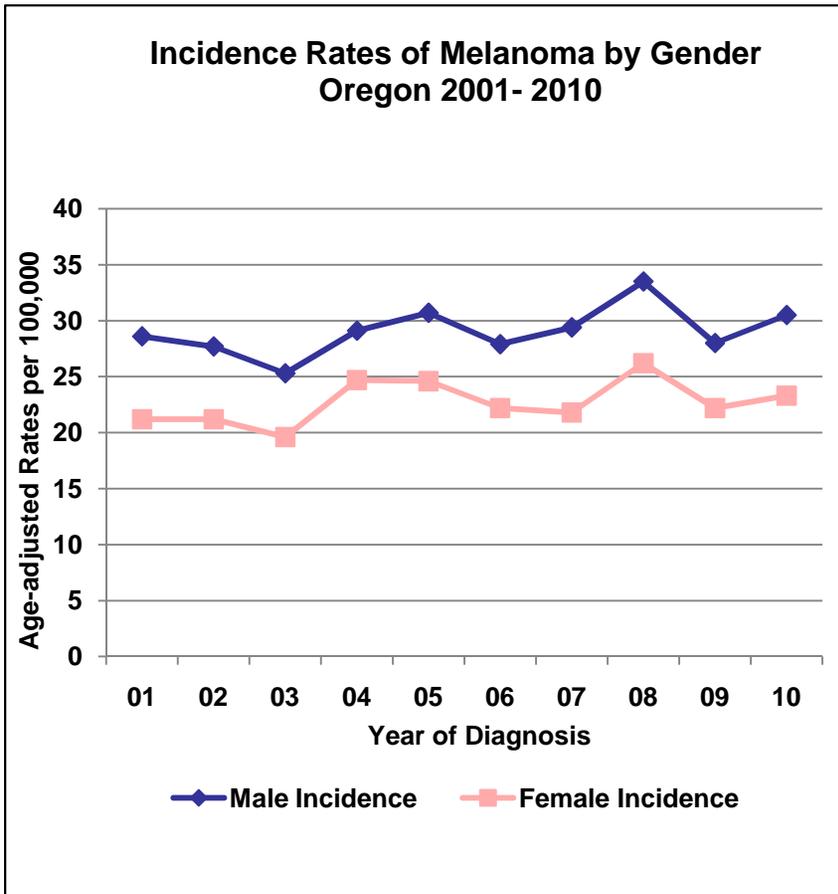
Using Data to Set Priorities and Evaluate Cancer Control Interventions

- **County level cancer incidence and mortality rates**
- **Cancer trends over time**
- **Survival rate estimation**
- **Cancer treatment evaluation**
- **Cancer cost assessment**

OSCaR Data Use in 2013 Oregon Legislative Session

- **HB2896A** Restricts use of tanning devices by minors
- **SB722A** Comprehensive plan for HPV-related cancers
- **SB420A** Requires health facilities to notify women of breast density

OSCaR Data Use In 2013 Oregon Legislative Session



Source: Oregon State Cancer Registry

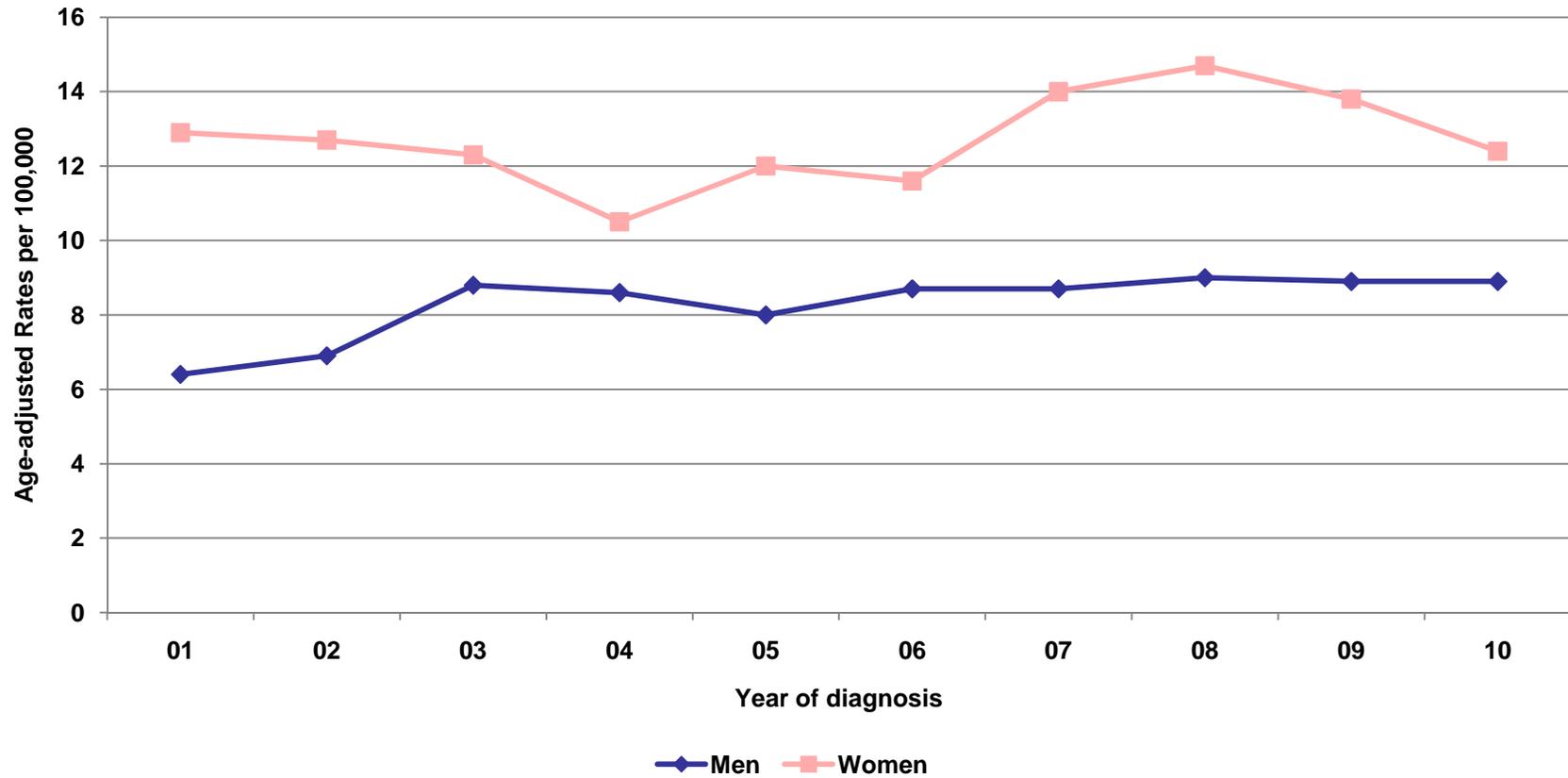
HEALTH PROMOTION AND CHRONIC DISEASE PREVENTION

Public Health Division



OSCaR Data Use In 2013 Oregon Legislative Session

Incidence Rates of HPV-associated Cancer by Gender Oregon 2001-2010



HPV-associated cancers: Squamous cell carcinoma of oropharynx, anus and rectum, vagina, vulva and penis, and epithelial cell carcinoma of cervix

Source: Oregon State Cancer Registry

HEALTH PROMOTION AND CHRONIC DISEASE PREVENTION

Public Health Division

Quick Snap Shot of Cancer in Oregon 2010 (Annual Report)

The screenshot shows a web browser window displaying the Oregon Health Authority website. The address bar shows the URL: public.health.oregon.gov/DiseasesConditions/ChronicDisease/Cancer/oscar/Pages/AR2. The page title is "Cancer in Oregon, 2010". The main content area features a navigation menu with options like "Topics A-Z", "Data & Statistics", "Forms & Publications", "News & Advisories", "Licensing & Certification", "Rules & Regulations", and "Public Health Directory". Below the navigation menu, there is a search bar and a "SHARE" button. The main heading is "Cancer in Oregon, 2010". Underneath, there is a section for "Download the complete report: Cancer in Oregon, 2010 (pdf)" with links for "Executive Summary (pdf)" and "Introduction (pdf)". A "Selected Sites" section lists various cancer types with links to their respective reports, including All Cancers, Bladder Cancer, Brain and CNS Tumors, Breast Cancer, Cervical Cancer, Childhood Cancer, Colorectal Cancer, Esophageal Cancer, Kidney Cancer, Leukemia, Liver Cancer, Lung and Bronchial Cancer, Lymphoma, Melanoma, Oropharyngeal Cancer, Ovarian Cancer, Pancreatic Cancer, Prostate Cancer, Stomach Cancer, Thyroid Cancer, and Uterine Cancer. At the bottom, there are three tables: "Table 1: Oregon Cancer Incidence by Site, Sex and Year (2006-2010)", "Table 2: Oregon Cancer Mortality by Site, Sex and Year (2006-2010)", and "Table 3: Oregon Cancer Incidence and Mortality by County (2001-2010)". A "Contact Us" box is also visible on the right side of the page.

HEALTH PROMOTION AND CHRONIC DISEASE PREVENTION

Public Health Division



Useful Links to Cancer Statistics

- Oregon State Cancer Registry Data and Publication
 - www.healthoregon.org/oscar
- Oregon Mortality data
 - <http://public.health.oregon.gov/BirthDeathCertificates/VitalStatistics/death/Pages/index.aspx>
- Oregon 2011 Tobacco Facts and Laws
 - <http://public.health.oregon.gov/PreventionWellness/TobaccoPrevention/Documents/tobfacts.pdf>
- National Cancer Statistics
 - <http://apps.nccd.cdc.gov/uscs/index.aspx>
- State Cancer Profiles
 - <http://statecancerprofiles.cancer.gov/>



Questions?



Contact:

Donald.K.SHIPLEY@dhsoha.state.or.us

MEENA.PATIL@dhsoha.state.or.us

JEFFREY.A.SOULE@dhsoha.state.or.us

Thank You!

HEALTH PROMOTION AND CHRONIC DISEASE PREVENTION

Public Health Division

Oregon
Health
Authority