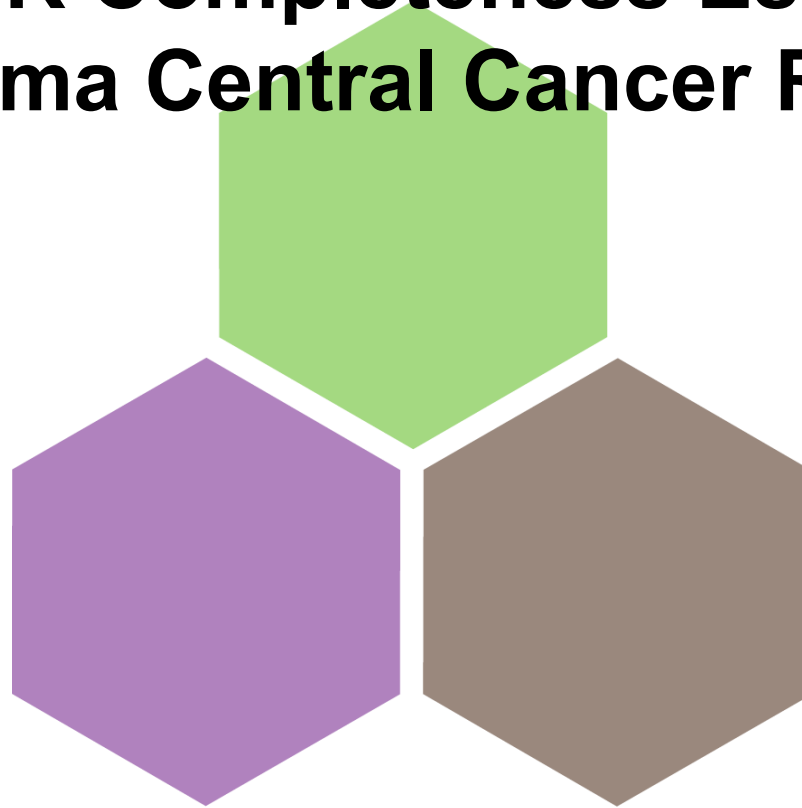


Impact of Updated 2000 Census Estimates on NAACCR Completeness Estimates: Oklahoma Central Cancer Registry

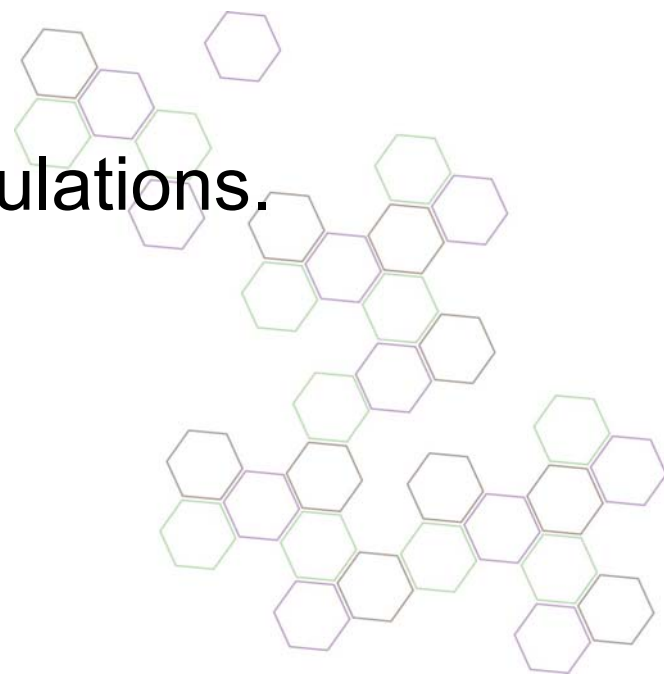


osdhccp



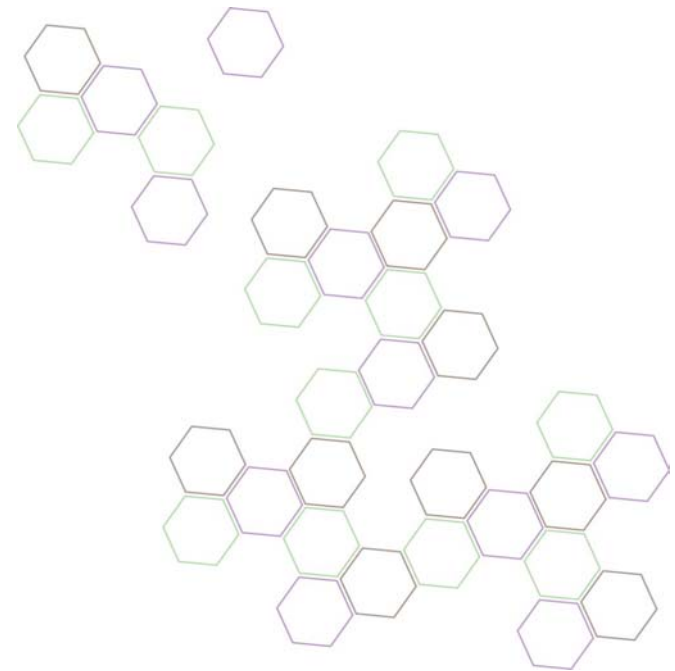
Presentation Goals

- Impact of the 2000 census on NAACCR completeness estimates.
 - ✓ Mixed race populations.
 - ✓ Bridging of mixed race populations.





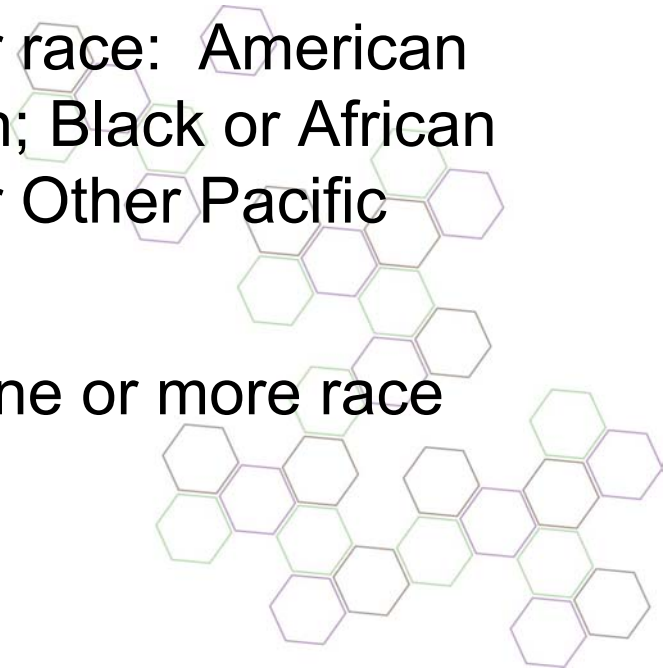
Background





OMB Directive 15

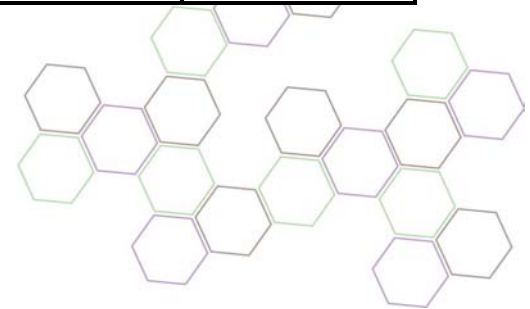
- 1977 standards used four single-race categories - White, Black, American Indian or Alaska Native, and Asian or Pacific Islander.
- 1997 revision incorporated two major changes.
 - ✓ Five categories to be used for race: American Indian or Alaska Native; Asian; Black or African American; Native Hawaiian or Other Pacific Islander; and White.
 - ✓ Allow respondents to select one or more race categories.





Oklahoma's Population 1990 and 2000

	1990		2000	
	#	%	#	%
White	2,583,512	82.1%	2,628,434	76.2%
African American	233,801	7.4%	260,968	7.6%
American Indian	252,420	8.0%	273,230	7.9%
Asian	33,563	1.1%	46,767	1.4%
Mixed Race			155,985	4.5%
Other	42,289	1.3%	85,270	2.5%
Total	3,145,585		3,450,654	





Bridging

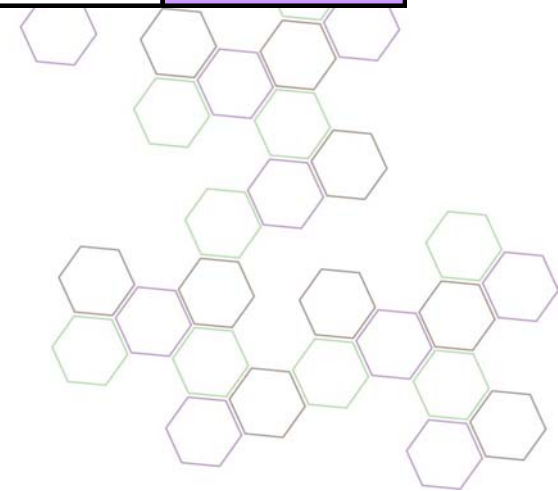
Two standard incomparable across time

- ✓ Proportion applied to multiple race categories derived from 1997-2000 National Health Interview Survey.
- ✓ Regression models with person-level and county-level covariates were used to generate the probability of selecting each single-race category possible for the multiple race groups.



Oklahoma 2000 Bridged Population

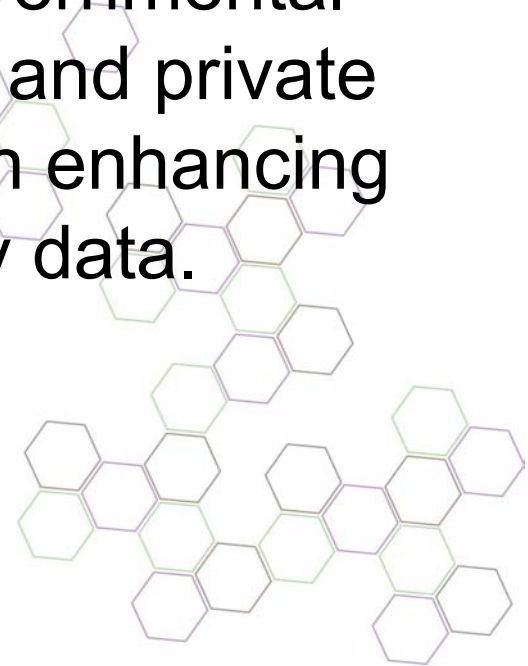
Race	Single Race	Bridged	Percent Increase
White	2,721,554	2,803,557	3.0%
African American	264,235	279,982	6.0%
American Indian	275,558	312,425	13.4%
Asian or Pacific Islander	49,650	52,931	6.6%





Central Registry Standards

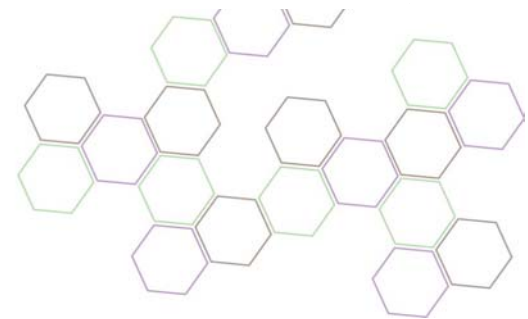
Standards are developed by North American Association of Central Cancer Registries (NAACCR) which is a collaborative umbrella organization of cancer registries, governmental agencies, professional associations, and private groups in North America interested in enhancing the quality and use of cancer registry data.





Certification Criteria

	Silver	Gold
Completeness	90%	95%
Passing EDITS	97%	100%
DCO Only	$\leq 5\%$	$\leq 3\%$
Timeliness	Within 23 Months	
Duplicate Reports	$\leq 2/1,000$	$\leq 1/1,000$
Missing Sex, Age, County	$\leq 3\%$	$\leq 2\%$
Missing Race	$\leq 5\%$	$\leq 3\%$





Completeness Formula

Age-adjusted incidence-to-mortality rate ratio method

Assumptions

- Cancer death data are complete.
- The ratio of age-adjusted cancer incidence rates to age-adjusted cancer death rates by sex, race, and site vary little by geographical area.
- 20% of any difference incidence-to-mortality rate ratios from two geographic areas case fatality; 80% under-ascertainment of cases.



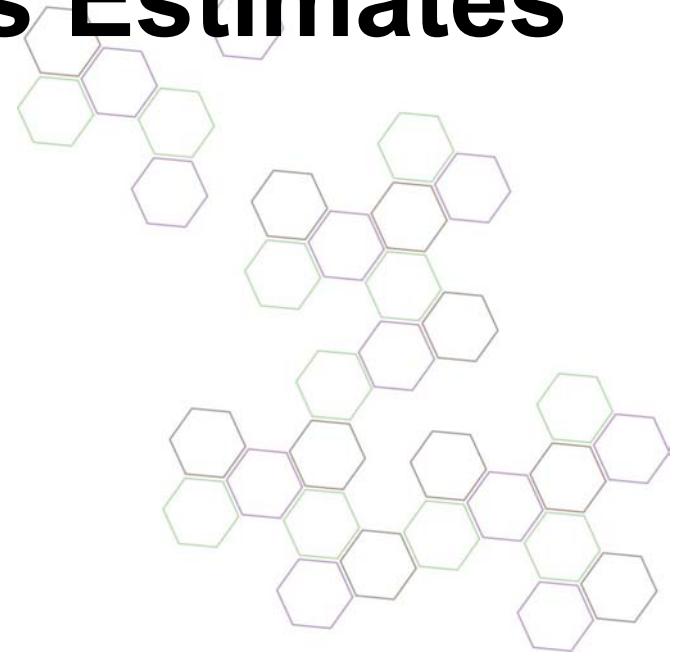
Completeness Formula

- Only white and African American race codes included.
- Numerator not adjusted with bridging.





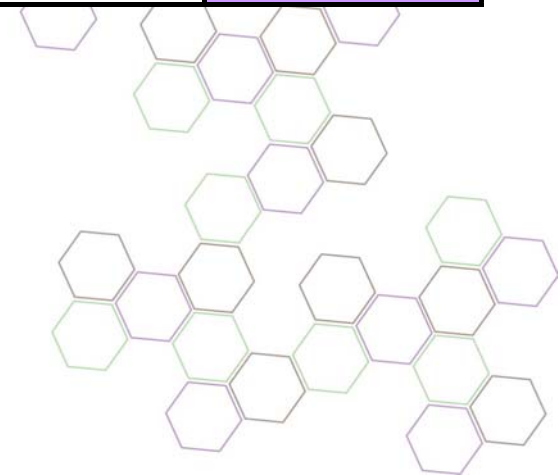
Impact of 2000 Updated Census Estimates





Oklahoma 1997 Population 1990 and 2000 Census Estimates

Race	1990 Est.	2000 Est.	Percent Change
White	2,758,668	2,764,059	0.2%
African American	256,648	265,613	3.5%
American Indian	306,190	296,255	-3.2%

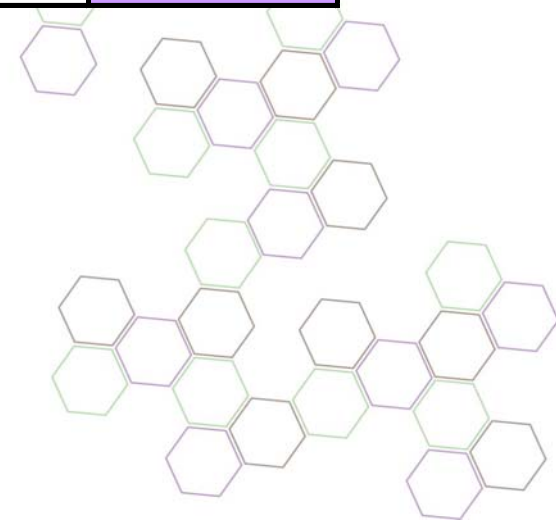




Impact of Updated Census Estimates 1997 Incident Cancer Rates

Race	Population Source		Percent Change
	1990 Est.	2000 Est.	
White	458.7	456.4	-0.5%
African American	486.0	501.5	3.2%
American Indian	352.7	364.6	3.4%

Age Adjusted to 2000 Standard
All invasive; breast and bladder insitu
As of December 2003

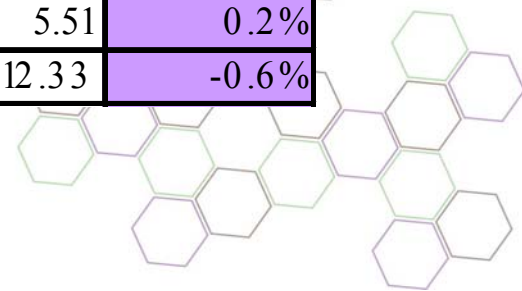




Impact of 2000 Updated Census Estimates 1998 Incident Cancer Rates White Males Oklahoma

Site	Population Source		Percent Change
	1990 Est.	2000 Est.	
Oral Cavity and Pharynx	16.30	16.28	-0.1%
Esophagus	8.10	8.12	0.2%
Stomach	8.40	8.34	-0.7%
Colon and Rectum	66.80	66.63	-0.3%
Liver	5.40	4.62	-14.5%
Pancreas	9.90	9.86	-0.4%
Lung and Bronchus	112.10	111.94	-0.1%
Melanomas of the Skin	13.50	13.42	-0.6%
Urinary Bladder	34.10	34.01	-0.3%
Kidney and Renal Pelvis	16.10	16.17	0.5%
Brain and Other Nervous System	7.80	7.76	-0.6%
Hodgkins Disease	3.10	3.08	-0.5%
Non-Hodgkins Lymphomas	18.70	18.59	-0.6%
Multiple Myeloma	5.50	5.51	0.2%
Leukemias	12.40	12.33	-0.6%

As of January 31, 2002

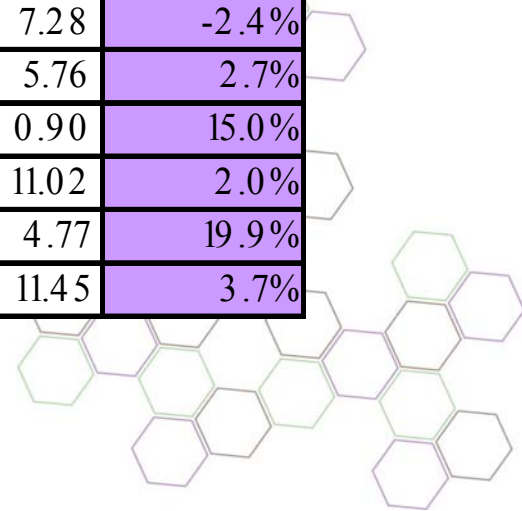




Impact of 2000 Updated Census Estimates 1997-1998 Mortality Cancer Rates White Males Oklahoma

Site	Population Source		Percent Change
	1990 Est.	2000 Est.	
Oral Cavity and Pharynx	3.46	3.57	3.3%
Esophagus	7.18	6.68	-6.9%
Stomach	5.02	5.11	1.9%
Colon and Rectum	24.68	24.96	1.1%
Liver	4.81	4.05	-15.9%
Pancreas	11.98	11.16	-6.8%
Lung and Bronchus	96.18	100.63	4.6%
Melanomas of the Skin	5.77	5.20	-9.8%
Urinary Bladder	7.44	7.22	-2.9%
Kidney and Renal Pelvis	7.45	7.28	-2.4%
Brain and Other Nervous System	5.61	5.76	2.7%
Hodgkins Disease	0.78	0.90	15.0%
Non-Hodgkins Lymphomas	10.80	11.02	2.0%
Multiple Myeloma	3.98	4.77	19.9%
Leukemias	11.04	11.45	3.7%

As of January 31, 2002

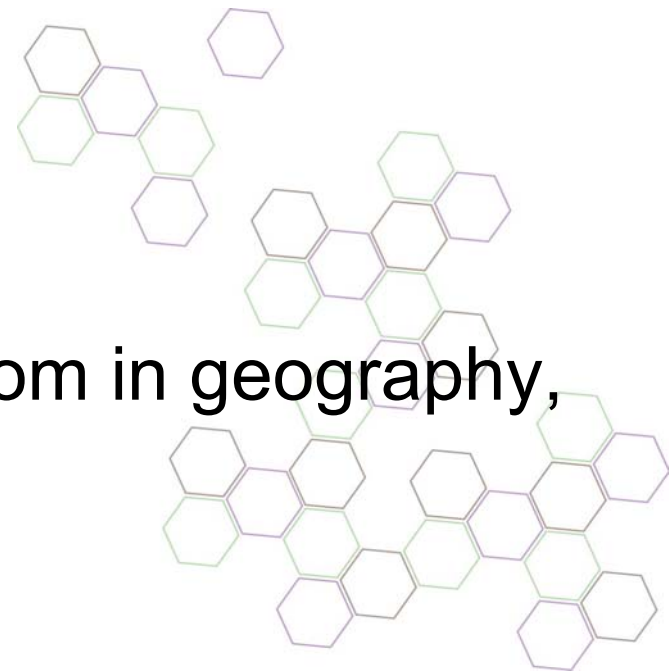




Incidence vs Mortality

- Incidence rates **decreased** an average 1.2%.
- Mortality rate **increased** by an average 0.6%.

Mixed Race people are not random in geography,
age....

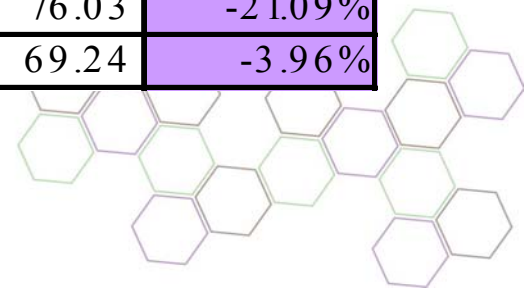




Impact of 2000 Updated Census Estimates 1998 Oklahoma Completeness Estimates White Males Oklahoma

Site	Population Source		Percent Change
	1990 Est.	2000 Est.	
Oral Cavity and Pharynx	118.44	111.78	-5.62%
Esophagus	110.50	115.66	4.67%
Stomach	89.84	84.68	-5.75%
Colon and Rectum	110.23	105.08	-4.67%
Liver	96.16	90.54	-5.85%
Pancreas	80.38	85.44	6.29%
Lung and Bronchus	119.75	113.87	-4.91%
Melanomas of the Skin	46.38	48.30	4.13%
Urinary Bladder	93.24	93.05	-0.20%
Kidney and Renal Pelvis	90.79	88.37	-2.67%
Brain and Other Nervous System	104.16	97.18	-6.70%
Hodgkins Disease	80.16	67.63	-15.63%
Non-Hodgkins Lymphomas	78.74	75.99	-3.50%
Multiple Myeloma	96.34	76.03	-21.09%
Leukemias	72.10	69.24	-3.96%

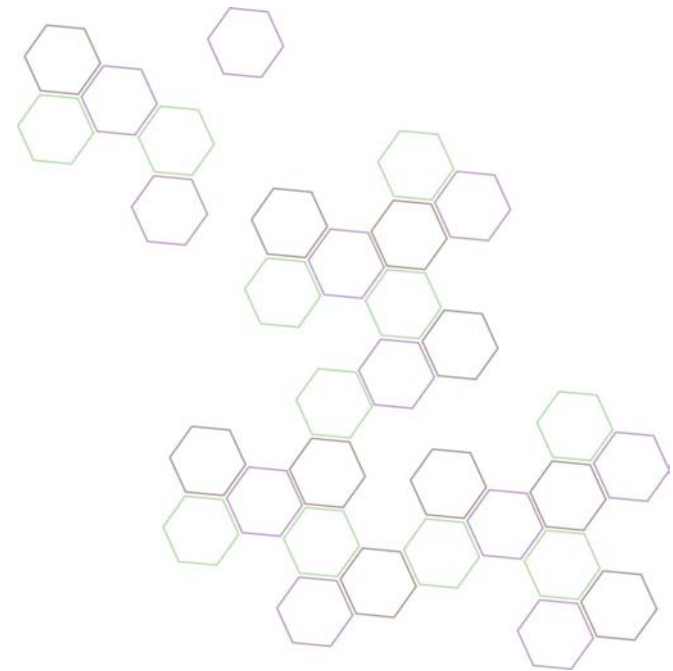
As of January 31, 2002





Ratio and Completeness

- Site specific completeness **decreased** by an average of 4.4%.

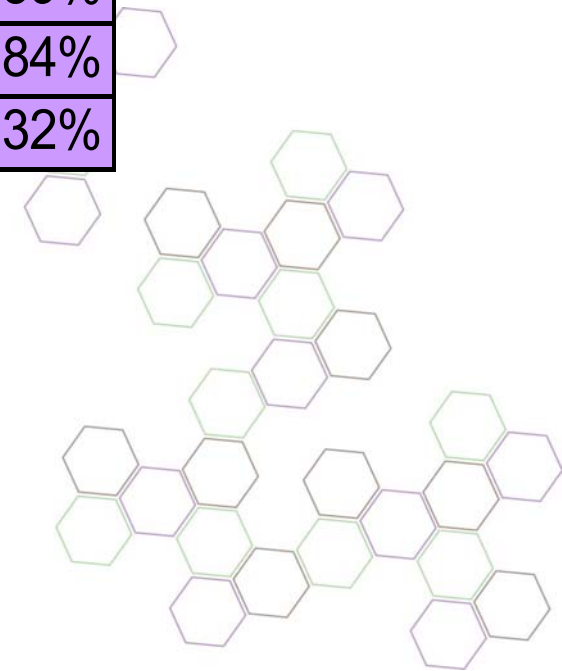




OCCR Completeness Estimates 1997-2000

Year	Population Source		Percent Change
	1990 Est.	2000 Est.	
1997	95.10%	91.12%	-4.19%
1998	96.80%	92.36%	-4.59%
1999	92.28%	89.66%	-2.84%
2000	94.98%	88.98%	-6.32%

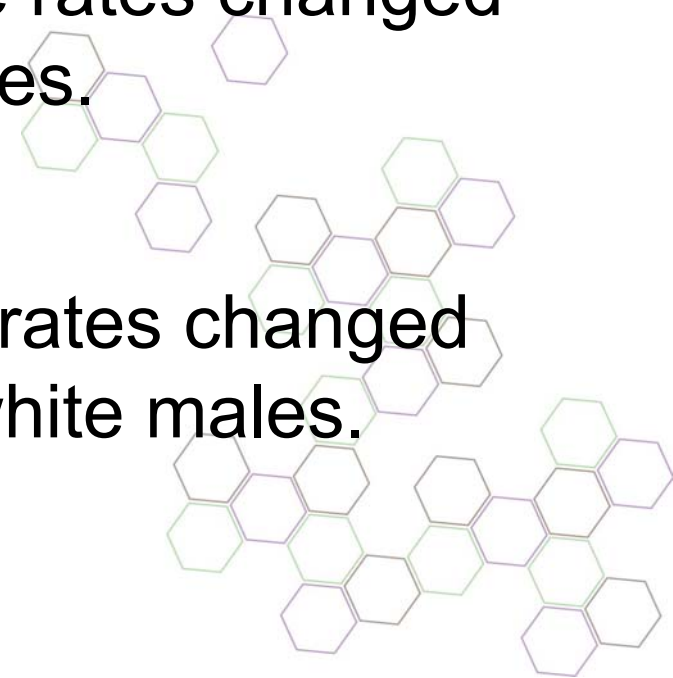
As of January 31, 2002





Summary

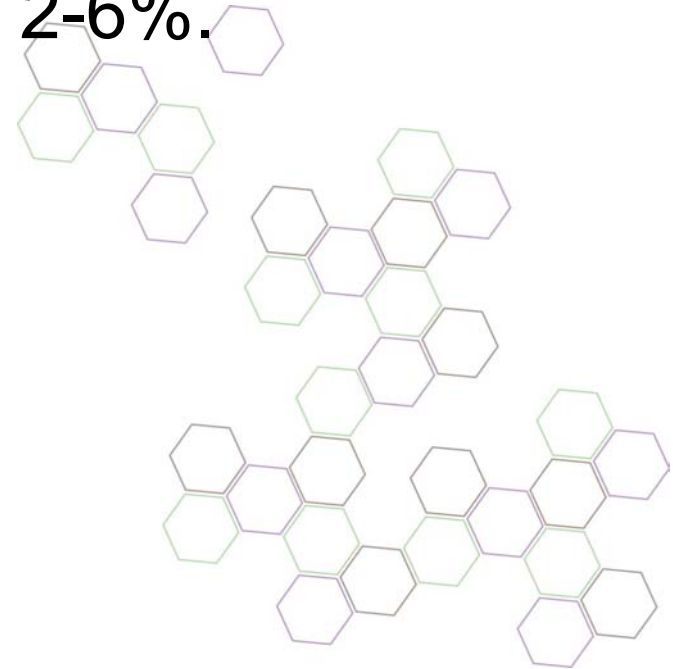
- Race Specific Age-Adjusted Cancer incidence rates changed very little (from -0.5% to 3.4%).
- Major cancer sites incidence rates changed 0.1% to 14.5% for white males.
 - ✓ Average **decrease** 1.2%.
- Major cancer sites mortality rates changed 1.1% to 19.9% percent for white males.
 - ✓ Average **increase** 0.6%.





Summary

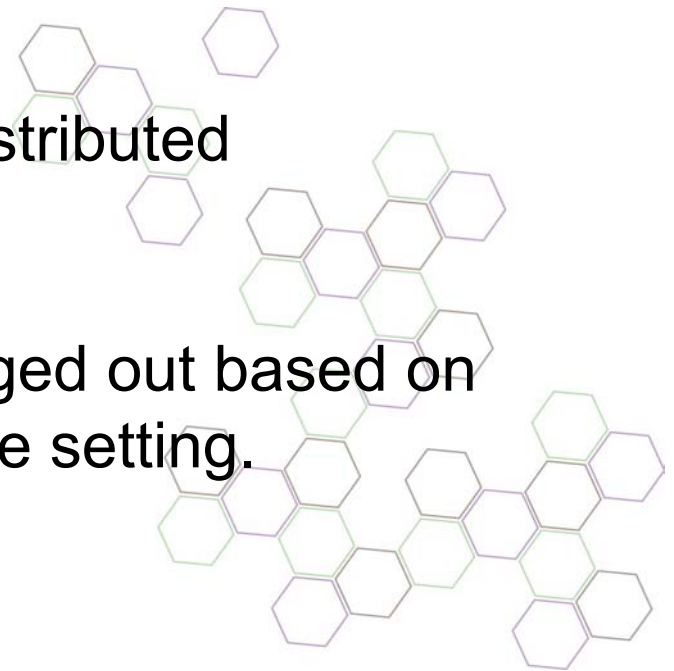
- Rates are very similar for the most part.
- Compounded effects dropped completeness estimates for Oklahoma from 2-6%.





Summary

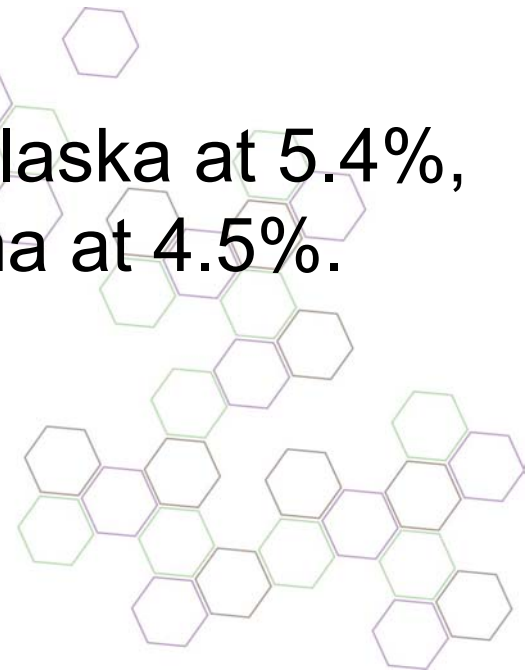
- Numerators did not change.
- Denominator changed in an unexpected way as people who had the opportunity put themselves as mixed race did so.
 - ✓ Mixed race people are not distributed randomly.
 - ✓ Mixed race people were bridged out based on a issues unrelated health care setting.





The Future

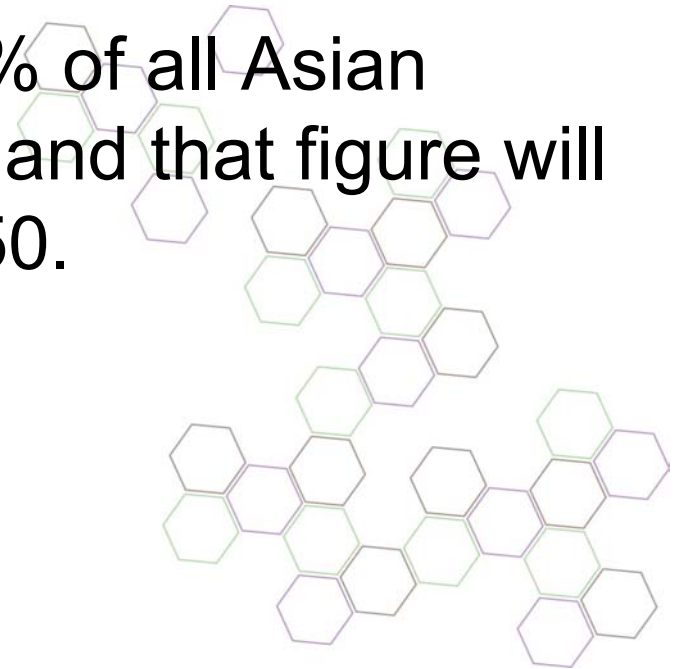
- In the 2000 Census, 22 million of the 281 million U.S. citizens described themselves as mixed race or none of the above (2.4%).
- Among states, Hawaii at 21%, Alaska at 5.4%, California at 4.7%, and Oklahoma at 4.5%.





The Future

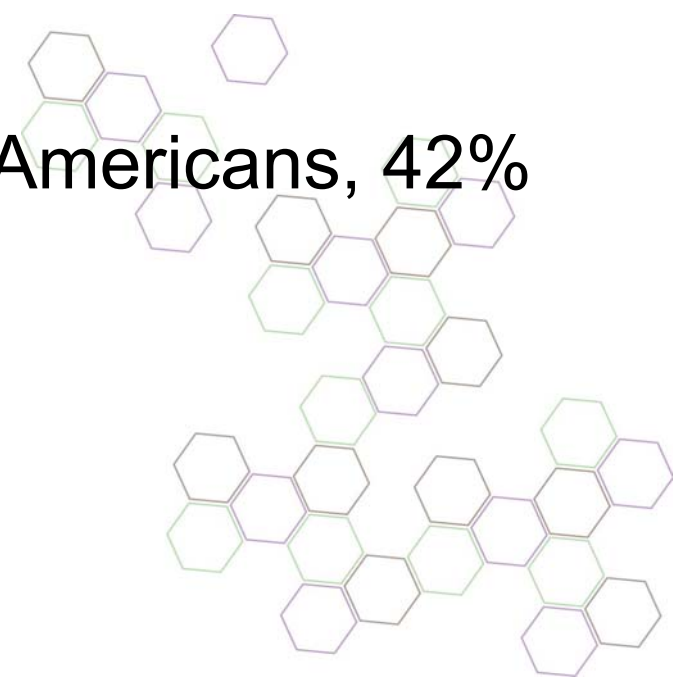
- By 2050, 25% American will report they are mixed race.
- By the year 2020, almost 20% of all Asian Americans will be multiracial and that figure will climb to 36% by the year 2050.





The Future

- In at least 10 states, the percentage of multiracial residents who are of school age - between 5 and 17 - is at least 25%.
- Of the 6.8 million multiracial Americans, 42% were under 18.





Question?

JanisC@health.ok.gov

Janis Campbell, Ph.D.
Oklahoma State Department of Health

