Trends in Alcohol-Associated Cancers, 2001-2016, United States

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BACKGROUND

- Alcohol consumption is linked with specific cancers –
  - Oral – lip, oral cavity, pharynx
  - Esophagus
  - Colon and rectum
  - Liver
  - Larynx
  - Female breast
- Previous studies have focused on molecular and consumption.
- Trends in alcohol-associated cancers have not been specifically examined using a comprehensive population-based database.
- Because risk factor information is not routinely collected by cancer registries, estimates for risk-factor associated cancers often are based only on cancer type.
- This study examines trends for alcohol-associated cancers in the US during 2001-2016 and compares regression analytic approaches.

METHODS

- US Cancer Statistics Data
  - Submitted to CDC and SEER in November 2018
  - 100% U.S. population coverage
- Attributable factors applied to cancer sites to estimate number of attributable cancers
- Age-adjusted incidence rates and weighted least squares (WLS) trends calculated using SEER*Stat
  - 2000 US Standard Population
  - By race and sex for attributable cancers
- Annual percent change calculated using Joinpoint (JP) regression
  - Only liver JP regression analyses are presented. Contact corresponding author for additional output data.

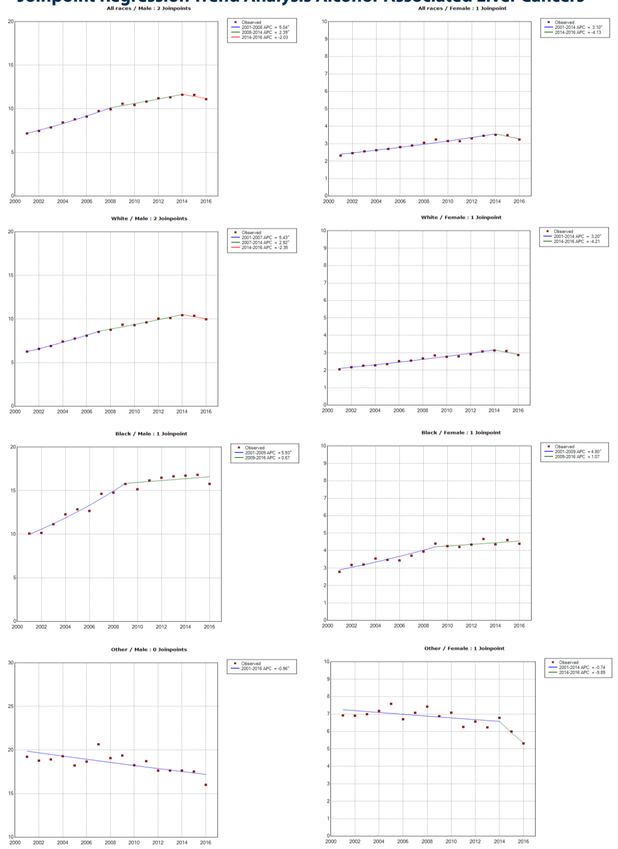
RESULTS

WEIGHTED LEAST SQUARES TREND ANALYSIS

	Total Percent Change			Total Annual Percent Change		
	Males and Females	Males	Females	Males and Females	Males	Females
Oral – lip, oral cavity, pharynx						
All Races	8.47	10.07	1.22	0.72^	0.77^	0.35^
White	12.92	14.91	3.78	1.02^	1.10^	0.52^
Black	**-21.97**	**-26.15**	**-13.53**	**-1.66^**	**-2.05^**	**-0.86^**
Other Races*	-0.81	8.24	-14.00	0.15	0.32	0.30
Esophagus						
All Races	-10.77	-11.13	-15.66	0.94^	-0.98^	-1.26^
White	-3.78	-4.57	-10.64	-0.41^	-0.51^	-0.80^
Black	**-48.52**	**-50.85**	**-43.57**	**-4.44^**	**-4.85^**	**-3.72^**
Other Races*	-12.03	-12.86	-11.45	-1.21^	-1.04^	-1.95^
Colon and rectum						
All Races	-31.99	-34.90	-21.91	-2.73^	-2.98^	-2.57^
White	-32.75	-36.19	-30.06	-2.79^	-3.09^	-2.58^
Black	-30.80	-30.38	-31.82	-2.68^	-2.65^	-2.80^
Other Races*	-29.42	-28.59	-30.98	-2.44^	-2.42^	-2.53^
Liver						
All Races	53.33	54.72	40.14	3.05^	3.07^	2.55^
White	57.16	59.17	40.15	3.24^	3.27^	2.65^
Black	58.73	56.33	58.12	3.15^	3.13^	2.86^
Other Races*	**-18.42**	**-16.72**	**-23.26**	**-1.09^**	**-0.96^**	**-1.41^**
Larynx						
All Races	-30.06	-32.65	-25.92	-2.20^	-2.43^	-1.89^
White	-28.19	-30.85	-24.94	-2.00^	-2.27^	-1.67^
Black	**-41.49**	**-41.49**	**-25.32**	**-3.28^**	**-3.28^**	**-2.64^**
Other Races*	-33.93	-35.12	-31.58	-2.35^	-2.62^	-1.72
Female Breast						
All Races	N/A	N/A	-5.11	N/A	N/A	0.01
White	N/A	N/A	-6.82	N/A	N/A	0.10
Black	N/A	N/A	8.57	N/A	N/A	0.72^
Other Races*	**N/A**	**N/A**	**6.04**	**N/A**	**N/A**	**0.79^**

^The Annual Percent Change is significantly different from zero ($p<0.05$.
*Other race includes American Indian/Alaskan Native and Asian/Pacific Islanders.

Joinpoint Regression Trend Analysis Alcohol-Associated Liver Cancers



CONCLUSIONS

- JP regression and WLS results differ among the six cancer sites
- JP analysis shows statistically significant decrease liver cancers other races regardless of sex
  - Recent trend toward decreases in recent years among white population
  - Smaller increases among black population in recent years
- Both WLS and JP analyses show
  - Statistically significant increase in oral cancers among white, decrease among black, stable among other races populations
  - Overall decrease in esophageal cancer regardless of race or sex, highest decrease among the black population
  - Statistically significant decrease in colon and rectum and larynx cancers among both sexes and all racial groups
  - Increase female breast cancers regardless of race, highest among other races

DISCUSSION

- Screening effect seen for colon and rectum, larynx, and female breast cancers
- Important to conduct Joinpoint Regression for full evaluation of trends
- Cancers associated with risk factors can be analyzed
  - US Cancer Statistics Public Use Databases
    - www.cdc.gov/cancer/public-use
  - Pre-defined risk factor variable available for use in SEER*Stat
    - Available in Public Use Databases
    - Can be imported into other SEER*Stat databases

CONTACT INFORMATION

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Questions about U.S. Cancer Statistics?
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