Trends in the incidence of overweight- and obesity-associated cancers in Texas
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Overweight/Obesity and Cancer

- Rates of overweight/obesity in the U.S. have tripled since the 1960s.
- In 2016, 69% of Texas adults were overweight/obese.
- Texas has the 8th highest rate of obesity in the U.S.
- Overweight/obesity increases the risk of 13 types of cancer (Fig.1).
- Excess body weight is a key modifiable risk factor, likely contributing to 8% of all cancer cases (5% in males and 11% in females).\(^1\)
- Second only to tobacco use in preventable causes of cancer.\(^1\)
- Proportion of cases attributable to overweight/obesity varies from 60% of endometrial cancer cases to 4% of ovarian cancer cases.\(^1\)
- Compared to persons of normal weight, the relative risk of cancer for those who are overweight/obese varies by cancer site and is highest for endometrial cancer.\(^1\)
- The biological mechanisms underlying the associations between overweight/obesity and cancer are complex and vary by cancer type, but involve increased insulin and hormone levels, and chronic inflammation.

Incidence rate trends by site (Figures 2A and 2B):

- Overall, incidence rates of all cancers decreased from 2005 to 2014 (AAPC -1.8%)
- Overall, incidence rates of overweight/obesity-associated cancers showed a smaller AAPC increase of 0.3% (excluding colorectal cancer).
- In men, incidence was significant in (AAPC 1%) but not females (0.2%).

\* Significant increase in incidence
\* Significant decrease in incidence
AAPC: average annual percent change

Overall, incidence rates of all cancers decreased from 2005 to 2014 (AAPC -1.8%).

\* Significant increase in incidence of overweight/obesity-related sites for ages 20-39y, 40-49y, 50-64y, 65-74y. Largest AAPC was for 20-39y (3.3%).

\* Significant increase in incidence rates for ages 20-49y even when colorectal cancer was included (colorectal cancer significantly increased in this age group).

\* Decrease in incidence rates for ages <75y.

\* Significant overall increase in incidence rates for overweight/obesity-sites among Non-Hispanic whites only.

\* By sex, incidence rates increased in Non-Hispanic white males and Non-Hispanic black males only.

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\* The percentage of all cancers diagnosed that were at overweight/obesity-associated sites was highest for Hispanics (48%) and lowest for Non-Hispanic whites (39%).

\* Overall (excluding colorectal cancer) by rural-urban classification:
- Significant increase in incidence rates in overweight/obesity-related sites in medium metro areas (AAPC 0.4%) and non-core (non-metro) areas (1.4%).

\* By sex, largest increase for males in non-core areas (AAPC 2.7%).

\* By site and age/race/ethnicity:
- Colorectal cancer incidence rates increased in Non-Hispanic whites aged 20-49y.
- Large increase in liver cancer incidence rates for ages 50-74y, with highest rate in Hispanics & Non-Hispanic blacks.
- Increase in kidney renal cell cancer incidence rates for ages 20-49y, with highest AAPC in Non-Hispanic blacks.
- AAPC increase in endometrial cancer for ages <50y.

Conclusion

- Overall, incidence rates of overweight/obesity-associated cancers (excluding colorectal cancer) increased in Texas from 2005 to 2014; this trend was significant for males but not females.
- Incidence rates increased for some sites and decreased at others.
- Trends varied by age at diagnosis, rural-urban classification, and race/ethnicity.
- More detailed analyses and complete web report is available on TCR website: https://www.dshs.texas.gov/tcr/data/obesity-associated-cancers.aspx

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