

# Catchment Area Data Trends in Cancer Indicators and Risk Factor Behaviors in Texas, 2010-2020

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## Background

Experts have routinely outlined cancer prevention recommendations and defined evidence-based interventions that effectively prevent cancer and detect it at early stages.<sup>1,2</sup>

Despite this evidence, an immense gap exists between what we know about cancer prevention and what we do, including what individuals/families incorporate into their personal lives as well as actions taken by policymakers, employers, governments and others to promote healthier, cleaner environments, and a culture that values and enables health and wellness.

## Goal

To better understand the extent to which rates of preventable cancer risk factors and cancer morbidity and mortality have changed in Texas (the University of Texas MD Anderson Cancer Center's (MD Anderson) catchment area).

## Methods

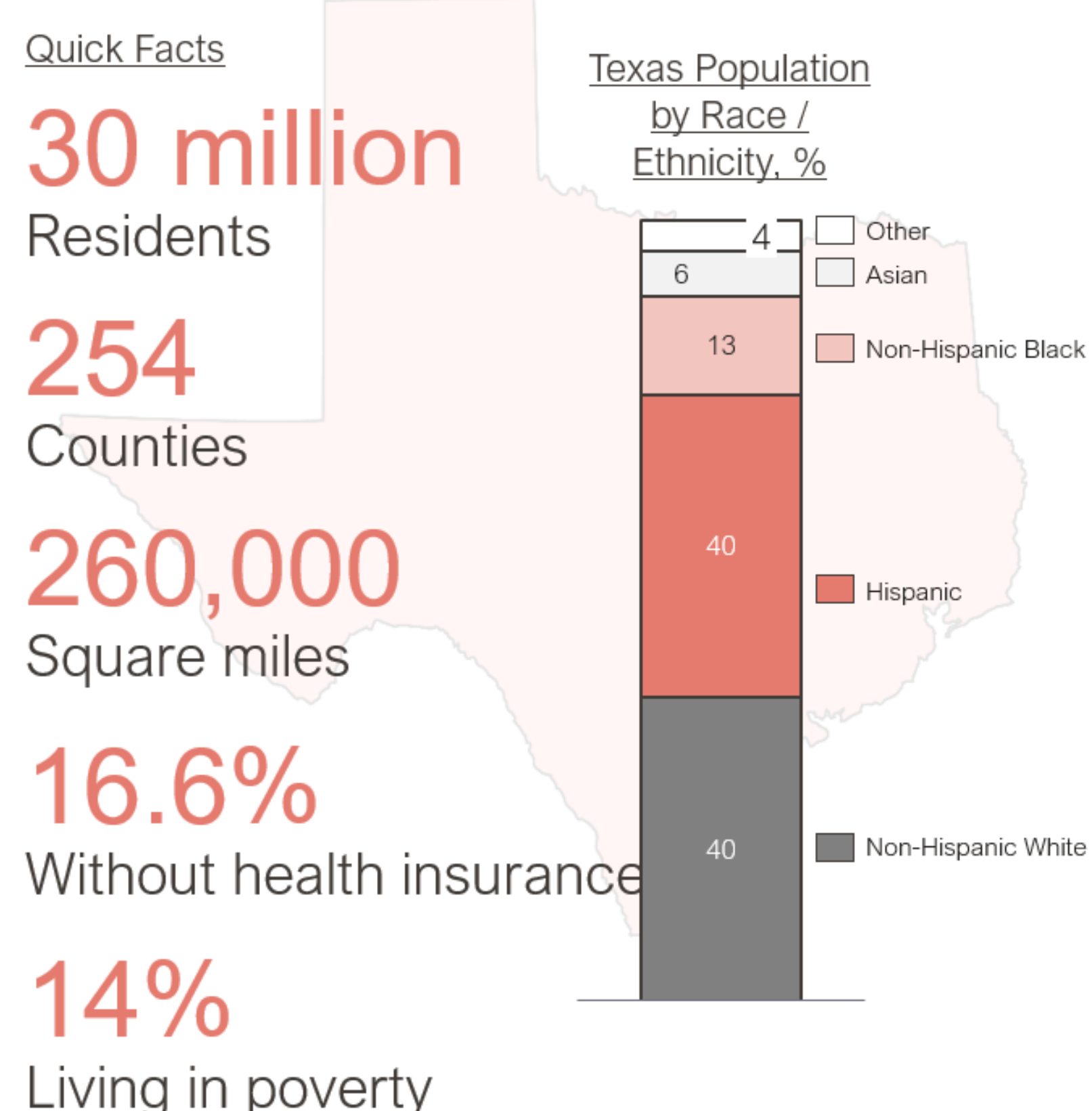
We calculated changes at the state and public health region levels in rates of:

- Cancer incidence
- Cancer mortality
- Obesity
- Smoking (tobacco)
- Physical activity
- Cancer screening behaviors

We examined data related to all cancer types combined and five preventable cancers:

- female breast (breast)
- cervix uteri (cervical)
- colon and rectum (colorectal)
- liver and intrahepatic bile duct (liver)
- lung and bronchus (lung)

**Texas is geographically vast, racially and ethnically diverse, with significant poverty, and lack of health insurance.**



**Table 1. Texas made modest improvement on some risk behaviors but is not meeting Healthy People 2030 Goals.**

Health Behavior	Texas 2014 Rate	Texas 2020 Rate	Healthy People 2020 Goal	Healthy People 2030 Goal
Physical Inactivity	27.6%	25.6%	32.6%	21.8%
Obesity	31.9%	35.7%	30.5%	36.0%
Smoking	14.5%	13.2%	12.0%	6.1%
Breast Cancer Screening	76.7%	77.7%	81.1%	80.3%
Cervical Cancer Screening	77.7%	75.0%	93.0%	79.2%
Colorectal Cancer Screening	60.8%	66.8%	70.5%	80.0%

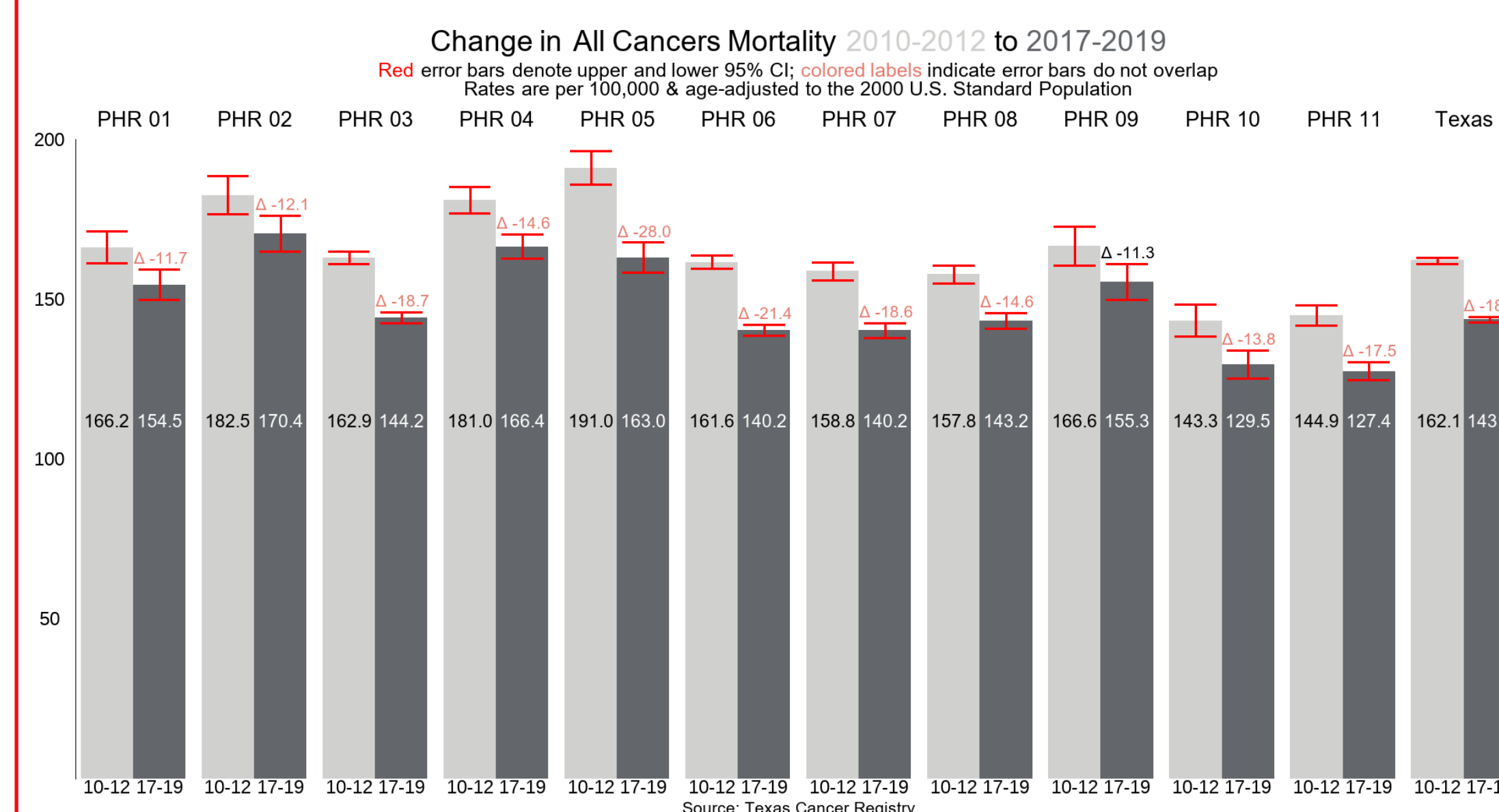
Source: Behavioral Risk Factor Surveillance System<sup>3</sup>

**Table 2. Texas ranks below the national average for many health behaviors.**

Priority Areas	Topic Area	National Rank
Modifiable Behaviors	Smoking	11
	Obesity – Adults	32
	Obesity – Adolescent	42
	No Leisure Physical Activity	38
Screenings	UTD Mammography (45+)	31
	Stool test/endoscopy ( 45+)	44
	Pap/HPV Test (women 25-65)	45

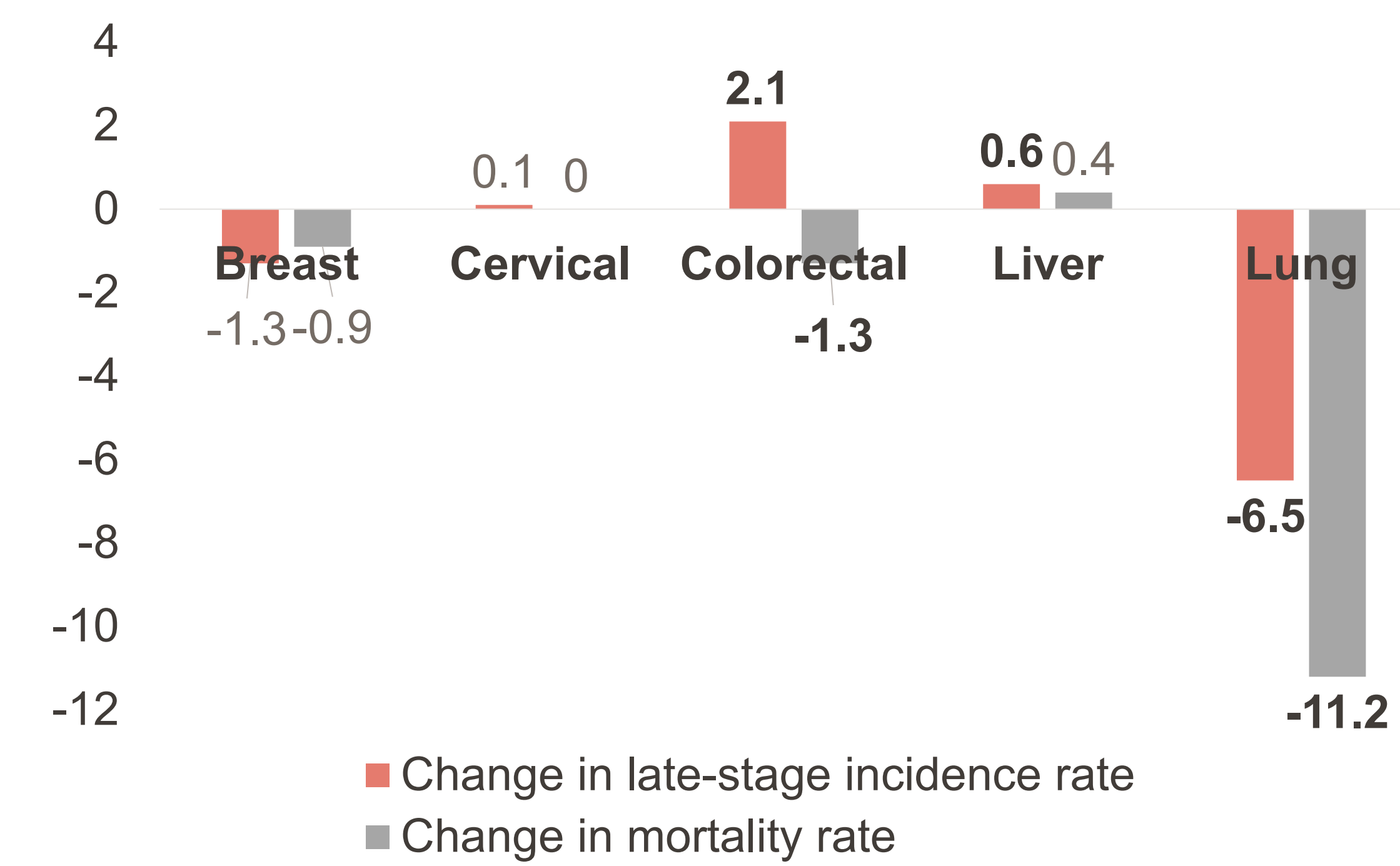
Source: American Cancer Society, Cancer Statistics Center, Texas Cancer Statistics

**Figure 1. The mortality rate for all cancers decreased significantly from 2010-2012 to 2017-2019.**



During the study period, cancer mortality rates in our catchment area decreased notably, from 162.1 to 143.6 per 100,000 population. This decline was observed across all PHRs.

**Figure 2. Late-stage incidence and mortality rates have decreased for lung and breast cancer and increased for liver cancer.**



Source: Texas Cancer Registry<sup>4</sup>  
 Baseline years = 2010-2012 and Endline years = 2017-2019  
 Rates are per 100,000 and age-adjusted to 2000 U.S. Standard Population  
 Bolded numbers represent a statistically significant difference

Significant progress has been made in lung cancer, and breast cancer has shown some modest progress. Liver cancer late-stage incidence and mortality rates have both increased. Interestingly, while colorectal late-stage incidence rate has increased, the mortality rate has decreased.

## Conclusion and future directions

Progress on key risk factor behaviors in the catchment area has been mixed and show the need to focus more on obesity and physical activity.

Overall, continuing or scaling up efforts to implement evidence-based strategies could significantly reduce the cancer burden in Texas. Currently, these strategies are too rarely or inconsistently practiced.

Texas should continue to monitor progress on indicators related to cancer prevention to assess how cancer prevention strategies are supporting population health goals.

## References

- 1) Islami, F., Goding Sauer, A.G., Miller, K.D., et al. (2018). Proportion and number of cancer cases and deaths attributable to potentially modifiable risk factors in the United States. *CA-Cancer J Clin*, 68:31–54. doi:10.3322/caac.21440.
- 2) Spratt, J.S. (1981). The primary and secondary prevention of cancer. *Journal of Surgical Oncology*, 18: 219-230. <https://doi.org/10.1002/jso.2930180302>.
- 3) <https://www.cdc.gov/brfss/index.html>
- 4) Age-Adjusted Invasive Cancer Incidence and Mortality Rates in Texas. Cancer Incidence File, Mar 2024. Texas Cancer Registry. <http://cancer-rates.info/tx/>