

# 2020 NPCR TEXAS CANCER REGISTRY SUCCESS STORY

STORY TOPIC/FOCI: cancer site (liver and intrahepatic bile duct cancer), public health impact, collaborative partnerships/projects, disparities

STORY CATEGORY: Public Health Impact

STORY TITLE: Tackling the High Rate of Liver Cancer in Texas

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## SUMMARY

Texas has the highest incidence rate of liver and intrahepatic bile duct (IBHD) cancer among all US states, with 11.8 new cases per 100,000 during 2013-2017.<sup>1</sup> Texas also has the third highest liver and IBHD mortality rate (8.2 deaths per 100,000 during 2013-2017).<sup>1</sup> Liver and IBHD cancer incidence and mortality rates have increased since the late 1990s, both nationally and in Texas.<sup>1</sup> In response, the Cancer Prevention Research Institute (CPRIT) funded a Collaborative Action Program (CAP) to Reduce Liver Cancer Mortality in Texas.

## CHALLENGE

In 2020, an estimated 4,000 Texans will be diagnosed with liver and IBHD cancer, and 2,700 Texans will die from the disease.<sup>2</sup> There is substantial disparity in liver cancer rates by sex and race/ethnicity in Texas. Liver and IBHD cancer is much more common in males than females (17.7 new cases per 100,000 men vs. 6.5 per 100,000 women in 2013-2017) and is the ninth most common cancer diagnosis in Texas males.<sup>1</sup> Liver and IBHD cancer is the fourth most common cancer cause of death in Texas males and the sixth in females.<sup>1</sup> Liver and IBHD incidence and mortality rates also vary with race and ethnicity. In Texas, the highest incidence rate is in Hispanic males, with rates over five times higher than in Non-Hispanic white females (27.1 vs. 4.8 per 100,000).<sup>3</sup> Mortality rates are highest in Hispanic males (16.4 per 100,000), followed by non-Hispanic black males (16.0 per 100,000), with rates in both of these groups more than four times higher than in Non-Hispanic white females (3.8 per 100,000).<sup>4</sup> Incidence and mortality rates are therefore particularly high in South Texas counties along the US-Mexico border where a high proportion of the population is Hispanic.<sup>3,4</sup> However, even within certain race/ethnicity groups (Hispanics, non-Hispanic blacks, and non-Hispanic whites), liver and IBHD incidence and mortality rates are higher in Texas compared to the national average.<sup>5,6</sup>

Liver cancer has one of the lowest 5-year relative survival rates among all cancers in Texas: 31% of those diagnosed at the localized stage during 2008-2017 survived for five years after diagnosis relative to persons without cancer, 13% of those diagnosed at the regional stage, and 5% of those diagnosed once the cancer has spread to distant organs.<sup>3</sup>

Most cases of liver and IBHD cancer (8 in 10) are hepatocellular carcinoma (HCC), for which risk factors include metabolic disorders, hepatitis B and C infection, heavy alcohol use, smoking, and certain rare genetic disorders.<sup>7</sup> A large proportion of cases are linked to potentially modifiable risks.<sup>7</sup>

Understanding why there are large disparities in liver cancer incidence and mortality rates, and why rates have been increasing is important, as is increasing awareness of risk factors.

## SOLUTION

In 2018, the Texas Cancer Registry (TCR) published a web report describing trends in the incidence of 13 overweight- and obesity-associated cancer sites to increase awareness of excess body weight as a leading risk factor for cancer.<sup>8</sup> Liver cancer was highlighted as the cancer site increasing most rapidly. We followed up by producing an article in our TCR newsletter that focused on the high and increasing incidence and mortality rates of liver cancer in Texas.<sup>9</sup> In the same year, the CDC published a report on the national increase in liver cancer mortality rates since 2000.<sup>10</sup> A series of news articles also brought the issue to public attention. In response, CPRIT launched an initiative to address this growing public health concern in Texas aimed at promoting collaborations among liver cancer researchers and stakeholders.<sup>11</sup> Funding was provided to establish the state's first "Collaborative Action Program (CAP) for Liver Cancer". The TCR also produced an in-depth web report describing liver cancer incidence and mortality rates in Texas aimed at increasing awareness.<sup>12</sup>

Understanding why liver cancer incidence rates are increasing, and why large disparities exist in both incidence and mortality rates, is crucial to reducing the burden of liver cancer. Increasing awareness of potentially modifiable factors such as hepatitis infection, heavy alcohol use, and metabolic disorders such as obesity/diabetes is also an important for prevention. Identifying possible genetic markers that predict an individual's underlying risk for HCC is also likely to be valuable.

## RESULTS

CPRIT awarded a series of grants under The Collaborative Action Program (CAP) to Reduce Liver Cancer Mortality in Texas. Awardees include Hashem El-Serag, MD, MPH, at Baylor College of Medicine, to fund *The Texas Collaborative Center for Hepatocellular Cancer (TeCH)*, that aims to bring together doctors, scientists, public health workers, and healthcare providers from across Texas to share discoveries, educate, and enable a faster response to developments in the field.

Other awardees of the CAP Investigator-Initiated Research Awards include: Jessica Hwang, MD, MPH, at the University of Texas MD Anderson Cancer Center, to fund the Patient-centered liver cancer prevention in the Houston community, which hopes to improve screening processes in primary care settings and better manage risk factors to reduce the risk of fibrosis worsening; Fasiha Kanwal, MD, MSHS, at Baylor College of Medicine, to fund research into "Reducing Disparities in the Risk of Hepatocellular Cancer" to investigate the complex reasons for why Hispanics and Non-Hispanic blacks are at higher risk of liver cancer, including their underlying risk factors, health behaviors, healthcare system use, and local environment; Aaron Thrift, PhD, at Baylor College of Medicine, to fund research into the "Genetic Epidemiology of Hepatocellular Carcinoma in Hispanics" to develop our understanding of why Texas Hispanics have a higher risk of cirrhosis progression and HCC beyond possible differences in the

prevalence of known risk factors; and Amit Singal, MD, MS, at **The University of Texas Southwestern Medical Center to fund work on “A Novel Risk Stratification and Early Detection Strategy to Reduce Liver Cancer Mortality”** which aims to better evaluate HCC risk and to develop novel biomarkers to improve screening accuracy.

#### SUSTAINING SUCCESS

Projects supported by the CAP will help us to understand the risk factors underlying the progression of liver fibrosis and cirrhosis, and the development of liver cancer. Educating the general public on liver cancer risk factors and developing good evidence-based screening guidelines to identify cases early will help to reduce current disparities.

The TCR will continue to track trends in liver cancer incidence and mortality and will soon release our updated Liver Cancer in Texas web report that presents data on incidence and mortality rates in Texas over the past 10 years.

#### REGISTRY CONTACT INFORMATION

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<http://www.dshs.texas.gov/tcr/home.aspx>

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