



## CANCER PREVENTION & RESEARCH INSTITUTE OF TEXAS

Award ID:  
RP120462

Project Title:  
Environmental Determinants of Hepatocellular Carcinoma in South Texas

Award Mechanism:  
Individual Investigator

Principal Investigator:  
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Entity:  
The University of Texas Health Science Center at San Antonio

### Lay Summary:

Hepatocellular carcinoma (HCC) is the most common adult liver cancer and the incidence is increasing over time. The incidence among Hispanics in general appears more pronounced among Texas Hispanics, and even more so among South Texas Hispanics. Risk factors include chronic viral infection with hepatitis B and/or hepatitis C, and lifestyle factors such as alcohol consumption. Other conditions especially prevalent in South Texas are suspected to play a role including obesity, diabetes and nonalcoholic steatohepatitis (NASH). In many developing countries, dietary exposure to aflatoxins, which are among the most carcinogenic substances known, play a central role in causing HCC. While aflatoxin is not usually considered a major contributor to liver cancer in the U.S., there may be more opportunities for exposure through ingestion of aflatoxin-contaminated cornmeal in the South Texas Mexican American population. Chronic hepatitis infection likely synergizes the effects of environmental exposures. We propose this study because of the striking national trend of increasing HCC and a disproportionate burden in our predominantly Hispanic South Texas population. We also observed a liver cancer cluster near the former Kelly Air Force Base in San Antonio and higher than expected levels of aflatoxin in nearby residents. To identify risk factors, we will perform a geographic analysis of the patterns of occurrence in South Texas. For Bexar and the immediately surrounding counties in South Texas, we will interview cases and controls, collect blood and urine, and analyze these exposures. Information collected is necessary for planning a larger and more comprehensive research study of the entire South Texas area. Given their increasing incidence and still very poor survival, liver cancers are of great public health significance. Identification of risk factors could lead to a significant decrease in the burden of this disease in the South Texas and other populations.