July 8, 2019

GOV. MSG. NO. 1367

The Honorable Ronald D. Kouchi,
President and Members of the Senate
Thirtieth State Legislature
State Capitol, Room 409
Honolulu, Hawaiʻi 96813

The Honorable Scott K. Saiki,
Speaker and Members of the House of Representatives
Thirtieth State Legislature
State Capitol, Room 431
Honolulu, Hawaiʻi 96813

Dear President Kouchi, Speaker Saiki, and Members of the Legislature:

This is to inform you that on July 8, 2019, the following bill was signed into law:

HB654 HD1 SD1 CD1 RELATING TO HEALTH.
ACT 265 (19)

Sincerely,

DAVID Y. IGE
Governor, State of Hawaiʻi
A BILL FOR AN ACT

RELATING TO HEALTH.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAI'I:

SECTION 1. The legislature finds that liver cancer in Hawaii occurs at extremely high rates. According to the United States Centers for Disease Control and Prevention and the Hawaii Tumor Registry, Hawaii has had the highest or second-highest rate of liver cancer among all of the states in recent years. Every year in Hawaii there are one hundred eighty-four newly diagnosed cases of liver cancer, including bile duct cancer, according to the Hawaii Tumor Registry. From 2004 to 2013, available data on liver cancer indicates an annual increase in Hawaii of 2.1 per cent in males and 1.3 per cent in females, while the incidence of many other cancers such as colon, lung, prostate, and stomach cancer declined. There are currently about one thousand patients in Hawaii fighting liver cancer and bile duct cancer, both of which are almost always fatal.

The legislature further finds that liver cancer, which starts in the liver and includes bile duct cancer, is most...
commonly caused by the hepatitis B virus, hepatitis C virus, and heavy alcohol consumption. In Hawaii, however, these factors are near the national average, which suggests that other factors may be contributing to the high occurrence of liver cancer in the State. Other factors that can cause liver cancer are non-alcoholic steatohepatitis (NASH or fatty liver); infectious agents such as liver fluke, a type of parasitic flatworm found in fish, shrimp, and vegetables grown in fresh water; and consumption of foods containing aflatoxins, a fungus abundant in warm and humid regions that can grow on foods, such as grains and nuts that are stored improperly. Almost all of these possible etiologies lead to chronic inflammation in the bile ducts. Such inflammation can result in genetic alterations in the liver and bile ducts, which predispose individuals to the development of cancer.

The precise etiology of the increased incidence of liver and bile duct cancer in Hawaii is not known. Understanding this is essential in order to implement appropriate public health interventions to decrease the burden of this disease. Recent research at the University of Hawaii cancer center suggests that many individuals who are not obese can accumulate liver fat
insidiously that may predispose them to cancer. Also, the prevalence of aflatoxins and cancer-causing liver fluke infections in Hawaii is not well-defined.

In addition, liver and bile duct cancer has racial and ethnic predispositions, with the highest incidence and mortality rates seen in Native Hawaiian males and Chinese females. The reason for the racial and ethnic disparities requires further study but may possibly be related to environmental exposures.

In order to better understand the etiologies of liver and bile duct cancer, the high incidence of this disease compared to other states, and the racial and ethnic disparities, the University of Hawaii cancer center is proposing a three-year study with the following goals:

1. Examine the incidence of insidious fatty liver across diverse population groups in Hawaii and correlate with environmental and dietary exposures that may be causative;

2. Define the incidence of liver fluke infection and aflatoxin exposure in diverse population groups in Hawaii, correlate exposure to the development of chronic liver inflammation and cancer, develop
biomarkers that can be utilized for diagnostic and
prognostic purposes in exposed individuals, and
develop cancer prevention interventions to mitigate
the risk of future liver cancer development; and

(3) Identify additional biomarkers, such as bile acid or
intestinal microbiome composition, that may correlate
with the development of liver and bile duct cancer in
order to inform public health interventions for liver
and bile duct cancer prevention.

Liver cancer is the leading cause of cancer deaths
worldwide, but accounts for only 2.4 per cent of all new cancer
cases in the United States. Therefore, it has not been a high
priority for research funding from the National Institutes of
Health. Since liver cancer is so widespread in Hawaii, where it
is the fifth most common cause of cancer mortality, more
resources need to be devoted to research. The University of
Hawaii cancer center is preparing to examine the causes of liver
and bile duct cancer with specific attention to disparities
across different racial and ethnic groups in order to inform
public health and medical interventions to reduce the burden of
this disease.
The purpose of this Act is to appropriate funds to the University of Hawaii cancer center to determine the etiologies of the high incidence of liver and bile duct cancer in Hawaii.

SECTION 2. There is appropriated out of the general revenues of the State of Hawaii the sum of $350,000 or so much thereof as may be necessary for fiscal year 2019-2020 for the University of Hawaii cancer center to determine the etiologies of the high incidence of liver and bile duct cancer in Hawaii. The sums appropriated shall be expended by the University of Hawaii for the purposes of this Act.

SECTION 3. The University of Hawaii cancer center shall submit a report of its findings, including how the appropriated funds were spent, to the legislature no later than twenty days prior to the convening of the regular session of 2020.

SECTION 4. This Act shall take effect on July 1, 2019.
THE HOUSE OF REPRESENTATIVES OF THE STATE OF HAWAI'I

Date: April 30, 2019
Honolulu, Hawaii

We hereby certify that the above-referenced Bill on this day passed Final Reading in the House of Representatives of the Thirtieth Legislature of the State of Hawaii, Regular Session of 2019.

Scott K. Saiki
Speaker
House of Representatives

Brian L. Takeshita
Chief Clerk
House of Representatives
THE SENATE OF THE STATE OF HAWAI‘I

Date: April 30, 2019
Honolulu, Hawaii  96813

We hereby certify that the foregoing Bill this day passed Final Reading in the
Senate of the Thirtieth Legislature of the State of Hawai‘i, Regular Session of 2019.

[Signature]
President of the Senate

[Signature]
Clerk of the Senate