

Mitigating Hepatitis B (HBV) Infections:

Template for Eradicating the World's Second Deadliest Cancer

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October 8, 2016**

UC DAVIS
**COMPREHENSIVE
CANCER CENTER**





ACKNOWLEDGMENTS

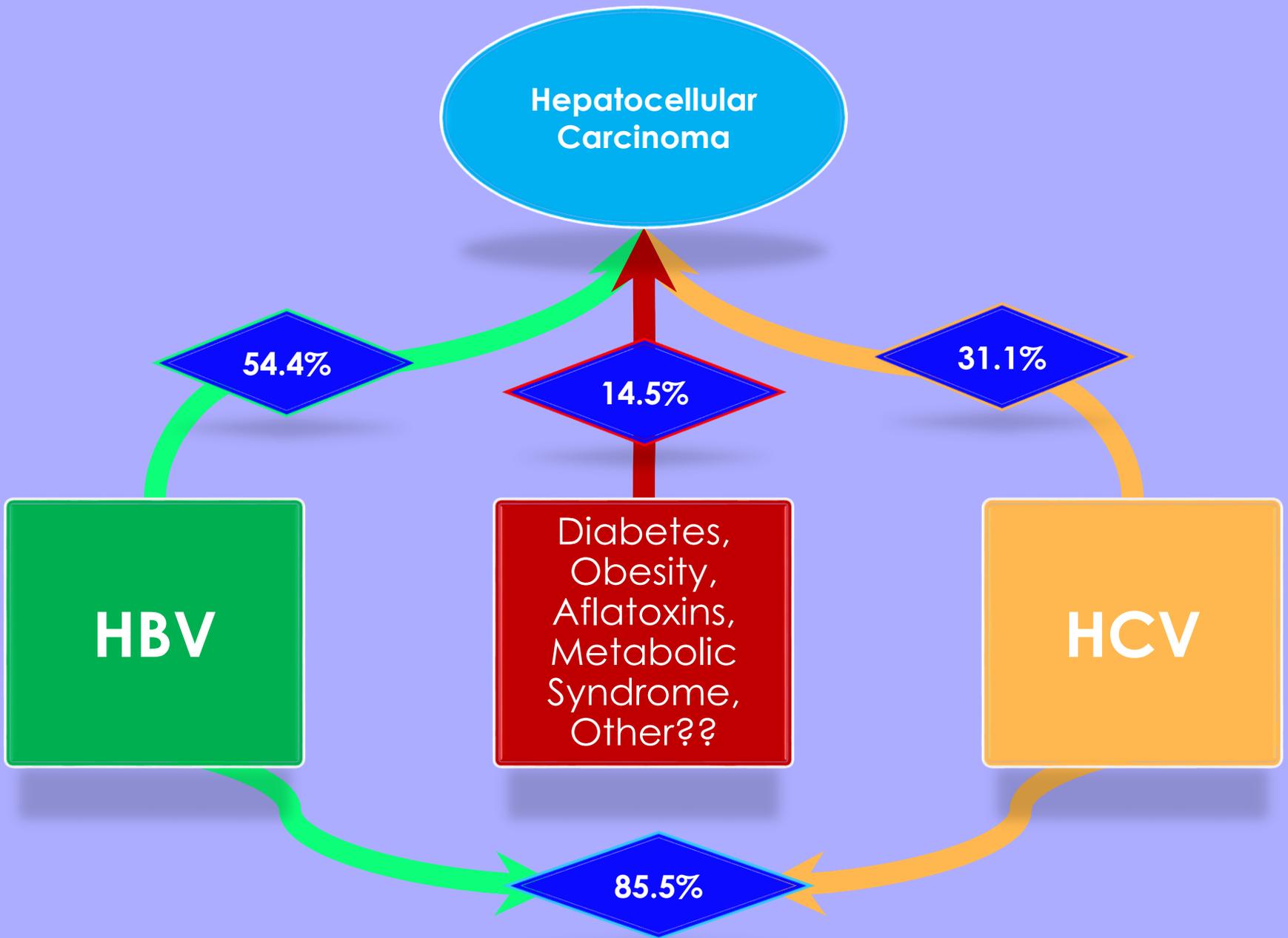
The views expressed are those of the presenter and do not necessarily represent the views of the NIH. However, I am grateful for the support provided through the NCI to AANCART (U54 CA153499) and the opportunity to be part of the Cancer Prevention Symposium

Slides created by: Julie Dang, MPH, CHES

Presentation objectives:

1. Review the epidemiological significance of chronic Hepatitis B (HBV) infections for foreign-born Asian Americans and its etiological role in hepatocellular carcinoma.
2. Highlight research, policies, and practices that can be leveraged in community and clinical settings to mitigate HBV-linked hepatocellular carcinoma.
3. Discuss the potential of HBV prevention and control as being the next “smallpox”, i.e., the next disease that could be eliminated/eradicated.

Significance of chronic HBV for foreign-born and its etiological role in hepatocellular carcinoma



HBV

HCV

Similarities

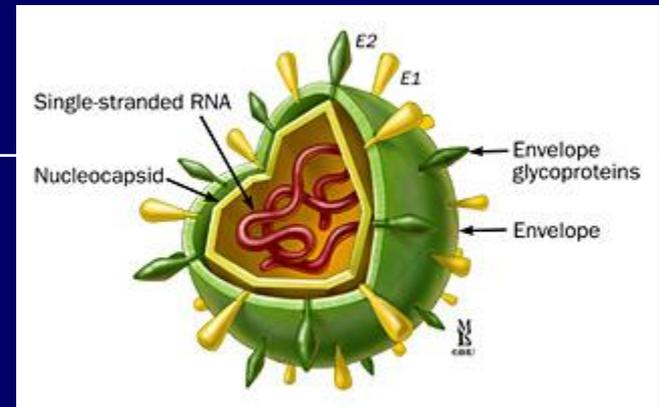
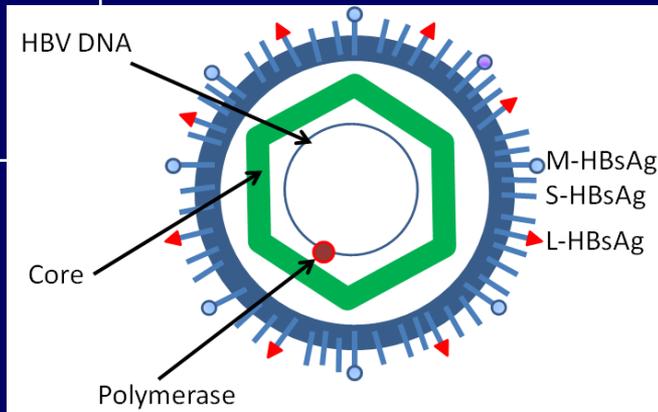
- Both cause asymptomatic chronic viral infections
- Both are IARC classified carcinogens
- Both require specific serological detection
- Both etiologically related to liver cancer

Differences

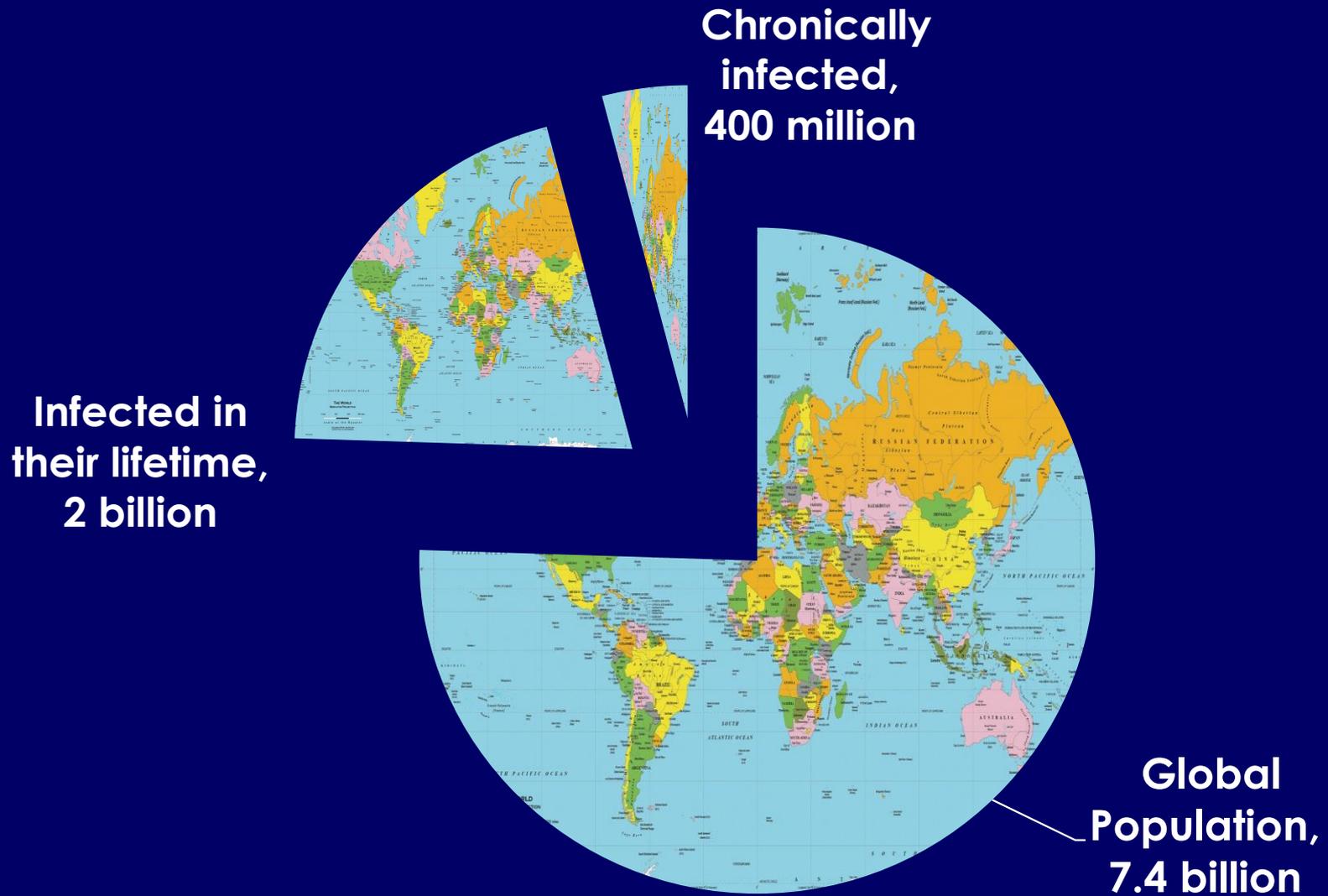
- Structure
- Prevalence
- Risk
- Vaccine

- Circular DNA genome
- 2.2 million Americans
- >50% Asian Americans
- Born in > 2% HBV endemic areas
- Vaccination possible

- ssRNA genome
- 3.5 million Americans
- >75% baby boomers
- 1945-65 birth cohort
- Currently no vaccination



Global Magnitude of HBV



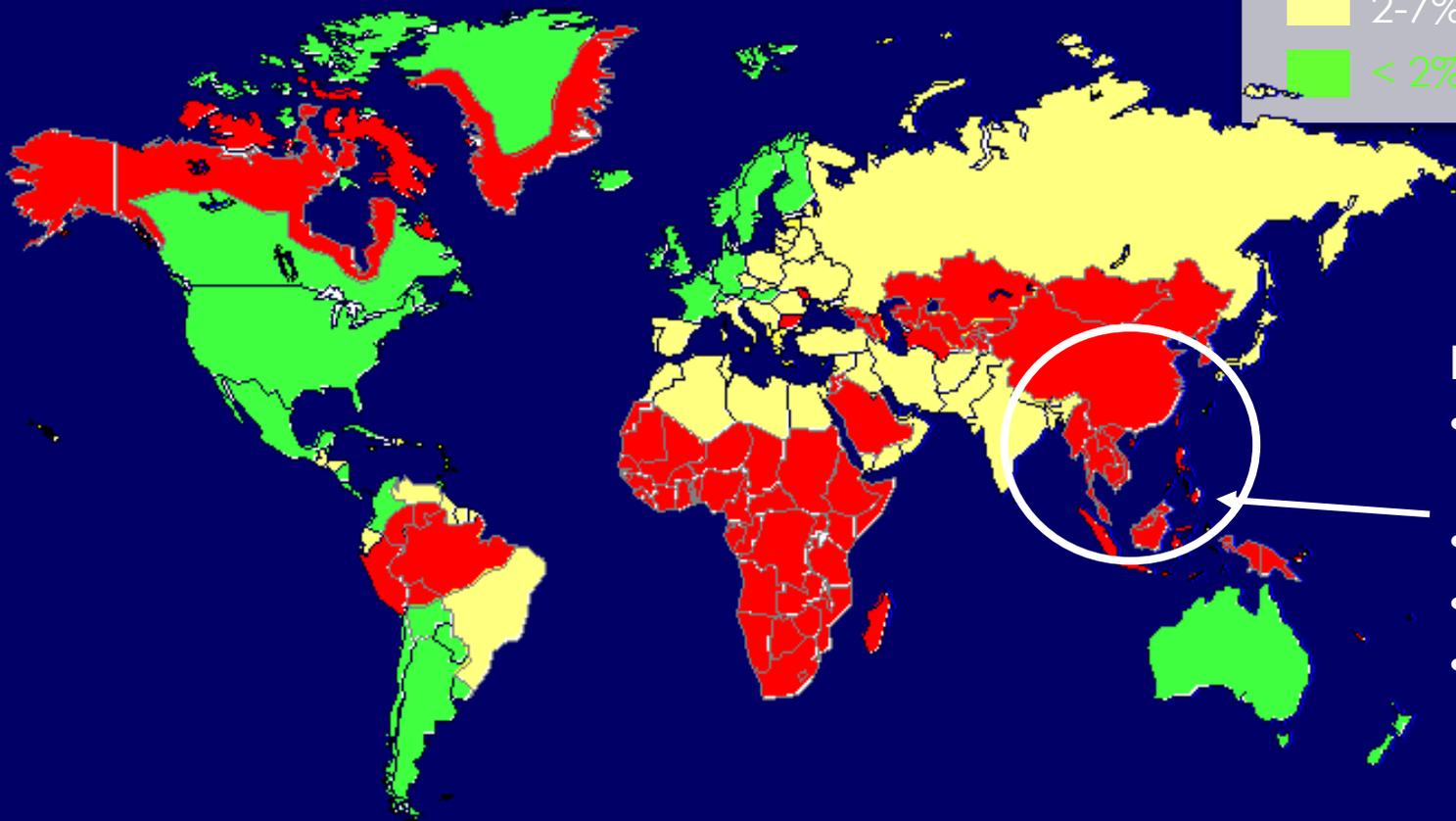
Significance

HBsAg Prevalence

■ $\geq 8\%$ - High

■ 2-7% - Intermediate

■ $< 2\%$ - Low



Lands of Origin:

- Southeast Asia (Hmong)
- Vietnam
- China
- Korea

Liver cancer due to hepatitis B viral infection is a major cancer burden for people of color.

Globally, HBV is the primary cause of cancer after tobacco use.



“Following tobacco use, infections as a group may be the most important preventable cause of cancer in humans.”

Kuper, Adami, Trichopoulos, 2000

Liver cancer is now the world's second deadliest cancer.

International Agency for Research on Cancer



PRESS RELEASE
N° 224

Lyon/London, 3 February 2014

Global battle against cancer won't be won with treatment alone
Effective prevention measures urgently needed to prevent cancer crisis

The International Agency for Research on Cancer (IARC), the specialized cancer agency of the [World Health Organization](#), is today launching *World Cancer Report 2014*, a collaboration of over 250 leading scientists from more than 40 countries, describing multiple aspects of cancer research and control.

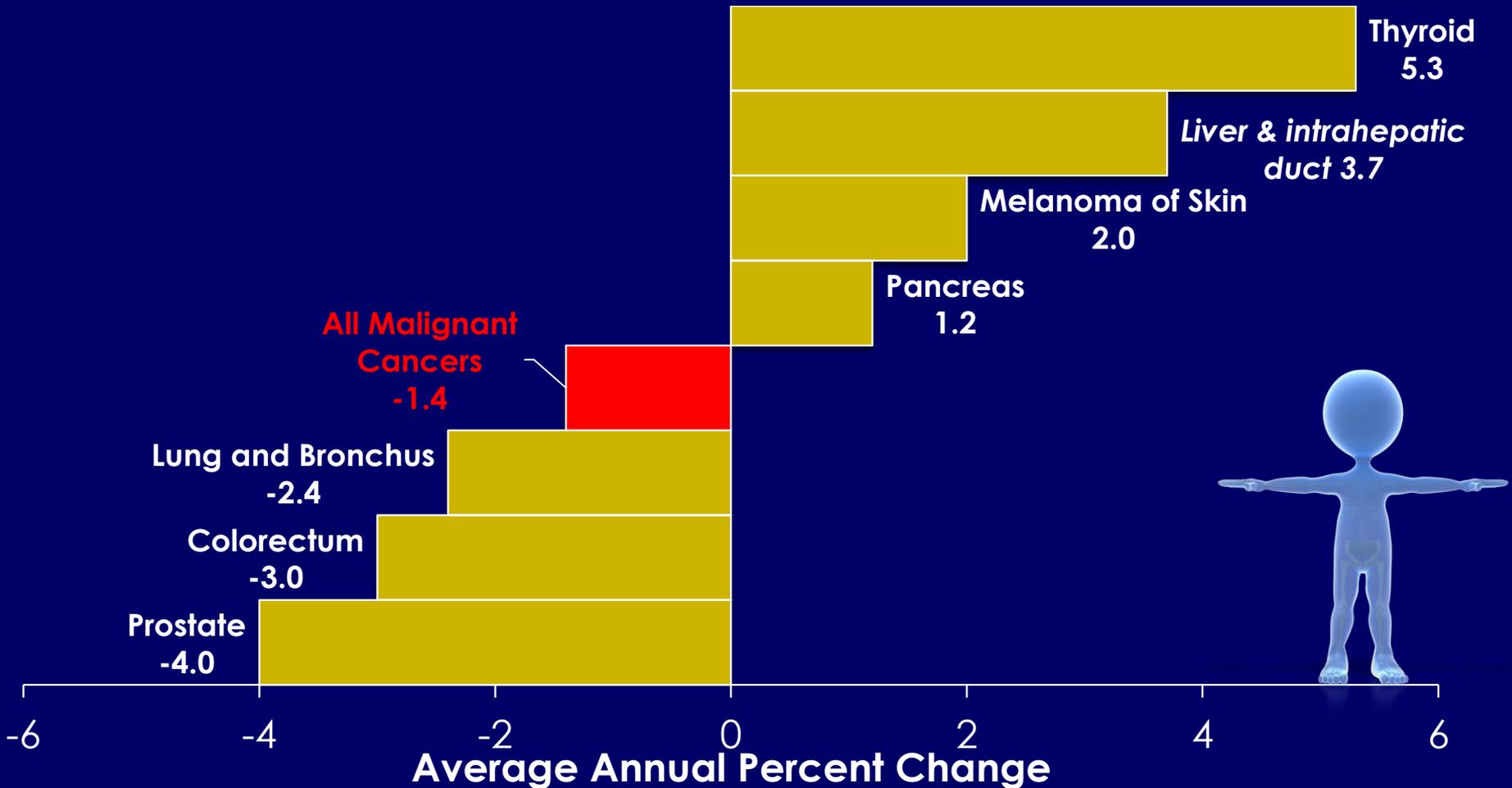
March 9, 2016

Commentary

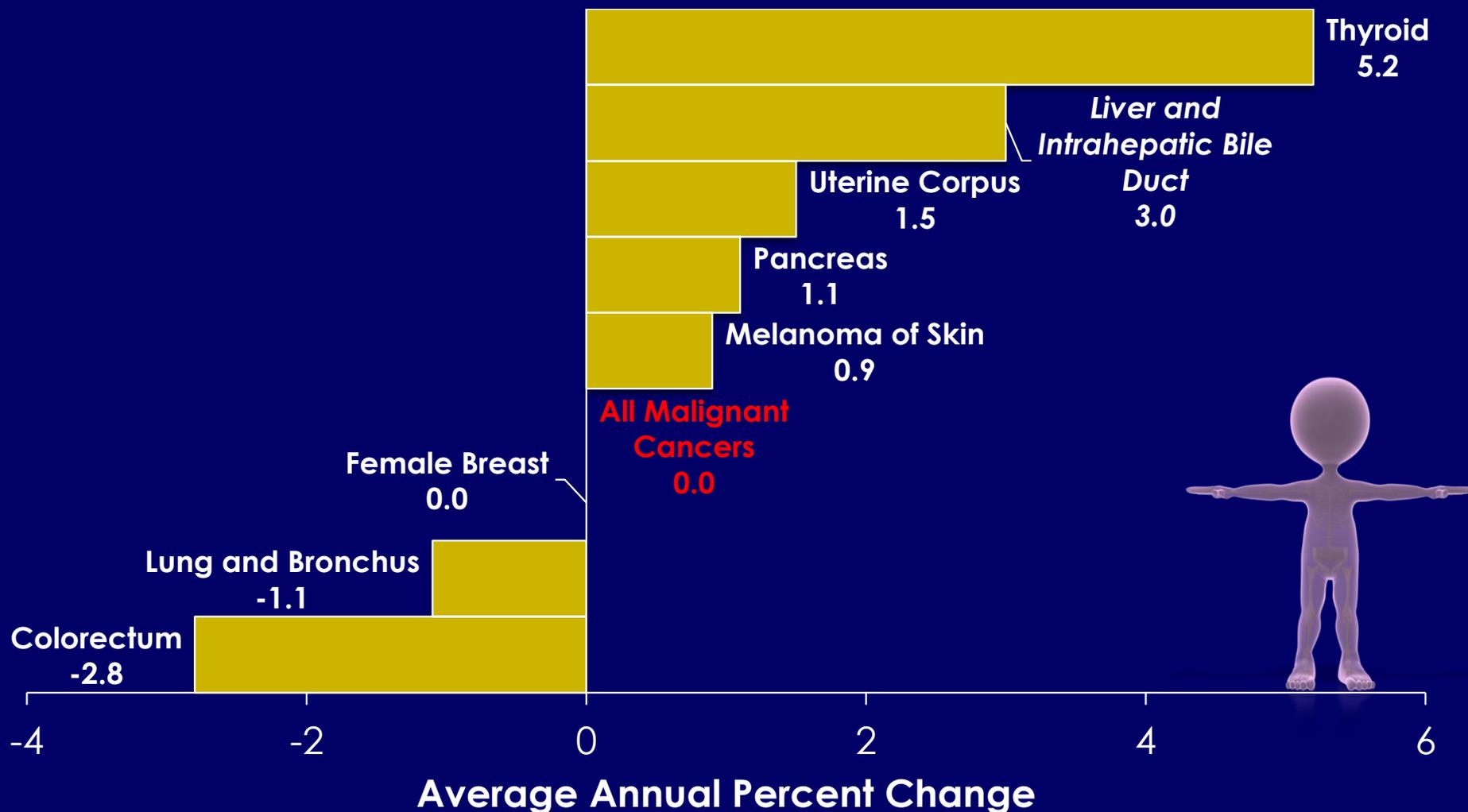
Annual Report to the Nation on the Status of Cancer, 1975-2012, Featuring the Increasing Incidence of Liver Cancer

A. Blythe Ryerson, PhD, MPH¹; Christie R. Ehemann, PhD, MSHP¹; Sean F. Altekruuse, DVM, MPH, PhD²; John W. Ward, MD³; Ahmedin Jemal, DVM, PhD⁴; Recinda L. Sherman, MPH, PhD, CTR⁵; S. Jane Henley, MSPH¹; Deborah Holtzman, PhD³; Andrew Lake, BS⁶; Anne-Michelle Noone, MS²; Robert N. Anderson, PhD⁷; Jiemin Ma, PhD, MHS⁴; Kathleen N. Ly, MPH³; Kathleen A. Cronin, PhD, MPH²; Lynne Penberthy, MD, MPH²; and Betsy A. Kohler, MPH⁵

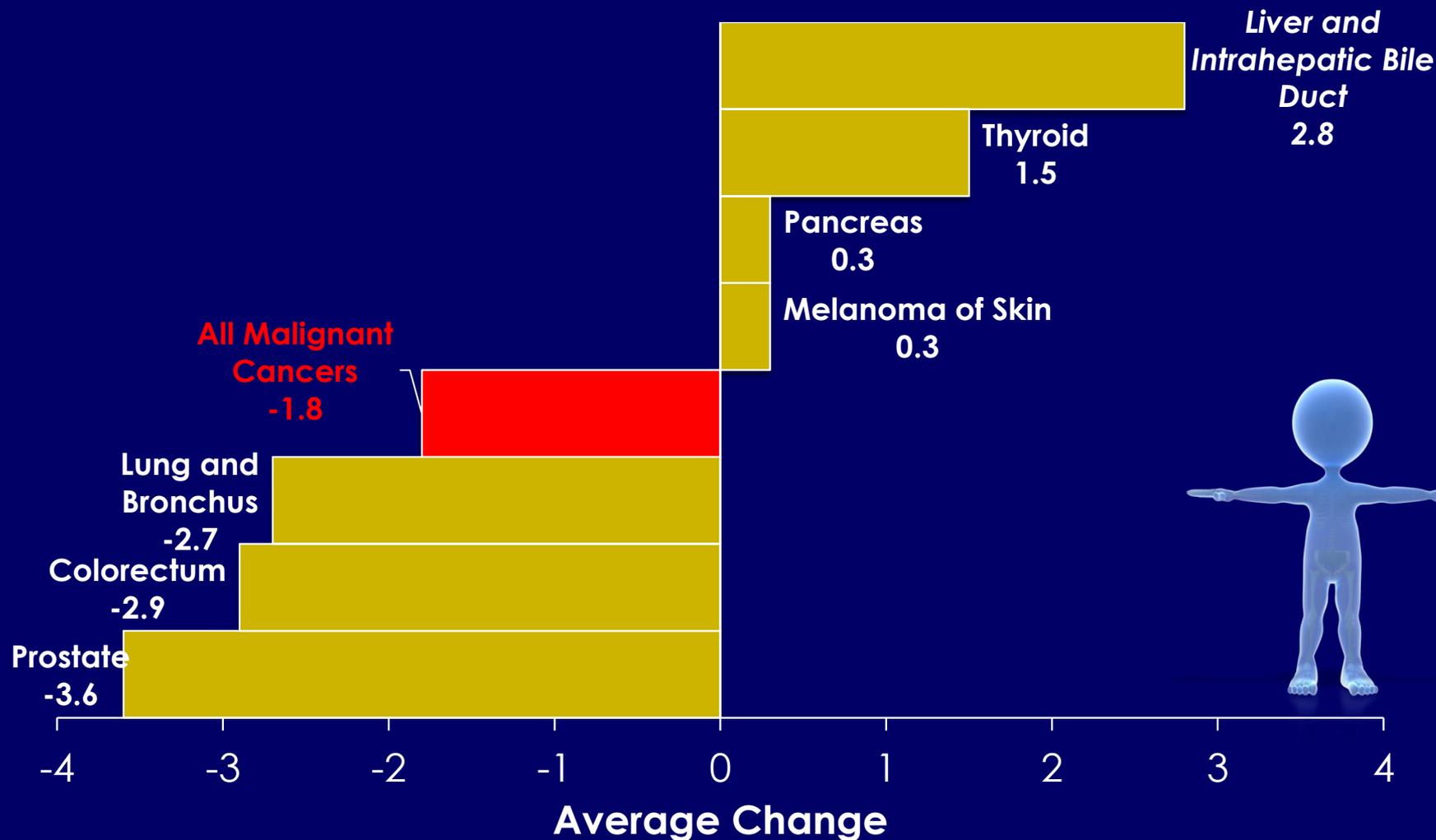
Trends in Cancer Incidence, 1992 to 2012, Males USA



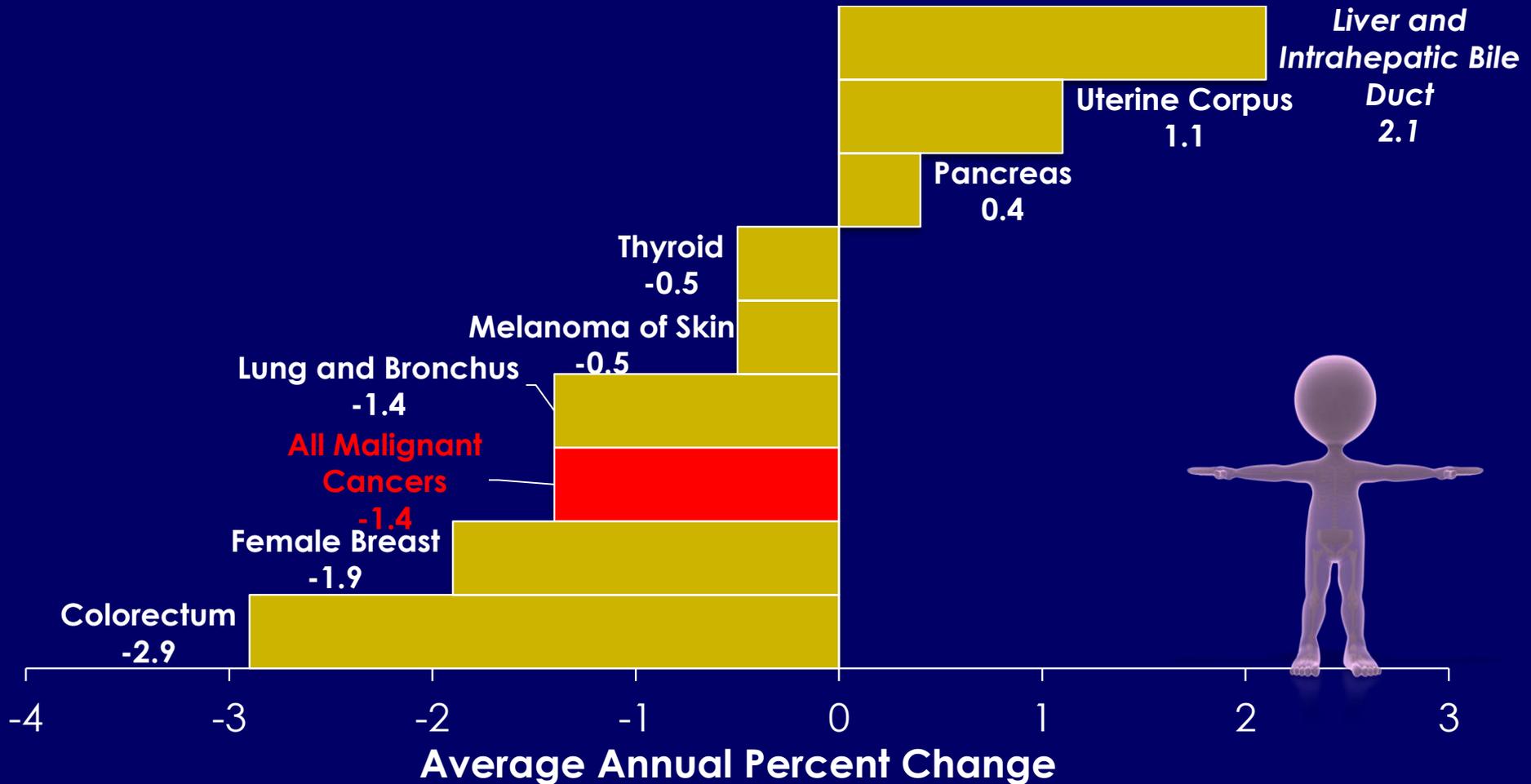
Trends in Cancer Incidence, 1992 to 2012, Females USA



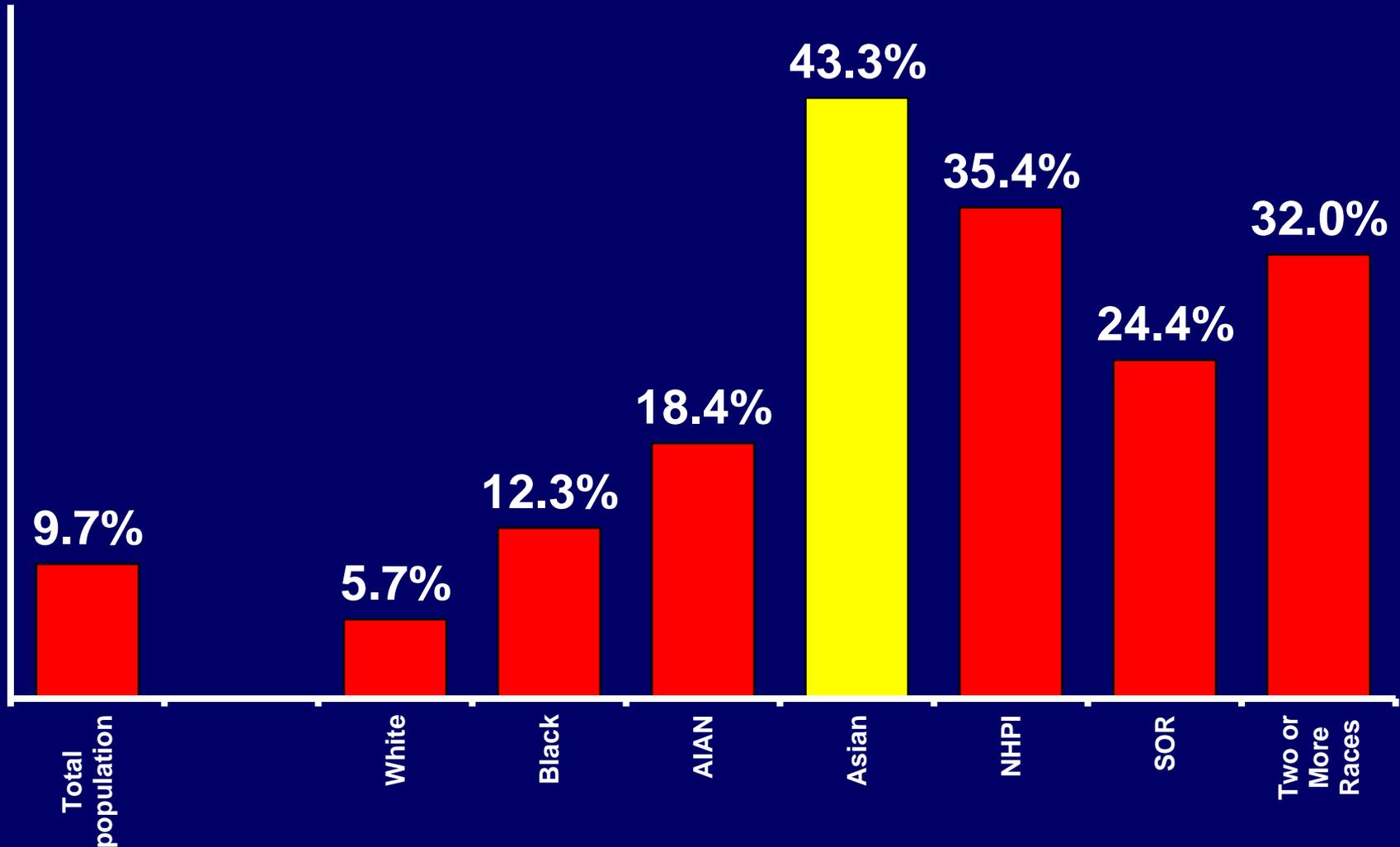
Trends in Cancer Mortality, 1992 to 2012, Males USA



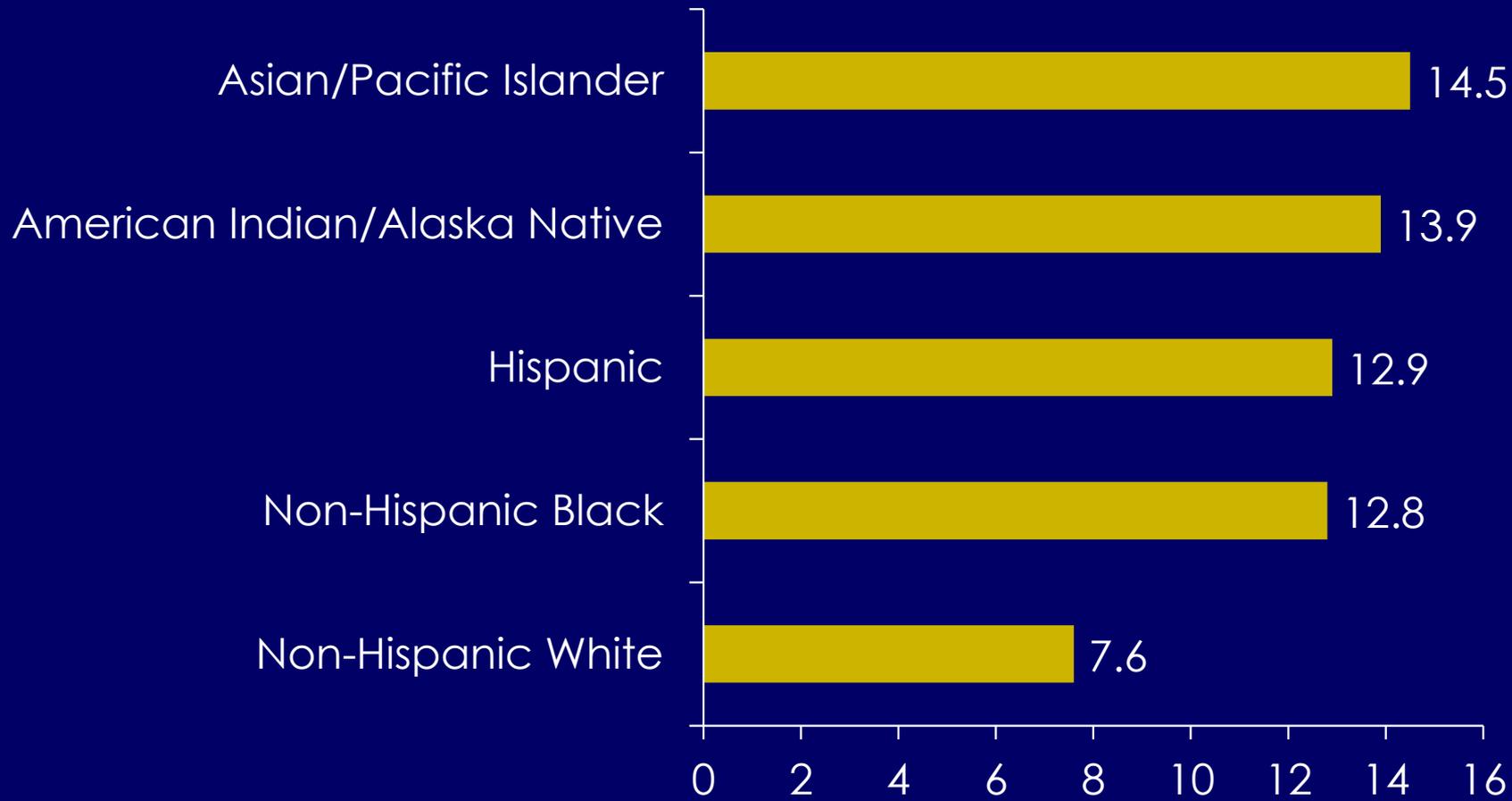
Trends in Cancer Mortality, 1992 to 2012, Females USA



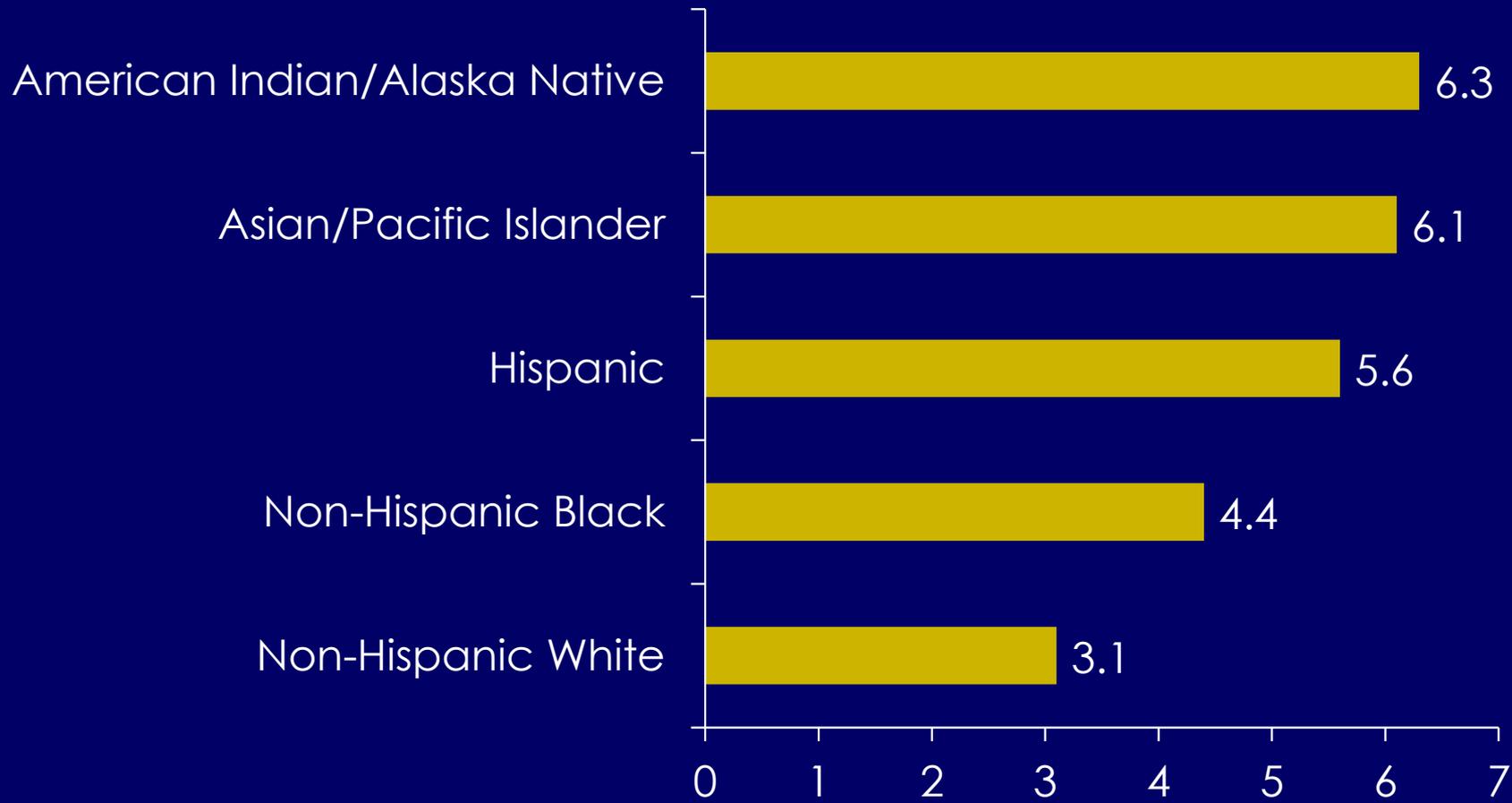
Percent Change: 2000 to 2010



Liver & Intrahepatic bile duct cancer mortality rates for *males*, USA, 2008-2012 per 100,000



Liver & Intrahepatic bile duct cancer mortality rates for *females*, USA, 2008-2012 per 100,000



ELIMINATING
THE PUBLIC HEALTH PROBLEM
OF HEPATITIS B AND C
IN THE UNITED STATES

PHASE ONE REPORT

The National Academies of
SCIENCES • ENGINEERING • MEDICINE

Impact & limitations of community & clinically-based interventions

Community-Based Interventions to Promote Hepatitis B Testing

Liver Cancer Control for Asian Americans
NCI P01CA109091-04A1



Effect of Lay Health Workers

6-year randomized controlled trial (2006-2011)

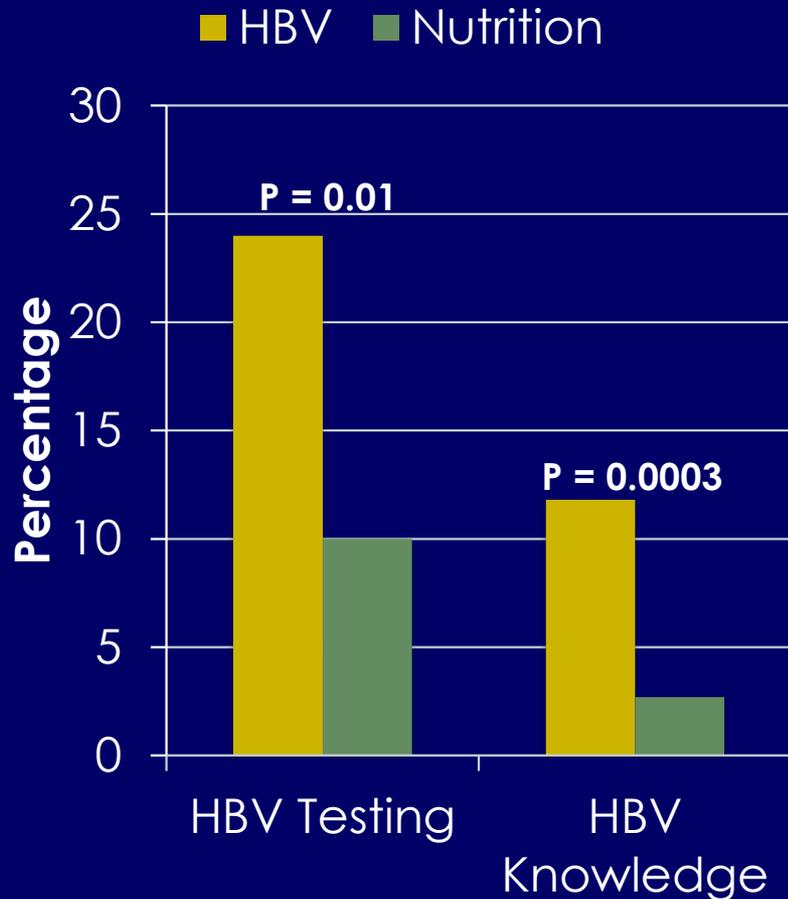
LHW intervention

- ▣ HBV vs general nutrition
- ▣ 260 Hmong adults through in-home education and patient navigation

Lay Health Worker Visiting Home Conducting Survey



Increasing Screening in the Hmong Community by Lay Health Workers



LHW had a significant impact on HBV testing but rates remained low

90% reported having medical insurance

80% reported having a regular physician

Thousand Asian American Study (TAAS)



FREE HEPATITIS B TESTING

In honor of
**Asian Pacific Islander Heritage Month and
 National Hepatitis Testing Day**

The UC Davis Comprehensive Cancer Center will be offering
 free Hepatitis B testing

WHEN: Sunday, May 19, 2013
 10 a.m. - 2 p.m.

WHERE: UC Davis Comprehensive Cancer Center
 4501 X Street
 Sacramento, CA 95817

RSVP: Tina Fung, MPH, CHES
 Tina.fung@ucdmc.ucdavis.edu
 916-734-5371

DID YOU KNOW

- Hepatitis B is dangerous because there are often no symptoms. By the time symptoms occur it is often too late for treatment to be effective.
- One out of 10 APAs have hepatitis, and a majority do not know they have been infected.
- Among Asian Americans, nearly 50% of liver cancer cases can be traced to Hepatitis B virus infection.

To qualify for a free Hepatitis B test you must be:

- A foreign-born Asian American or an adult child of foreign-born Asian American
- A resident of Sacramento County
- 18 years of age or older

Participants will get a \$10 gift card to Walmart for their participation in the study.

AACNART
The National Cancer Institute
 National Cancer Institute
 Cancer Research and Biometrics
 Health Assessment and Statistics Branch
 Health Assessment and Statistics Branch
 Project funded by: U.S. Centers for Disease Control and Prevention



Using EMR to Increase HBV Testing

**76 PCP randomized during 175
outpatient visits**

| | Intervention (n = 88) | Control (n = 87) |
|---------------|------------------------------|-------------------------|
| HBsAg Ordered | 36 (40.9%) | 1 (1.1%) |
| HBsAg Tested | 30 (34.1%) | 0 |
| HBsAg POS | 4 (4.5%) | 0 |

Sacramento Collaborative to Advance Testing & Care of Hepatitis B (SCrATCH B)

Health System “Inreach”

- *Identification of “untested”
- *Recruitment to testing
- *Identification of HBsAg positive patients
- *Case management of HBsAg positive patients

SCrATCH B

Hepatitis B Testing
1 in 12 Asian Americans have hepatitis B,
but most don't know they are infected

SHOULD I BE TESTED FOR HEPATITIS B?

If you or your parent were born in a region colored black, then... you are at higher risk for hepatitis B and should get tested
All results are confidential



Join us on **Saturday, May 30th** from **9AM to 1PM** at the
UC Davis Comprehensive Cancer Center
4501 X Street, Sacramento, CA 95817
for a free Hepatitis B test

To qualify for the free Hepatitis B test you must be:

- You or one of your parent's were born from a region colored black (see map above)
- A resident of Sacramento County
- 18 years of age or older

For more information please contact Duke LeTran at 916-734-5434 or at daletran@ucdavis.edu.
Participants will get a \$10 gift card to Target for their time, effort and travel expenses.

Made possible by a grant from the Centers for Disease Control and Prevention (CDC)

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HEALTH SYSTEM

To Date

1377 tested

109 positive

107 referred to care: 107

89 attended 1st medical visit

71 received HBV-directed care (HBeAg, DNA, ALT)

75 received HCC screening

28 on treatment

Aims:

- Increase hepatitis B screening in Asian Americans residing in Sac County
- Provide vaccination for those who are naïve and counseling & treatment for those who are positive

Mitigating Liver Cancer Health Disparities Among Asian Americans

Increasing Hepatitis B (HBV) testing to reduce liver cancer risk

Back to the Community: Completing initial 1000 Asian American Study for HBV screening and funded to screen 2000 more Asian Americans and link them to care

Clinical: EMR-based messaging significantly increases HBV screening by primary care providers

Genomics: Only NCI-funded R21 to examine biologic determinants of differential liver cancer survival rates among Asian Americans

Community: Statistically significant impact by bilingual/bicultural lay health worker intervention to increase HBV testing

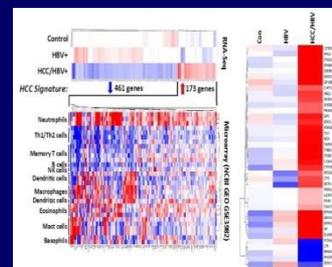


Chen Stewart Tong Bowlus Dang

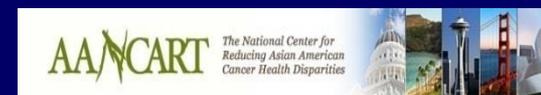
UC Davis Team



Thao Moua Lo



NGS-based identification of an HCC-specific blood genomic signature and its association with specific immune inflammatory cell subsets



Funding

U54 CA153499
P01 CA1090901
R21 CA179722
006970
CDC PS0039441
U51 PS004633

Publications

PCD, 2012
DDS, 2013
CEBP, 2013, 2014, 2015
JCG, 2014
CA: A CA J Clin, 2016

Collaborations

UCSF, UCLA, University of Hawaii,
Hmong Women's Heritage Association

Shared Resources

Biostatistics
Biorepository
Office of Clinical Research U54 MD

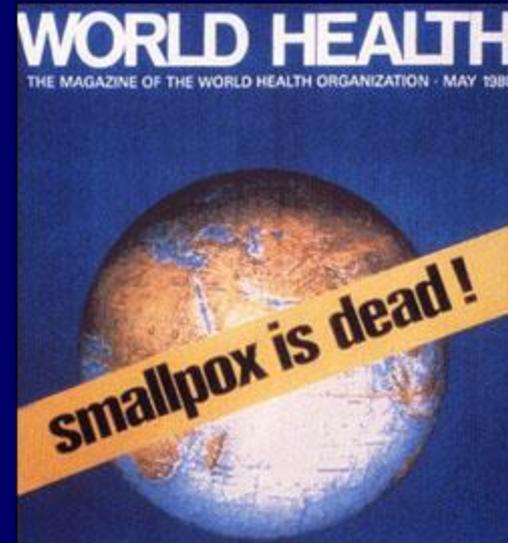
HBV-linked HCC as the next
“smallpox”

Propose:

December 1979



WHO Announces Global Eradication of Smallpox!



Parallels: Comparing Smallpox
with HBV

Reservoir: only in humans

Etiology: both viral

Transmission: communicable

Prevention: both vaccine-preventable

Major CDC Initiatives to prevent and manage Hepatitis B

1991: Hepatitis B virus: A Comprehensive Strategy for Eliminating Transmission in the U.S. through universal childhood vaccination

2005-6: Comprehensive immunization strategy to eliminate hepatitis B in the United States.

2008: Recommendations for the Identification and Public Health management of persons with chronic Hepatitis B virus infections

2011: Use of Hepatitis B vaccination for adults with diabetes mellitus

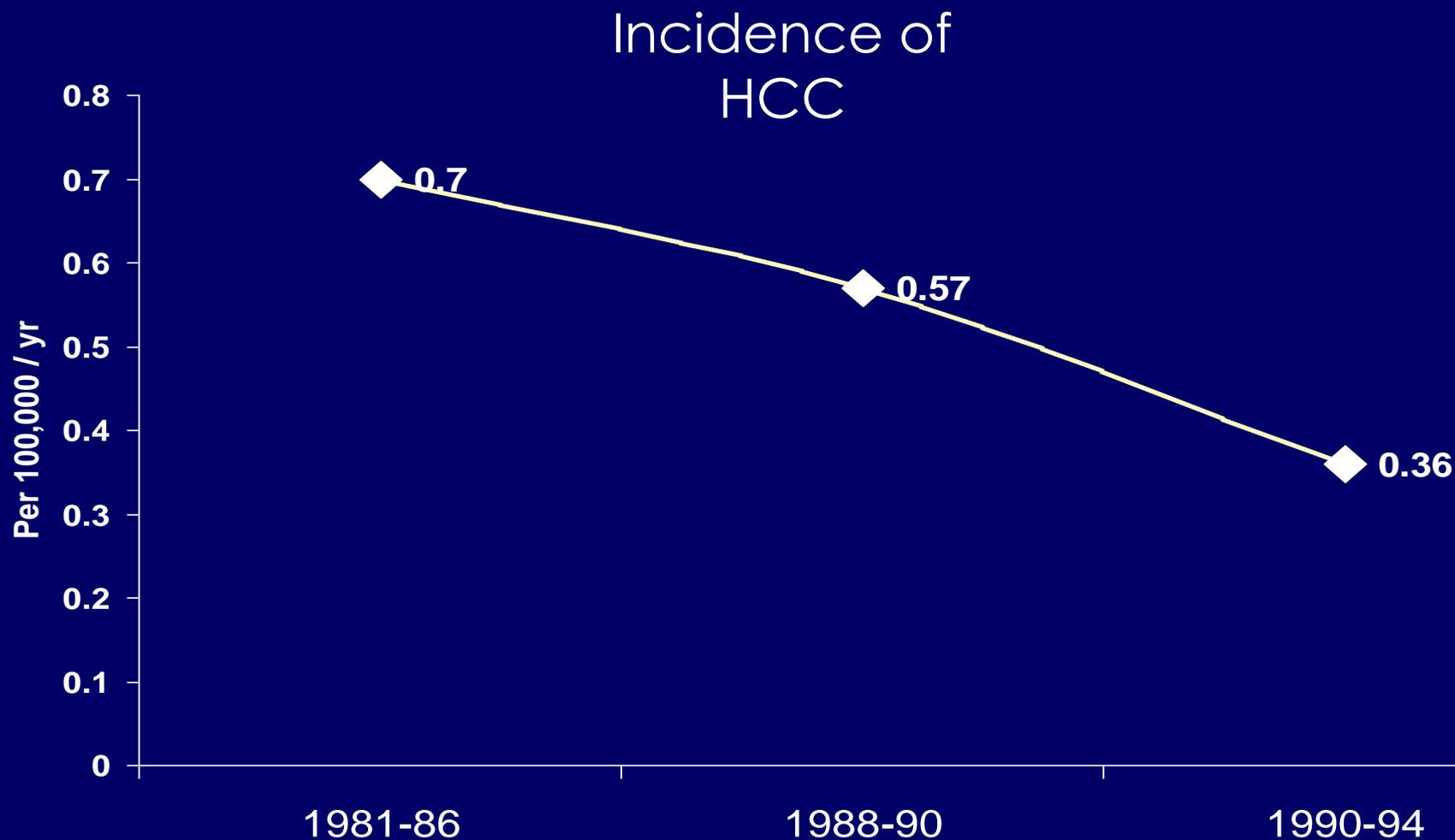
2015: Action Plan for the Prevention, Care, and Treatment of Viral Hepatitis

Preventing perinatal transmission





Evidence for the Effectiveness of Universal HBV Vaccination on HBV Infection and HCC in Taiwanese Children



Continuing Medical Education (CME)

General Medicine Practices for Hepatitis B and Hepatitis C

CME: Hepatitis B Virus



UC Davis is looking for primary care physicians who care for Asian American adult patients to



This CME is cellular

The CME is by Robert Gish



You are cordially invited to a certified CME/CNE/CPE activity

General Medicine Practices for Hepatitis B

Educator: Robert Gish, MD
Date: Thursday, April 21, 2016
Time: 5:30 – 7:00 pm
Location: Ruth's Chris Steakhouse
501 Pavilions Lane
Sacramento, CA 95825

If interested, you are required to complete the CME and six months post-tested for HBV.

This CME/study will last up to 1 hour of your time and effort.

For further information on this activity, contact:

Duke LeTran
Moon Chen, Jr., Ph.D., M.P.E.
mschenr@udavis.edu

TO REGISTER

www.simplyspeakinghepatitis.com
Click on "Attendee Registration"
Enter Activity Code: 23610040

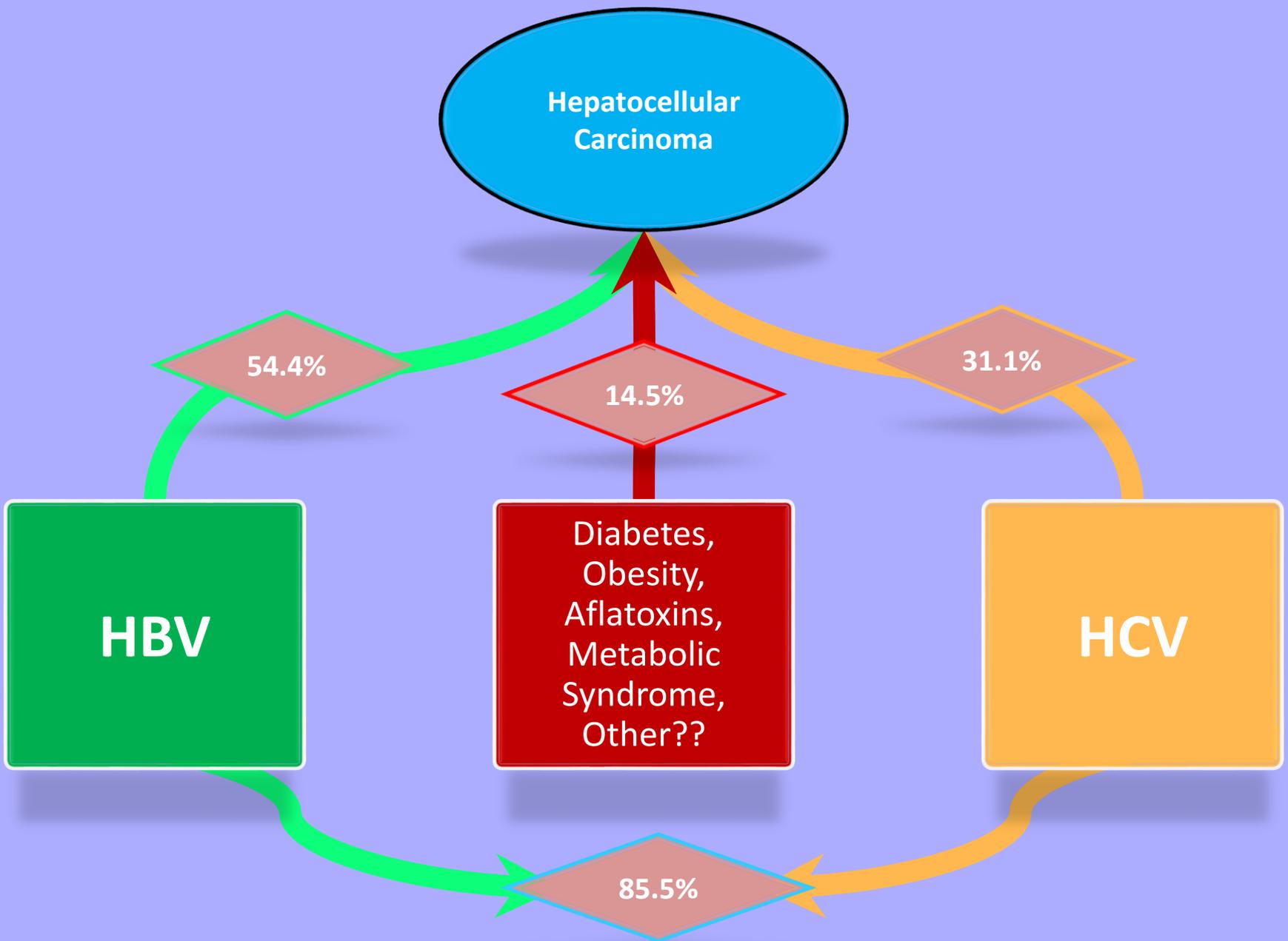


University of Nebraska Medical Center
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Supported by an independent educational grant from Gilead Sciences Medical Affairs

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Apr 27 Draft as of Apr 14

“Longest journey begins with a single step.”

