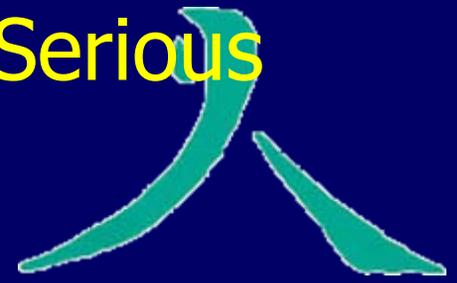


From Liver Transplant Surgeon  
to  
HBV and Liver Cancer Prevention Activist



**Samuel So, MD, FACS**  
**Director, Asian Liver Center**  
**Lui Hac Minh Professor**  
**Stanford University School of Medicine**

# Hepatitis B is the Most Common Serious Liver Infection in the World

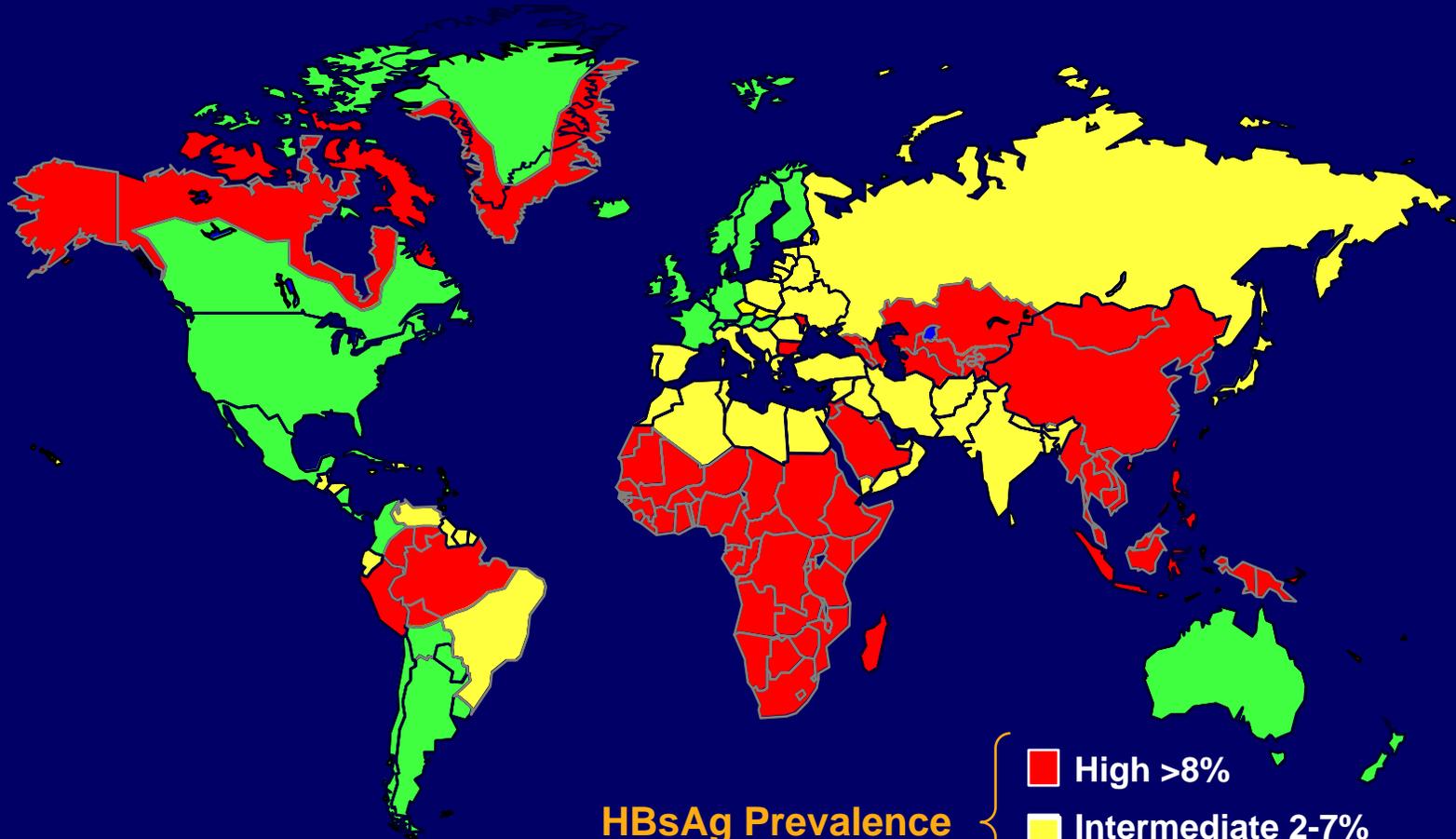


- 350-400 million people worldwide have chronic HBV infection (compare with 40 million living with HIV)<sup>1,2</sup>
- Without appropriate treatment or monitoring, 1 in 4 person with chronic HBV will die of liver cancer, cirrhosis or liver failure
- HBV takes a million lives a year<sup>1,2</sup>
- HBV is **second** only to tobacco in causing the most cancer deaths worldwide<sup>2</sup>
- 80% of primary liver cancer (Hepatocellular carcinoma) is caused by chronic hepatitis B infection
- Preventable with a vaccine available for over 20 years

1 CDC. Available at: [www.cdc.gov/ncidod/diseases/hepatitis/b/faqb.htm](http://www.cdc.gov/ncidod/diseases/hepatitis/b/faqb.htm)

2.WHO. Available at: [www.who.int/csr/disease/hepatitis/en/](http://www.who.int/csr/disease/hepatitis/en/)

# Geographic Distribution of Chronic HBV Infection



HBsAg Prevalence

- High >8%
- Intermediate 2-7%
- Low <2%

1 Goldstein ST, et al. J Infect Dis. 2002;185:713-719

2 Kim WR, et al. Hepatology. 2004;39:811-816.

3 WHO. Available at: [www.who.int/csr/disease/hepatitis/en/](http://www.who.int/csr/disease/hepatitis/en/)

# HBV is Transmitted the Same Way as HIV<sup>1</sup>



- **Birth:** From an infected mother to newborn at birth
- **Blood:** Direct contact with infected blood
  - Unsafe injections and transfusions
  - Sharing or reusing needles or syringes
  - open wound contact
- **Sex:** Unprotected sex



*HBV is up to 100x more Infectious than HIV*

<sup>1</sup> CDC. Available at: [www.cdc.gov/ncidod/diseases/hepatitis/b/faqb.htm](http://www.cdc.gov/ncidod/diseases/hepatitis/b/faqb.htm)



社会恐慌远离我们

坚决打好  
防治禽流感阻击战  
FIGHT AGAINST AVIAN INFLUENZA

爱心行动

阻断疫情向人的传播  
确保人民群众身体健康

BEHIND THE SCENES  
THE CHINESE  
THE CHINESE  
THE CHINESE

BEHIND OF BIRD FLU  
PROTECT THE PEOPLE'S HEALTH

A vertical poster with a red background. At the top, there is a stylized image of a rooster. Below it, a vertical banner contains the Chinese text '社会恐慌远离我们' (Social panic stays away from us). The main title of the poster is '坚决打好 防治禽流感阻击战' (Resolutely fight the battle against bird flu prevention and control), with the English translation 'FIGHT AGAINST AVIAN INFLUENZA' below it. In the center, there is a grid of four small photographs showing medical professionals and people in protective gear. To the right, the characters '爱心行动' (Love Action) are written vertically. Below the photos, there is more Chinese text: '阻断疫情向人的传播 确保人民群众身体健康' (Block the spread of the epidemic to people, ensure the physical health of the people). At the bottom, there is a small section with the text 'BEHIND THE SCENES THE CHINESE THE CHINESE THE CHINESE' and another section with 'BEHIND OF BIRD FLU PROTECT THE PEOPLE'S HEALTH'. A woman's profile is visible in the bottom right corner of the frame.

# HBV Kills Half a Million Mainland Chinese Each Year<sup>1</sup>

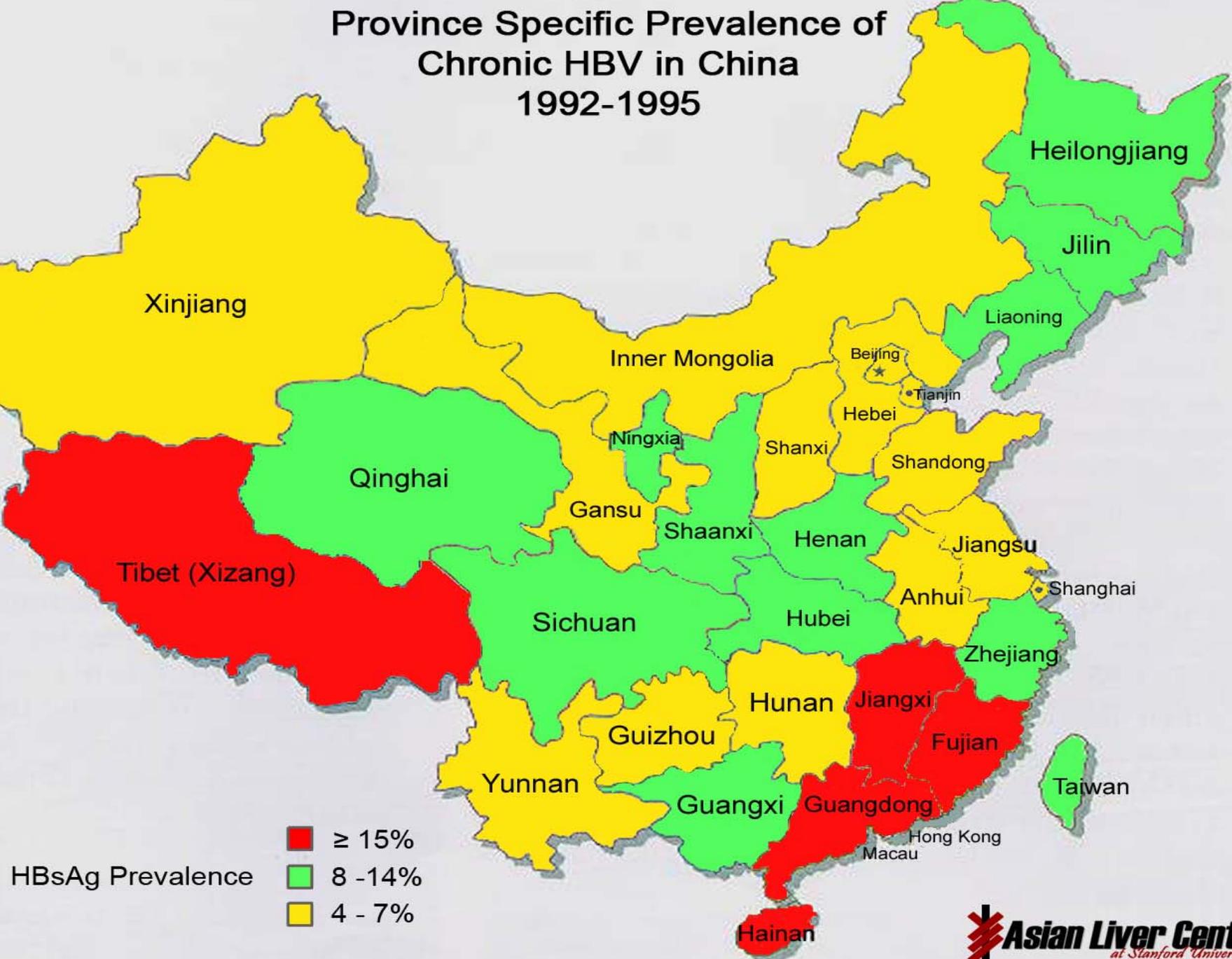


- 1/3 of the world's chronic HBV patients live in China<sup>2</sup>
- 130 million Chinese (1 in 10) have chronic hepatitis B<sup>1</sup>
- Every 60 seconds, HBV kills a person in China
- China accounts for over 50% of the 600,000 worldwide deaths from liver cancer each yr

1 Z Sun et. al., J Med Virol 2002, 67:447-450

2 WHO. Available at: [www.who.int/csr/disease/hepatitis/en/](http://www.who.int/csr/disease/hepatitis/en/)

# Province Specific Prevalence of Chronic HBV in China 1992-1995



# Comparing HBV and HIV in China



## HBV<sup>1</sup>

**130 million** with  
chronic HBV

**10%** population

**500,000** die of liver  
cancer/failure each  
year

## HIV/AIDS<sup>2</sup>

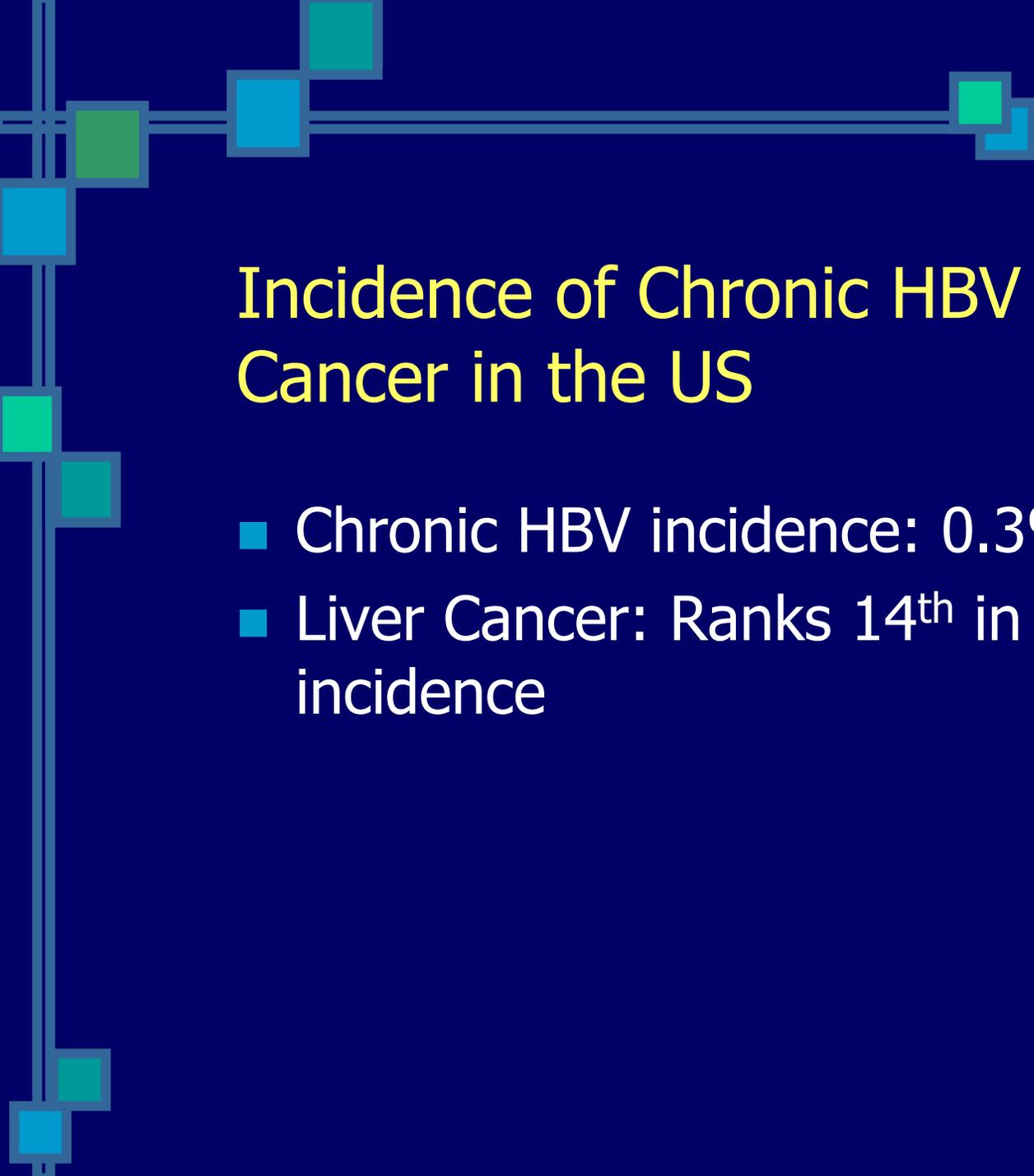
840,000 with HIV

<0.1% of  
population

44,000 died of AIDS  
in 2003

1 Z Sun et. al., J Med Virol 2002, 67:447-450

2 UNAIDS/WHO Epidemiological Fact Sheet accessed at [www.who.int/3by5/support/efs2004\\_chn.pdf](http://www.who.int/3by5/support/efs2004_chn.pdf)



## Incidence of Chronic HBV and Liver Cancer in the US

- Chronic HBV incidence: 0.3%
- Liver Cancer: Ranks 14<sup>th</sup> in cancer incidence



## **Greatest Health Disparity between API and Caucasian Americans**

- Chronic hepatitis B (1 in 10 Asians)
  - 10% of Asian-Americans vs. 0.3% of general U.S. population
- 1.4 million people chronically infected in U.S.
  - More than half are Asian-American
- Liver cancer incidence (4 – 13x higher for Asians compare with white Americans)

# HBV and Liver Cancer is the Greatest Health Disparity Between Asian and White Americans<sup>1,2</sup>

Maternal race/ethnicity	2002 Births	Estimated maternal HBsAg Prevalence	Estimated Births to HBsAg positive women
White, non-Hispanic	2,298,156	0.13%	2,988
Hispanic	876,642	0.09%	789
African American	593,691	0.5%	2,968
<b>Asian Pacific Islander</b>			
Foreign born	175,264	8.9%	15,598
US born	35,643	1.4%	499
Other	42,330	0.5%	212
Total	4,021,726		23,054

1. Asian Liver center <http://liver.stanford.edu>

2. Draft ACIP hepatitis B recommendations, CDC 2005

## *Five Most Common Cancers in Males by Race/Ethnicity California, 1997-2001*



	Rank				
	1	2	3	4	5
Laotian	liver	lung	stomach	colorectal	oral
Cambodian	lung	liver	colorectal	lymphoma	oral
Vietnamese	lung	liver	prostate	colorectal	stomach
Chinese	prostate	colorectal	lung	liver	stomach
Korean	lung	stomach	colorectal	prostate	
Filipino	prostate	lung	colorectal	lymphoma	
White	prostate	lung	colorectal	bladder	melanoma
Hispanic	prostate	colorectal	lung	lymphoma	leukemia
Black	prostate	lung	colorectal	lymphoma	oral

*Source: California Cancer Facts & Figures 2005, American Cancer Society*

# Trends in 5-Year Survival by Year of Diagnosis in the U.S.

Site	1974-76	1983-85	1992-99
Breast cancer	75%	78%	87%
Colon cancer	51%	58%	62%
Prostate cancer	67%	75%	98%
Liver cancer	4%	6%	7%

# Chronic Hepatitis B is a Silent Killer<sup>1</sup>

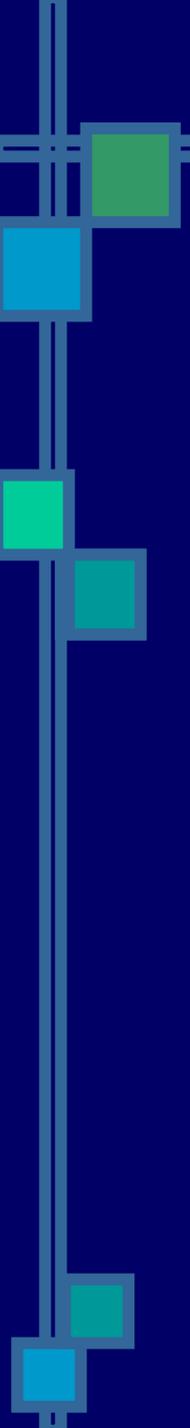


- Many people don't know they have been infected
- Many feel perfectly healthy
- Routine liver function blood test are often normal
- Doctors and patients are then fooled that everything is OK
- If you wait for symptoms (jaundice, pain or swollen belly), it is often too late





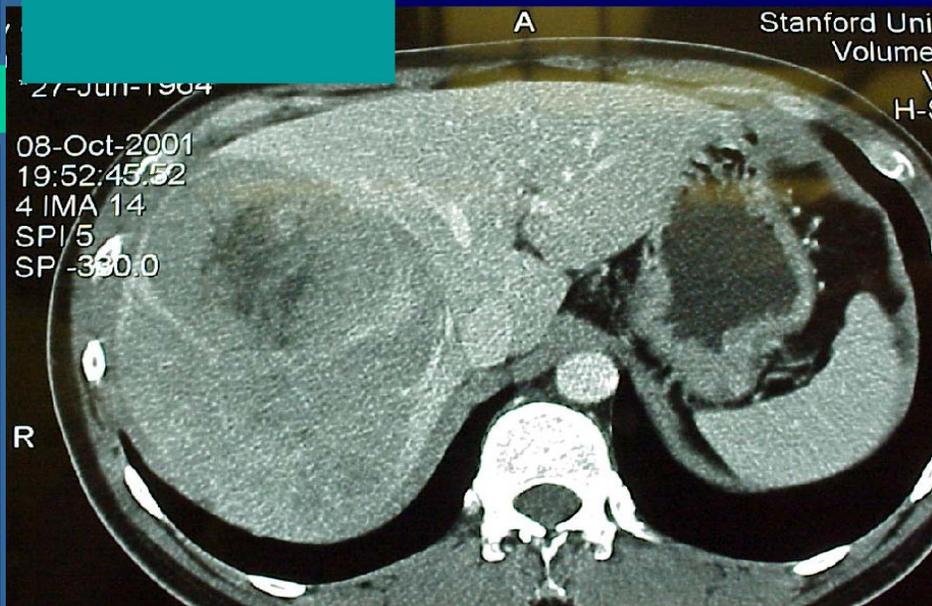
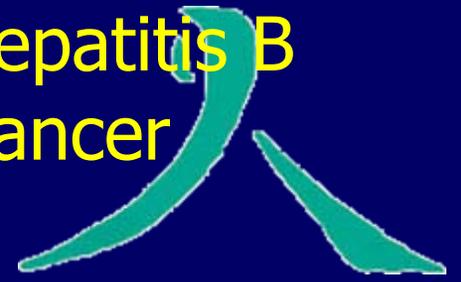
- Founded in 1996
- Only non-profit organization established to address the disproportionately high incidence of HBV and liver cancer in Asians and Asian Americans
- Goal: eradication of HBV and reduce the incidence and mortality of HCC worldwide
- Three-pronged approach
  - Research (cancer genomics)
  - Treatment
  - Prevention and Early Detection (Education, Outreach, and Advocacy)



## Why is it important to promote awareness and testing of all Asian Americans for HBV?

- Screen for the 1 in 10 API who don't even know they have been chronically infected
- Vaccinate those who are not protected "First anti-cancer vaccine"
- For those who test positive for HBsAg
  - Appropriate HBV treatment can reduce risk of liver cancer and cirrhosis
  - regular screening for liver cancer can lead to early detection and successful removal of the cancer

# 35 years old Asian American Engineer, Hepatitis B carrier with no symptoms: 14 cm Liver Cancer



Early detection by regular screening is the only way to improve liver cancer survival<sup>1</sup>

<sup>1</sup> Yang B et al. J Cancer Res and Clin Oncol, 123:375, 1997

# All API (foreign born or parents are foreign born) should be tested for HBsAg before HBV vaccination

- Adrian Elkins
- Adopted as an infant from India
- Received HBV vaccination on arrival to the US without HBsAg testing
- HBV diagnosed only when he was dying from liver cancer at 20 yrs old



Source: Answer to Cancer Foundation

# HBV and Liver Cancer: A growing health threat in the US public health system

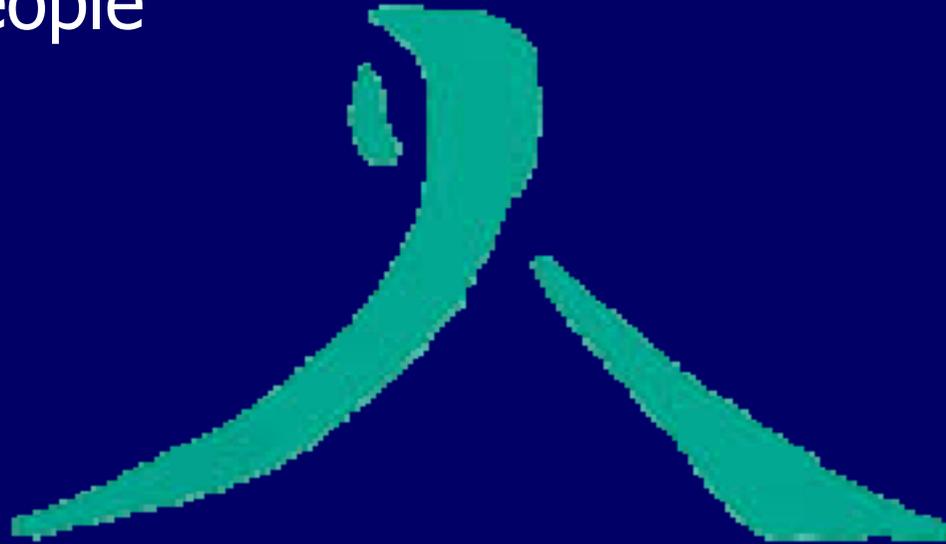


- API population: Fastest growing ethnic community (4x increase since 1980, 14.4 million in 2002)
- Foreign born API: 2.5 million in 1980 to 8.3 million in 2002
  - 75% came from countries with chronic HBV rates of 8-15%
- APIs tend to live in large households (20% with 5 or more people)
- 45% of API between the ages 25-34 years are single
- Many API seek their medical treatments from TCM practitioners
  - Do not routinely perform blood tests
  - Under-reporting of both acute and chronic HBV infection



## JADE RIBBON CAMPAIGN 翡翠丝带活动

- Jade = good luck, longevity
- Unique shape = Chinese character "people"



*Symbolic of Bringing people of the world together in a United effort to eradicate HBV and Liver Cancer*



*Brand Recognition  
Important In Global  
Public Health Campaign*

Mercedes

GUCCI



# CHARACTERISTICS 特点



- Multi-ethnic
  - Chinese
  - Vietnamese
  - Korean
  - Thai
  - English
- Media Campaign
- Educational Campaign
- **Forming partnerships (Coalition of over 400 organizations)**
- Raise public awareness among various target groups
  - Asian and Pacific Islander community
  - Youth education (API Youth)
  - Physician education
  - General public

## MEDIA

- Newspaper
- Magazine
- TV
- Radio
- Billboard
- Bus



# PSA on 2/3 of San Francisco Buses



November 9, 2005

MUNI

CA49819

15-Caltrain

**STOP**  
ENTER  
THROUGH  
FRONT  
DOOR  
ONLY

**STOP**  
ENTER  
THROUGH  
FRONT  
DOOR  
ONLY

**WARNING**



unite against HBV.  
*Jade Ribbon Campaign*

<http://liver.stanford.edu> | 650-72-LIVER

MUNI

**WARNING**

PLEASE HOLD ON TO YOUR SEAT OR OTHER SAFETY DEVICES AT ALL TIMES.  
Do Not Stand in Aisles or Near Doors.  
Do Not Drink or Eat on the Bus.  
Do Not Use Cell Phones While Driving.  
Do Not Use Alcohol While Driving.  
Do Not Use Tobacco or Smoking Devices While Driving.  
Do Not Use Prescription or Over-the-Counter Medication While Driving.  
Do Not Use Prescription or Over-the-Counter Medication While Driving.  
Do Not Use Prescription or Over-the-Counter Medication While Driving.

**WARNING**  
Wheelchair Lift



# Educational and Community Outreach in 2004



42 Seminars for health professionals and the public



31 Health and Cultural Fairs





## Partner with the Media to increase HBV and Liver Cancer awareness 2004

■ Newspaper and magazines	95
■ Radio interviews	9
■ Television interviews	18



## Educational Resources (2004)

Brochures Requested 178,000

(Norway, Vietnam, Australia)

Hot-Line Phone Calls 3,400

(toll free: 888-311-3331)

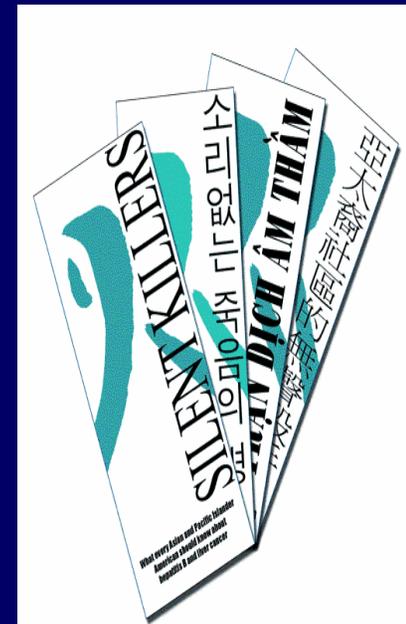
Avg. Monthly Hits on Multilingual 175,000

Website (<http://liver.stanford.edu>)

Physician's Guide on Hepatitis B – posted on official CDC hepatitis B website

Documentary on HBV – film festivals, TV stations

Youth Video



# *Inspiring youths to become leaders and activists*

*4<sup>th</sup> Annual Youth Leadership Conference*

*On API Health, Stanford, Nov 11-13, 2005*



# LIVERIGHT 5 K Run/Walk

## THE LIVERIGHT WRISTBAND



THE LIVERIGHT WRISTBAND

# Partnering with City Health Dept 3-for-Life Program

(low cost HBV and HAV vaccination and HBV screening)

- Asian Liver Center
- San Francisco Health Department
- YMCA



*Mayor Gavin Newsome of San Francisco first to receive the shot*

# Recognitions

- The Santiago Ramon y Cajal Award for outstanding research on minority health at the National Minority Health Month Award, Washington DC, 2003
- Congressional commendation, 2003
- Ally Award, San Francisco, 2003
- KQED Local Hero Award, 2004
- ABC7 Profile of Excellence Award, 2004
- World Journal Community Hero Award, 2004
- Commendation by the City and County of San Francisco, 2002



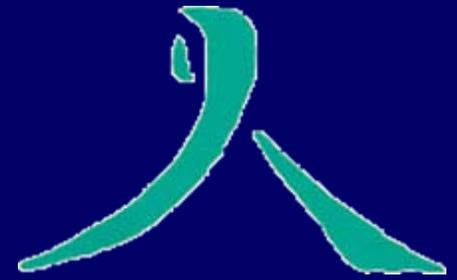
*Senate Majority Leader  
Dr. Bill Frist at award dinner*

# Partner with State Health Agencies

- Hawaii declared month of July 2004, HBV awareness month
- California State Wide Initiative
  - 1/3 of API Americans live in CA and liver cancer rates i has increased by 40% in 10 years
- Developed the **first California Liver Cancer Control Plan** (partners include ACS & Dept of Health), that by 2010
  - all Asians in California should be tested for HBV
  - Aim to have 99% of Asians vaccinated if they are not protected
  - Improve liver cancer survival by 20%
- Action: Plan and implement State wide 3-year Jade Ribbon awareness campaign



# Partner with CDC



- Recipient of CDC Hepatitis Education Award
- Advocate changes in ACIP and federal guidelines to protect all Americans and API from HBV and liver cancer:
  - Test all API (adults and children) for chronic HBV (HBsAg)
  - Recommend appropriate treatment and liver cancer screening for any one with chronic HBV infection
  - Educate physicians
  - Vaccinate all adults of child bearing age (<45yrs)
  - List adult API as high risk group

## Partner with federal legislators

- Federal funding for HBV and liver cancer (awareness, education, testing, vaccination, surveillance and research)
  - First **National Hepatitis B Bill** (partners include Congressman Mike Honda, AAPCHO, Hep B Foundation)



The Asian Liver Center is committed to work with China and countries worldwide to develop strategies to eradicate HBV



*Partnership with China Foundation for Hepatitis Prevention and Control, and the China CDC*

# Jade Ribbon Campaign officially launched at the National Conference on the Prevention and Control of Viral Hepatitis in China, April 26-29, 2004



## 病毒性肝炎防治研讨会

2004.4.26~29, 杭州

主办：中国肝炎防治基金会  
支持：卫生部疾病控制司  
中国疾病预防控制中心  
浙江省卫生厅  
承办：浙江省疾病预防控制中心  
协办：深圳康泰生物制品有限公司



承办  
协办

# ALC HBV Vaccination Programs in China (Education and Free HBV vaccination for 100,000 children in 2005-2006)



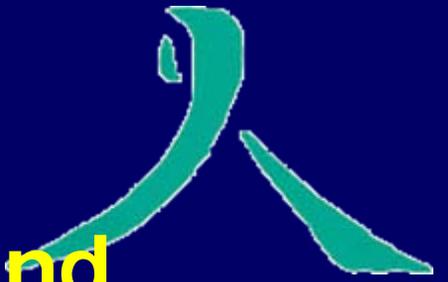
Free newborn vaccination only since 2001  
Many of the 377 million children under 18yrs  
have not been vaccinated

# ALC Educational Seminars and Workshops in China

Provincial CDC staff  
Medical school and college students  
youths



# ALC help to develop HBV and Liver Cancer Educational Materials in China



# Hopefully soon 希望理想早日成真!



温家宝总理、吴仪副总理看望乙肝病患者

- 卫生部财政部出台办法：乙肝咨询检测可免费
- 卫生部、财政部决定 经济困难乙肝病病人可获免费抗病毒药物治疗

# ALC Staff and Interns hope you will join us in the Fight to Eliminate HBV and Liver Cancer Worldwide

