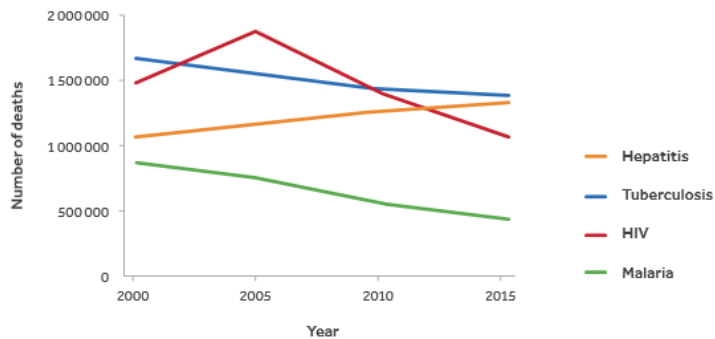




JoinJade Stop Hepatitis B Stop Liver Cancer

*Samuel So, MBBS, FACS
Professor of Surgery
Lui Hac Minh Professor
Founder and Director, Asian Liver Center
Stanford University School of Medicine*

More People in the World Die from Viral Hepatitis than HIV/AIDS and Malaria



WHO, Global Hepatitis Report 2017



257,000,000

people worldwide living with chronic HBV

71,000,000

people worldwide living with chronic HCV



WHO, Global Hepatitis Report, 2017

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Eliminating Chronic Viral Hepatitis as a Public Health Problem is Feasible

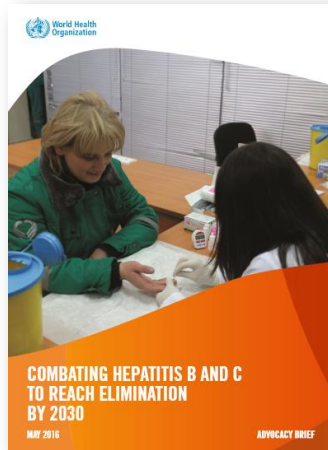
- **Ending transmission**
 - Hepatitis B vaccine
 - Hepatitis C treatment
 - Safe injection and blood banking
- **Reducing morbidity and mortality** from cirrhosis and liver cancer
 - Antiviral treatment
 - Liver cancer screening
- **Eliminating disease stigma**

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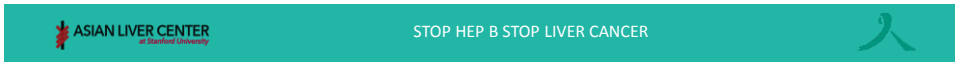
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Global HBV and HCV Elimination Targets by 2030



	WHO 2015 Baseline	WHO 2030 Target
HepB3 coverage	84%	90%
HepB birth dose	39%	90%
Unsafe injections	5%	0%
Syringes and needles/PWID/yr	27	300
Chronic HBV diagnosed	9%	90%
Chronic HCV diagnosed	20%	90%
Chronic HBV on treatment	8%	80%
Chronic HCV started on treatment	7%	80%



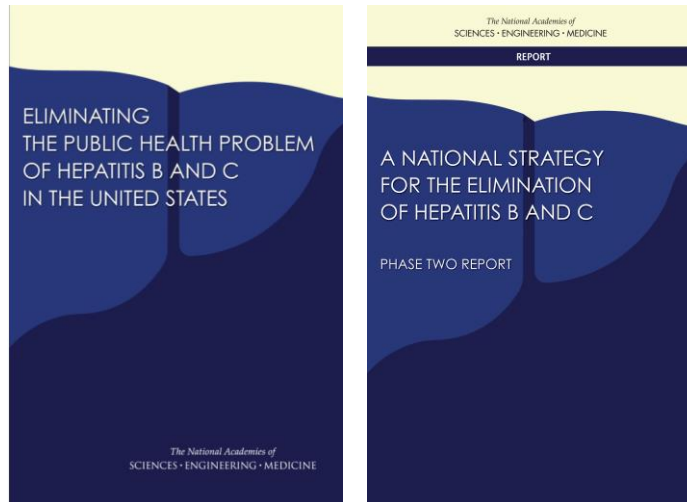
Number of People Living with Chronic Viral Hepatitis in the U.S.

	Estimated Number of People with chronic viral hepatitis in the U.S. in 2015	Estimated Number of New chronic viral hepatitis Cases per year
Hepatitis C	3.1 million (50% unaware of their infection)	30,000 (mainly from IDU)
Hepatitis B	1.3 million (66% are unaware of their infection)	25,000 (95% imported through migration, about 3.5% from perinatal transmission)

Estimates from HBV & HCV Modelling
 Toy M 2017, Razavi H 2017,



National Academies of Sciences, Engineering and Medicine 2016 & 2017 Reports



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A National Strategy for the Elimination of Hepatitis B and C: Phase Two Report

Hepatitis B Targets

- **50% reduction in mortality** from chronic hepatitis B by 2030 (To meet this target will require increasing the rates of CHB diagnosis, care and treatment to 90%, 90% and 80% respectively).
- **Elimination of chronic hepatitis in newborns** and children under 5 years

Hepatitis C Targets

- **65% reduction in mortality** from hepatitis C in 2030 relative to 2015
- **90% reduction in hepatitis C incidence** by 2030 (To meet these target will require treatment without restrictions and same level of diagnosis and treatment relative to 2015).

A national strategy for the elimination of hepatitis B and C: Phase two report. Washington, DC: The National Academies Press, 2017.



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Recommendations Applicable to Both Hepatitis B and C

- Highest Level of Government should oversee a coordinated elimination effort
- National Committee for Quality Assurance should develop performance measures to monitor **compliance to hep B and C screening** guidelines.
- Criminal justice system should **screen, vaccinate and treat hep B and C in correctional facilities.**
- AASLD and ID societies should partner with PCP professional organizations to **build capacity to treat hep B and C in primary care.**
- CDC should partner with national cancer institute to **attach viral etiology to liver cancer reports**, and partner with state and local health depts. to support standardized **case reporting, follow-up and monitoring of all viral hepatitis cases.**

A national strategy for the elimination of hepatitis B and C: Phase two report. Washington, DC: The National Academies Press. 2017.



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Hepatitis B Rec

- National Committee for Quality Assurance should develop performance measures to monitor **compliance to hepatitis B birth dose vaccination.**
- CDC and professional medical associations should recommend HBsAg-positive pregnant women have **early prenatal HBV DNA and ALT testing.**
- States should expand access to adult hepatitis B vaccination and **remove barriers to free adult hepatitis B immunization** in pharmacies.

Hepatitis C Rec

- Public and private health plans should **remove restrictions to DAA treatment.**
- State and federal agencies should **expand access to syringe exchange and opioid agonist therapy.**
- Federal government should **purchase the rights to a DAA for use in neglected markets** such as prisons, Medicaid, Indian Health Service.

A national strategy for the elimination of hepatitis B and C: Phase two report. Washington, DC: The National Academies Press. 2017.



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Chronic HBV Infection is Among the Greatest Racial/Ethnic Health Disparities in the U.S.

Racial/Ethnic Population	Prevalence of Chronic HBV Infection
Asian and Pacific Islander (foreign born)	1 in 12
Asian and Pacific Islander (US born)	1 in 70
African American	1 in 200
Hispanic	1 in 1,100
Non-Hispanic White	1 in 800

APIs make up 6% of the U.S. population, but over 60% of those in the U.S. with chronic HBV infection.

Source: CDC draft ACIP recommendations, 2005



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10 Most Common Causes of Death from Cancer in API Men in the US

1. Lung and bronchus
2. **Liver**
3. Colon and rectum
4. Prostate
5. Stomach
6. Pancreas
7. Non-Hodgkin lymphoma
8. Leukemia
9. Esophagus
10. Brain

San Francisco and Santa Clara counties have the highest incidence of liver cancer in the country

Source: US Cancer Statistics: 2013 Incidence and Mortality Web-based Report. Available at nccd.cdc.gov/uscs



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Asian Liver Center at Stanford University

- Founded in 1996
- To address the disproportionately high prevalence of chronic HBV and liver cancer in Asians and Asian Americans and the gaps in hepatitis B and liver cancer awareness, research and national policies

C - collaboration & partnership

A - evidence based advocacy

R - research

E - education & training

- Goal: **Global elimination of hepatitis B, and reduce the burden of liver cancer worldwide**

Liver.stanford.edu



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Asian Liver Center at Stanford University



CJ Huang Building
780 Welch Rd, Palo Alto



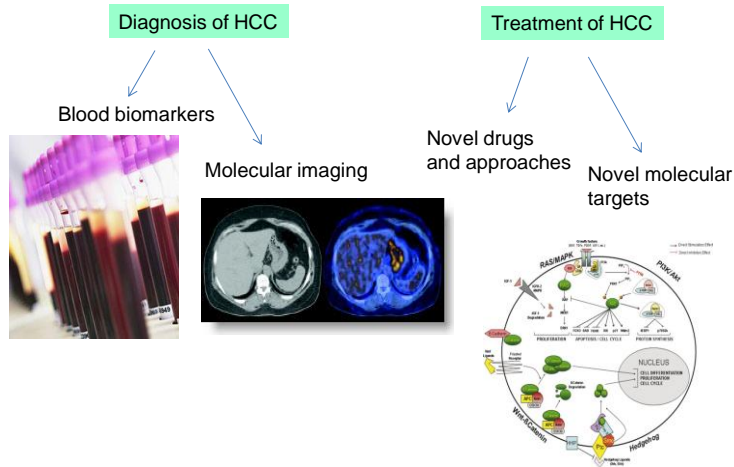
Stanford Center at Peking University
Beijing



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ALC Lab Focus: To Discover More Effective Ways to Diagnose and Treat Liver Cancer



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ALC Spearheads Efforts to Improve Hepatitis B Prevention and Control Policies in the U.S.

- 2008, **OMH recognized chronic HBV infection in API as a serious neglected national health disparity**
- 2010, Institute of Medicine Report on *a national strategy on prevention and control of hepatitis*
- 2011, DHHS released the first *ever national action plan for prevention, care and treatment of viral hepatitis*
- 2014, USPSTP recommends hepatitis B screening of foreign born
- 2015-16, **ACA and Medicare covers hepatitis B screening of foreign born and adult hepatitis B vaccination**
- 2016-17, **National Academies Reports on Eliminating the Public Health Problem of Hepatitis B and C in the U.S.**



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Jade Ribbon/JOINJADE Campaign Launched in 2001



Jade = Good health & longevity

Raise Awareness and Rally People Worldwide to End Hepatitis B and Liver Cancer



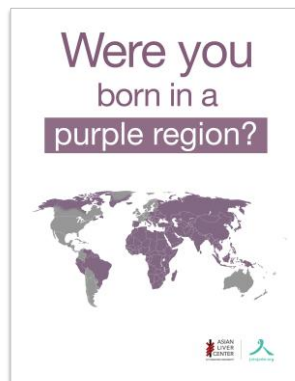
Jade Ribbon/JoinJade

- A culturally and linguistically appropriate hepatitis B and liver cancer awareness campaign
- Five Key Messages
 - **Get informed** (1 in 12 Asians have hepatitis B, 2 out of 3 are not aware of their infection)
 - **Get tested**
 - **Get vaccinated** if unprotected
 - **Get care** and treatment, and screen for liver cancer if chronically infected
 - **Wear jade or the jade ribbon**, tell your friends and family, and support those living with chronic hepatitis B and liver cancer

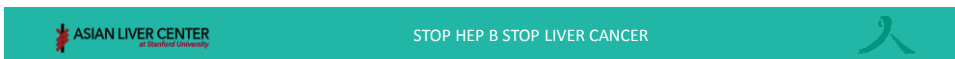
Chao S, So S, J Commun Healthcare 2011



JR: Community Outreach to Increase Hepatitis B Awareness, Screening, Vaccination, Care, and Treatment



In Australia, would include Aboriginal and Torres Strait Island people



JR: Increasing Public Awareness through News Media, Public Service Announcements and Short Films



JR: Partner with Cities and Counties to Launch Hep B Free Campaigns (since 2007)



San Francisco Hep B Free Clinician's Honor Roll




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JR: Inspire Youths to Become Leaders and Hepatitis B Ambassadors

13th ALC Annual Youth Leadership Conference, Aug 2015



Team HBV High School Chapters

- | | |
|---|--|
| <ul style="list-style-type: none"> Amador Valley High School Bellaire High School Bellarmine College Preparatory California High School Carnegie Vanguard High School Castilleja High School Castro Valley High School Chapel Hill High School Davis Senior High School Dougherty Valley High School Dublin High School Folsom High School Foothill High School Gunn High School Hang Zhou No.2 High School of Zhe Jiang Province Homestead High School Independence High School Irvine High School Leland High School James Logan High School Lick-Wilmerding High School Lowell High School | <ul style="list-style-type: none"> Lynbrook High School Los Altos High School Los Gatos High School Maria Carrillo High School Mission San Jose High School Milpitas High School Mira Loma High School Mountain View High School Oxford Academy Palo Alto High School Piedmont Hills High School San Francisco University High San Leandro High School San Mateo High School Saratoga High School Stanford Online High School The Harker School The Quarry Lane School Troy High School Valley Christian High School Woodside Priory School |
|---|--|



Brown, Cornell, DeAnza, Harvard, MIT, NYU, Northwestern, Rutgers, Stanford, Brigham Young, Columbia, U Chicago, U Nevada, UC Berkeley, UC Davis, UCLA, UC Riverside, UC San Diego, U Pacific, Wingate, U Melbourne, Peking U, Tsinghua U, Beijing Institute of Technology, Beijing U of Chinese Medicine, Minzu U of China,


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Provide Free Educational Materials for Doctors, Health Depts, Hospitals, Pregnant women and the Public



- Diagnosis Packets for obstetricians
- Hospital Discharge Packets for new moms
- Educational brochures (multiple languages)
- Provider education materials



Western Pacific Region has the Greatest Burden of Chronic HBV & Liver Cancer



- Accounts for **45%** of people living with chronic HBV infection
- **40%** of viral hepatitis deaths worldwide
- **60%** of liver cancer deaths worldwide
- China alone accounts for 39% of chronic HBV cases and 50% of liver cancer deaths worldwide



Jade Ribbon/Hep B Free in Melbourne and Sydney

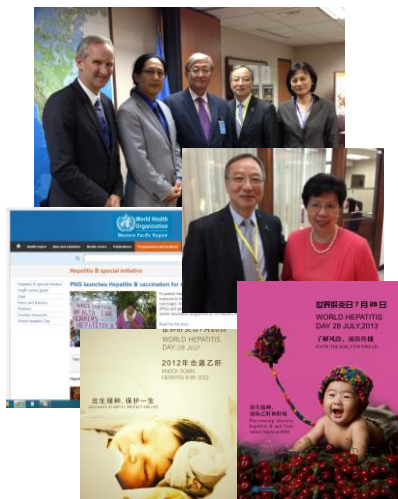


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Partner with CDC and Donors to Increase WHO and Country Level Capacity in Viral Hepatitis Prevention and Treatment



- Partner with US CDC and advocate to policy leaders & donors to increase WPRO and country capacity and funding for:
 - FTE Hepatitis staff in China
 - FTE Hepatitis medical officer and admin in WPRO
- Provided funding to create WPRO Hepatitis B website and to support annual WHD regional activities
- Develop and fund the production of online hepatitis training course for regional countries

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JR Hep B Vaccination Program in Qinghai 2006-08: Largest Province-wide, Free Catch-Up Vaccination Program in China for over 500,000 Children



- Private -Public Partnership
- HBV education and free Hep B vaccination for *all* unvaccinated children in kindergarten and grade schools
- Inspired China to provide nationwide free catch-up vaccination afterwards for 70 million children between 2010-13

Chen J et al. Int J Public Health, 2011



Jade Ribbon Campaign to Eliminate Mother-to-Child Transmission of Hepatitis B in Gansu and Qinghai Provinces in China, 2013-2017 through Healthcare Workers' Training and Pregnant Women Education



Assisting WPRO Countries to Train Healthcare Workers on Hepatitis Prevention, Care and Treatment

	Physicians Guide	Online Training Course	Online Treatment Decision Tool for Primary Care Providers
China			
Vietnam			
Mongolia			




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JR: Partnering with Corporations to Protect the Workforce and Eliminate Hepatitis B Discrimination

JOINJADE for CHINA Summit held at Stanford Asian Liver Center, Beijing, 2016

- A joint initiative led by Asian Liver Center, Global Business Group on Health, IBM, GE, Intel, HP
- To build fully **inclusive workplaces free from hepatitis B discrimination**
- **Educate employees about HBV and the importance of vaccination, care and treatment**
- **33 major corporations with 500,000 employees in China** have joined the initiative.




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Engaging Celebrities to Join Jade in World Hepatitis Day Campaigns # Stop Hepatitis B OK for Life #, China July-Aug 2016

- Partners included WHO, China CDC, Beijing CDC
- Reached **90 million** people including 69 million on Weibo
- 8,699 video displays on trains and **168 subway stations**



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