



## NORTHWEST AIDS EDUCATION AND TRAINING CENTER

# HIV and Hepatitis C

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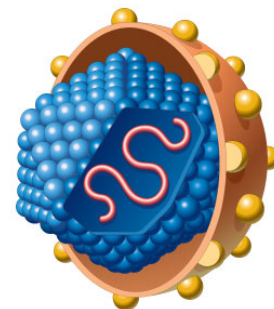
Last Updated: Jul 7, 2012

# Outline

- **Hepatitis C**
  - Basics
  - Epidemiology
  - Testing
  - Natural History

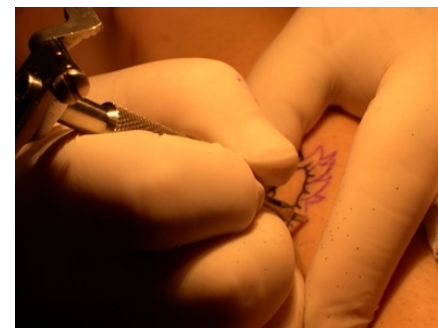
# Hepatitis C – The Basics

- Chronic viral infection
- Transmitted mostly by contact with **blood**, sometimes by sexual activity
- Acute infection may cause mild symptoms
- Usually goes on to chronic infection characterized by occasional exacerbations ('flares') but mostly causing slow, silent liver damage
- Often diagnosed in asymptomatic people with a simple blood test



# Hepatitis C - Transmission

- **Blood – Blood – Blood**
  - IV drug abuse
  - Occupational exposure
  - Transfusions (before 1992)
  - (unsanitary) Tattoos
- Sexual Exposure (rare)
- Mother to Child (rare)
- Higher rates in Native Populations, African Americans, and Hispanics/Latinos



# Sexual Transmission of Hepatitis C

Curr Infect Dis Rep (2010) 12:118–125  
DOI 10.1007/s11908-010-0088-1

## Epidemic of Sexually Transmitted Hepatitis C Virus Infection Among HIV-Infected Men

Daniel Seth Fierer

Published online: 23 February 2010  
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Journal of Clinical Virology 49 (2010) 65–68



Contents lists available at ScienceDirect

Journal of Clinical Virology

journal homepage: [www.elsevier.com/locate/jcv](http://www.elsevier.com/locate/jcv)

Case report

## Acute hepatitis C infection with evidence of heterosexual transmission

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## SURVEILLANCE AND OUTBREAK REPORTS

## Hepatitis C virus infection in HIV-infected men who have sex with men: sustained rising incidence in Antwerp, Belgium, 2001–2009

E Böttelau (ebottelau@itg.be)<sup>1</sup>, L Apers<sup>1</sup>, M Van Esbroeck<sup>1</sup>, M Vandenbruaene<sup>1</sup>, E Florence<sup>1</sup>

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Böttelau E, Apers L, Van Esbroeck M, Vandenbruaene M, Florence E. Hepatitis C virus infection in HIV-infected men who have sex with men: sustained rising incidence in Antwerp, Belgium, 2001–2009.

Euro Surveill. 2010;15(39):pii=19673. Available online: <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=19673>

Article published on 30 September 2010

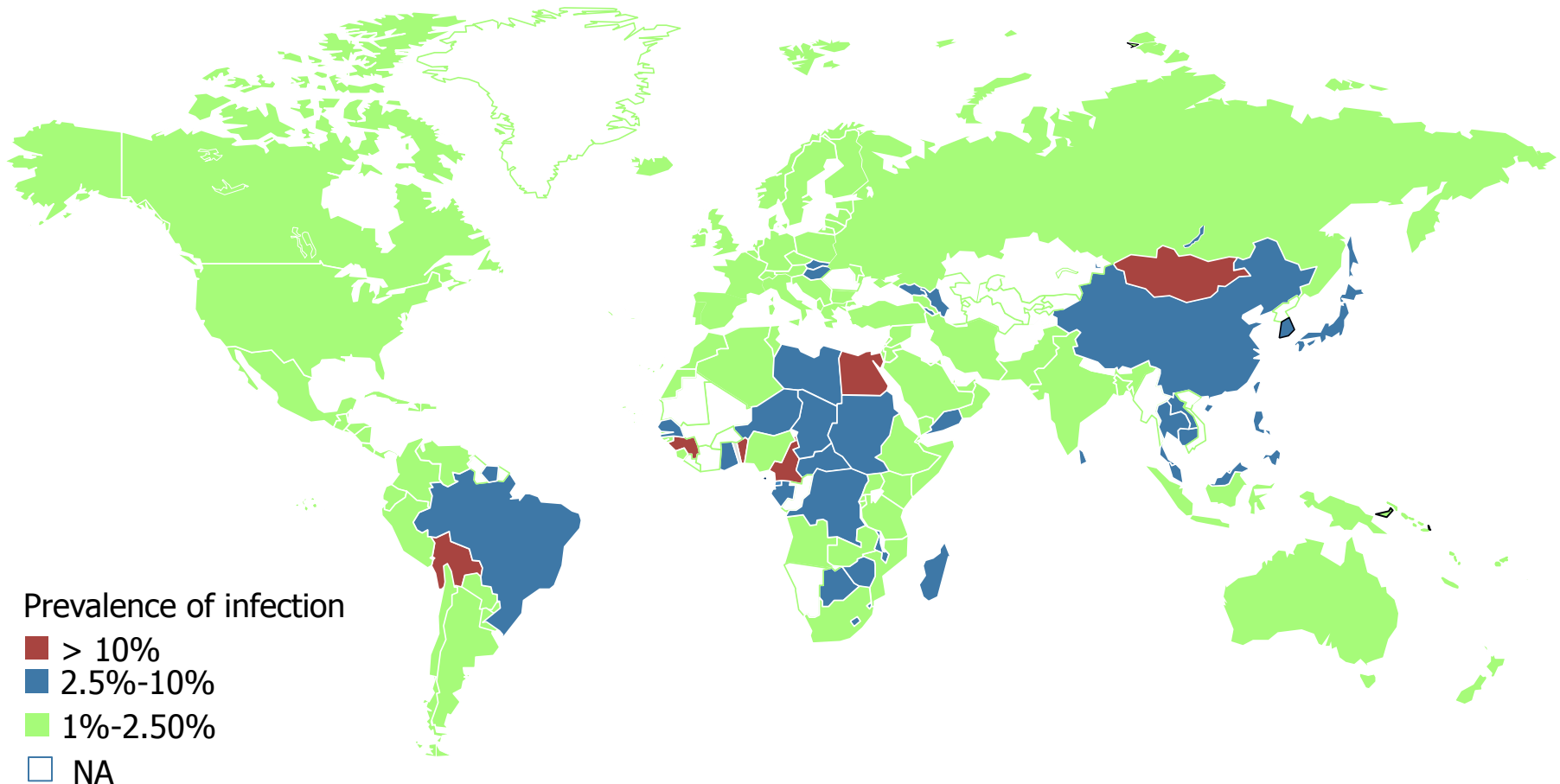


## NOTE

## Sexual Transmission of Hepatitis C Virus in Human Immunodeficiency Virus-Negative Men Who Have Sex With Men: A Series of Case Reports

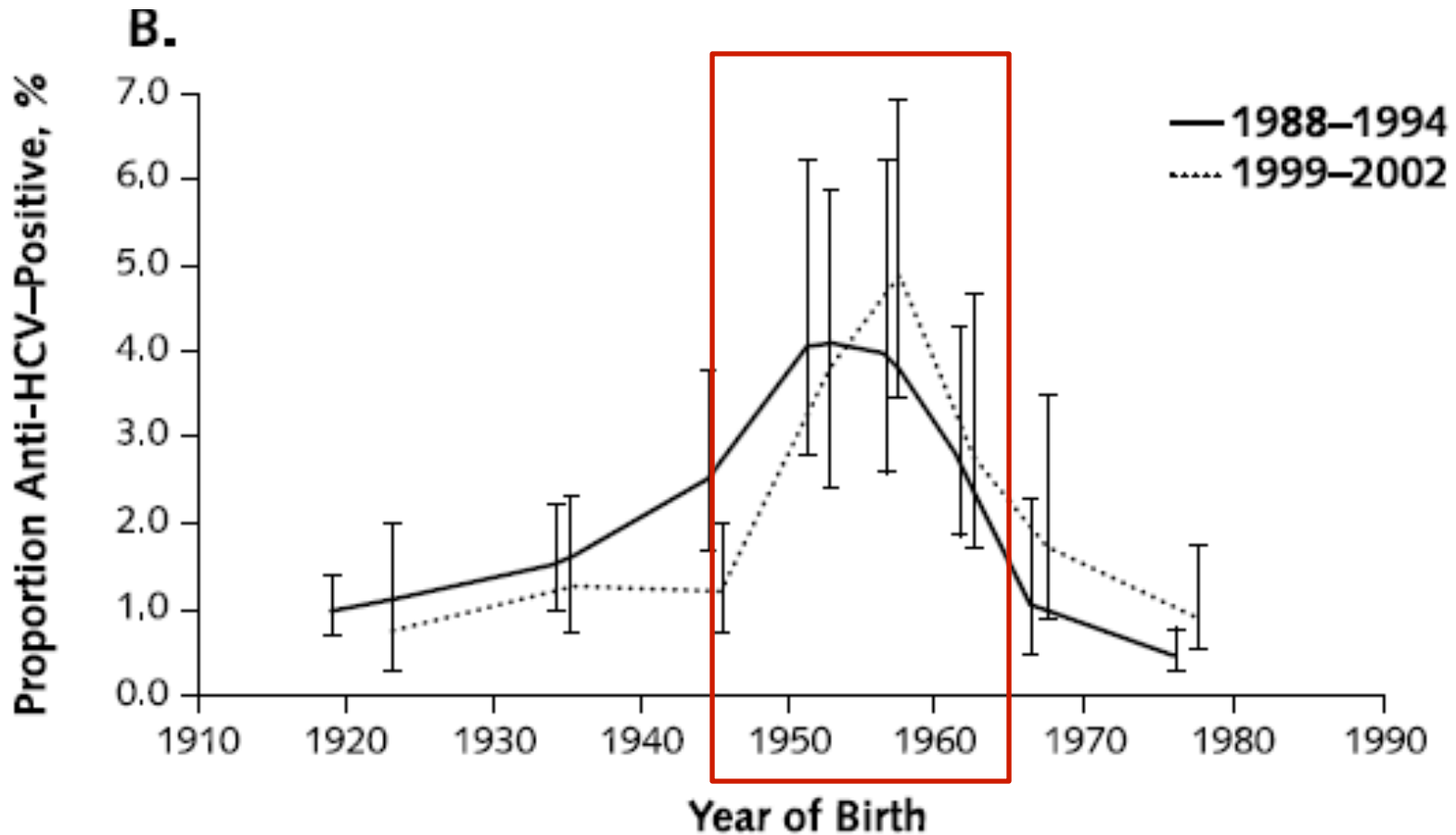
Thijs J. W. van de Laar, PhD,\*† William A. Paxton, PhD,†‡ Fokla Zorgdrager, BSc,†‡ Marion Cornelissen, PhD,†‡ and Henry J. C. de Vries, MD, PhD†§¶

# Hepatitis C is a Global Health Problem



- 3-4 million newly infected each yr worldwide
- Over 170 million estimated infections worldwide

# Hepatitis C in the United States



- Estimated 3-4 million people in the US are infected with Hepatitis C



# Coming Soon: ‘Birth Cohort’ Screening



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control  
and Prevention (CDC)

May 18, 2012

Dear Colleagues:

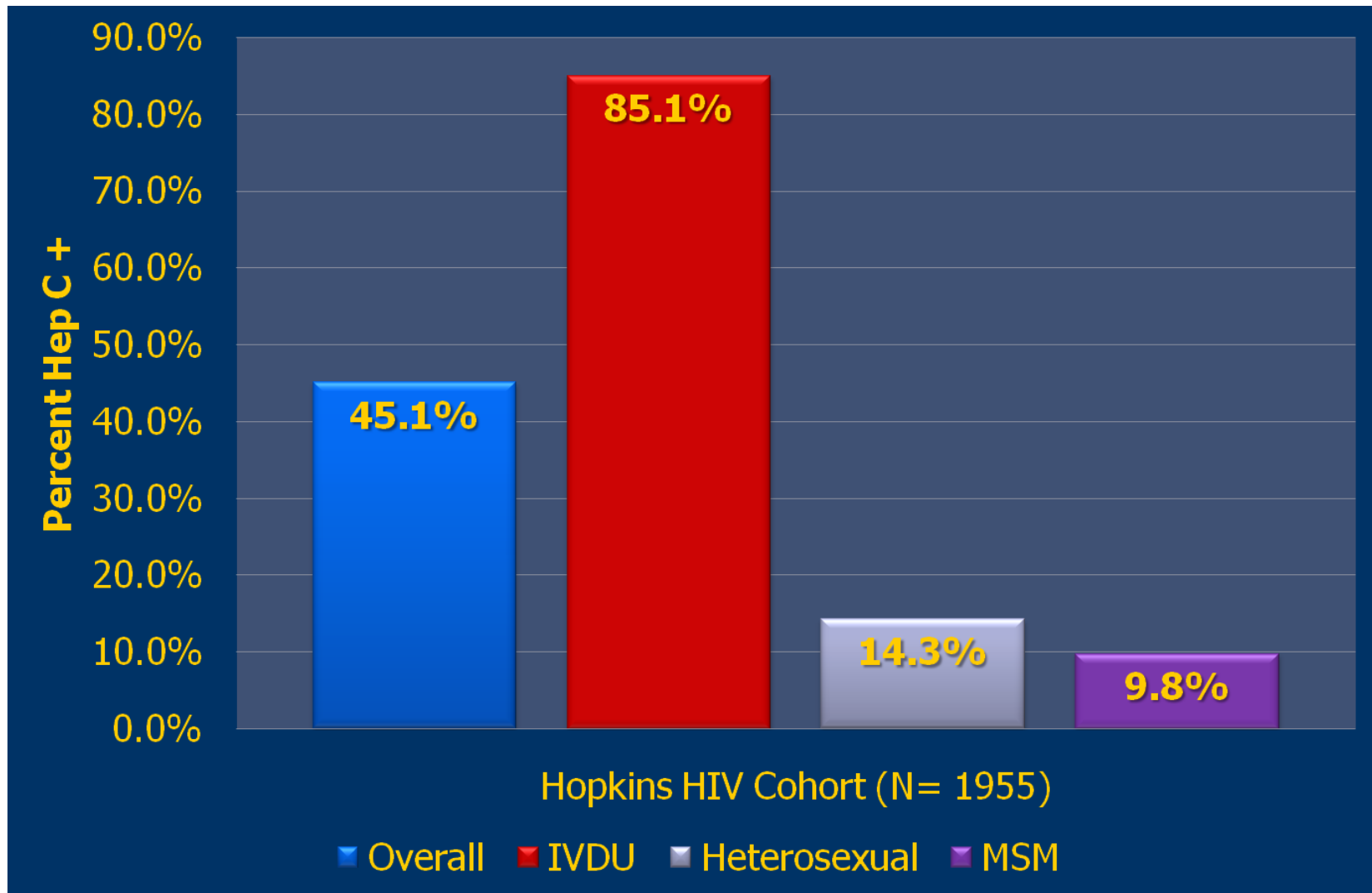
We are writing to inform you of draft recommendations being released today by CDC proposing that all Americans born from 1945 through 1965 (“baby boomers”) get a one-time test for the hepatitis C virus. In the United States, hepatitis C is the leading cause of liver transplants and liver cancer, and the fastest rising cause of cancer-related deaths. Persons born from 1945 through 1965 account for over 75% of adults infected with hepatitis C in the United States, and are five times more likely to be infected than other adults. Yet most do not know that they have the virus because hepatitis C can damage the liver for many years without noticeable symptoms. More than 15,000 Americans—mostly baby boomers—die each year from hepatitis C-related illness, such as cirrhosis and liver cancer, and deaths have been increasing steadily for over a decade.



# HIV & Hepatitis C – Epidemiology

- **Depends on the local population!!**
- In USA, roughly 4 million Hepatitis C carriers
- In Europe & North America ***roughly 1/3*** of HIV patients are co-infected with Hepatitis C
- Among patients with HCV, 10% have HIV
- Rates of co-infection differ among groups:
  - Hemophilia: ~ 90%
  - Injection Drug Use: 70-90%
  - MSM: 5-10%

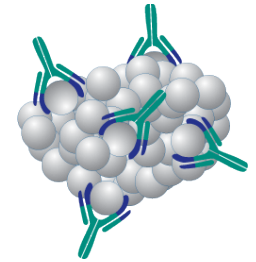
# Hepatitis C Prevalence in HIV+ Patients



# Hepatitis C – Diagnostic Testing

## Antibody (EIA) ‘HCV Ab’ or ‘Anti-HCV’

- Indicates past or active infection
- Presence of Ab does not confer immunity

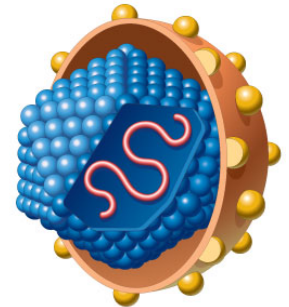


## HCV RNA test (PCR) ‘Viral Load’

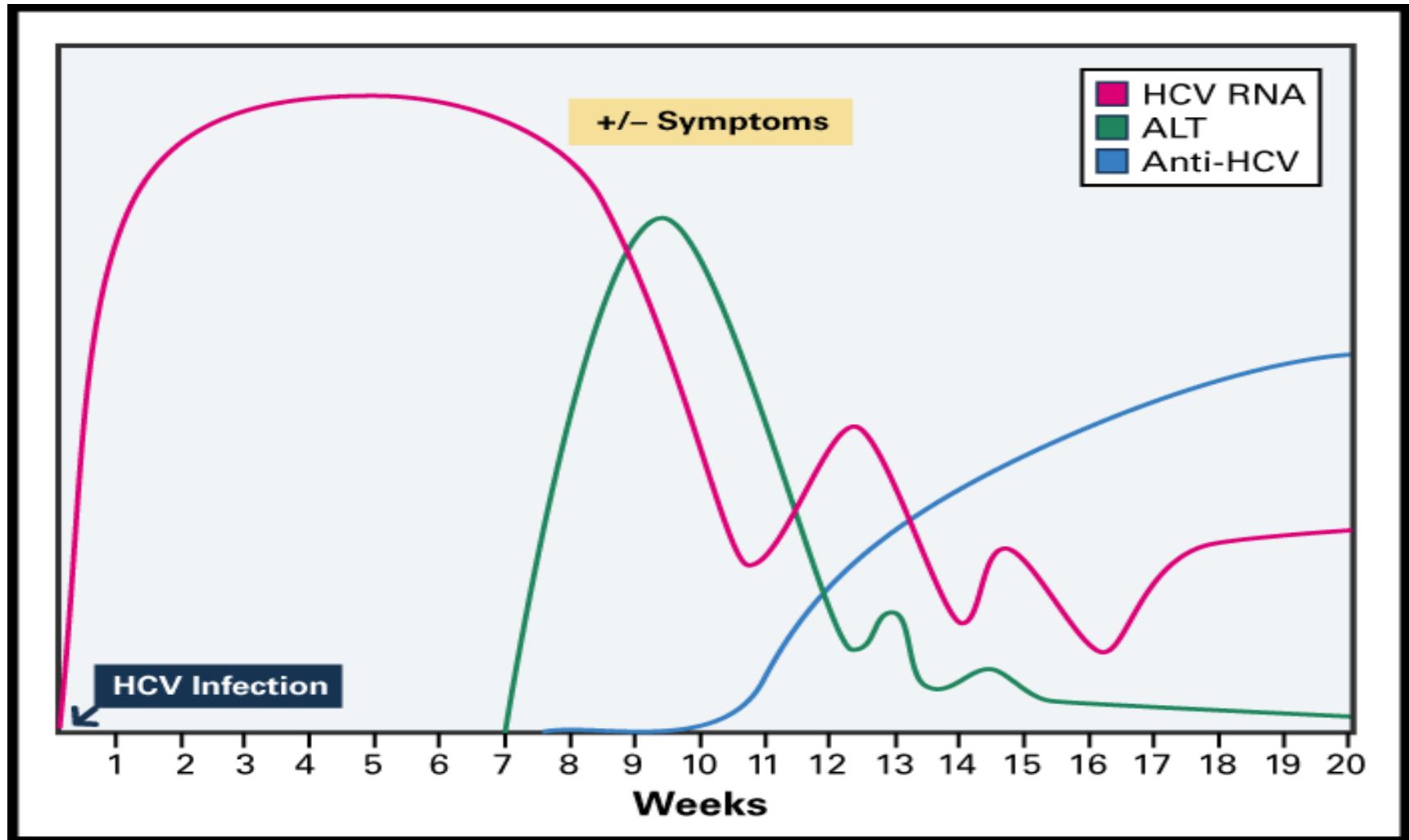
- Confirms active infection, infectivity to others
- Quantitative or qualitative RNA test; Quantitative more useful because of prognostic information

## HCV Genotype

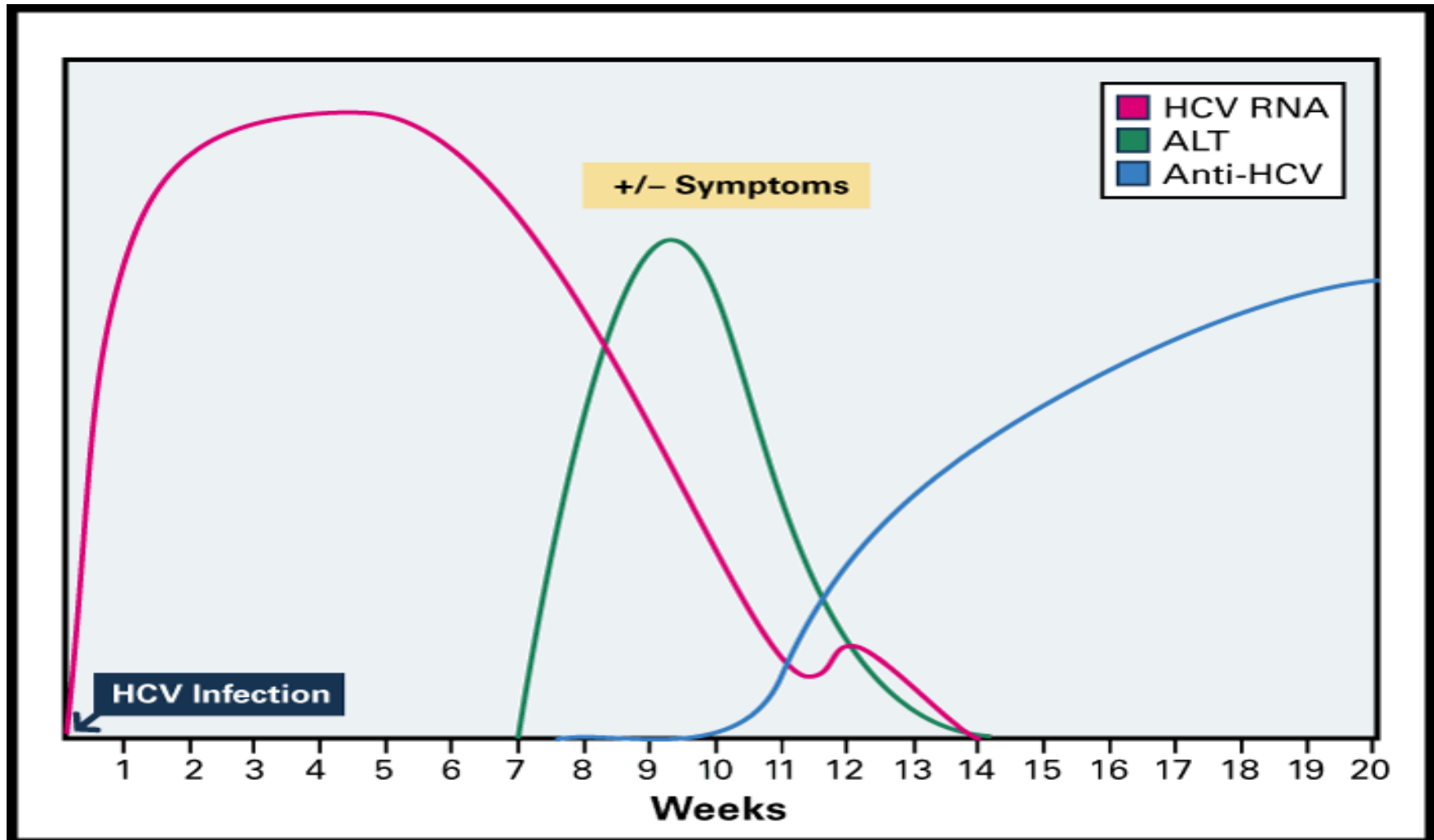
- Most important prognostic factor



# Hepatitis C – Diagnostic Testing

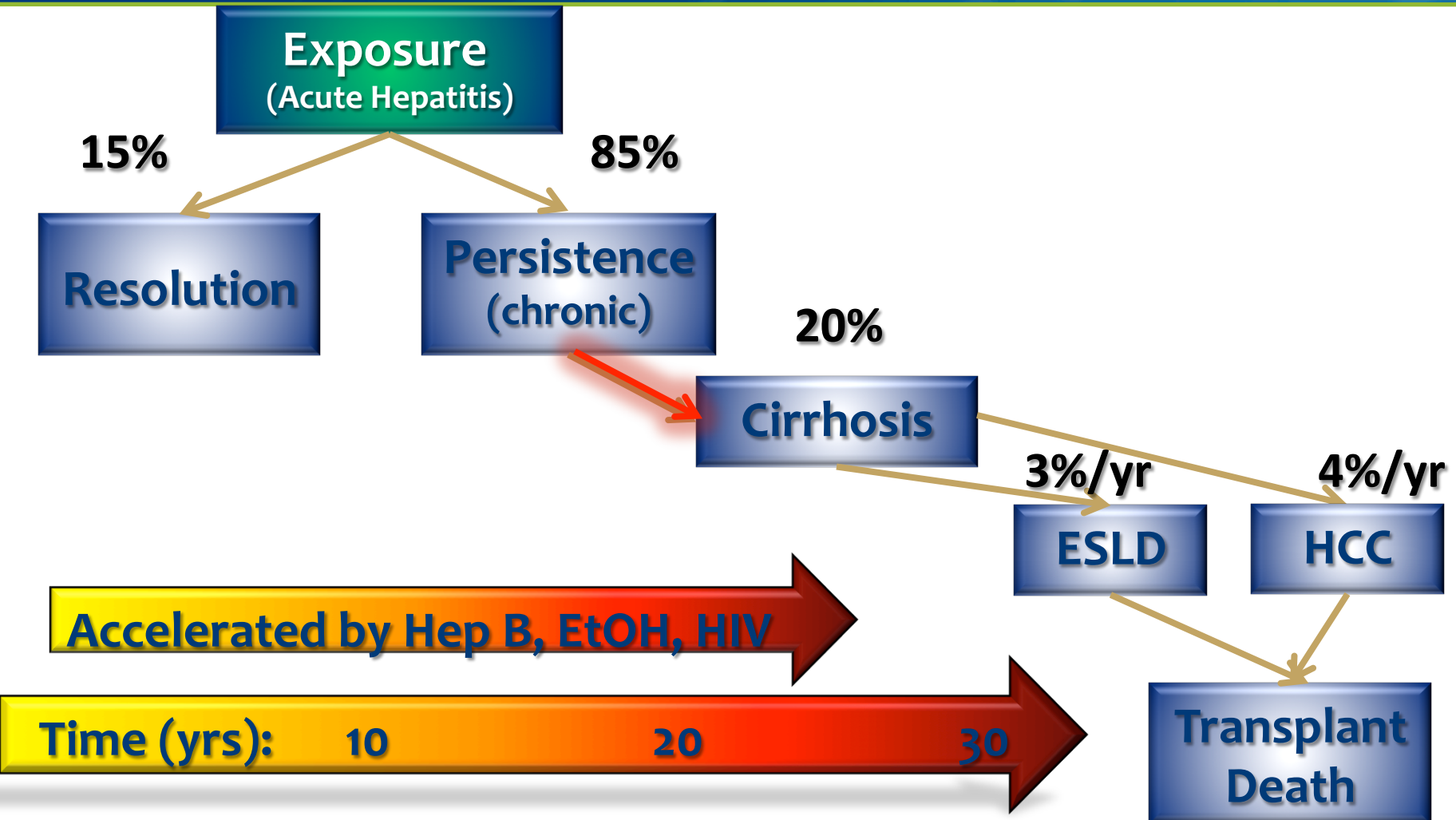


# Hepatitis C – Diagnostic Testing

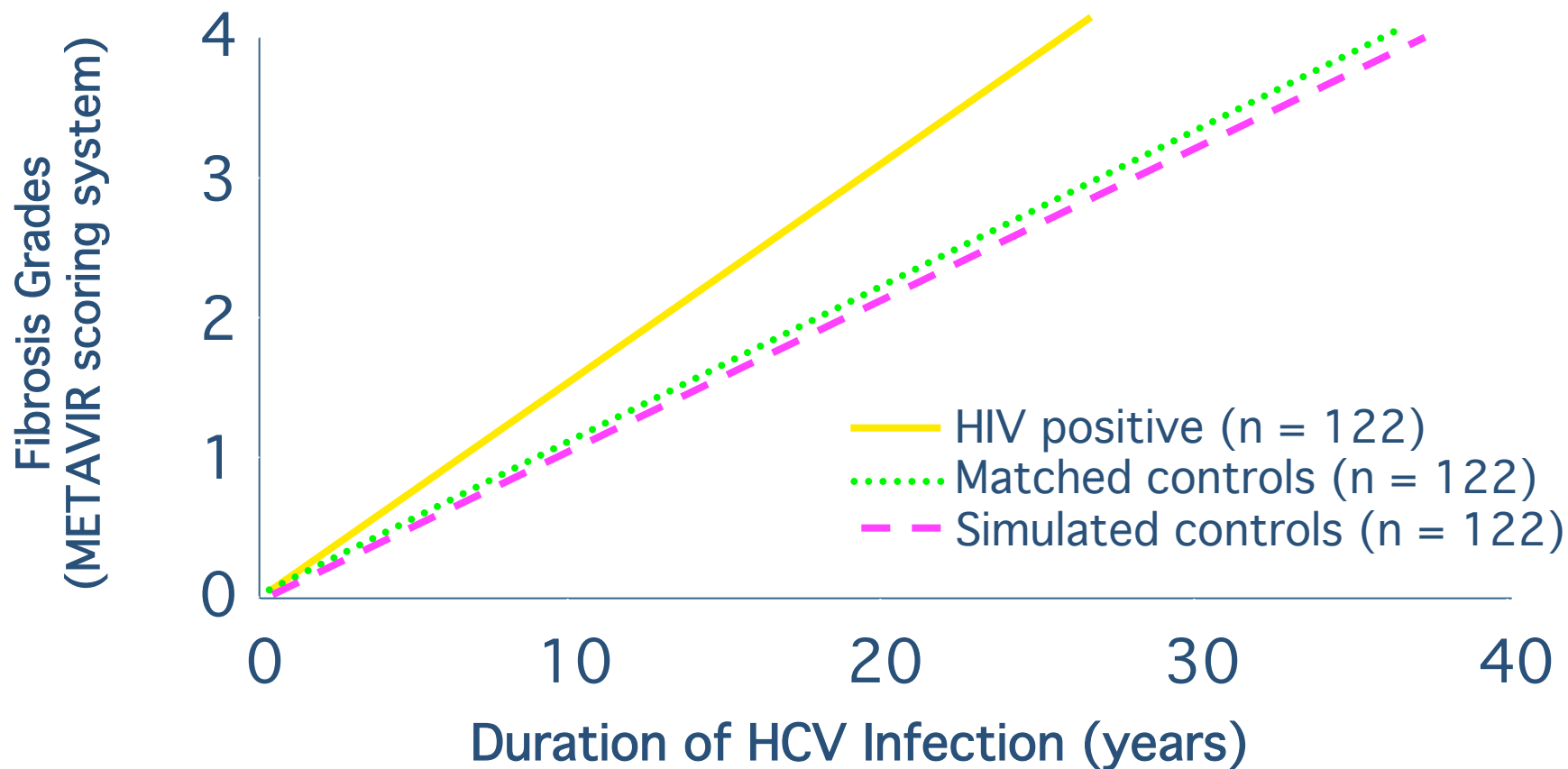


source: [www.hivwebstudy.org](http://www.hivwebstudy.org) ('Hep C Ab' = 'Anti-HCV')

# Natural History of Hepatitis C



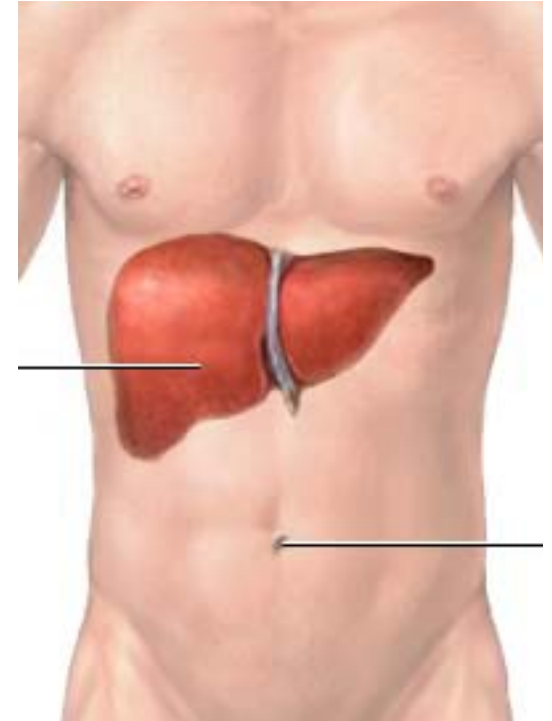
# Natural History and Fibrosis Progression





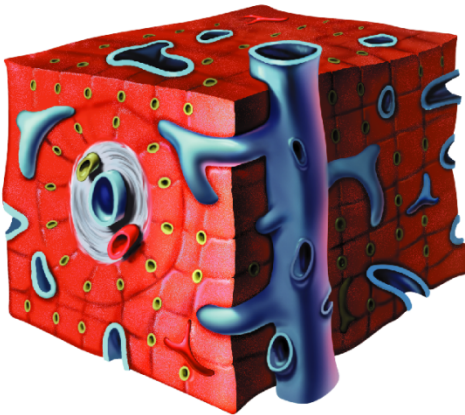
# Liver Biopsy

- **The** best way to assess scarring and determine need for therapy
- Needle, local anesthetic
- Risks: bleeding; bile leak
- Provides information regarding:
  - Degree of inflammation
  - Stage of fibrosis or scarring
  - Presence/absence of cirrhosis
  - Prognosis
  - Cause of liver disease

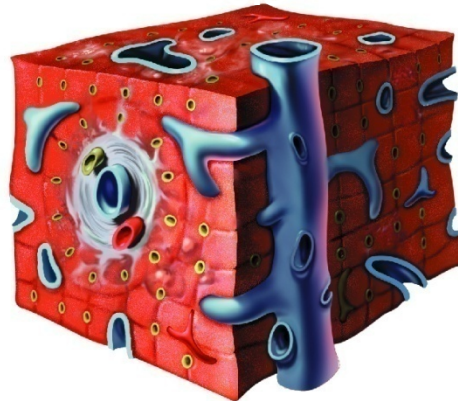


# Histologic Staging - METAVIR

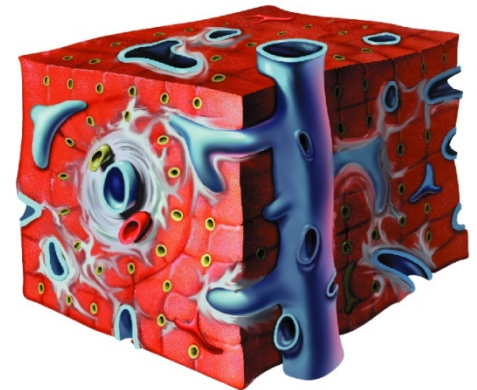
Stage 0



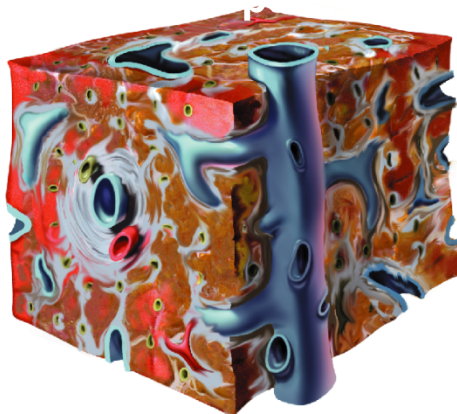
Stage 1



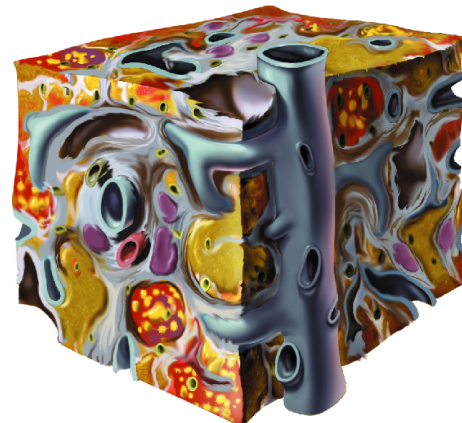
Stage 2



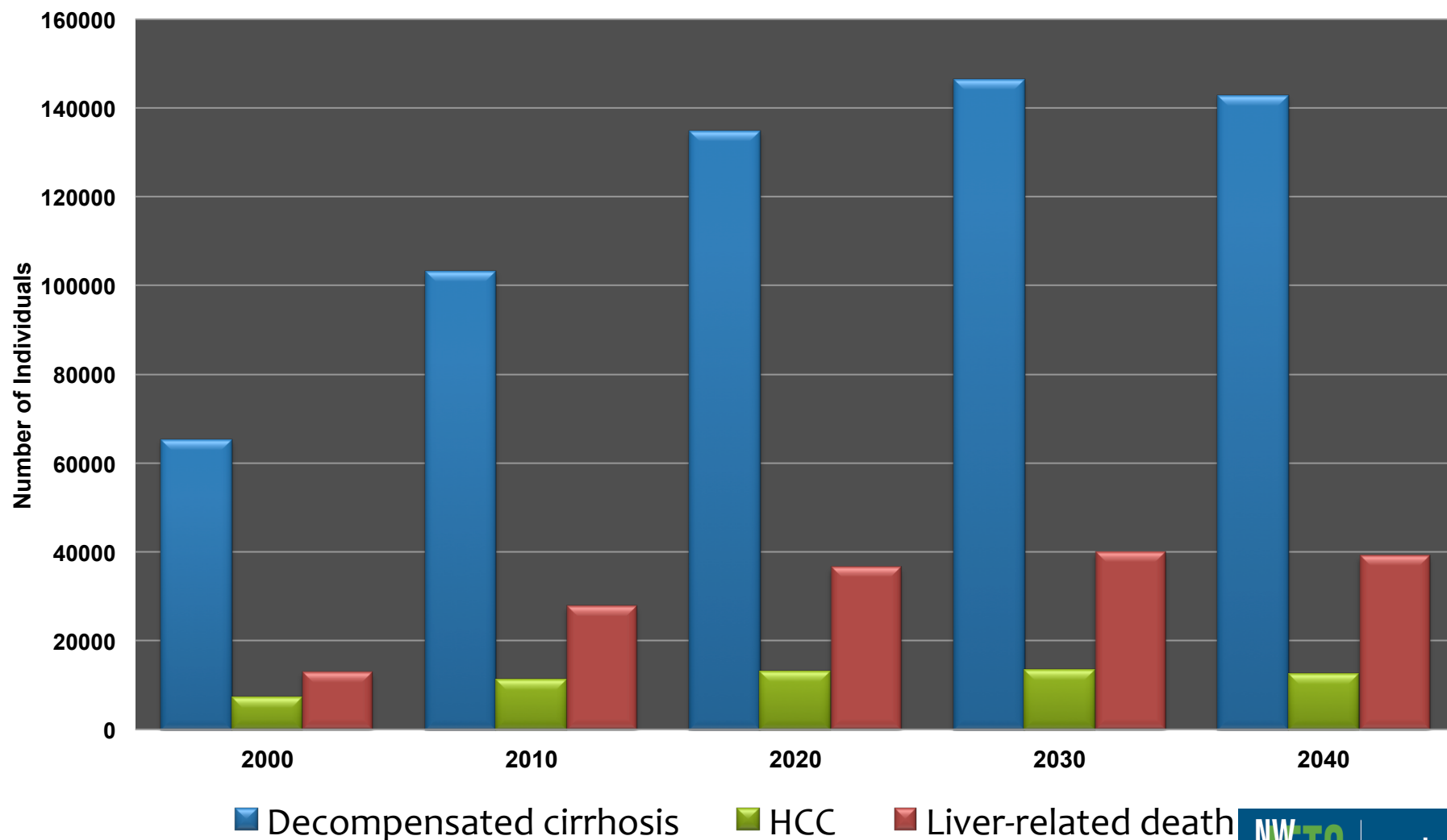
Stage 3



Stage 4



# Projections of Hepatitis C-related morbidity/mortality



# Take Home Points

- Hepatitis C transmission is relatively low, but many infected long ago are yet to be diagnosed
- Hepatitis C testing is becoming more important, including 'birth cohort screening' strategies
- The role of Liver biopsy is changing
- Hepatitis C-related morbidity/mortality is increasing, especially in HIV-infected population, and is likely to peak in the next 20 years

***Stay tuned for HCV Therapeutics...***

# Web Resources

- <http://hab.hrsa.gov/publications/hcvguide2011.pdf>
- [www.nlm.nih.gov/medlineplus/hepatitis](http://www.nlm.nih.gov/medlineplus/hepatitis)
- [www.nwaetc.org](http://www.nwaetc.org)
- [www.hepwebstudy.org](http://www.hepwebstudy.org)
- [www.hivwebstudy.org](http://www.hivwebstudy.org)
- [www.clinicaloptions.com](http://www.clinicaloptions.com)
- [www.cdc.gov/hiv](http://www.cdc.gov/hiv)
- [www.cdc.gov/hepatitis](http://www.cdc.gov/hepatitis)

**THANK YOU!!**

## HEPATITIS WEB STUDY

