



## HEPATITIS WEB STUDY

# Hepatitis C Testing Recommendations

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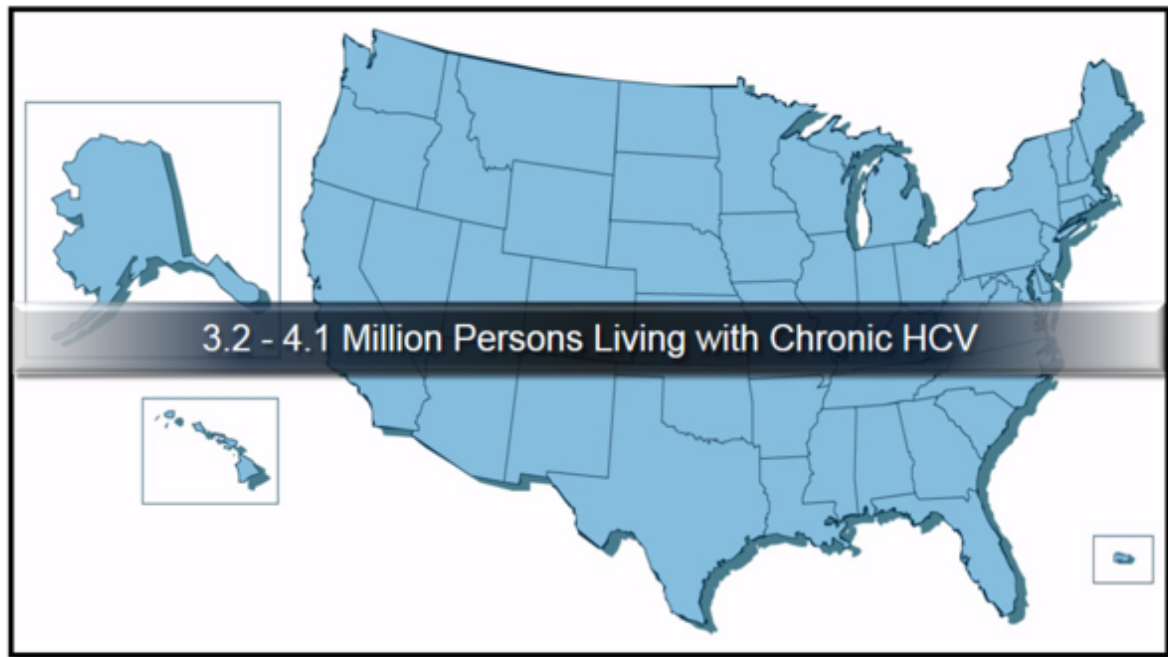
Last Updated: February 28, 2013

# 1968 World Health Organization Guidelines Criteria for New Screening Programs

When considering general public health screening programs, the following factors should be considered:

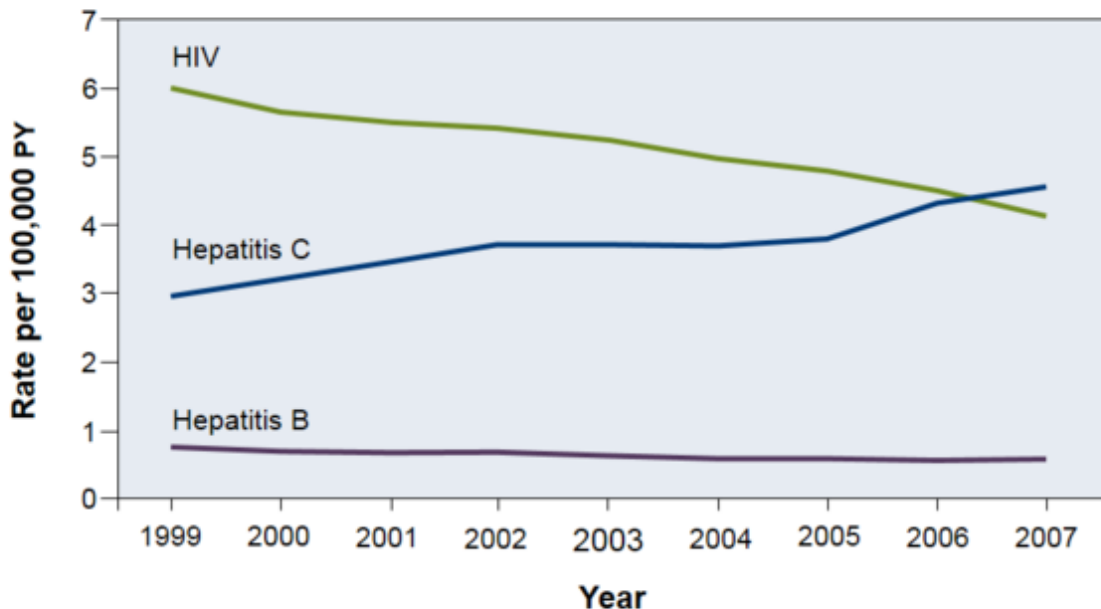
- **Relevance:** Is the condition an important public health problem with a well-understood natural history and a latent phase?
- **Feasibility:** Is there an effective intervention? Is a screening test available, easy to use, accurate, and acceptable to the population?
- **Effectiveness:** Does early diagnosis and treatment affect outcomes?
- **Cost Effectiveness:** Is the cost of the screening program worth the investment in terms of health benefit gained?

## Estimated Prevalence of Chronic Active Hepatitis C in U.S.

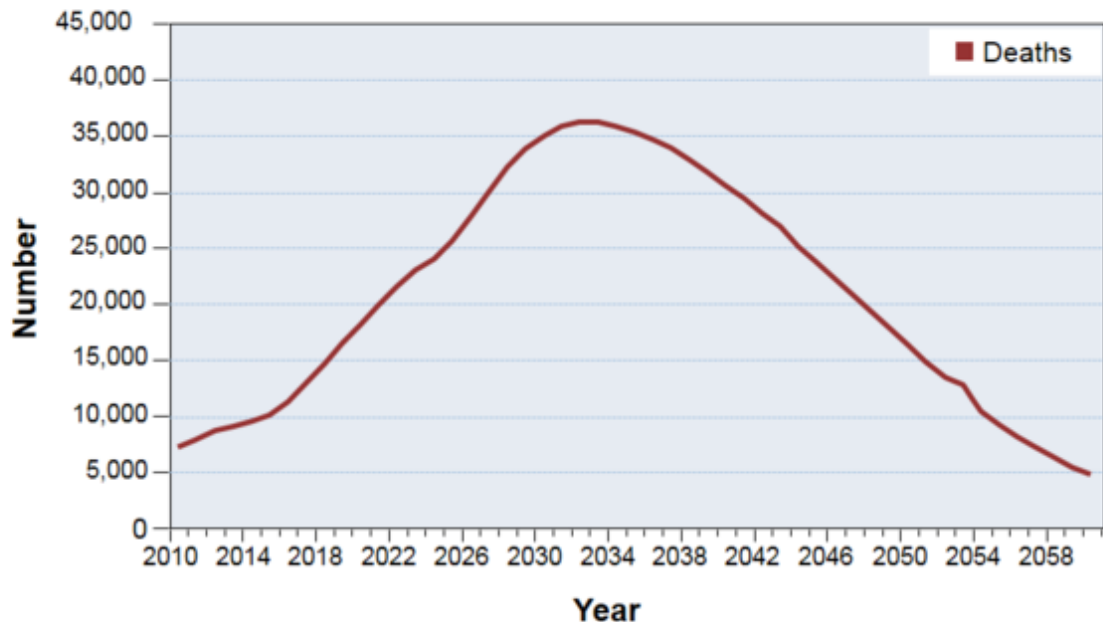


Sources: Armstrong GL, et al. *Ann Intern Med.* 2006;144:705-14.  
Chak E, et al. *Liver Int.* 2011;31:1090-101.

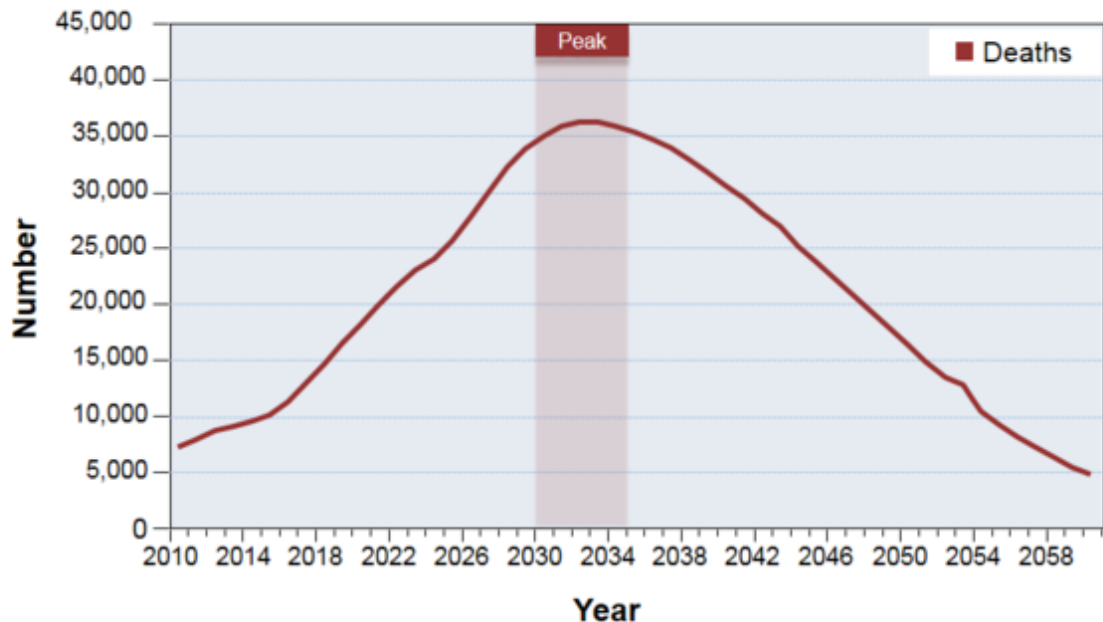
# Age-Adjusted Mortality Rates from HBV, HCV, & HIV United States, 1999-2007



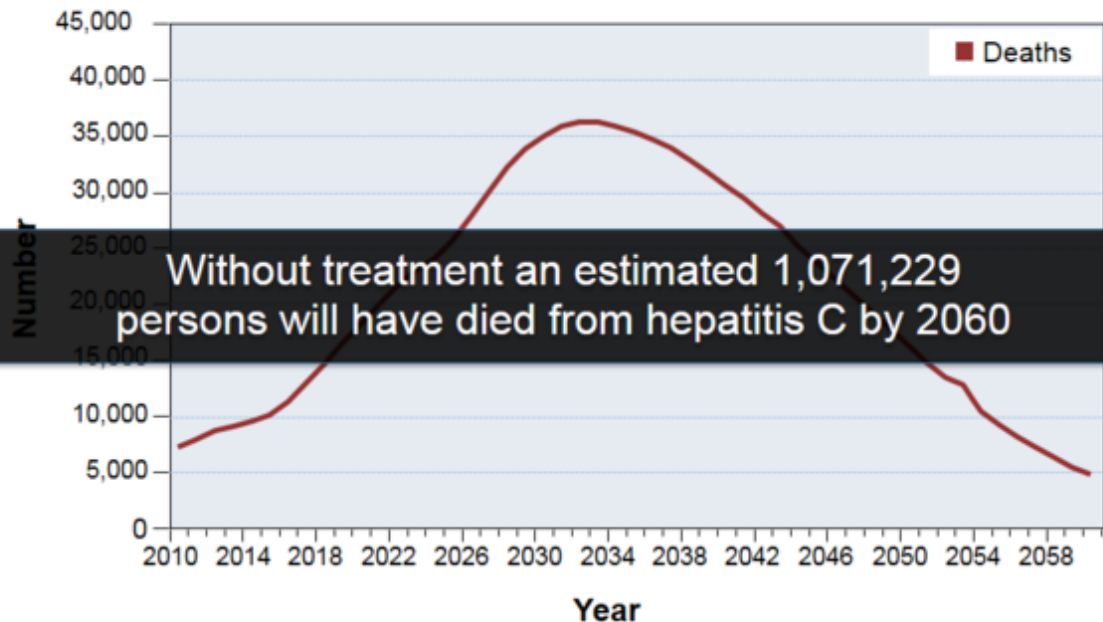
## Forecasted 2010-2060 Annual HCV-Related Deaths in the United States Persons with Chronic Hepatitis C and no Cirrhosis in 2005



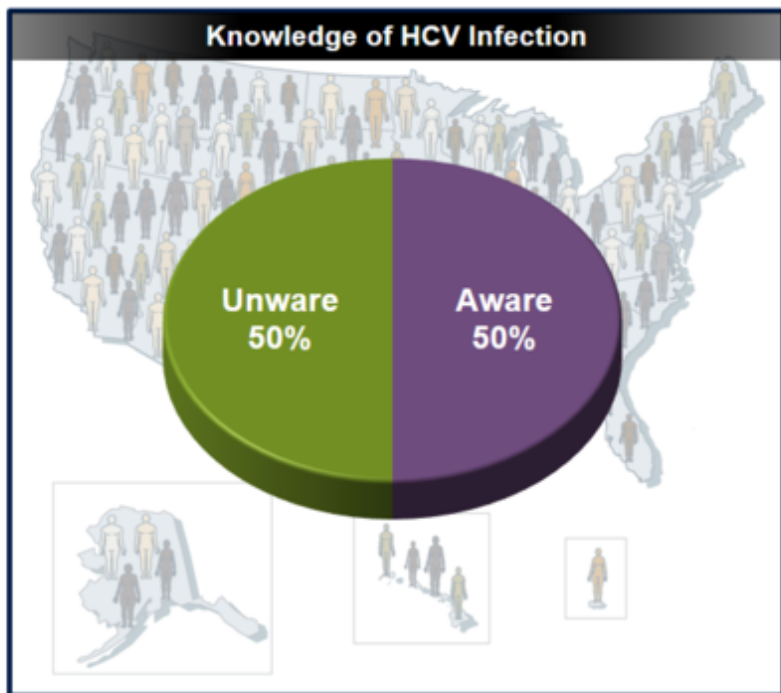
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# NHANES Survey, United States, 2001-2008 Awareness of HCV Infection Status



Source: Denniston M, et al. Hepatology. 2012;55:1652-61.

# Burden of disease related to HCV

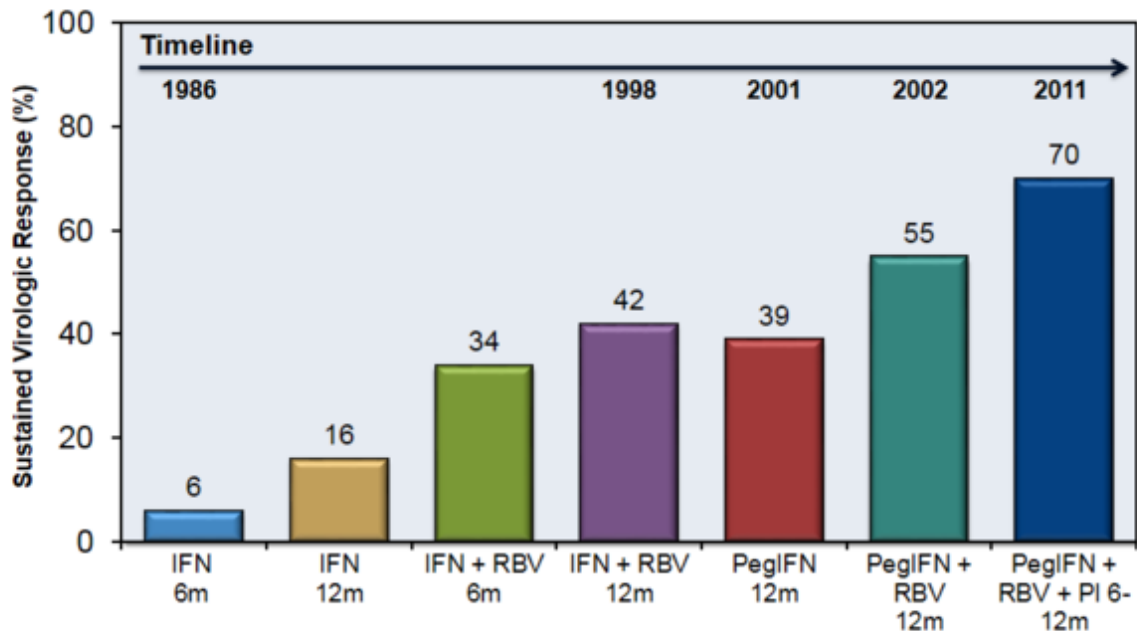
Outcome	Key Facts
Cirrhosis	<ul style="list-style-type: none"><li>• Develops in 20% of those who are chronically infected with HCV over 20-30 years</li></ul>
Decompensated Cirrhosis	<ul style="list-style-type: none"><li>• High risk of mortality from ruptured esophageal varices, bacterial peritonitis, hepatorenal syndrome/renal failure, encephalopathy</li></ul>
Hepatocellular Carcinoma	<ul style="list-style-type: none"><li>• Fastest growing Cancer in the US</li><li>• 76% associated with chronic HCV infection</li><li>• 4% annual incidence in those with cirrhosis</li></ul>
Liver Transplantation	<ul style="list-style-type: none"><li>• HCV responsible for 65% of liver transplants worldwide</li></ul>
HCV Mortality	<ul style="list-style-type: none"><li>• Estimated at 16,000/year</li><li>• Likely to peak ~2030</li></ul>

**Burden of Liver disease expected to triple in next 10-20 yrs**

Source: WHO Hepatitis C Fact Sheet

[http://www.who.int/immunization/topics/hepatitis\\_c/en/index.html](http://www.who.int/immunization/topics/hepatitis_c/en/index.html)

# Therapy for Hepatitis C: Historical Milestones

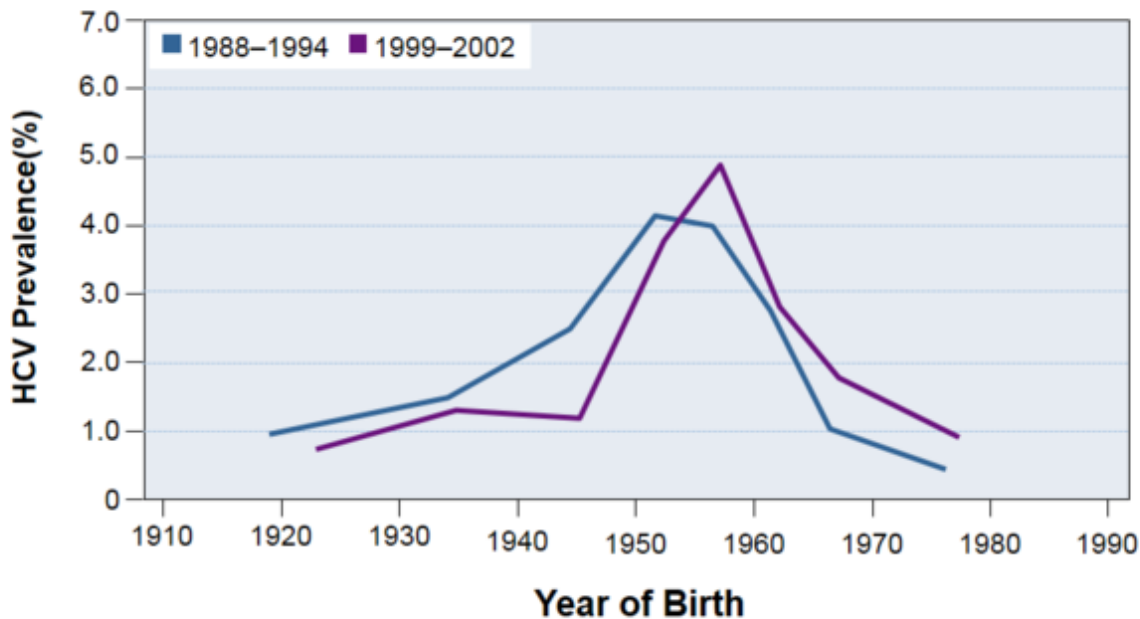




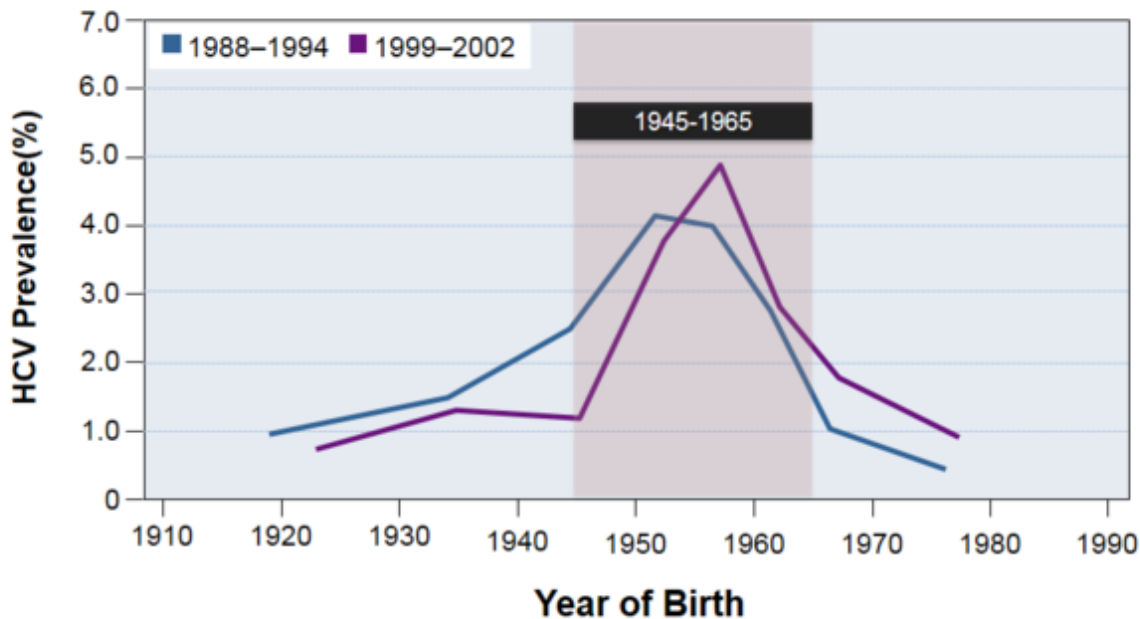
# Disclosure Information

- Speaker's Bureau and Consultant: Gilead Sciences

# NHANES Survey: United States, 1988-1994 and 1999-2002 Prevalence of HCV Antibody, by Year of Birth



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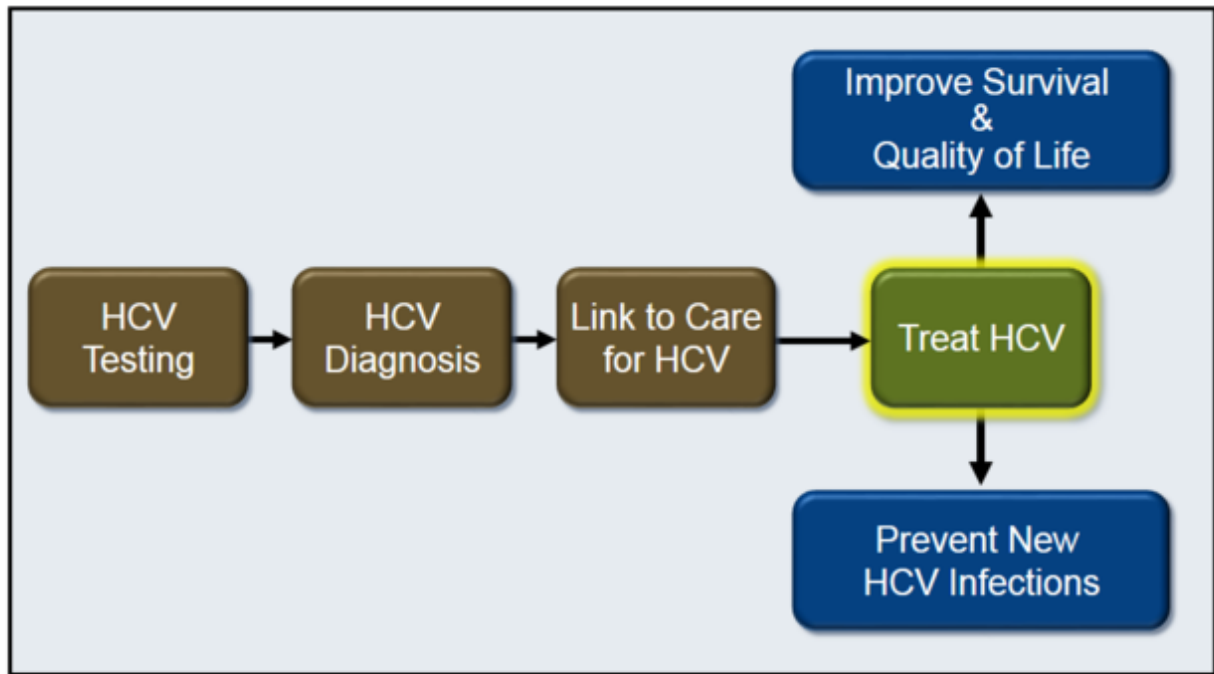


## Rationale for One-Time HCV Testing of All Persons Born in United States during 1945 to 1965

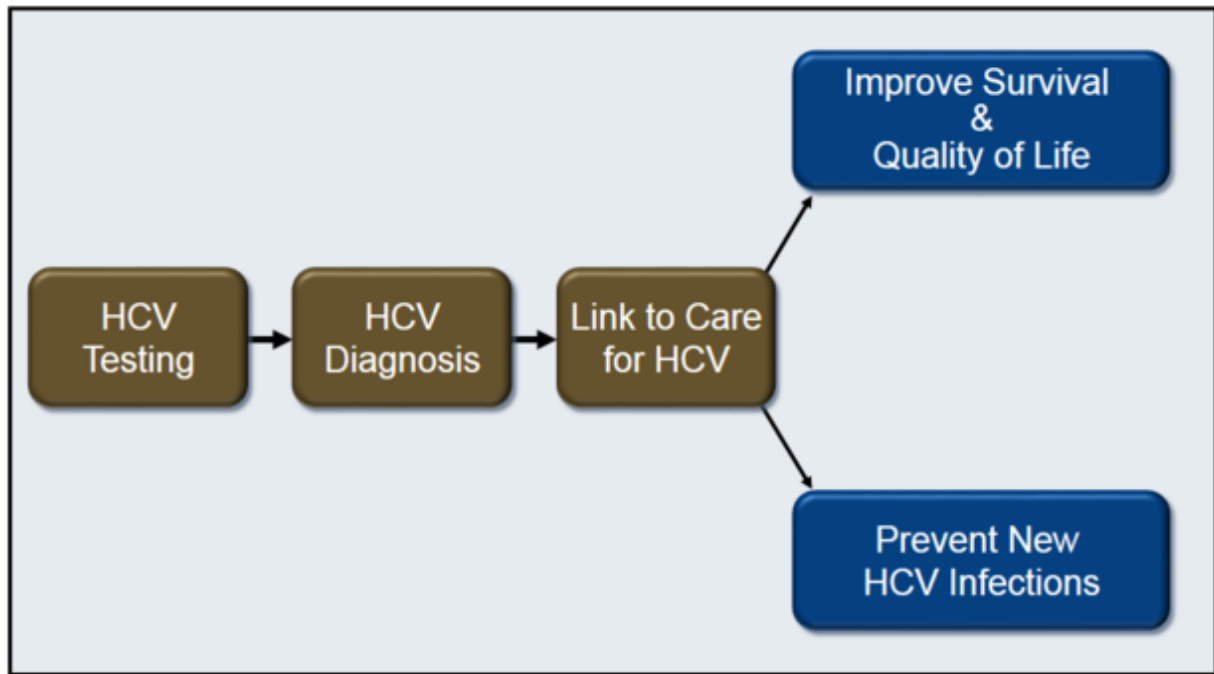
- Hepatitis C is a major current & future health problem in United States
- Testing can identify persons before onset of severe HCV-related disease
- Hepatitis C infection can be cured with treatment
- Bulk of HCV problem in United States involves persons born 1945-1965
- Approximately 50% of persons with HCV remain unaware of HCV status

# Goals and Projected Impact of Birth-Cohort Screening

## Goals for Birth Cohort Hepatitis C Testing in U.S.



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# HCV Testing of Persons in 1945-1965 Birth Cohort

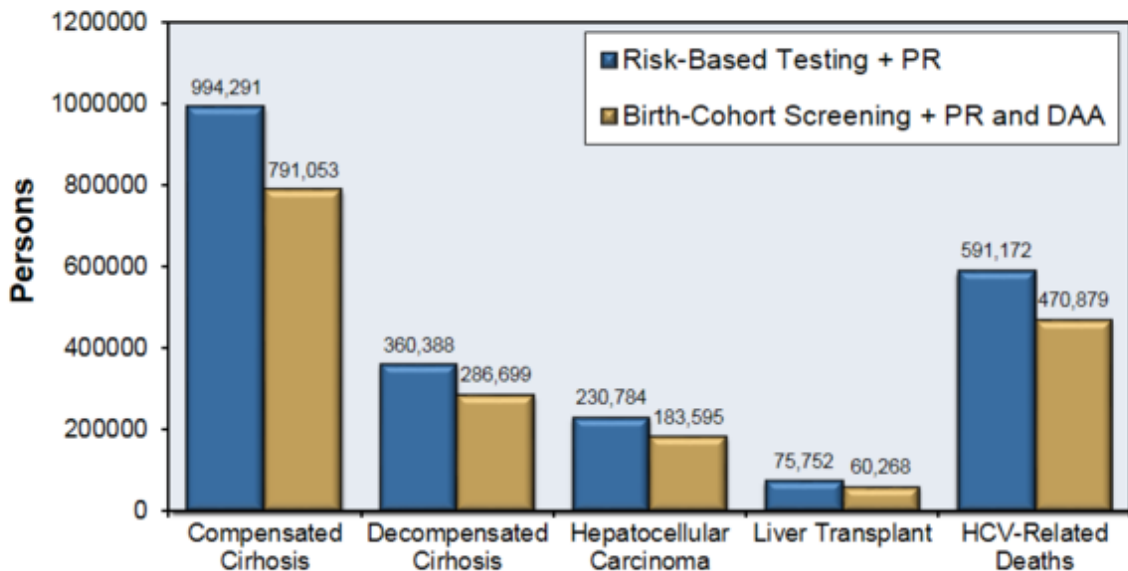
## CDC Recommendations for Post Test Counseling

- **Refer or obtain advice for care of HCV**
  - experienced primary care provider or specialist
- **Educate patient on how to protect liver from further harm**
  - Immunization against Hepatitis A and B
  - Brief alcohol screening and intervention
  - Limit exposure to hepatotoxic drugs (e.g. acetaminophen)
- **Counsel obese patients on diet & weight Loss**
  - Especially BMI  $\geq 25\text{kg/m}^2$
- **Advise on decreasing risk of transmission to others**
  - Donation of blood, tissue, semen
  - Use of razors, toothbrushes, nail clippers

# HCV Testing of Persons Born 1945-1965

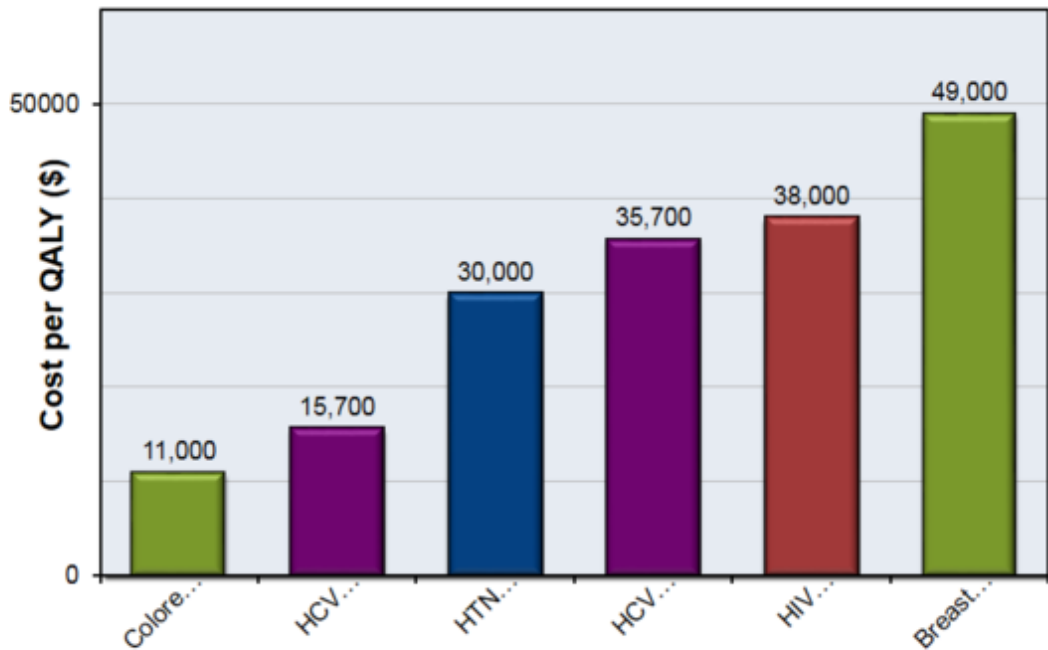
## Projected Benefit of One Time Birth Cohort Testing

Clinical Outcomes Associated with Risk Based versus Birth Cohort HCV Testing



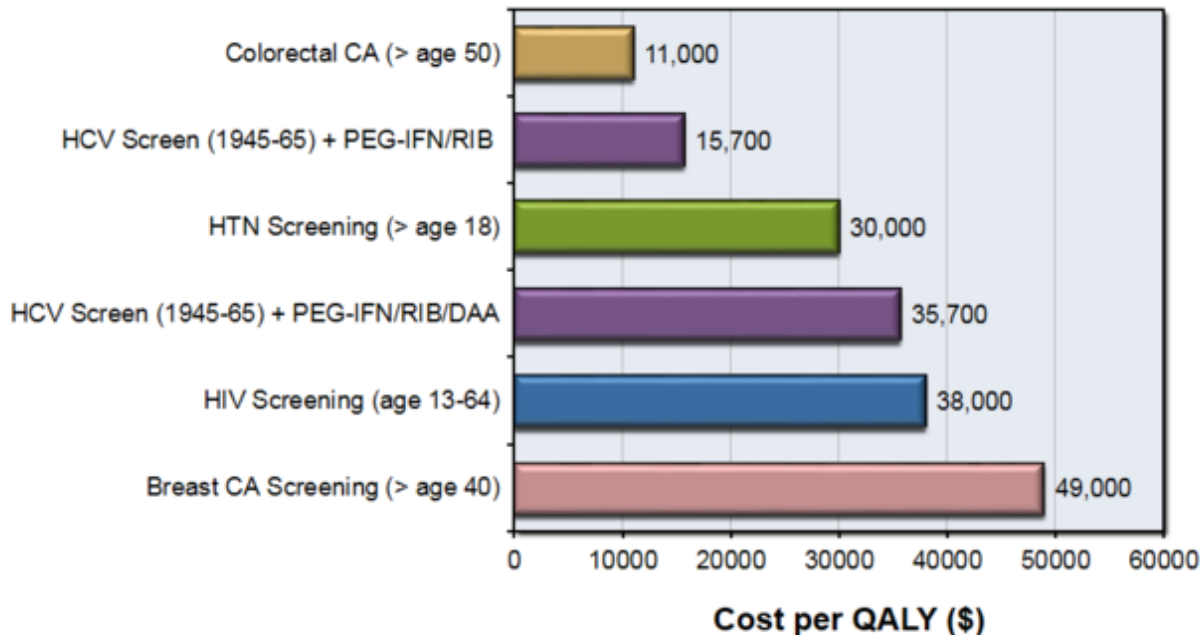
# HCV Testing of Persons Born 1945-1965

## Cost Effectiveness Compared with other Screening Tests



# HCV Testing of Persons Born 1945-1965

## Cost Effectiveness Compared with other Screening Tests



## Hepatitis C Testing Recommendations in the U.S.

- CDC HCV Testing Recommendation
- Rationale for Birth Cohort HCV Testing Recommendations
- Goals and Potential Impact of HCV Birth Cohort Testing

## CDC Birth Cohort HCV Testing Recommendations in U.S. : Summary

- Perform one-time HCV testing of all persons born 1945-1965
- Continue risk-based HCV screening
- Sound rationale exists for birth-cohort screening
- Potential for large impact of birth-cohort testing

# End



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Hepatitis Web Study & the Hepatitis C Online Course

*Funded by a grant from the Centers for Disease Control and Prevention*

# CDC HCV Testing Recommendations

## 1998 – CDC Risk-Based HCV Screening Recommendations

### ■ **HCV screening based on risk for infection:**

- Persons who ever injected illegal drugs
- Persons with selected medical conditions, including
  - receipt of clotting factor concentrates produced before 1987;
  - ever on chronic (long-term) hemodialysis; and
  - persistently abnormal alanine aminotransferase levels
- Prior recipients of transfusions or organ transplants (before July 1992)

### ■ **HCV screening based on recognized exposure:**

- Healthcare, emergency medical, and public safety workers after needle sticks, sharps, or mucosal exposures to HCV-positive blood
- Children born to HCV-positive women

## Recommendations for the Identification of Chronic Hepatitis C Virus Infection Among Persons Born During 1945–1965



Continuing Education Examination available at <http://www.cdc.gov/mmwr/mmwr/ce/conted.html>



U.S. Department of Health and Human Services  
Centers for Disease Control and Prevention

# 2012 CDC Birth Cohort HCV Testing Recommendations

## In addition to testing adults of all ages at risk for hepatitis C virus:

- Adults born during **1945 to 1965** should receive 1-time testing for HCV without prior ascertainment of HCV risk.
- All persons identified with HCV infection should receive:
  - A brief alcohol screening and intervention as clinically indicated,
  - Referral to appropriate care and treatment services for HCV infection,
  - Post-test counseling

# Hepatitis C Testing Methods

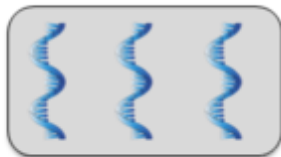
- **Screening: Hepatitis C Antibody Testing**

- Highly sensitive and specific
- Reactive test indicates current or resolved infection



- **Supplemental: Nucleic Acid Testing**

- Quantitative and qualitative HCV RNA tests used
- Positive test indicates active infection



## Rationale for Birth Cohort HCV Testing Recommendations