

Viral Hepatitis Prevention and Control Including Liver Cancer

Institute of Medicine (IOM) Review
Report Highlights

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Institute of Medicine (IOM) Overview

About the IOM

- Works outside of government to provide unbiased and authoritative advice to decision makers and the public
- The health arm of the National Academy of Sciences
- An independent, non-profit organization, established in 1970
- Mission: to serve as an adviser to the nation to improve health

Institute of Medicine Review Committee Members

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Brian McMahon, MD
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Supporters:

Primary Federal: Division of Viral Hepatitis, CDC
Additional support: Division of Cancer Prevention, CDC
Office of Minority Health, HHS
Public Health Strategic Health Care Group, DVA
Community: National Viral Hepatitis Roundtable

Statement of IOM Task

- Assess current prevention and control activities
- Determine strategies
 - to decrease new HCV & HBV infections
 - to reduce morbidity and mortality related to chronic viral hepatitis
- Identify gaps and priorities for research, policy, & action

IOM Hepatitis Committee Process

- Met 5 times from Dec 08 - Aug 09
 - Held 2 open (public) meetings
- Developed evidence-based recommendations
 - Strategies for preventing HCV and HBV infections
 - Strategies for reducing morbidity and mortality from chronic HCV and HBV infections
- What the Committee did not do:
 - Did not address basic research questions
 - Did not conduct cost-benefit analyses of its recommendations

The Problem

Hepatitis C virus (HCV)

- 2.7-3.9 million people are chronically infected with HCV in United States
- 12,000 deaths each year are due to hepatitis C-related liver disease

Hepatitis B virus (HBV)

- 800,000 to 1.4 million people are chronically infected with HBV in United States
- 3,000 deaths each year are due to hepatitis B-related liver disease

Hepatitis C & B

- Over 150,000 deaths due to HCV and HBV are projected to occur in next 10 years
- Globally **1 in 12** people have been infected with hepatitis C or hepatitis B.
- Most people do NOT know that they are infected because most people do not have symptoms.

Liver Cancer

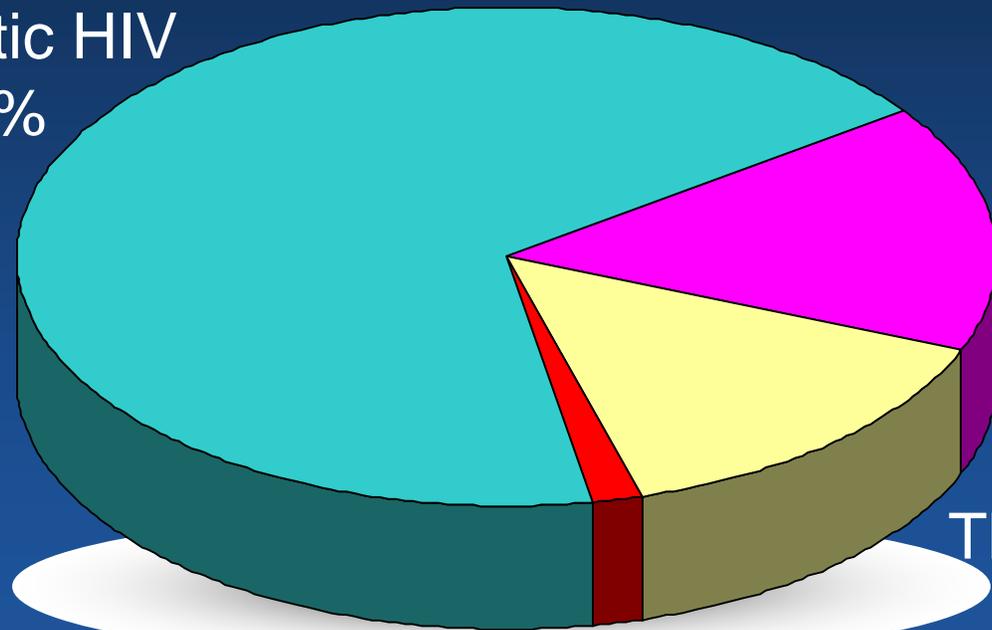
- 60% of all liver cancer is caused by hepatitis C and B
- Cancer is the second leading cause of death in the US and liver cancer ranks 6th most common for men and 9th most common for women.

Lack of Public Resource Allocation

National Center for HIV/AIDS, Viral Hepatitis, Sexually Transmitted Disease, and Tuberculosis Prevention Funding

\$1 Billion Total

Domestic HIV
69%



STD 15%

TB 14%

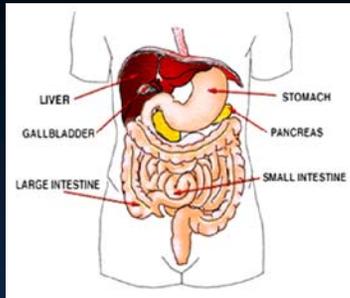
Hepatitis 2%

Source: CDC

Overview of Viral Hepatitis

The A's, B's and C's of Hepatitis

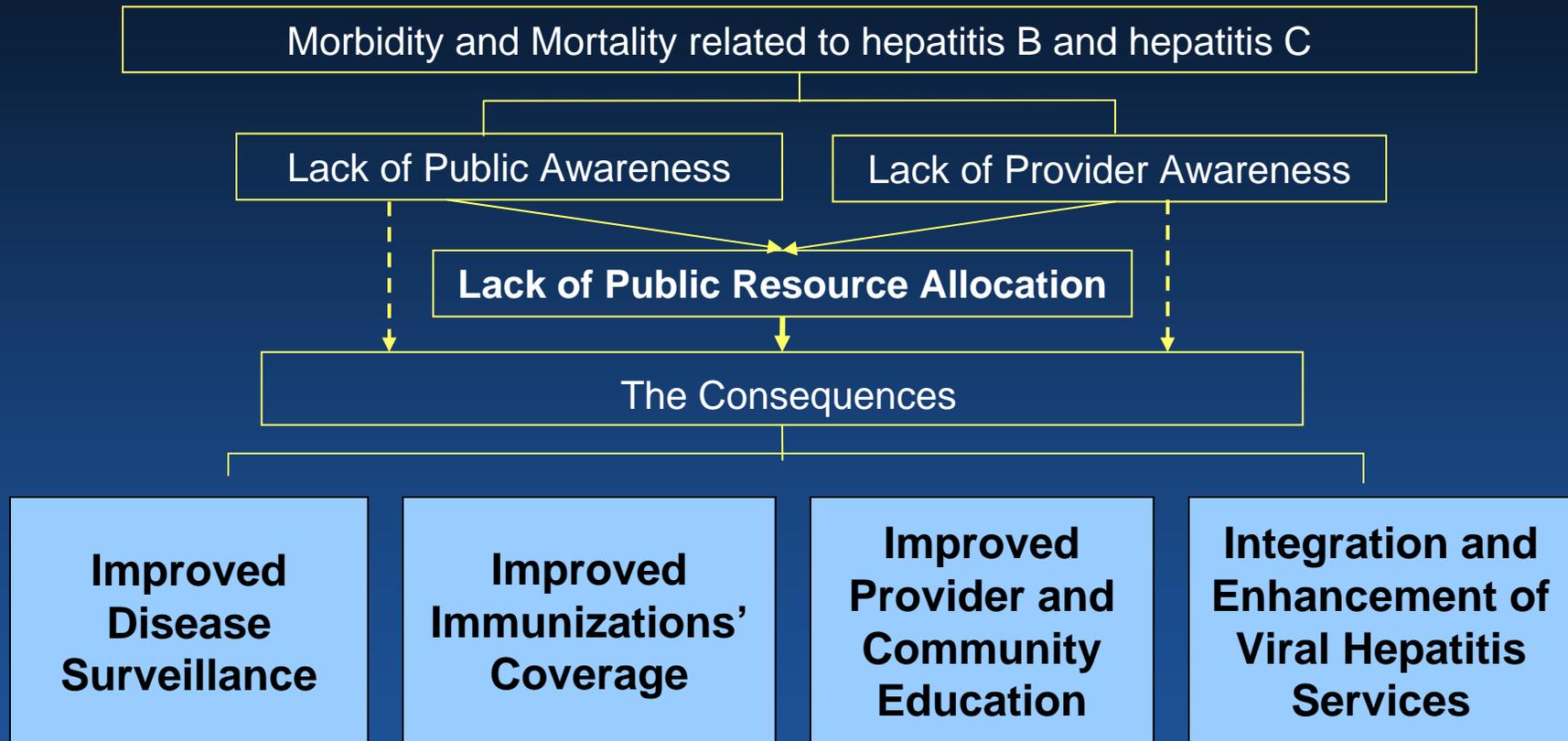
Hepatitis A	Hepatitis B	Hepatitis C
Not chronic ; Antibodies protective; test and treatment	Chronic in 6% of cases; antibodies protective; tests and treatment	Chronic in 85% of cases; antibodies not protective; tests and treatment
Spread through feces; fecal-oral route (poor hand washing, sex or changing diapers, raw fish, contaminated food or water)	Blood Borne Pathogen (BBP); in all body fluids; most efficient spread blood to blood and in sex; mom to baby	BBP; Most often spread via IDU (shared syringe, works...); mom to baby; blood or blood products or organs before 1992; sex; military
Vaccine available Most people have symptoms	Vaccine available Some people have symptoms	No vaccine available. Most people do NOT have symptoms; ~ 40% unknown Prevention is key



The Liver

- Upper Right quadrant tucked under the ribs
- Largest internal organ
- Size of a football for adult,
- Size of a grapefruit for child
- Performs over 500 functions
- Part of the Gastrointestinal system
- Liver is a “non-complaining organ, a person can be infected or have liver damage and not even know it. Knowledge is power.
- An inflamed liver is unable to break down waste products in the blood.
- Hepatitis can be caused by a virus that attacks the liver causing inflammation and death of liver cells.
- Acts as the body’s filter & warehouse
- Converts food, alcohol, chemicals, drugs, into substances to be used as nutrients; Processes everything we eat, breathe and absorb through our skin
- Detoxifies substances that are harmful to the body; converts wastes that are excreted by the body
- Makes bile to help digest food
- Stores vitamins & minerals
- Regulates blood clotting, fat & sugar storage
- Has the unique ability to regenerate itself!

The Recommendations



Knowledge and Awareness

“Lack of knowledge about HBV and HCV transmission contributes to the stigma of infection and is a barrier to testing, prevention, and care.”

IOM, 2010

Knowledge and Awareness

Implications for CDC and Other Federal Agencies

- Integrate viral hepatitis knowledge and prevention messages
 - General population, providers, (NIDA), (SAMPHSA)
 - among drug treatment settings (DHAP), (DOJ), (CDC)
 - for certain populations (e.g., prisoners and IDU)
- Replicate Evidenced-Based programs or create novel programs to:
 - Medication adherence (NIDA), (SAMHSA)
 - address hidden injectors (NCIRD), (CDC)
 - reach HBV infected mothers and their families

Viral Hepatitis Services

“Health services related to viral hepatitis prevention, risk factor screening, serologic testing, and medical management are fragmented.”

IOM, 2010

Special Target Populations and Settings of Special Interest

Special Target Populations:

Illicit Drug Users

Incarcerated Populations

Pregnant Women

Newborns of HBsAg+ moms

Foreign-Born

High Impact Settings:

Community Health Centers

STD Clinics

HIV Clinics

Homeless Shelters

Mobile Health Units

Prisons

Primary Care Offices

Schools and SBHC

Comprehensive Viral Hepatitis Services Recommendations

- *Community Outreach*
 - Community-awareness programs
 - Provider-awareness programs
- *Identification of Infected Persons*
 - Risk-factor screening
 - Laboratory testing
- *Prevention*
 - Vaccination
 - Harm reduction
 - Needle-exchange programs
 - Drug and alcohol treatment services
 - Vaccination of hepatitis B virus-susceptible contacts
 - Adherence support

Comprehensive Viral Hepatitis Services Recommendations

- *Social and Peer Support*

- Positive prevention services
- Education and referral to other related services and care

- *Medical Management*

- Assessment for and provision of long-term monitoring for viral hepatitis and selection of appropriate persons for treatment (in accordance with American Association for the Study of Liver Diseases guidelines)
- Psychiatric and other mental-health care
- Adherence support

Surveillance

“The viral hepatitis surveillance system in the US is highly fragmented and poorly developed.”

IOM, 2010

Improved Disease Surveillance

- Disease surveillance data are useful for:
 - Identifying outbreaks
 - Developing estimates of disease burden
 - Linking cases to care/prevention services
 - Program development and evaluation
- Recommendations
 - Comprehensive evaluation
 - Cooperative agreements by CDC with states to support core surveillance
 - Targeted active surveillance
 - CT is one of 9 funded enhanced hepatitis surveillance programs

Figure 7.1.1: Chronic hepatitis C cases, Connecticut, 2009.
(N = 2,124 reported)

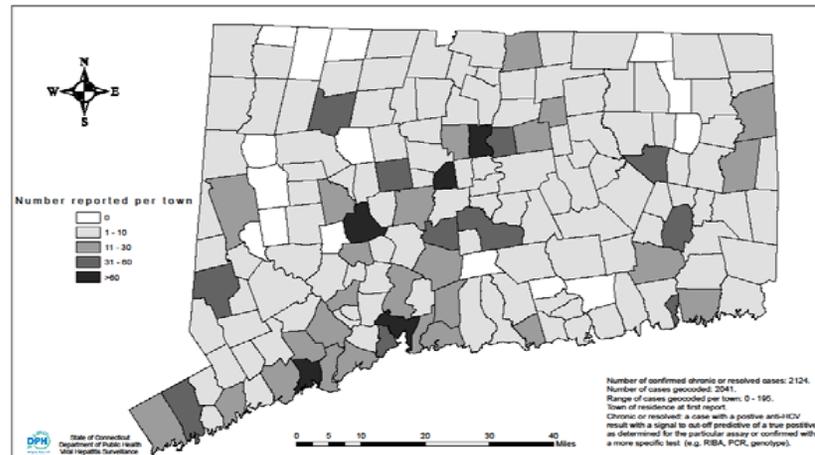
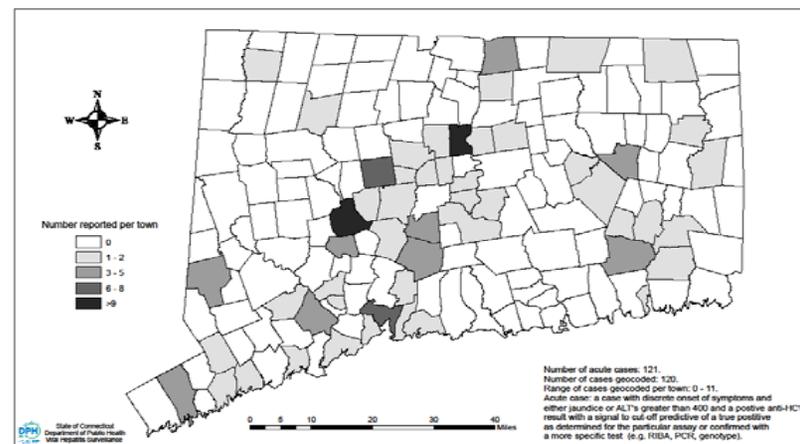


Figure 7.2.2: Acute hepatitis C cases, Connecticut, 2004-2009
(N = 121 reported)



Immunization

“The availability of effective hepatitis B vaccines make the elimination of new HBV infections possible.”

IOM, 2010

Immunization

Recommendations

- Full implementation of delivery room perinatal hepatitis B prevention practices for infants born to HBsAg mothers
- Adoption of state hepatitis B vaccination mandates for school attendance
- Devotion of sufficient resources for hepatitis B vaccination of all at-risk adults

Immunization

Recommendations

- Expansion of state immunization information systems
- Expansion of private and public insurance coverage for hepatitis B vaccination
- Federal efforts to insure an adequate hepatitis B vaccine supply
- Continued work on a vaccine to prevent chronic HCV infection

CONNECTICUT

Hepatitis Adult Immunizations 2009

- 50 Venues/Sites
- 278 Monovalent Doses Ordered
- 1254 Combination Doses Ordered
- 1532 Total Doses Ordered

Desired Outcomes

- Better information leads to:
 - Improved understanding of hepatitis B and hepatitis C
 - More effective and targeted prevention programs
 - More research on effective vaccination and treatment options
 - Infected people have better health outcomes
- Decreased transmission leads to fewer carriers of HBV and HCV and fewer cases of hepatitis B and hepatitis C
 - Resulting in a long-term decrease in cases of liver cancer and liver failure
- Screening is widely used as a part of good primary care
 - Most people with HCV do not have symptoms and do not know that they are infected
 - Many people with HBV do not have symptoms and do not know that they are infected
 - At-risk people and communities actively seek testing, preventive services, and appropriate medical management
 - Early detection, referrals and treatment will lead to better health outcomes

Next Steps and Implications for CT

- Continue to improve enhanced surveillance program
- Increase awareness and information
- Continue to work with PCP, specialists and providers to improve understanding of hepatitis and increase screening and testing
- Established hepatitis testing as a budgeted item
- Improve surveillance follow-up and referrals
- Improve HIV co-infected compliance with HRSA HAB measures – hepatitis B vaccination and HCV testing
- Integrate hepatitis into existing programs and services
- Participate in state strategic planning
- Evaluate programs and activities