Hepatitis C Screening
For Baby Boomers in Primary Care

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Disclosures

- No disclosures
Objectives

- Recognize the importance of diagnosing Hepatitis C (HCV)
- Explain how to counsel regarding HCV
- Review HCV recommendations for screening
- Determine how we can apply this knowledge to improve screening rates
185 million people in the world have HCV infection

An estimated 2.7-3.9 million people in the United States have chronic HCV
Introduction

- HCV infection is a major cause of chronic liver disease and cirrhosis
- Transmission through blood, bodily fluids
- Screening is recommended for all adults with high risk of infection and one time screening for those born between 1945-1965.
Hepatitis C Virus

Acute infection

- 20% to 50% → Recovery
- 50% to 80% → Chronic HCV

Chronic HCV

- 80% → Stable
- 20% → Cirrhosis

Cirrhosis

- 25% → Stable
- 75% → Mortality (cirrhosis, hepatocellular carcinoma)

20 to 30 years
Implications of Chronic HCV

Fibrosis
Chronic HCV infection can lead to the development of fibrous scar tissue within the liver

Cirrhosis
Over time, fibrosis can progress, causing severe scarring of the liver, restricted blood flow, impaired liver function, and eventually liver failure

Hepatocellular Carcinoma (with cirrhosis)
Cancer of the liver can develop after years of chronic HCV infection
Hepatitis C for the Primary Care Provider
Who should be screened

- IVDU
- History of Blood Transfusions before 1987
- Persistently abnormal ALT levels
- Occupational Exposure
- HIV positive persons
- Children born to HCV positive women
- Everyone born from 1945 through 1965
- Recipients of organ transplants prior to 1992
- Persons with hemophilia
- Surgery before implementation of universal precautions
- Incarceration
- Unregulated Tattoos
Screening

- U.S. Preventative Services Task Force (USPSTF) and Centers for Disease Control and Prevention (CDC) recommend:
  - Periodic HCV screening for all adults at high risk
  - One-time screening in adults born between 1945-1965

![Diagram of Diagnosis of HCV Infection]

- Screen with anti-HCV antibody testing
- Nonreactive: No further workup required
- Reactive: Acute HCV infection suspected?
  - No: No further workup required
  - Yes: Perform HCV RNA testing
    - Not detected: No current HCV infection
    - Detected: Current HCV infection
100 HCV infected individuals
Baby Boomers 1945-1965

- Account for 75% of HCV in the US
- Only 50% are aware they are infected
- Have a 5x increased prevalence than other adults
Estimated Prevalence by Age Group

Birth Year Group

Number with chronic HCV (millions)
100 Baby Boomers with HCV
A Public Health Problem

1 in 2 Boomers think that people with chronic Hepatitis C are at fault for contracting the disease.

37% would rather admit to having a DUI than being infected.


While 63% respondents associate Drug Addicts and Alcoholics with chronic Hepatitis C, only 9% associate Baby Boomers— even though 3 out of every 4 of adults with chronic Hepatitis C are Baby Boomers.

Truth is... many people don’t even know how and when they were infected.
A Public Health Problem
Hospital Based Screening program
- Lessons from implementing HIV screening
- Provider/staff education
- EMR integration with exclusions
- Anti-HCV antibody test with reflex HCV RNA
- Admission order sets
- Patient education

Subjects
- Baby boomer HCV screening
- Majority Hispanic Population
- 498 bed safety-net academic affiliated hospital
- South Texas
- 2 year implementation (2012-14)

Interventions
- Opt-out consent (admission packet flyers and posters)
- HCV counselor for positive results
- Community health worker arranged linkage to care
Hospital Based Results

- Mean age 56.4 years
- 4.2% of all eligible patients were chronically infected with HCV
Hospital Based Primary Care

- Pre-intervention-baseline measurements
- Prospective interventional study
- Maintenance phase

Mount Sinai Hospital Internal Medicine primary care practice
- November 2013-2015
Hospital Based Primary Care

- Results:
  - HCV positive- 3.3%
  - Screening increased- 55% to 75%
  - Percentage of patients linked to care and attended first appointment - 77%
Primary Care Screening

- Developed Best Practice Advisory (BPA) in EHR to prompt for screening among baby boomers
- Subsequent workflow for care management of newly diagnosed patients
- Baseline screening consisted of 3 years prior to BPA
- This study did NOT have reflex HCV RNA testing

- Subjects
  - All baby boomers who had one visit during prior 3 years in PCP clinic
  - 13 clinics within 30 miles of Ann Arbor, Michigan
  - 3 month period
Primary Care Screening

- Results
  - Increased screening by 5-fold
  - Successful linkage to care and curative treatment
  - EHR design eliminated work flow burden placed on PCPs to remember recommendation during visit and locate previous testing

**FIG. 3.** HCV care cascade. Percentage outside of bar shows proportion accounting for only the number of patients eligible for that outcome. Abbreviation: EOT, end of treatment.
HCV positive—what next?8

- Provide info on HCV infection
  - Evaluate support- behavioral health services
  - Counsel Patients about reducing risk of transmission
    - Do not donate blood, body organs, other tissue, or semen
    - Do not share personal items that might have small amounts of blood (toothbrushes, razors, nail-grooming equipment, needles) and cover cuts and wounds
    - HCV is not spread by hugging, kissing, food or water, sharing utensils, or casual contact
    - If in short term or multiple relationships, use latex condoms. No condom use is recommended for long-term monogamous couples (risk of transmission is very low)
HCV positive-what next?\(^8\)

- Brief alcohol usage screen and intervention
  - Goal is reducing or discontinuing alcohol consumption
  - Alcohol increased the development of cirrhosis in those with HCV with an odds ratio of 147.2
  - Abstinence from substances
HCV positive—what next?

- Referral to specialist- Infectious Disease/Gastroenterology
  - Coordination, labs and imaging prior to referral
  - Insurance Coverage or financial assistance
HCV positive-what next?  

- Weight management
  - Consider weight management or losing weight
  - Counsel on following a healthy diet and staying physically active.
  - Those with obesity and metabolic syndrome who have underlying insulin resistance are more prone to nonalcoholic fatty liver disease which can accelerate fibrosis progression in HCV.
HCV positive—what next?8

▶ Vaccination
  ▶ Test for HIV antibody and Hepatitis B
  ▶ Co-infection with Hepatitis B virus or HIV is associated with poorer prognosis
  ▶ Hepatitis A and B vaccine – Twinrix vaccine- 3 injections
  ▶ If Cirrhosis:
    ▶ Pneumovax and flu vaccine
    ▶ Screening for HCC every 6 months with liver ultrasound
Screening and linkage to care \textsuperscript{11}

- One-time testing is estimated to:
  - identify 800,000 infections
  - with linkage to care and treatment, avert more than 120,000 HCV-related deaths
  - save $1.5–$7.1 billion in liver disease related costs
Treatment

- All patients with chronic HCV should be treated
- Goal is to reduce all cause mortality and liver associated complications
When and Whom to treat

- All HCV infected individuals
- Best initiated early in course of disease
- Immediate benefit to those at highest risk of liver-related complications
- Accurate assessment of liver fibrosis helps to predict progression
Strategies to improve screening
Family Health Center

Baby Boomer Screening 1945-1965

N=3290

N=482 14.7%

baby boomers
Screened
Family Health Center

N=482

N=69
14.3%

- Total Screened
- Chronic HCV
What populations are we currently screening?

- IV drug users
- 1945-1965 Hx blood transfusion
- HIV +
- Long term hemodialysis
- Incarceration
- Everyone
- Other
Barriers to discussing screening

N=73

- Not important
- Unclear on current recommendations
- Time constraints
- Never really think about it
- Not applicable
- No prompt in EMR
- Not important
Increasing screening

- HCV informational posters around the clinic
- HCV handouts available in clinic
- Provider education
- Recall letters with CDC fact sheet
- Cerner implementation
- Behavioral Health Support
Family Health Center screening

- Conducted Grand Rounds presentation regarding screening and interventions
- Recall letters sent to eligible non-screened patients on physician panel
- Physician panel pilot statistically significantly increased screening from 21% to 48% (p<.05)
- Electronic medical record transition did impede data requisition and monthly interval data collection.
FHC screening

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Screening Recommendations

► Annual Testing:
  ► persons who inject drugs
  ► HIV-seropositive men who have unprotected sex with men

► Once obtained SVR:
  ► Without fibrosis-require no additional follow up
  ► Advanced fibrosis-HCC screening twice yearly
  ► Assessment for reoccurrence only with ongoing risk, HCV RNA
Resources for providers and patients

HEPATITIS C

General Information

What is hepatitis?
"Hepatitis" means inflammation of the liver. The liver is a vital organ that processes nutrients, filters the blood, and fights infections. When the liver is inflamed or damaged, its function can be affected. Heavy alcohol use, tumors, some medications, and certain medical conditions can cause hepatitis. However, hepatitis is most often caused by a virus. In the United States, the most common types of viral hepatitis are Hepatitis A, Hepatitis B, and Hepatitis C.

Most people who get infected with the Hepatitis C virus develop a chronic, lifelong infection.

What is Hepatitis C?
Hepatitis C is an infection of the liver that results from the Hepatitis C virus. Acute Hepatitis C refers to the first several months after someone is infected. Acute infection can range in severity from a very mild illness with few or no symptoms to a serious condition requiring hospitalization. For reasons that are not known, about 20% of people are able to clear or get rid of the virus without treatment in the first 6 months. Unfortunately, most people who get infected are not able to clear the Hepatitis C virus and develop a chronic, lifelong infection. Over time, chronic Hepatitis C can cause serious health problems including liver disease, liver failure, and even liver cancer.

How is Hepatitis C spread?
Hepatitis C is usually spread when blood from a person infected with the Hepatitis C virus enters the body of someone who is not infected. Today, most people become infected with Hepatitis C by sharing needles, syringes, or any other equipment to inject drugs. Before widespread screening of the blood supply in 1992, Hepatitis C was also spread through blood transfusions and organ transplants. While uncommon, poor infection control has resulted in outbreaks in healthcare settings.

While rare, sexual transmission of Hepatitis C is possible. Having a sexually transmitted disease or HIV, sex with multiple partners, or rough sex appears to increase a person’s risk for Hepatitis C. Hepatitis C can also be spread when getting tattoos and body piercings in unsterilized facilities, informal settings, or with non-sterile instruments. Also approximately 6% of infants born to infected mothers will get Hepatitis C. Still, some people don’t know how or when they got infected.

What are the symptoms of Hepatitis C?
Many people with Hepatitis C do not have symptoms and do not know they are infected. If symptoms occur, they can include: fever, feeling tired, not wanting to eat, upset stomach, throwing up, dark urine, grey-colored stool, joint pain, and yellow skin and eyes.

When do symptoms occur?
If symptoms occur with acute infection, they can appear anytime from 3 weeks to 6 months after infection. If symptoms occur with chronic Hepatitis C, they can take decades to develop. When symptoms appear with chronic Hepatitis C, they often are a sign of advanced liver disease.

How would you know if you have Hepatitis C?
The only way to know if you have Hepatitis C is to get tested. Doctors use a blood test, called a Hepatitis C Antibody Test, which looks for antibodies to the Hepatitis C Virus. Antibodies are chemicals released into the bloodstream when someone gets infected. Antibodies remain in the bloodstream, even if the person cleans the virus.

A positive or reactive Hepatitis C Antibody Test means that a person has been infected with the Hepatitis C virus at some point in time. However, a reactive antibody test does not necessarily mean a person still has Hepatitis C. An additional test called a RNA test is needed to determine if a person is currently infected with Hepatitis C.

Can Hepatitis C be treated?
Yes, however, treatment depends on many different factors. It is important to see a doctor experienced in treating Hepatitis C. New and improved treatments are available that can cure Hepatitis C for many people.

Who should get tested for Hepatitis C?
Hepatitis C is recommended for certain groups, including people who:
• Were born from 1945 – 1965
• Received blood transfusions or organ before 1992
• Have ever injected drugs, even if it was just once or many years ago
• Have certain medical conditions, such as chronic liver disease and HIV or AIDS
• Have abnormal liver tests or liver disease
• Have been exposed to blood from a person who has Hepatitis C
• Are on hemodialysis
• Are born to a mother with Hepatitis C

For more information
Talk to your health professional, call your health department, or visit www.cdc.gov/hepatitis.
You have had a hepatitis C antibody test

Your test result is antibody negative/nonreactive

This means:

- You are not infected with hepatitis C since no antibodies to the hepatitis C virus were found in your blood.
- If you shared drugs or drug equipment or have been exposed to someone’s blood in the last 6 months, you should be tested again.
- You are NOT protected from getting hepatitis C in the future and you should take precautions to prevent hepatitis C.

How to PREVENT becoming infected with hepatitis C:

The hepatitis C virus is very infectious and is passed through blood. So:

- Do not share needles, syringes, or other equipment to inject or prepare drugs, steroids, or cosmetics.
- Do not get tattoos, piercings, or body art in informal or unlicensed settings (like homes or jails) where sterile or clean equipment or ink may not be used or available.
- Do not share any personal items that could have infected blood on them, including razors and toothbrushes.

Remember that bleaching needles or syringes does not kill the hepatitis C virus.

For more information about hepatitis C please visit: www.cdc.gov/hepatitis
Hepatitis C Commercial
Conclusion

- HCV recognition is important

- It is imperative that we feel confident in counseling regarding HCV

- We have resources available to assist in guiding patients and ourselves through the diagnosis
References


Questions?
Comments?