

# **Understanding Hepatitis C:**

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## **A Training for Service Providers**

### ***Trainer Manual***



New York City Department of Health and Mental Hygiene

HIV Training Institute

# Understanding Hepatitis C: A Training for Service Providers Trainer Manual



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# Understanding Hepatitis C: A Training for Service Providers Trainer Manual

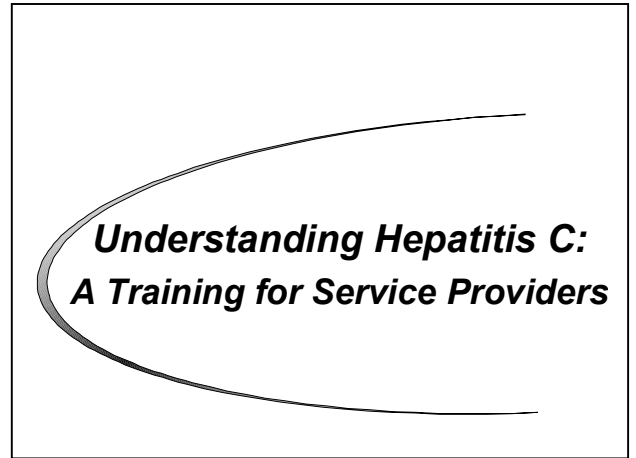
## Supplies and Equipment Needed for Training:

- LCD Projector and laptop
- Diskette or CD of training slides
- Dry erase board and markers
- Sufficient copies of participant manuals
- Pens (ink and for flip-chart)
- Key Counseling Messages written on flip-chart paper (if desired)
- Tape
- Handouts:
  - Pre-Training Questionnaires
  - Post-Training Questionnaires
  - Training evaluations
  - Multiple copies of role-plays
  - DOHMH hepatitis brochures, fact-cards, videos, etc.
  - Technical guidance document

# Understanding Hepatitis C: A Training for Service Providers Trainer Manual

## ***Why this course?***

Hepatitis C is a major public health problem in the United States. In New York City, as in other parts of the country, injection drug use (IDU) continues to play a significant role in the transmission of blood-borne diseases, such as hepatitis C virus (HCV) and Human Immunodeficiency Virus (HIV). Like HIV, HCV is transmitted largely through injection drug use with contaminated equipment and, therefore, impacts many of the same populations. Integrating HCV services into existing programs can help ensure that all persons have access to prevention information, care and treatment for HCV.



Persons at risk for or infected with HCV may need a wide range of services. Currently, very few communities have experience combining HCV testing, counseling, prevention, and treatment services with HIV/AIDS or any other public health program. Recent demonstration projects have shown that integrating HCV counseling, testing, and education into existing programs is feasible and can enhance identification of persons at risk or needing care for HCV.

This manual prepares trainers to conduct a one-day (6 hour) training program for HIV counselors, case managers, outreach workers, educators, and other service providers whose clients are at risk of being infected with HCV or of transmitting the virus to others. The contents are divided into individual modules and include an overview of viral hepatitis; the natural course and transmission of HCV; HCV testing and care; HIV/HCV co-infection; harm reduction counseling messages for persons at risk and HCV+ persons; and a list of resources. A PowerPoint presentation has been incorporated into the manual to make it easy for trainers to follow and implement.

This one-day course uses a variety of learning techniques, including lecture, brainstorm, small and large group activity, individual worksheets, and role-play. Detailed trainer notes include objectives, time frames, instructions for activities, detailed information about HCV, and trainer tips. The corresponding participant manual is a workbook that includes: PowerPoint note pages with slides, a glossary of terms, in-depth information about HCV prevention, care and treatment, frequently asked questions, and a resource section.

# Understanding Hepatitis C: A Training for Service Providers

## **COURSE GOAL:**

To provide community health, social service, and HIV service providers with the information and skills we need to integrate hepatitis C prevention, care and treatment issues into our work.

## ***Program Goal***

To provide community health, social service, and HIV service providers with the information and skills we need to integrate Hepatitis C prevention, care, and treatment issues into our work.

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## **COURSE OBJECTIVES:**

***At the end of this training, participants will be able to:***

- ❑ Define hepatitis and explain the liver's role in the body.
- ❑ Explain the difference between hepatitis C (HCV) and other forms of viral hepatitis.
- ❑ Understand the history and prevalence of HCV.
- ❑ Understand the natural course of HCV infection and progression of disease.
- ❑ Explain how HCV is transmitted and not transmitted.
- ❑ Identify ways to reduce the transmission of HCV.
- ❑ Explain safer injection techniques.
- ❑ Explain the tests used to identify the presence of HCV.
- ❑ Understand tests used to monitor liver health.
- ❑ Describe therapies used in the treatment of HCV.
- ❑ Describe 10 ways to maintain liver health.
- ❑ Identify how co-infection with HIV/HCV impacts care and treatment.
- ❑ Explain the similarities and differences between HCV and HIV.
- ❑ Identify where HCV messages/activities can be integrated into existing HIV services.
- ❑ Understand key HCV prevention and counseling messages.
- ❑ Identify HCV prevention and counseling messages to integrate into our work.
- ❑ Practice and demonstrate the integration of HCV counseling messages and activities.
- ❑ Identify resources to assist in our work.

# Understanding Hepatitis C: A Training for Service Providers

## AGENDA

\*Pre-Training Questionnaire

15 MIN	<b>Module 1</b>	<b>Introduction and Overview of Course</b> <ul style="list-style-type: none"> <li>• Welcome/Course Objectives <i>Activity: Folding Hands</i></li> <li>• Introductions</li> </ul>
30 MIN	<b>Module 2</b>	<b>Hepatitis and the Liver</b> <ul style="list-style-type: none"> <li>• What the liver does</li> <li>• What hepatitis is</li> <li>• Understanding A through E <i>Activity: Viral Hepatitis Worksheet</i></li> </ul>
60 MIN	<b>Module 3</b>	<b>About Hepatitis C Infection</b> <ul style="list-style-type: none"> <li>• Prevalence of HCV</li> <li>• Natural course of infection</li> <li>• Transmission myths, facts and questions <i>Activity: Transmission Myths and Facts</i></li> <li>• Reducing the risk of infection or transmission <i>Activity: Safer Injection Techniques</i></li> </ul>
<b>BREAK</b>		
60 MIN	<b>Module 4</b>	<b>HCV Testing &amp; Care</b> <ul style="list-style-type: none"> <li>• HCV testing</li> <li>• Monitoring liver health</li> <li>• Current treatment options</li> </ul>
<b>LUNCH BREAK</b>		
30 MIN	<b>Module 5</b>	<b>HCV &amp; HIV Co-Infection</b> <ul style="list-style-type: none"> <li>• Prevalence of co-infection</li> <li>• Impact of co-infection</li> <li>• Care and treatment of co-infected persons <i>Activity: Linking HIV and HCV</i></li> </ul>
60 MIN	<b>Module 6</b>	<b>Integrating HCV: Why, Where, What &amp; How</b> <ul style="list-style-type: none"> <li>• Integrating messages into existing services <i>Activity: Why and Where to Integrate</i></li> <li>• HCV counseling messages for prevention and care <i>Activity: What and How to Integrate</i></li> </ul>
<b>BREAK</b>		
1HR/15 MIN	<b>Module 7</b>	<b>Strategies for Successful Integration</b> <ul style="list-style-type: none"> <li>• Practicing the message <i>Activity: Role-Plays</i></li> <li>• Utilizing Resources</li> <li>• Summary and Closing</li> <li>• Post-Training Questionnaire &amp; Evaluation</li> </ul>

**Understanding Hepatitis C: A Training for Service Providers**  
**Pre-Training Questionnaire**

Name: \_\_\_\_\_

*Please circle True or False, or fill in the blank for each question.*

1. Persons with hepatitis C can spontaneously clear the virus from their body. T    F
  
2. Most persons with chronic hepatitis C develop cirrhosis of the liver. T    F
  
3. Hepatitis C and hepatitis A are transmitted in the same ways. T    F
  
4. Approximately 90% of injection drug users become infected with hepatitis C within five years of initiating needle use. T    F
  
5. Liver function tests (LFT's) measure the degree of liver damage. T    F
  
6. Persons with hepatitis C genotype 2 respond more favorably to treatment than persons with genotype 1. T    F
  
7. HIV infection accelerates the progression of HCV disease. T    F
  
8. People with mental illness can be successfully treated for HCV disease. T    F
  
9. List 2 important counseling messages about preventing transmission for persons who are HCV positive:  
  
\_\_\_\_\_
  
10. List 3 ways a person with hepatitis C can care for their liver:  
  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# Module 1

## Introduction

### OBJECTIVES:

1. Participants will review the purpose and objectives of the training.
2. Participants will understand ways to use the participant manual as an effective learning tool.

### TIME:

15 minutes

### AT A GLANCE:

- Handout *Pre-Training Questionnaire* as participants arrive. Collect before beginning.
  - Welcome participants and introduce trainers.
  - Icebreaker activity: *Folding Hands*.
  - Review course goals, agenda, and participant manual.
  - Ask participants to introduce themselves.
- 

### ACTIVITY: Welcome and Icebreaker

**Welcome** participants and introduce yourself.

**Icebreaker:** Ask participants to put their hands together with their fingers interlaced. Ask the group to take notice of which hand is on top and then to switch the position so the other hand is on top. Ask participants:

- Does it feel the same or different?
- Does anyone switch hands regularly?
- Do you think you could get used to it if you switched the position of your hands?

Process by linking the experience to integration of hepatitis C. Like switching the position of your hands, some people will find that integrating hepatitis C into their work is easy, some will find it uncomfortable, and most will transition quickly with practice.

**Course Overview:** Ask participants to open their manuals. Review course goals, objectives, and agenda. Walk participants through the manual layout and encourage them to take notes throughout the day.

**Introductions:** Ask participants to introduce themselves to the group. Include name, where you work, and what you do.

**TIP:** Set the tone by keeping introductions simple and fun, such as, asking participants to share one thing about themselves that no one in the room knows.



## Module 2

### Hepatitis and the Liver

#### OBJECTIVES:

1. Participants will be able to define hepatitis and explain the liver's role in the body.
2. Participants will be able to explain the difference between hepatitis C and other forms of viral hepatitis.

#### TIME:

30 minutes

#### AT A GLANCE:

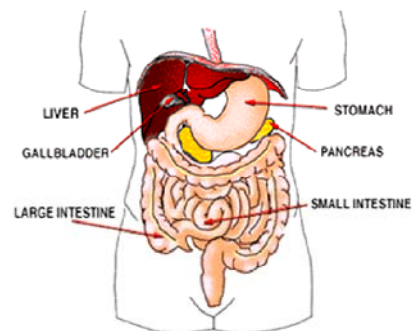
- Review the role of the liver in the body.
- Explain the meaning of the word Hepatitis.
- Refer participants to the [Viral Hepatitis Worksheet](#) in their manual. Explain the similarities and differences between each form of viral hepatitis.
- Summarize by reviewing the main similarities and differences.

#### PRESENTATION:

**TIP:** Consider using alcohol as an example of how the liver breaks things down. Most participants will be familiar with someone who has developed liver problems due to heavy drinking. It can serve as a good example of a chemical that is tough on the liver, as well as set the stage for later discussions about the impact of alcohol on persons with HCV.

**THE LIVER**, the largest internal organ in the body, is located below the diaphragm in the right upper quadrant of the abdominal cavity. The liver serves as the body's filter and warehouse. The liver filters blood and other substances to be used or excreted by the body, and acts as a warehouse to hold onto substances that the body needs later.

#### *The Liver: Largest Internal Organ*



The liver is responsible for:

- breaking down food, chemicals and medications
- making bile to help digest food
- storing vitamins and minerals
- manufacturing proteins and nutrients
- converting nutrients into energy
- storing sugar and controlling the level of sugar in our bloodstream
- regulating fat storage
- regulating blood clotting

One of the unique features of the liver is its ability to regenerate cells. This is important after surgery, injuries, or diseases that destroy portions of the liver. However, excessive damage eventually causes normal liver tissue to turn into scar tissue. Alcohol is a good example of a substance that is difficult for the liver to metabolize or break down. Excessive alcohol use over an extended period of time is one of the most common reasons for liver disease, including the development of cirrhosis (scar tissue).

**HEPATITIS** is a general term that means inflammation of the liver. “Hepar” means liver and “itis” means inflammation (as in *arthritis*, *pancreatitis*, and *dermatitis*). Viruses, bacteria, drugs, toxins, excessive alcohol intake, or autoimmunity (your immune system attacking your own body) can cause inflammation of the liver. There are five viruses known to affect the liver and cause hepatitis: A, B, C, D, and E. There is no Hepatitis F. Although Hepatitis G was originally thought to cause liver damage, it doesn't and has been renamed GB virus C or GBV-C. The viruses were named in order of their discovery. While these viruses may cause similar symptoms, each one is actually very different. They differ in how they are transmitted and treated, as well as how severely and persistently they impact the body.

### ***The Liver***

- Acts as the body's filter & warehouse.
- Converts food, alcohol, chemicals, drugs, into substances to be used or excreted by the body.

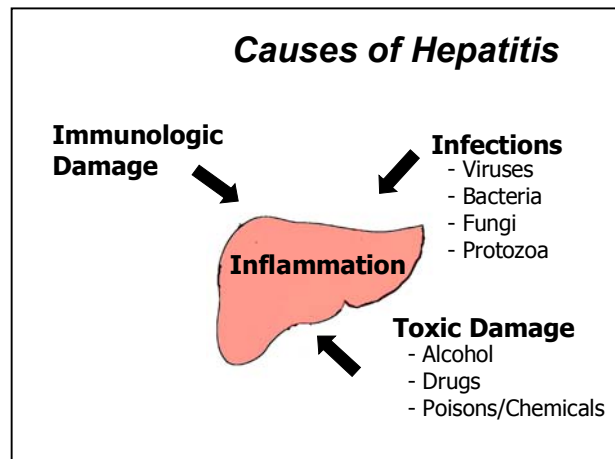
### ***The Liver***

- Makes bile to help digest food.
- Stores vitamins & minerals.
- Regulates blood clotting, fat & sugar storage.
- *Has the amazing ability to regenerate itself!*

### ***Definition***

## ***HEPATITIS***

***= inflammation of the liver***



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## ACTIVITY:

### UNDERSTANDING VIRAL HEPATITIS

**TIP:** This module is a course within a course! Participants may have additional questions about each form of viral hepatitis. Stick to the basics and avoid getting sidetracked.

- Refer participants to the [Viral Hepatitis Worksheet](#) at the beginning of their manual. Explain the similarities and differences between each form of viral hepatitis as you answer the questions on the worksheet.
  - Trainers may find it useful to walk through each form of viral hepatitis using the slides or choose to use newsprint to create a chart and fill in information as each form of hepatitis is reviewed.
  - Encourage participants to fill in their worksheet while you review the information. Taking notes will help them retain the answers.
  - Summarize similarities and differences and refer participants to the completed [Viral Hepatitis Worksheet](#) in Module 2 of the participant manual.
-

## VIRAL HEPATITIS WORKSHEET

	HAV	HBV	HCV	HDV	HEV
How do you get it?					
What are the symptoms of acute infection?					
Is it a life-long (chronic) infection?					
Is there a vaccine? What are the treatments?					

## HEPATITIS A – E

	<b>Hepatitis A</b>	<b>Hepatitis B</b>	<b>Hepatitis C</b>	<b>Hepatitis D</b>	<b>Hepatitis E</b>
<b>How do you get it?</b>	Transmitted through fecal-oral contact (changing diapers, rimming, eating contaminated food, etc.)	Transmitted through sexual contact, blood, breast milk, or mother-to-child during birth.	Transmitted by blood-to-blood contact. Sexual transmission is uncommon and mother-to-child transmission is possible.	Transmitted by blood-to-blood contact. Must have active HBV to get HDV. Relatively uncommon virus.	Transmitted through fecal-oral contact. Rare in the U.S.
<b>What are the symptoms of acute infection?</b>	High fever, loss of appetite, fatigue, dark urine, nausea, vomiting, light colored stool and jaundice. Symptoms may last from 1 week to 2 months.	Similar to HAV though many people have no symptoms. 30-50% develop acute (symptomatic) infection within 4 weeks to 6 months.	Similar to HAV though most people with HCV (75%) have no symptoms.	Similar to HAV though usually more severe.	Similar to HAV.
<b>Is it a life-long infection?</b>	NO. HAV is never chronic, and most people clear the virus completely. HAV can cause serious problems for people with other liver diseases.	YES, for some, though most adults clear the virus. Less than 5% become chronically infected. 15-20% of people with chronic HBV will die of cirrhosis or liver cancer after many years.	YES, for most, though 15-25% clear the virus. 75-85% become chronically infected; 5-20% develop cirrhosis; and 1-4% develop liver cancer.	YES. When a person is infected with HDV and HBV simultaneously, it's known as co-infection. Super-infection is when a person with established HBV contracts HDV. Super-infection is more serious than co-infection.	NO. HEV is not chronic, and most people recover completely. Pregnant women, however, can develop serious complications and 20% will die as a result of infection with HEV.
<b>Is there a vaccine?</b>	The HAV vaccine prevents infection and is given in 2 doses, at least 6 months apart. Persons exposed to HAV can get immune globulin shots within 2 weeks of exposure to avoid getting sick. No treatment except for symptom relief.	The HBV vaccine prevents infection and is given in 3 doses over a minimum of 6 months. Persons exposed to HBV can get the HBV vaccine and HBIG to prevent illness or reduce severity. Treatment for chronic HBV may include: alpha-interferon injections, Epiriv-B or Hepsera. There is no treatment for acute infection.	There is no vaccine and no post-exposure prophylaxis. Treatment for chronic HCV may include: pegylated alpha-interferon combined with ribavirin. There is no treatment for acute infection.	Vaccination against HBV will prevent HDV infection. There is no specific treatment or vaccine for HDV.	There is no vaccine for HEV. No treatment except for symptom relief.

## PRESENTATION:

### UNDERSTANDING VIRAL HEPATITIS

**HEPATITIS A (HAV)** is transmitted through fecal-oral contact. **Transmission** occurs when a person ingests anything that is contaminated with feces containing HAV. This can occur by eating food, raw shellfish, or drinking water that is contaminated with the virus. It can also be spread when diapering children or through sexual activity that includes anal contact (i.e. rimming). Symptoms of HAV usually occur after an average period of 28 days (range 15 – 50 days) and last up to eight weeks. This short-term initial stage of disease is called **acute infection**. The **symptoms** of acute infection can include high fever, loss of appetite, fatigue, dark urine, nausea, vomiting, joint pain, light-colored stool, and jaundice. Some people have no symptoms and recover without ever realizing they've been infected.

There is **no treatment** for HAV except those used for symptom relief such as aspirin or other pain relievers, drinking fluids, rest, etc. HAV does not develop into **chronic infection** (long-term or persistent disease), and almost everyone clears the virus, meaning his or her immune system effectively fights it off. Once you clear HAV, you cannot be infected again; the antibodies your immune system developed in response to the infection are protective against future exposure.

HAV can cause serious complications for people with other liver diseases including chronic HBV or HCV. Infection with HAV can be prevented by **vaccination**, which requires two (2) doses, 6-18 months apart. If both doses are received, the vaccine efficacy is >99% and provides long-term protection. Persons **exposed** to HAV can get immune globulin shots within 2 weeks of exposure to avoid getting sick. The HAV vaccine is highly recommended for all men who have sex with men (MSM's), injection drug users, healthcare workers, international travelers, and people infected with HCV.

#### ***Hepatitis A Virus (HAV)***

- Transmission
  - Fecal-oral contact
    - anal/oral sexual contact, dirty diapers, household contact
  - Fecal contaminated food and water
- Is It Serious?
  - Symptoms may include fatigue, loss of appetite, nausea, vomiting, abdominal pain, fever, joint pain, light colored stool, and jaundice
  - Symptoms can last up to 8 weeks
  - No chronic disease
  - Once infected you are immune for life
- Can It Be Prevented?
  - Vaccine and Immune Globulin (Ig)

#### ***HAV Vaccine Recommendations***

- Injection drug users
- HIV infected
- Chronic liver disease (incl. HBV or HCV)
- Men who have sex with men
- International travelers

**HEPATITIS B (HBV)** is **transmitted** by direct blood-to-blood contact and through sexual activity. HBV is 100 times more infectious than HIV and 10 times more infectious than HCV. HBV is present in blood, semen and vaginal fluids, and is transmitted primarily through sexual activity. Another major transmission route is sharing equipment for injection drugs (including needles, cookers, tourniquets) and, to a lesser extent, non-injection drugs (cocaine straws and crack pipes). Perinatal transmission is now rare in the U.S. because of routine infant vaccinations and the availability of HBV immune globulin (HBIG) for infants born to women with chronic HBV. Although HBV is detectable in saliva, household transmission of HBV rarely occurs.

**Acute HBV** develops in approximately 30-50% of adults, with **symptoms** similar to HAV infection. Most people with acute HBV experience few or no symptoms. In a majority of adults infected with HBV, the immune system can clear the virus. However, among infants, 90% of those infected at birth become chronic carriers. Some HBV-infected people – usually estimated at less than 5% – will become **chronically infected**. The majority of persons with chronic HBV infection don't develop symptoms and one third have no evidence of liver damage. Approximately 15-25% of those with chronic HBV develop progressive liver disease, leading to cirrhosis, liver cancer, or liver failure. Approximately 1.25 million people in the U.S. have chronic HBV infection.

Various tests are used to diagnose HBV and to assess the stage of disease and the extent of liver damage. Unlike HCV, which is diagnosed based on the presence or absence of HCV antibodies, HBV is diagnosed and staged by looking at a complex combination of HBV antigens and antibodies.

If you are among the majority of people who clear HBV, you cannot be infected again; the antibodies your immune system developed in response to the infection are protective against future exposure. HBV can be prevented with a **vaccine**. The vaccine is administered as a series of three injections given over six months (the second injection one month after the first, and the third injection 4-6 months later). The HBV vaccine is highly recommended for sexually active adults, injection drug users, healthcare workers,

### ***Hepatitis B (HBV) Transmission***

Hepatitis B is a common infection in the US

- 1:20 have been infected
- 1:200 are chronically infected (1.25 million people)
- **Transmission:** same ways as HIV, but more efficient
  - Sexually: blood, semen, vaginal secretions
  - Contaminated needles/equipment: syringes, cookers
  - Birth: from infected mother to newborn
  - Household contact: razor, toothbrush, nail clipper
  - Open sores

### ***Hepatitis B – Clinical Features***

- **Acute Illness:**
  - 30- 50% of adults develop acute symptoms
- **Chronic Illness:**
  - **Most adults recover from HBV infection**
  - Less than 5% develop chronic infection
  - Of those, 15-25% will develop cirrhosis or experience liver failure
  - 4-5,000 deaths per year
- **90% of infants infected at birth develop chronic HBV**
  - Aggressive pre-natal screening and vaccination program in place

### ***Hepatitis B Treatment***

- **Treatment:**
  - Post-exposure prophylaxis to prevent or reduce severity of infection
    - vaccine
    - HBV immune globulin (HBIG)
- **Vaccination:**
  - 3 dose series
  - Protection ~50% after 1 dose; 85% - 2; 96% - 3

household contacts of HBV-infected individuals, people with HIV, and people infected with HCV.

**Post-exposure prophylaxis** using the HBV vaccine plus injected antibodies (HBV immune globulin, or HBIG) can help prevent the development of HBV or reduce the length and severity of illness. Persons infected with HBV can be **treated with** alfa-interferon, Epivir-B or Hepsera.

**HEPATITIS C (HCV)** is **transmitted** by blood-to-blood contact. Individuals who have injected drugs, even if only once, are at highest risk for HCV infection. Sexual and perinatal transmission occur, but the risk is relatively low. Most persons with **acute infection** experience few, if any, symptoms and are unaware they're infected. Unlike HBV, most people who are infected with HCV go on to develop **chronic infection**. The majority of persons with chronic HCV infection are asymptomatic. There is **no vaccine** or immune globulin to prevent HCV infection. Interferon and ribavirin are used **to treat** HCV.

**HEPATITIS D (HDV)**, also known as "Delta", is a relatively uncommon virus **transmitted** by blood-to-blood contact. This virus only occurs in people with active HBV infection. The **symptoms** of HDV are the same as HBV, although they are usually more severe. Injection drug users who have HBV are at highest risk for HDV infection. Individuals who have HBV are also at risk if they have sex with a person infected with HDV. When someone is infected with HDV and HBV, it is known as co-infection. Superinfection occurs when a person with established HBV infection contracts HDV. Super-infection is usually more serious than co-infection. **Vaccination** against HBV will prevent HDV infection. There is no specific **treatment** for HDV. Individuals co-infected with HBV and HDV can benefit from treatment for HBV.

### ***HBV Vaccine Recommendations***

- All babies at birth
- Children ages 0-18 who haven't been vaccinated
- Injection drug users
- All men who have sex with men
- People with HIV, liver disease or on kidney dialysis
- Sexual & household contacts of people with chronic HBV
- Health care workers and other persons with possible occupational blood exposures

### ***Hepatitis C Virus (HCV)***

- Blood-borne viral infection
- Injection drug users at highest risk
- 75-85% will develop chronic infection
  - Can remain asymptomatic for decades
  - Can transmit the virus to others
- Sexual risk low, but not absent
- No vaccine
- Treatment with alfa-interferon & ribavirin

### ***Hepatitis D Virus (HDV)***

- Blood-borne viral infection
- Also known as "Delta Virus"
- Requires presence of HBV to cause infection
- Coinfection with HBV
  - Someone acquires both viruses at the same time
  - Acute severe disease with low risk of chronic disease
- Superinfection with HBV
  - Someone with HBV acquires HDV
  - Usually develop chronic HDV with risk of severe chronic liver disease
- Vaccination for HBV will prevent infection



**HEPATITIS E (HEV)** is **transmitted** by the same routes as HAV (fecal-oral contact). It is rare in the United States and is usually only seen in individuals who have recently traveled to other countries. It is a serious problem in developing countries in Asia, the Middle East and North Africa. The **symptoms** of HEV are similar to those of HAV and can include high fever, loss of appetite, fatigue, dark urine, nausea, vomiting, light colored stool, and jaundice. There have been minimal accounts of person-to-person transmission. HEV is **not chronic** and most people recover completely. However, 20% of pregnant women with HEV die as a result of their infection. There is **no vaccine** for HEV and **no specific treatment**, only symptom relief.

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### ***Hepatitis E Virus (HEV)***

- Fecal-oral contact
- Most outbreaks associated with drinking water contaminated with feces
- Minimal person-to-person transmission
- U.S. cases usually have history of travel to endemic areas
  - Asia, Middle East, N. Africa
- Pregnant women can develop serious complications, including death
  - No chronic disease
  - No vaccine available

## Module 3

### About Hepatitis C Infection

#### OBJECTIVES:

1. Participants will understand the history and prevalence of HCV.
2. Participants will understand the natural course of HCV infection and progression of disease.
3. Participants will be able to explain how HCV is transmitted and not transmitted.
4. Participants will identify ways to reduce the transmission of HCV.
5. Participants will be able to explain safer injection techniques.

#### MATERIALS:

Condoms  
Dental Dams  
Syringe exchange kit/sterile syringe

#### TIME:

60 minutes

#### AT A GLANCE:

- Discuss the timeline of significant HCV-related events.
  - Review HCV prevalence data.
  - Review the progression of HCV disease and outcomes of untreated disease.
  - Discuss transmission of HCV and harm reduction techniques using the activity *Transmission Myths and Facts*.
  - Demonstrate and discuss safer injection techniques that can reduce the risk of becoming infected with or transmitting HCV.
  - Summarize by reviewing the primary modes of transmission and important risk/harm reduction techniques.
-

## PRESENTATION:

### THE HISTORY AND “TIMELINE” OF HCV

**TIP:** The timeline and statistics are all in the participant manual. Save most of your time for the course of infection and transmission activity.

HCV was formerly known as non-A, non-B hepatitis. HCV is an RNA virus that enters the bloodstream, goes into liver cells, and replicates very quickly. The infected liver produces up to a trillion HCV particles a day. HCV replicates differently than HIV. HIV enters the nucleus of white blood cells and destroys them in the process while HCV does not enter the nucleus of liver cells.

- 1970's** The virus appears in enough people to be noticed. It is called non-A, non-B hepatitis (NANB).
- 1988** HCV is identified and named.
- 1990** First antibody test helps identify people exposed to the virus & is used to screen blood. Transmission by blood transfusions becomes rare.
- 1991** FDA approves alfa-interferon for treatment of chronic HCV.
- 1992** Confirmatory test for anti-HCV antibodies is approved.
- 1998** FDA approves combination treatment of alfa-interferon and ribavirin.
- 2000** FDA approves new version of alfa-interferon called pegylated interferon.

#### ***Hepatitis C: What is it?***

- A small RNA virus
- Enters the bloodstream, goes into liver cells causing inflammation
- Replicates *trillions* of virions a day
- Can live in blood for days outside the body - much longer than HIV

#### ***History of Hepatitis C***

- 1970's: virus appears in enough people to be noticed (called non-A, non-B).
- 1988: Hepatitis C virus identified & named.
- 1990: First antibody test helps identify people exposed to the virus & is used to screen blood.
- 1991: FDA approves alfa-interferon for treatment of chronic HCV.

#### ***History of Hepatitis C***

- 1992: Better tests insure safety of blood supply and confirmatory test for anti-HCV is approved.
- 1998: FDA approves combination treatment of alfa-interferon and ribavirin.
- 2000: FDA approves new version of alfa-interferon called pegylated interferon.

## PREVALENCE OF HCV

HCV infection is the most common chronic blood-borne infection in the U.S. The National Health and Nutrition Examination Study (NHANES III) tested 21,241 blood samples from participants age six years and older and estimated that four million people in the United States have been infected with HCV (1.8% of the U.S. population), of whom most (2.7 million) are chronically infected. Most persons with chronic HCV are not aware of their infection. Data from NHANES III significantly underestimates the true prevalence of HCV infection in the United States since incarcerated and homeless individuals were not included in the populations surveyed. The true prevalence is probably higher than four million, perhaps as high as five million. Studies of HCV prevalence among this country's 1.8 million incarcerated persons range from 14% in New York to 42% in California. A 2002 survey of 597 homeless veterans found an HCV seroprevalence of 42%.

8,000-10,000 Americans will die this year from HCV-related complications, and the numbers are expected to rise to 30,000 by 2015 since many people have been living with HCV for decades. New infections are expected to continue at the rate of 35,000 per year. Currently, persons aged 40 to 59 years have the highest prevalence of HCV infection, and, in this age group, African American men have the highest infection rate (9.8%). Among injection drug users (IDU's), infection rates range from 60-90%, with most new injection users becoming infected within 5 years.

In New York City, it is estimated that between 200,000-300,000 people have chronic infection.

### ***HCV Prevalence***

- 3% of the world population infected with HCV (150-200 million people)
- 1.8% of the US population infected with HCV (4-5 million people)
- 2.7 million people are chronically infected with HCV

### ***HCV Prevalence***

- 60% - 90% of IDUs are infected with HCV
- 14% - 42% of incarcerated persons are infected with HCV
- As many as 42% of homeless persons may be infected with HCV

### ***HCV Prevalence***

- 8,000-10,000 Americans die each year from HCV-related complications
- Could be as many as 30,000 by 2015 as complications from long-term infections become more common
- Liver failure due to HCV is leading cause of liver transplants in the US
- 15,000 Americans on waiting lists for liver transplants

## THE NATURAL HISTORY AND PROGRESSION OF UNTREATED HCV

### Acute Infection

After initial exposure, HCV can be detected in blood as early as one to two weeks, though the average time from exposure to the development of a detectable level of antibodies is 6-7 weeks. After three months, more than 90% of those infected will test positive for antibodies to HCV. Diagnosing HCV infection can be difficult since most people do not develop symptoms and, therefore, do not seek testing or medical care. When symptoms do occur, they can be severe. However, people with severe symptoms are more likely to clear the virus on their own. Only 25% (1 out of 4 people) have symptoms when first infected. These may include fatigue, stiff or aching joints, weight loss, or jaundice, among others, and usually subside after several weeks. Out of 100 persons infected with HCV, approximately 15-25 will spontaneously clear the virus without treatment. The other 75-85 go on to develop chronic infection.

#### **Acute HCV**

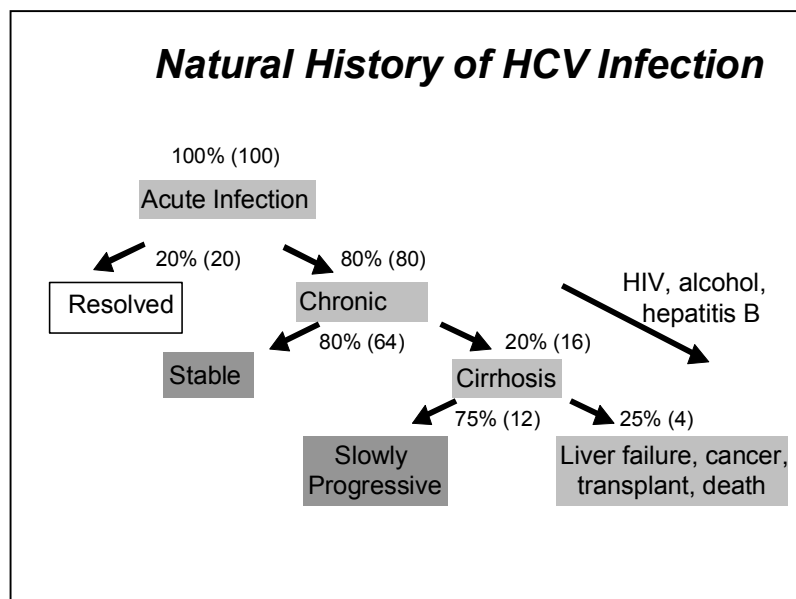
- Antibody response typically: 6-7 weeks
- Can take up to 24 weeks
- Most persons have no symptoms
- 15% - 25% of people will spontaneously clear the virus

### Chronic Infection

Most people that are infected with HCV will go on to have persistent infection for life (75-85%). Many of these individuals will remain stable over the course of decades and will never develop serious liver problems. However, between 5-20% of those with HCV infection will develop cirrhosis, extensive scarring of the liver. In these individuals, progression of HCV-related disease is usually slow, taking ten to fifty years before serious liver damage occurs. Between 1-4% will develop liver cancer (hepatocellular carcinoma) and/or require a liver transplant. Currently, an estimated 1% of all persons with chronic infection die as a result of HCV disease.

#### **Chronic HCV**

- 75-85% will develop chronic infection
- Most remain stable for years
- Of those with chronic infection:
  - 5-20% will develop cirrhosis and serious illness
  - 1-4% will develop liver cancer and/or need a transplant
  - 1% will die as a result of HCV disease



There is no way to tell who will develop cirrhosis or liver cancer, and who will live for decades with chronic infection but no serious liver damage. Factors that increase the risk of developing liver disease include older age at time of infection, male sex, HIV, chronic HBV, and high alcohol use. There is strong evidence that 30g/day of alcohol in men (2 beers, 2 glasses of wine, or 2 mixed drinks) and 20g/day in women greatly accelerates the progression of disease.

**To summarize:**

**Of the millions of people infected with HCV:**

- **75-85% will develop persistent (chronic) infection**

**Of the 75-85% with chronic infection:**

- **5-20% will develop cirrhosis**
- **1-4% will develop liver cancer or need a liver transplant**
- **1% will die as a result of their disease**

#### **Factors Promoting Disease Progression**

- Alcohol is a prime co-factor for HCV progression to severe liver disease
- Other factors:
  - HIV disease
  - chronic HBV
  - > age 40 when infected
  - male sex

**TIP:** Another way to explain this:

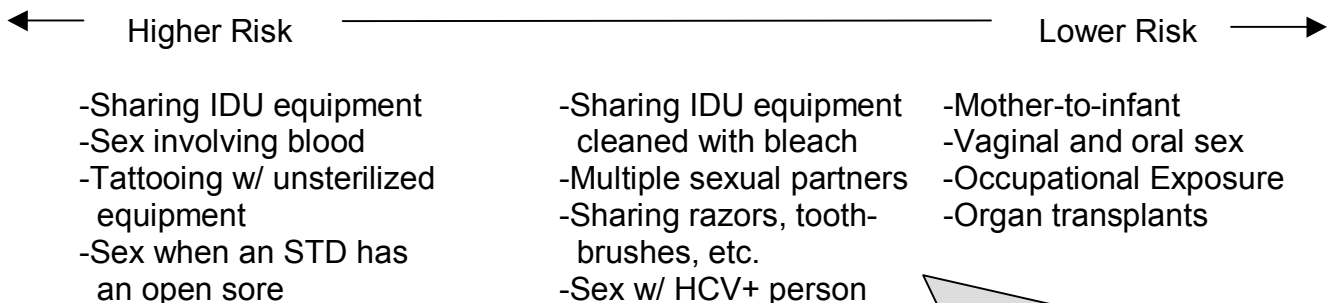
- If 100 people are infected, 20 will clear the virus,
- The remaining 80 will develop chronic infection.
- Of those 80 people, about 16 will go on to develop cirrhosis.
- Of those 16 people, about 4 will go on to develop liver cancer, need a transplant, or die.

## ACTIVITY: TRANSMISSION MYTHS AND FACTS

This activity provides participants with the opportunity to discuss common myths about HCV transmission and reinforce facts about transmission and harm reduction.

- Brainstorm with participants **all** the ways they have heard HCV is transmitted. List all transmission modes given by participants.
- Ask participants which modes of transmission are facts. Circle correct answers as they are given. Be sure the list includes:
  - Sharing equipment for injection drug use
  - Blood transfusions/organ transplants
  - Sexual activity that involves blood (or high-risk sex)
  - Having multiple sexual partners
  - Sex with an HCV+ person
  - Tattooing with unsterilized equipment
  - Body piercing with unsterilized equipment
  - Mother-to-infant (perinatal)
  - Sharing razors, toothbrushes, clippers
  - Occupational exposure (or needlesticks/blood splashes)
  - Sharing contaminated equipment in a medical setting
- Ask participants to help you to rank order the transmission modes from higher risk to lower risk using the list below as a guide:

**TIP:** This is a good time to ask participants, “what is high-risk sex?” Help participants name some activities such as: rough sex, anal sex, fisting, some S&M activities, etc.



**TIP:** Use this list as a guide, not an absolute. Remind participants that all risk factors are not equal and individual circumstances and the presence or absence of HCV will ultimately determine the risk involved in any of the activities listed above. Ask participants, “What activities would you move if barrier protection was used during sex? Is injection drug use ever a low risk?, etc.”

- Facilitate a discussion about each mode of transmission using the slides where appropriate. Summarize by reminding participants that the primary mode of HCV transmission is sharing contaminated equipment to inject drugs.

## PRESENTATION: HCV TRANSMISSION

Hepatitis C is transmitted through direct blood contact. Any activity that lets one person's blood come into contact with another person's blood can potentially transmit HCV. Transmission can occur by sharing needles or "works" to inject drugs; high-risk sex with an infected person; occupational exposure to infected blood; tattooing/body piercing with contaminated equipment; mother-to-infant; the use of blood products such as clotting factor prior to 1988 and, through blood transfusions and tissue transplants prior to 1992. Transmission through intranasal drug use (i.e. sharing straws to snort drugs) is still unclear.

### ***HCV Transmission***

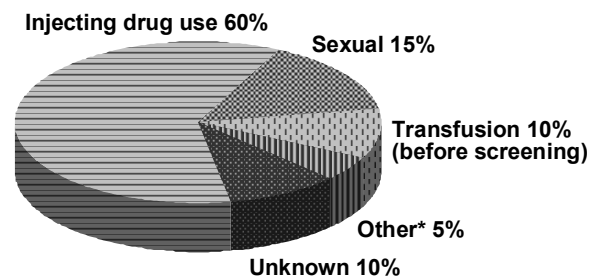
**HCV is a blood-borne pathogen**

The most efficient route of transmission involves percutaneous exposure  
*(direct passage of blood through the skin)*

## Injection Drug Use

The most efficient route of HCV transmission is by direct passage of blood through the skin. Injecting-drug use leads to HCV transmission in a manner similar to that for other blood borne pathogens (i.e., through transfer of HCV-infected blood by sharing syringes and needles directly or through contamination of equipment such as cotton, cookers and water). However, HCV infection is acquired more rapidly after initiation of injecting than HIV. High rates of transmission are due to how small HCV is, how quickly it replicates, and, therefore, the high number of viral particles in a drop of blood. Rates of HCV infection among young injecting-drug users are four times higher than rates of HIV infection.

### ***Sources of Infection for Persons with Hepatitis C***



\*In a medical setting; healthcare work; perinatal  
Source: Centers for Disease Control and Prevention

Injection drug use currently accounts for most HCV transmission in the United States (over 60%), and has accounted for a substantial proportion of HCV infections during the past decades. Many persons with chronic HCV infection may have acquired their infection 20 to 30 years ago as a result of limited or occasional drug injecting. After 5 years of injecting, as many as 90% of users have become infected with HCV. The high rates of HCV among injecting-drug users is probably due to the high incidence of chronic HCV infection among injecting-drug users, which results in a greater likelihood of exposure to an HCV-infected person.

### ***HCV Risk - IDU***

- Needle sharing from injection drug use is the greatest risk for HCV
- Injection drug use, even once many years ago, is a risk
- As many as 90% of IDUs are infected with HCV within 5 years of injecting
- IDU accounts for 60% of all new infections



Drug users have shown that they are invested in their own health. When they have access to sterile injection equipment, drug users prefer an unused, sharp syringe to a barbed, clogged and potentially contaminated one. Effective strategies talk less in terms of disease prevention and more about healthier injection practices.

To reduce infection and transmission of HCV, persons injecting drugs should be provided with information about substance abuse treatment options, if desired. All IDU's should be informed about the risks associated with needle and equipment sharing, given information about syringe exchange programs and participating ESAP (Expanded Syringe Access Program) pharmacies, taught how to clean their "works" and, most importantly, taught healthy injection practices that normalize common sense approaches to safer injecting.

### **Blood Transfusion/Clotting Factors/Organ Transplant**

Anyone who received a blood transfusion or organ transplant in the U.S. before July of 1992 or used blood products (such as clotting factor) before 1988 is at risk. In the past, many people contracted HCV through blood transfusions. Ten percent of persons infected with HCV report having received a blood transfusion prior to 1992. A test to screen donated blood became widely available in 1992. The risk of HCV transmission through donated blood is now extremely small.

Persons with hemophilia were at high risk for HCV (and HIV) infection prior to 1988 when virus inactivation procedures were developed. Ninety percent of persons with hemophilia that were treated with clotting factors before 1988 became infected with HCV.

Persons receiving organs from infected donors were also at high risk prior to universal testing of the blood supply. As with blood transfusions, screening of organ and tissue donors has virtually eliminated the risk of transmission from transplant surgery in the U.S.

### **Sexual Transmission**

Most experts believe the risk of sexual transmission of HCV is low, although any sexual activity that involves blood-to-blood contact (including menstrual blood) with an infected person can potentially transmit HCV. About 15% of HCV infections are reported to be sexually transmitted. Traces of virus have been found in semen, saliva, and vaginal secretions in some studies, although

#### ***HCV Risk - Transfusions***

- Blood transfusion or organ transplant prior to 1992
- Clotting factor prior to 1988
- 90% hemophiliacs treated before 1988 became infected

#### ***HCV Risk – Sexual***

- Sexual transmission occurs, but it is not the most efficient route
- Accounts for 10%-15% of HCV+ cases
- Increased risk for persons having sex that involves tearing and blood contact
- Multiple partners and active STD's can increase risk
- MSM not at higher risk

there isn't any evidence yet that HCV in these bodily fluids is transmissible. The presence of HIV or any other sexually transmitted diseases (STD's), such as herpes or syphilis, significantly increases the risk of sexual transmission. Sexual activities that could result in torn tissue (rough sex, anal sex, fisting, some S&M activities) and, therefore, blood-to-blood contact, may increase the odds of transmission as well. There are no known cases of HCV being transmitted through oral sex.

Studies of long-term monogamous sexual partners of people with chronic HCV infection reveal an average prevalence of 2-3%. Among persons reported to have acute HCV infection, 4-6% identified having a history of high-risk sexual behaviors, including an STD or unprotected sex with multiple partners. One study indicates that sexual transmission from men to women is more efficient than transmission from women to men. Other studies suggest that people who are co-infected with both HCV and HIV or HBV are more likely to transmit HCV.

HCV-infected persons with multiple sexual partners, high-risk sexual behaviors, or in short-term relationships should practice safer sex, in particular the use of latex condoms or other barriers. Because the risk of transmission is low, persons in long-term monogamous relationships may choose not to use barrier protection to prevent HCV transmission. More studies are needed to determine the risk for specific sexual activities and transmission of HCV.

## Perinatal Transmission

Transmission from mother to baby occurs in less than 5% of births. Rates of infection can be as high as 20% if the mother is also HIV positive. Mothers in the acute phase of hepatitis C infection (shortly after initial infection) or with serious liver damage have a higher risk of transmitting hepatitis C to the baby. Women with HCV infection who are considering pregnancy or already pregnant should inform their physician of their HCV+ status since HCV screening during prenatal care is not routine. Breast-feeding is considered safe, but cracked and/or bleeding nipples could increase the risk of HCV transmission. Children infected with HCV are less likely to progress to advanced liver disease throughout their lives. They progress more slowly than adults but should be monitored regularly.

### ***HCV Risk - Perinatal***

- Risk of infected mother to infant at birth is less than 5%
- HIV co-infection increases risk of transmission up to 17%-20%
- Breast-feeding not a risk
  - unless nipples are cracked / bleeding

## Healthcare Exposure

Healthcare workers can be infected through needlesticks or blood splashes, or by using unsterilized medical equipment. The risk of HCV infection from a needlestick injury where the source is infected with HCV is estimated to be 2%. Transmission from healthcare workers to patients has also been documented, but is rare and confounded by other risk factors. Healthcare workers should use standard precautions to prevent infection with or transmission of HCV.

### ***HCV Risk – Healthcare***

- Risk from needlestick:

<u>HIV</u>	<u>HCV</u>	<u>HBV</u>
3/1000	20/1000	300/1000

- Prevalence of HCV in healthcare workers is same as general population
- Universal Precautions
- No work restrictions

## Tattooing/Body Piercing

During the past 20 years, fewer than 1% of persons with newly acquired HCV gave a history of being tattooed. The Centers for Disease Control and Prevention (CDC) is currently conducting a study to evaluate tattooing as a potential risk. Body piercing and tattooing are potential sources of transmission if contaminated needles or shared ink are used. Because tattoos in correctional facilities and on the streets are often created using crude and unsterilized instruments such as knives, pens, and paper clips (as well as needles), risk reduction messages should stress the importance of using your own tattoo equipment and ink or properly sterilizing the equipment.

### ***HCV Risk - Tattooing***

- Use of contaminated and homemade equipment increases risk
  - tattooing in prisons
  - shared ink
- There is no consistent data indicating tattooing or body piercing as independent risk factors. Studies are ongoing.

## Intranasal Drug Use

In some studies, HCV infection has been associated with a history of intranasal cocaine use. Transmission of HCV could take place through sharing blood-contaminated straws. It is unclear whether intranasal drug use is an independent risk factor or, rather, an indication that a person practices both injecting drug use and inhalation of drugs that could get contaminated with blood.

### ***HCV Risk - Intranasal Drug Use***

- Transmission may occur.
- More studies are needed to determine risk of intranasal drug use as an independent factor.

## Household Contact

Sharing items that may be contaminated with blood, such as toothbrushes, razors, or nail clippers, is a potential risk for HCV transmission and should be avoided. Blood spills should be cleaned immediately with a 1:10 solution of bleach and water and open sores should be covered to avoid contact with blood. There is **no** evidence that HCV can be transmitted by kissing, hugging, sneezing, coughing, food, water, sharing eating utensils or drinking glasses, casual contact, or other contact without exposure to blood.

### ***HCV Risk - Household Contact***

- Transmission may occur by sharing items contaminated with blood
  - razors, toothbrushes, clippers
- Casual contact does not transmit HCV
  - kissing, hugging, sharing food, etc.

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## ACTIVITY : SAFER INJECTION TECHNIQUES

- Introduce activity by reminding participants that injection drug use is the primary way persons are becoming infected with HCV. Harm reduction efforts to reduce the transmission of HCV need to focus on helping people incorporate safer injection techniques.
- Broaden the idea of what “safer injection” is by asking participants:
  - How do you describe harm reduction? What is it? Offer the following definition if needed:

**“Harm reduction is** a set of practical strategies that reduce negative consequences of drug use. Harm reduction strategies meet drug users ‘where they’re at,’ addressing conditions of use along with the use itself.” (Harm Reduction Coalition)

- What are important harm reduction messages for injection drug users?
- What’s the most important harm reduction information you currently give your “at risk” clients about injection drug use?
- Are your clients using the info?
- Are they still putting themselves and others at risk?
- What do you think are some other important messages about injecting that could help prevent HCV and HIV transmission?

### ***Harm Reduction***

“...is a set of practical strategies that reduce negative consequences of drug use. Harm reduction strategies meet drug users ‘where they’re at,’ addressing conditions of use along with the use itself.”

*(Harm Reduction Coalition)*

- Refer participants to the Safer Injecting sheet in Module 3 of the participant manual and review key points. Discuss which of the messages listed are not “standard” safer injection messages.

**TIP:** Reinforce these messages throughout the training. This is a simple but important shift in how to approach the issue of safer injecting.

- Encourage participants to consider the following **safer injection messages** to prevent HCV as well as HIV:

1. Wash hands thoroughly
2. Avoid contact with blood
3. Don't share syringes to shoot up. Don't split drugs with a used syringe
4. If you must share, clean your works with bleach and water
5. Take control of your own injection

***Safer Injecting***

- Wash your hands
- Avoid contact with blood
- Don't share syringes to shoot up. Don't split drugs with a used syringe.
- If you must share, clean ALL your works with bleach and water
- Take control of your own injection

- Inform participants that you will be demonstrating safer injection techniques.
  - Stress the importance of providers being able to discuss and demonstrate safer injection techniques, similar to condom demonstrations.
  - Some participants may be in recovery and others have never seen the process of preparing to inject drugs. Acknowledge the potential for discomfort and encourage participants to take care of themselves or ask for help as needed.
- Walk participants through a needle and works cleaning demonstration, including:
  - Setting up the area
  - Cleaning the needle, syringe, cooker, water glass, etc.
  - Preparing the drugs for injection
  - Cleaning the injection site
- Encourage participants to use the Safer Injecting sheet when educating clients.

## SAFER INJECTING

- **"Avoid contact with any blood"** means a simple, day-to-day awareness of how blood is present. Conditions are rarely perfect for injection, but think of injecting along the same lines as preparing to eat dinner.
  - Wash your hands and arms.
  - Clear a space that is yours.
  - Use clean surfaces.
  - Make sure your injecting space is clean by wiping it down or spreading out a sheet of newspaper.
- **Use sterile syringes, if possible.** If you must reuse, keep a personal syringe. It's better to use one that's only been used by you.
- **Know which syringes are yours** by marking them before you get off. Remember when you are getting off with other people, syringes look alike. Keep track of how you marked yours, and remember that markings can wipe off. Knowing which are yours is important if you recap your syringes.
- **If you have to share, always clean the needle and syringe with bleach and water.** It is unknown how long you need to clean needles with bleach to kill hepatitis C. To clean:
  - Fill the syringe with water from a clean container. Shake for at least 30 seconds and squirt out. Repeat this step twice, and use new water each time.
  - Do the same thing with bleach.
  - Rinse at least 2 times with water.
  - If possible, take apart the syringe and soak it in bleach (as long as you can) then rinse it out several times with clean water.
- **Use a sterile syringe to split drugs**, if possible.
  - When preparing your shot use your own cooker, cotton and water.
  - Clean out the cooker with an alcohol pad to be sure it's as clean as possible.
  - If you're drawing up from a shared cooker, try to use only new syringes.
    - It's a bad idea to draw up from a cooker if someone else stuck a used syringe in it.
- **Always clean your injection site** by using an alcohol pad or soap and water. During the whole process of injection, be aware of what you touch or handle.
- **Apply gentle pressure to the injection site** after you've shot your drugs.
  - Use tissue or cotton to stop the bleeding.
  - Alcohol pads don't stop bleeding; the alcohol stops your blood from clotting.
  - Dispose of the used cotton or tissue, and dispose of the syringe in a sharps container (or a hard, puncture proof container).
- **Wash your hands and arms.** Be aware that you've been handling syringes, cotton, tissues and other materials that have probably contacted your blood.
  - Re-wipe your surface.
  - Check your tie and remember how your blood could have ended up on anything you touch or use.
- **Take control of your own injection.** Having another person inject you significantly increases your chance of getting infected. But even when someone else injects you, basic hygiene can prevent most infections. If someone injects you after they have gotten themselves off, they should wash their hands, and use a sterile syringe, clean cooker, water and tie for you.

HCV is easy to acquire and transmit and it seems that very small amounts of blood will do the trick. Injecting drugs is the riskiest way to use, due to the variety of complications that can occur. But while some risks may be unavoidable, others can be reduced or eliminated through awareness and planning. Above all, it is time to recognize that hygiene can be a normal part of injection, just like it's a normal part of eating.

Adapted from *Harm Reduction Measures for IV Drug Users*, by Allan Clear, Harm Reduction Coalition. Originally published in *HCV Advocate*, July 2000.

## Module 4

### HCV Testing & Care

#### OBJECTIVES:

1. Participants will be able to explain the tests used to identify the presence of HCV.
2. Participants will be able to explain the tests used to monitor liver health.
3. Participants will describe therapies used in the treatment of HCV.
4. Participants will be able to describe 10 ways to maintain liver health.

#### TIME:

60 minutes

#### AT A GLANCE:

- Explain the function(s) of the HCV antibody tests and qualitative PCR.
- Review purpose of LFT's, quantitative PCR, liver biopsy, and genotyping.
- Describe the use of alfa-interferon and ribavirin to treat HCV.
- Review the list of ways to maintain liver health.
- Summarize by asking group to list important messages to give to persons newly diagnosed with HCV infection.

#### PRESENTATION:

#### HEPATITIS C TESTING

**TIP:** Some people are uncomfortable recommending testing to clients when they are unable to access treatment. There are many ways to help slow the progression of HCV disease that do not involve antiviral treatment.

Several different tests are used to diagnose HCV infection. The EIA and RIBA are blood tests used to detect antibodies to HCV. The PCR is used to detect the presence of virus.

**EIA (enzyme immunoassay)** is an **antibody test** similar to the HIV antibody test. It looks for antibodies that the immune system produces in response to the presence of HCV. EIA tests for exposure to HCV (past or present). It does not indicate if someone is chronically infected. False negatives can happen if a person tests too early after exposure or in persons with compromised immune systems. Positive EIA tests are often followed by a confirmatory RIBA or PCR.

**RIBA (recombinant immunoblot assay)** is a more *specific antibody test* that looks for and confirms the presence of HCV antibodies. Positive results indicate past or present infection with HCV. Someone who was infected but cleared the virus will likely remain *antibody positive* for the rest of his or her life, but will not have the virus.

**Qualitative PCR (Polymerase Chain Reaction)** tests for the presence of *any* hepatitis C virus (HCV RNA) in the blood. It does *not*, however, tell you *how much* HCV is in the blood. The qualitative PCR can usually detect virus one to two weeks after initial exposure and is used as a confirmation of current infection. HCV RNA may be detected only intermittently in persons with chronic, latent infection; therefore, a single negative PCR does not mean absence of infection.

**HCV Testing Protocol** at most NYC screening sites is:

- 1) EIA
- 2) If positive, a second EIA is performed
- 3) RIBA is performed when EIA results are not definitive (rare)
- 4) If positive, the person is referred to a medical facility for care and PCR testing.

Most screening sites perform a confirmatory RIBA if the EIA tests are borderline positive. Community HCV screening sites often only perform antibody testing. PCR testing is usually only performed at a medical facility where additional follow-up tests are available.

The EIA is used as an initial screening test because it is inexpensive (like the ELISA used for HIV testing) compared to RIBA and PCR. Health clinics and other medical facilities often go directly to a qualitative PCR following two positive EIA's. If someone is EIA+ or RIBA+ on one or more tests, but PCR negative, it is usually recommended that they have a follow-up test six months later.

### ***Diagnostic Tests for HCV***

- Anti-HCV (antibody to HCV)
  - EIA (enzyme immunoassay)
  - RIBA (recombinant immunoblot assay)
- HCV RNA (PCR Qualitative)
  - Confirms presence of any HCV in blood

### ***New York Protocol for HCV Testing***

1. EIA
2. If positive, a second EIA is performed
3. RIBA is performed when EIA results are not definitive (rare)
4. If positive, the person is referred to a medical facility for care and PCR testing.

*Confidential testing for HCV should be offered to all persons who are at highest risk of infection*



**Confidential testing** for HCV should be offered to all persons who are at highest risk of infection, including:

- **Individuals at highest risk**
  - ✓ Persons who have **ever** shared needles or any works, even once
  - ✓ Persons who received a blood transfusion or blood products before July 1992
  - ✓ Persons who have received clotting factor concentrates made prior to 1988
  - ✓ Persons who are HIV positive
  - ✓ Persons who have ever received hemodialysis
  - ✓ Healthcare workers who received a needlestick injury from a contaminated needle or mucosal exposure to HCV-infected blood.
  - ✓ Children (over 12 months) born to HCV-infected women

***HCV Testing Routinely Recommended***

- Ever shared needles or works, even once
- Received a transfusion or blood products before 1992
- Received clotting factor prior to 1988
- Ever on hemodialysis
- HIV-positive
- Healthcare, emergency, public safety workers after needlestick/mucosal exposures to HCV-positive blood
- Children >1 year born to HCV-positive women

There is less evidence supporting testing of persons with the following risks, though testing should be offered at the request of the client:

- **Individuals with uncertain risk**
  - ✓ Persons with a history of tattooing/body piercing in unsanitary conditions
  - ✓ Long-term sexual partners of HCV positive persons
  - ✓ Sex partners of injection drug users
  - ✓ Persons with a history of STD's or multiple sexual partners
  - ✓ Intranasal and other non-injecting illegal drug users
  - ✓ Recipients of transplanted tissue

***Routine HCV Testing of Uncertain Need***

- History of non-sterile tattooing, body piercing
- Long-term sexual partners of HCV+ persons
- Sex partners of injection drug users
- History of STDs or multiple sex partners
- Intranasal cocaine or other non-injecting illegal drug users
- Recipients of transplanted tissue

- **Individuals for whom routine HCV testing is not recommended**
  - ✓ Household (nonsexual) contacts of HCV positive persons
  - ✓ Healthcare, emergency medical, and public safety workers who have **not** had a needlestick or been exposed to contaminated blood
  - ✓ Pregnant women
  - ✓ The general population

***Routine HCV Testing Not Recommended***

- Household (non-sexual) contacts of HCV-positive persons
- Healthcare, emergency medical, and public safety workers
- Pregnant women
- General population

## MONITORING LIVER HEALTH

Individuals with chronic HCV should be evaluated and monitored for the presence and severity of liver disease. Information about the condition of the liver is important in making treatment decisions.

**Liver Function Tests (LFT's)** are blood tests that measure the level of liver enzymes. Sometimes they are called **liver biochemical tests** because people mistakenly equate the name with the health of the liver (i.e. if your ALT's are elevated, your liver is not functioning properly). Liver enzymes are secreted into the blood as a normal part of liver function. When the liver is working hard or is damaged, enzyme levels in the blood are often higher than normal. Persons with HCV often have elevated liver enzyme levels. Alanine aminotransferase (ALT) and aspartate aminotransferase (AST) are two enzymes that are released by the liver and are used to monitor liver health. These enzymes will fluctuate during the course of HCV infection and can serve as an indication of possible liver damage at any given time, but NOT as a definitive marker for liver disease.

Persons taking medications or drinking alcohol may have higher enzyme levels as the liver works to metabolize them (break them down). If the liver is severely damaged, levels may be low because the liver is not producing normal amounts of these enzymes. About one-third of people with hepatitis C have enzyme levels within normal range. This does not necessarily mean the liver is healthy. Liver enzymes should be monitored every three to six months. If elevated levels continue, a liver biopsy may be recommended.

**ALT** (alanine aminotransferase): normal range 5-60 IU/L.

**AST** (aspartate aminotransferase): normal range 5-43 IU/L.

(Note: normal ranges vary from lab to lab.)

**Quantitative Hepatitis C PCR** (viral load) measures the amount of HCV in the blood. While the viral load level does not correlate with the severity of disease or disease progression, the level of virus in the blood is useful in determining the likelihood of response to antiviral treatment. Persons with lower HCV viral loads generally respond better to treatment. Until recently, HCV viral loads were reported as copies/mL. Unlike the viral load in HIV, an HCV viral load measured as copies/mL is likely to be extremely high – often in the millions. Based on World Health Organization

### *Monitoring Liver Health*

- Liver Function Tests (LFTs)
  - Liver enzymes: ALT, AST
  - 1/3 HCV+ have normal enzyme levels
- *Quantitative* HCV PCR (viral load)
  - Less than 2 million is considered low
  - Over 2 million is considered high

### *Monitoring Liver Health*

***Enzyme levels not predictive !***

***HCV viral load not predictive !***

recommendations, HCV RNA is now usually measured in International Units (IUs). There is no standard way to convert from copies/mL to IU/mL. Each quantitative viral load test is different, so it is important to use the same laboratory and the same test whenever you have your viral load measured. Results are generally reported only as low or high.

Low – less than 2 million copies/mL (~800,000 IU/mL)

High – over 2 million copies/mL (~800,000 IU/mL)

The quantitative PCR is not part of routine care. It is most helpful, and most often used, when a person is considering HCV treatment and/or to monitor the effects of treatment.

**Liver biopsy** is the most accurate way to measure the degree of liver damage (inflammation, fibrosis, cirrhosis). A liver biopsy provides information to help make informed choices about the initiation or postponement of antiviral treatment.

The biopsy is an outpatient procedure that takes a few minutes. While the patient is awake, a needle is inserted just below the right ribs, into the liver. A small tissue sample is taken and examined by a pathologist. A CAT scan or sonogram (ultrasound) may be done prior to a biopsy to determine the best site for needle insertion. Sometimes, an ultrasound is used during the actual biopsy to help guide the needle. Different people respond differently to a biopsy – some find it painful, while most are surprised at how little pain they experience. Many people describe the procedure as boring because they have to remain stationary for hours afterwards. Biopsies can be repeated to assess disease progression over time.

**Biopsy results** are scored on a scale from 0 to 4:

- 0 = no fibrosis (mild scarring) or inflammation
- 1 = inflammation, no fibrosis
- 2 = some necrosis (cell death), with scattered fibrosis
- 3 = fibrosis with bridging  
(the scarring “bridges” between blood and tissue tracts, particularly significant in the portal region as the portal vein is the main vein feeding blood to the liver)
- 4 = cirrhosis (severe scarring) is such that liver function is severely impaired, and the liver is misshapen

### ***Monitoring Liver Health***

- Liver biopsy:
  - 0 = no fibrosis or inflammation;
  - 1 = inflammation, no fibrosis
  - 2 = some cell death, fibrosis
  - 3 = fibrosis with bridging
  - 4 = severe scarring (cirrhosis)
- Most accurate way to measure degree of liver damage

**Genotype** is the genetic make-up of a particular strain of virus. There are at least six hepatitis C genotypes, numbers 1 through 6. Genotype 1 accounts for 70-75% of infections in the United States. Knowing your genotype is very important if you're considering treatment since rates of response to antiviral therapy are substantially lower in persons with genotype 1.

### **Monitoring Liver Health**

- Genotype (genetic strain)
  - 75% of US infections are Genotype 1
- Six known genotypes
- Knowing your genotype is important when considering treatment

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## **CURRENT TREATMENT**

Deciding to start or continue treatment for hepatitis C is complicated – even more complicated than with HIV. Many persons with HCV will never need treatment and will experience minimal health consequences as a result of their infection. Persons with advancing disease, however, must consider the benefits and consequences of beginning a treatment regimen that is not always successful.

Current treatment includes a combination of alfa-interferon and ribavirin, taken for six months to one year. People with genotype 1 usually undergo treatment for one year, while people with genotypes 2 or 3 typically need treatment for six months. Some physicians are treating people with HIV/HCV co-infection for 18 months.

**Alfa-Interferon** is a protein naturally produced by the body that interferes with a virus' ability to infect cells. Chemically synthesized alfa-interferon was first approved for the treatment of HCV in 1991. Early versions of alfa-interferon had to be injected subcutaneously (under the skin) three times a week. The most recently approved treatment for HCV, pegylated interferon (PEG), reduces the frequency of injection to only once a week. There are currently two brands of pegylated interferon available: PEG-Intron and Pegasys.

**Ribavirin** is an anti-viral capsule or tablet taken orally twice a day. For reasons that are not well understood, ribavirin makes interferon work better than if the interferon is used alone. Ribavirin used alone has no effect on HCV. There are currently two brands of ribavirin available: Copegus and Rebetol. Generic ribavirin will likely be available in the near future.

### **HCV Treatment**

- Pegylated alfa-interferon injected (once a week)  
+  
ribavirin capsules or tablets taken twice a day for 6 months to one year
- Goal of treatment:
  - *Sustained virologic response* = undetectable HCV viral load 6 months after finishing treatment

Treatment success is measured by a **sustained virological response**, which is an undetectable viral load six months after completing treatment. Combination therapy of pegylated interferon and ribavirin achieves a sustained response in approximately 50-60% of people overall. Persons with genotype 1 typically have a sustained response of 42-46% with combination therapy. Persons with genotype 2 or 3 respond more favorably, with 76-82% achieving a sustained response with combination therapy.

The primary goals of treatment are **eradication of virus** and a **healthier liver** (histologic improvement). Improvement is measured by normalized liver enzymes, lower or undetectable viral load, and possibly a follow-up liver biopsy. Even without a sustained response or significantly lower viral load, treatment may give the liver a much-needed break and decrease the degree of liver damage.

**TIPS:**

- Many people are evaluated after three months on treatment. If their viral load hasn't dropped significantly, treatment is stopped since this indicates that they're unlikely to achieve a sustained response.
- Some people go through treatment more than once if they don't achieve a sustained response the first time. While the likelihood of it working a 2<sup>nd</sup> or 3<sup>rd</sup> time isn't very high, re-treatment definitely works for some people.
- Some people use low-dose interferon as "maintenance therapy" following a course of treatment.

**HCV Treatment**

- Ribavirin + pegylated interferon
  - 50-60% overall sustained response
  - genotype 1
    - 42 - 46% sustained response
  - genotypes 2 & 3
    - 76 - 82% sustained response

**HCV Treatment**

- *The primary goals of treatment are eradication of the virus and a healthier liver (histological improvement):*
  - normalized liver enzymes
  - lower HCV viral load
  - sometimes follow-up liver biopsy

**Factors that may influence a successful response to treatment:**

*Most predictive:*

- having genotype 2 or 3
- HCV viral load less than two million copies when starting treatment

*Somewhat predictive:*

- age under 40
- pre-menopausal female
- little fibrosis
- no cirrhosis
- low body mass index (BMI)

**HCV Treatment**

- *Predictors of a better response to treatment:*
  - genotype 2 or 3
  - HCV viral load < two million
  - under 40
  - female (pre-menopause)
  - no cirrhosis
  - lower body weight or BMI

## Treatment Side Effects

**Interferon** side effects are often severe. Side effects are usually worse during the first few weeks, though each person experiences them very differently. Possible side effects include:

- fatigue
- joint pain (arthralgia)
- muscle pain (myalgia)
- fever and/or chills
- nausea
- headaches
- weight loss
- mild hair loss (alopecia)
- low white blood cells and platelets
- rapid heart beat (tachycardia)
- irritability
- depression
- suicidal thoughts

### **Interferon Side Effects**

- fatigue
- joint & muscle pain
- fever
- chills
- nausea
- headaches
- weight loss
- mild hair loss
- low white blood cells
- low platelets
- rapid heart beat
- irritability
- depression
- suicidal thoughts

**Ribavirin** can cause severe anemia (reduced red blood cells). Lowering the ribavirin dose is often necessary, although it may also lessen the likelihood of achieving a sustained response. Anemia can sometimes be treated with injections of erythropoietin (Epogen or Procrit), which stimulates the bone marrow to produce more red blood cells. Both interferon and ribavirin may cause birth defects. Both men and women should use effective contraception while on the combination (and for six months afterwards) if pregnancy is possible.

In clinical trials of interferon + ribavirin, 10-20% of participants dropped out because of side effects or adverse events.

**TIP:** It is important for providers to acknowledge that treatment can be difficult; however any suggestion that treatment isn't an option is a disservice to clients since treatment has been shown to be successful in almost ½ of persons with genotype 1.

### **Other Side Effects**

- Ribavirin can cause severe anemia
- Both interferon and ribavirin may cause birth defects
- Side effect management:
  - Ibuprofen / Acetaminophen
  - Antidepressants
  - Nighttime interferon dosing
  - Erythropoietin injections can stimulate red blood cell growth

Some persons experiencing side effects find relief by:

- Using ibuprofen or acetaminophen to help with flu-like symptoms
- Getting treated with injections of Neupogen, to stimulate production of white blood cells
- Starting antidepressants prior to beginning HCV treatment
- Arranging the timing of interferon shots to allow for rest afterwards (nighttime dosing may allow a person to sleep through some of the side effects).

### **Barriers to Treatment**

People who are interested in and for whom treatment is medically indicated sometimes face barriers that make it difficult to access proper treatment and care. At about \$27,000 a year, the pegylated interferon + ribavirin combination can be cost prohibitive if a person is uninsured or underinsured. It can be difficult to find good care even with adequate insurance. For example, liver specialists aren't usually trained in addiction medicine, and the waiting list to see a specialist or obtain a biopsy can be so long as to discourage a patient. It can also be difficult to get treated if an individual is actively using drugs or alcohol. Similarly, people on methadone or with mild to moderate mental illness are often denied treatment.

**TIP:** The process of injecting interferon can be difficult for someone in recovery. Some people prefer to have their health care providers inject interferon for them. In addition, interferon side effects can feel similar to drug withdrawal. Persons with a substance use history need to be prepared for these possibilities and have a support system in place (such as a support group) to help them sort through their feelings and impulses.

### **Support During Treatment**

Making the decision to start antiviral therapy is a very personal one. Establishing a support network *before* beginning treatment is important. This is true with HCV treatment even more than with HIV treatment. The side effects of HCV treatment can be extremely debilitating (especially in the beginning), and some people will need help with

### ***Barriers to Treatment***

- Not everyone is eligible (early disease, severe mental illness)
- Expensive (\$27,000 for a year of treatment)
- Difficult to get treated if actively using drugs or alcohol
- Not available or accessible in all methadone clinics
- Difficult to find good care
  - Liver specialists often not trained in addiction medicine
  - Sometimes long waiting lists to see a specialist
- Adherence can be difficult
- Side effects can be unmanageable

### ***Finding Comprehensive Care***

- Treatment appears to be more successful if certain strategies are in place:
  - Patient education
  - Mental health assessment & care
  - Substance use counseling
  - Case management
  - Treatment adherence services
  - Support groups

everyday tasks such as shopping, food preparation, cleaning, or child care. Psychological support is equally important. The irritability, depression and suicidal ideation that may accompany treatment often come on slowly, are difficult to identify, and can be unbearable for the person experiencing them.

### **Creating a Support Network**

- Important to establish before starting tx
- May need help with everyday tasks
- Psychological support equally important
  - Depression can be severe
  - Persons in recovery may need extra support to maintain abstinence

### **Complementary and Alternative Therapies**

Complementary therapies are used together with conventional medicine to treat many illnesses, including HCV and the side effects of treatment. Alternative therapies are used instead of conventional medical treatment. Complementary and alternative therapies attempt to use the body's natural self-healing abilities to bring the body back into balance. These therapies can include acupuncture, massage, yoga, Tai Chi, meditation and Chinese herbal medicine.

No complementary or alternative therapies have been scientifically proven to cure or even ease symptoms of HCV. However, some people are turning to herbs for relief of symptoms or to try to strengthen the body's ability to fight infection. Herbs and herbal products with the most data, as well as most widely used, include:

- **milk thistle (silymarin)** acts as an antioxidant, stimulating the regeneration of liver cells.
- **astragalus** enhances immune function by increasing the activity of various white blood cells and boosting the production of antibodies and natural interferon.
- **dandelion**, boiled or in capsule form, is used for all kinds of liver problems.
- **bupleurum** reduces liver inflammation and protects the liver from toxic damage.
- **garlic** detoxifies and protects the body from infection, and strengthens blood vessels. *The high sulfur content of raw garlic can cause dermatitis and colitis. Garlic can also inhibit blood clotting and interfere with thyroid function.*
- **licorice root** contains glycyrrhizin, which has antiviral activity and may be effective in treating viral hepatitis. *Potassium can be depleted with long-time use of licorice. In very high doses, glycyrrhizin can cause high blood pressure, water retention, and possibly heart complications.*
- **artichoke** promotes the outflow of bile from the liver to the gall bladder.

### **Complementary & Alternative Therapy**

- Used to ease the side effects of treatment, instead of treatment or to strengthen the body's ability to fight infection.
- Not proven to reduce treatment side effects or cure HCV
- Therapies include acupuncture, massage, yoga, Tai Chi, meditation
- Chinese herbs used include:
 

milk thistle	astragalus	licorice root
garlic	bupleurum	dandelion
artichoke	gingko biloba	thioctic acid



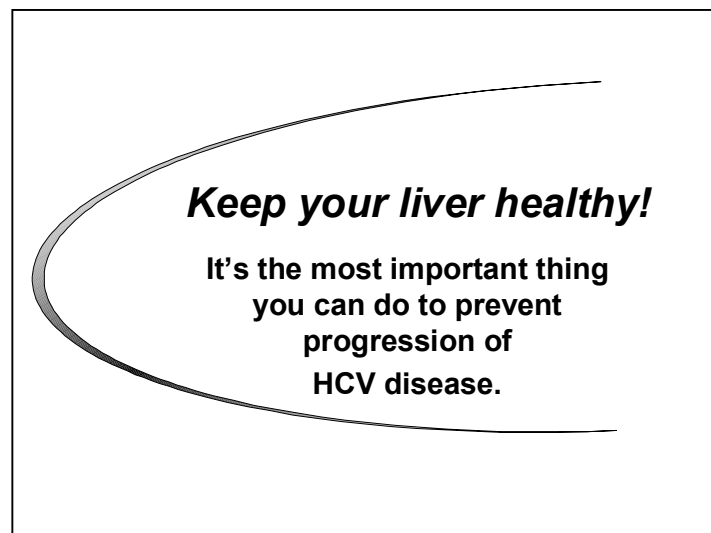
- **thioctic (alpha-lipoic) acid** is a natural antioxidant that is often used because of its ability to help maintain and restore liver health.
- **gingko biloba** is sometimes used to improve memory loss and blood circulation.

All substances, including herbs, can have dangerous side effects and impact the dosing of other drugs. Talk with your doctor or pharmacist before using complementary or alternative therapies – including over-the-counter ones.

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## KEEPING THE LIVER HEALTHY

Refer participants to the fact sheet in Module 4 of their manual, *Keeping Your Liver Healthy*. Review important steps to liver health for persons infected with HCV.



## KEEPING YOUR LIVER HEALTHY IF YOU HAVE HEPATITIS C

Talk with your healthcare provider about liver health and consider the following recommendations:

### DO:

- Find a doctor who understands HCV – a gastroenterologist (stomach and bowel specialist), hepatologist (liver specialist), some infectious disease doctors and primary care physicians. If you're considering treatment, a team approach, including a psychiatrist, is best.
- Get vaccinated against hepatitis A and hepatitis B. Co-infection with hepatitis C and active hepatitis A or B can be *extremely* dangerous.
- Get regular health check-ups, including liver function tests.
- Consider stopping or reducing your alcohol intake. Alcohol use *significantly* increases the risk of developing cirrhosis and liver cancer. If drinking alcohol, drink plenty of water with it.
- Protect yourself from *reinfection*. If your body has cleared the virus, keep in mind that having hepatitis C antibodies will *not* protect you from becoming infected again!
- Stick to a balanced diet of fresh vegetables, fruits, beans, whole grains, and lean meats.
- Get a healthy balance of protein in your diet – too much protein can stress your liver.
- Drink lots of fluids to flush toxins from your body.
- Get regular exercise and develop a stress reduction plan.

### AVOID:

- Drinking alcohol. Even 1 drink a day can greatly accelerate the progression of liver disease.
- Taking large amounts (2,000/mg day) of acetaminophen (Tylenol & other non-aspirin pain relievers) that are toxic to the liver. Acetaminophen is in many medications – so read the labels carefully. Acetaminophen and alcohol together can cause severe liver damage.
- Breathing in pollutants, chemicals, and cleaning products (skin contact & breathing): fumes from paint, paint thinners, chemical solvents, spray adhesives, insect sprays, and cleaners can be harmful to the liver. Always follow manufacturers' precautions.
- Foods with high salt, sugar or fat content such as cheese, fast food and processed foods (cookies, cakes, frozen dinners, packaged foods with long shelf lives, "instant" foods).
- Too much fried foods.
- Eating shellfish and raw fish because of the risk of hepatitis A.
- High-doses of Vitamins A, D, E or K.
- Taking herbs that are toxic to the liver such as peppermint, mistletoe, yerba tea, saffron, germander, chaparral, skull cap, nutmeg, valerian, Jin Bu Juan, comfrey (bush tea), pennyroyal and tansy ragwort/senna. Always talk to your doctor before trying new herbs or supplements.
- Taking iron supplements unless advised by your doctor.

## Module 5

### HCV and HIV Co-Infection

#### OBJECTIVES:

1. Participants will identify ways that co-infection with HCV and HIV impacts care and treatment.
2. Participants will be able to explain the similarities and differences between HCV and HIV.

#### TIME:

30 minutes

#### AT A GLANCE:

- Discuss HIV/HCV co-infection prevalence data.
- Explain the impact of HIV on the progression of HCV disease.
- Explain the impact of HCV on the progression of HIV disease.
- Discuss the impact of HCV treatment(s) and HAART on the course of each disease.
- Activity *Linking HIV and HCV*
- Summarize by discussing how the similarities and differences can help integrate HCV messages into their work.

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#### PRESENTATION:

##### PREVALENCE and EPIDEMIOLOGY OF CO-INFECTION

Because HIV and HCV are blood-borne viruses, they affect many of the same populations. In the United States, an estimated 200,000 persons are infected with both HCV and HIV. Studies estimate that as many as 25-30% of HIV positive people in the U.S. are co-infected with HCV and up to 10% of HCV positive persons are HIV infected. In urban areas of the U.S., up to 90% of persons who acquired HIV infection from injection drug use also have HCV. In New York, 78% of persons with HIV who report injecting drug use are also HCV-infected.

#### ***HIV and HCV***

- Affects many of the same populations
- 200,000 co-infected in the U.S.
- 25-30% of HIV+ co-infected
- 10% of HCV+ co-infected
- In NY, up to 78% of HIV+ IDUs may have HCV

Both HIV and HCV can be transmitted by blood-to-blood contact, unprotected sex, and from a mother to her infant; however, the efficacy of transmission by these routes varies. HCV is 10 times more infectious than HIV by direct blood-to-blood contact. This explains the higher incidence of HCV infection among IDU's. For this reason, and because HCV infection was common in urban areas of the U.S. for decades before HIV was discovered, most HIV/HCV co-infected injection drug users were likely infected with HCV years before HIV.

In contrast, studies have found that HIV is more transmissible than HCV between sexual partners and from a mother to her infant. Studies have found low rates of transmission to long-term monogamous sexual partners of HCV-infected persons. Even among persons engaging in high-risk sexual activity with multiple partners, the rates of HCV transmission are significantly lower than the rates of HIV transmission. However, the risk of sexual transmission of HCV appears to be increased when a person also has HIV. This could be because immuno-suppression caused by HIV may increase HCV viral load, and higher viral load may increase risk of transmitting HCV.

Without anti-HIV treatment, HIV is transmitted from mother-to-infant at rates as high as 20-30%. In contrast, HCV is transmitted to only 2% to 5% of infants born to HCV positive mothers. In most cases, however, the incidence of mother-to-infant HCV transmission increases if the mother is co-infected with HIV with rates reported as high as 20%. There is no treatment available to HCV+ pregnant women to decrease the likelihood of transmission.

## IMPACT OF CO-INFECTION

### ***Effect of HIV on HCV Disease***

Most studies indicate that people with HIV/HCV co-infection experience faster progression to cirrhosis and more liver damage than people who are infected with only hepatitis C. Faster progression may be less likely if the individual's HIV disease is well under control. A weakened immune system allows HCV to replicate faster, and higher HCV viral load makes a person more infectious. Co-infected persons with less than 200 T-cells are at a much higher risk of developing cirrhosis, liver failure and liver cancer, also called hepatocellular carcinoma (HCC).

### ***HIV and HCV***

- Both HIV and HCV are blood-borne
- HCV is 10 times more infectious than HIV by blood-to-blood contact
- Most co-infected IDUs likely infected with HCV years before HIV
- HIV is more transmissible between sexual partners and from mother to infant

### ***Co-infection Effect of HIV on HCV Disease***

- HIV infection worsens hepatitis C disease
  - Weakened immune system allows HCV to replicate faster
  - Higher HCV viral load may make someone more infectious
  - Accelerates and increases likelihood of HCV disease progression
- May not respond as well to HCV treatment

### **Effect of HCV on HIV Disease**

It is still unclear if HCV accelerates HIV disease but, in most cases, it does not appear to. Studies of people with hemophilia who are co-infected have shown alarming rates of HIV disease progression, but other co-infected populations do not appear to experience this effect. HCV may affect the course of HIV by increasing the incidence of liver toxicity caused by HAART. Persons with badly damaged livers may have a hard time breaking down HIV medications, especially protease inhibitors and non-nucleosides. This can lead to less antiviral activity, a higher HIV viral load, a lower T-cell count, and, over time, limited HIV treatment options. As people live longer with HIV, many more HIV deaths are caused by HCV-related end stage liver disease.

### **Co-infection Effect of HCV on HIV disease**

- Does not appear to accelerate HIV disease
  - Except for people with hemophilia
- Higher toxicity from HAART
  - Protease inhibitors & non-nucleosides are processed in the liver – patients must be carefully monitored
- As people live longer with HIV, many more HIV deaths are caused by HCV-related end stage liver disease.

## **TREATING CO-INFECTED PERSONS**

**TIP:** Many HIV health care providers are not well versed in HCV and vice-versa. It is important to tell clients to ask for a referral to a specialist if their physician does not provide one for them. People have a right – and usually access – to a referral.

Persons considering treatment should consult with healthcare providers well versed in HIV and HCV treatment. Referrals to specialists (such as a gastroenterologist, hepatologist, and/or infectious disease doctor) are an important part of making informed decisions. In NYC, there are medical clinics that specialize in co-infection.

Deciding which infection to treat first, HCV or HIV, can be difficult. The treatments for HCV have not been specifically approved by the FDA for the treatment of HCV in HIV-infected persons, although they are commonly used in co-infected people. In addition, there are no published studies of the most effective way to treat co-infected persons.

**A health care provider who knows HIV doesn't necessarily know HCV - and vice versa!**

Most physicians work to get HIV under control first. With reduced HIV-related disease progression as a result of HAART (Highly Active Anti-Retroviral Therapy), the decision of who should be treated for HCV (and when) is often determined by:

- the likelihood of beneficial response to treatment
- the likelihood of adverse reactions to the medications
- the risk of progression of liver disease

While questions about when to start treatment and which treatment to start first are still unresolved, there is important information that should be considered when making treatment decisions:

- Many individuals who are co-infected do not respond as well to HCV therapy as persons who are infected only with HCV. Factors affecting a person's response to HCV therapy include age, HIV viral load, CD4 count, HCV viral load, HCV genotype, condition of the liver, and alcohol intake.
- Protease inhibitors and non-nucleosides are processed through the liver. Persons beginning HIV anti-viral treatment often experience an increase in HCV viral load and liver enzymes. In most cases, this flare-up will go away relatively quickly. Regular bloodwork is particularly important during the first couple of months after starting any antiviral treatment.
- Ribavirin and Retrovir (AZT) can both cause severe anemia in many people, therefore it may be best to avoid using both drugs at the same time. Combivir and Trizivir also include AZT and should likewise be avoided in combination with ribavirin.
- Nucleoside analogues can damage mitochondria, which produce energy for cells. Ribavirin is a nucleoside analogue as are AZT, d4T (Zerit), ddI (Videx), ddC (Hivid), 3TC (Epivir) and abacavir (Ziagen). Mitochondrial toxicity may be more likely in persons taking ribavirin in addition to other nucleoside analogues.
- If ribavirin and ddI (Videx) are used together, particular caution is in order! People taking both drugs have a five times greater likelihood of developing mitochondrial toxicity than people taking ribavirin with other nucleoside analogues.

### ***Treatment Considerations***

Which to treat first?

- *Likelihood of beneficial response to tx*
- *Likelihood of adverse reactions to medications*
- *Risk of progression of liver disease*

### ***Co-Infection Considerations***

- Starting HAART can increase liver enzymes and HCV viral load for the first few months
- High doses of interferon can lower T-cells - at least temporarily
- *Anemia*: a possible side effect of both ribavirin & AZT
- *Mitochondrial toxicity*: 5 times more likely if on ribavirin and ddI (Videx)

***Careful monitoring is important***

- Viramune (nevirapine) has been associated with an increased risk of liver damage in people with hepatitis C, although not all co-infected people will experience liver problems from this drug. Signs of liver problems usually begin within three months after initiation of use.
- Regular liver function tests are important to monitor the impact of treatment, especially the first 2-3 months after starting a new drug therapy.
- Interferon has been associated with increased irritability, insomnia and suicidal ideation. Because depression before and while on treatment is common, co-infected persons who are considering therapy that includes interferon are strongly encouraged to have a support network in place which includes a mental health professional and /or support group.
- High doses of interferon can lower T-cells (CD4s), at least temporarily, although the CD4 percentage is not usually affected. Although interferon can benefit people's immune response to hepatitis C, it may be harmful to the immune response of some people with HIV.

**All persons co-infected with HIV and HCV should be:**

- Seen by physicians knowledgeable about both HIV and HCV
- Provided with information to maintain liver health
- Counseled about the impact of alcohol on the progression of liver disease
- Counseled on ways to reduce the transmission of HIV and HCV
- Vaccinated against HAV and HBV, if not previously exposed
- Evaluated for chronic liver disease, including HCV viral load, genotype, LFT's and perhaps a biopsy
- Considered for HIV and/or HCV antiviral treatment as needed
- Counseled about drug interactions and side effects of HCV and HIV treatments

***Persons co-infected with HIV and HCV should be:***

- Seen by physicians knowledgeable about both HIV and HCV
- Provided with information to maintain liver health
- Counseled about the impact of alcohol on the progression of liver disease
- Counseled on ways to reduce the transmission of HIV and HCV

***Persons co-infected with HIV and HCV should be:***

- Vaccinated against HAV and HBV, if appropriate
- Evaluated for chronic liver disease
- Considered for HIV and/or HCV antiviral treatment
- Counseled about drug interactions and side effects

## ACTIVITY: LINKING HIV AND HCV

This activity identifies similarities, differences, and common themes that can help participants link HCV prevention messages to their work.

- Refer participants to the worksheet *Similarities and Differences between HIV and HCV* at the beginning of their manual.
- Break participants into small groups and ask each group to list as many similarities and differences between HIV and HCV as they can think of.

- Suggest themes to consider such as:

- ✓ Populations impacted
- ✓ Transmission
- ✓ Prevention
- ✓ Symptoms
- ✓ Testing
- ✓ Treatment

**TIP:** Helping participants make accurate connections between HIV and HCV is more important than how many they list. Encourage participants to review their notes, if needed, when making their list.

**TIP:** Consider dividing the topics among the groups, allowing time for participants to think through more of the differences and similarities. Half the group can focus on similarities while the other half focuses on differences. Another possibility is to half one group focus on transmission issues, one on prevention issues, one on testing issues, another on treatment issues, etc.

- Ask each group to share several responses (depending on size of group and length of lists). Refer to answer key for additional similarities and differences if needed.
- Summarize by discussing how the similarities (and differences) can help participants integrate HCV prevention and care messages.
- Encourage participants to use the completed *Similarities and Differences Between HIV and HCV* (in Module 5 of their participant manual) when preparing to integrate HCV information into their work.



## ***SIMILARITIES AND DIFFERENCES BETWEEN HIV AND HCV***

### **WORKSHEET**

*List similarities and differences between HIV and HCV. Consider common themes such as populations impacted, transmission, prevention, symptoms, testing, and treatment.*

<b>HIV</b>	<b>HCV</b>

## **SIMILARITIES AND DIFFERENCES BETWEEN HIV AND HCV**

### **ANSWER KEY**

<b>HIV</b>	<b>HCV</b>
Blood-borne & sexually-transmitted virus	Blood-borne virus
Affects the immune system	Affects the liver
Infection is lifelong	Approximately 15-25% of persons infected with HCV spontaneously clear the virus. 75-85% go on to develop chronic infection
Highest rate of infection among IDU's	Highest rate of infection among IDU's
No vaccine available	No vaccine available
ELISA screening with Western Blot confirmation	EIA screening with RIBA or PCR confirmation
Treatment may be for a lifetime or at least many years	Treatment typically lasts from 6 to 12 months
High viral load indicates disease progression	High viral load does not appear to correlate with liver damage
Viral loads do not randomly fluctuate	Viral loads fluctuate randomly
Many anti-viral treatments are available	Currently only one approved treatment (interferon with ribavirin)
Appears to accelerate HCV disease progression	Unclear if HCV accelerates HIV disease progression
High risk of transmission from blood-to-blood contact	Rate of transmission from blood-to-blood contact is 10 times higher than HIV.
Transmitted by unprotected vaginal, anal and oral sex	Significantly lower incidence of transmission through unprotected sex
Mother-to-infant transmission rate is 20-30% without treatment	Mother-to-infant transmission rate is 2-5%

## Module 6

### Integrating HCV: Why, Where, What and How

#### OBJECTIVES:

1. Participants will identify where HCV messages and activities can be integrated into existing HIV services.
2. Participants will understand key HCV prevention and counseling messages to integrate into their work.
3. Participants will begin to think about how to integrate HCV prevention and counseling messages into their work.

#### TIME:

1 hour

#### AT A GLANCE:

- Brainstorm Why and Where
- Explain and discuss important counseling/education messages for HCV integration.
- Activity What and How
- Summarize by discussing key messages, potential barriers, and previous successes.

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#### BRAINSTORM ACTIVITY: WHY AND WHERE

- Ask the group: “**Why** is it important to integrate HCV into existing HIV services?” Use this as an opportunity to review the information covered in the morning.

##### **Why HCV integration is important:**

- HCV impacts many of the same populations at risk
- May only get to see client one time (“one stop shopping”)
- HIV-infected persons at increased risk for HCV
- Meets the needs of the community
- Lack of funding for HCV services

- Brainstorm a list of HIV services **where** HCV education, counseling, and care can be integrated.

**Where HCV can be integrated:**

- Client/Patient and Staff Education Programs
  - Counseling & Testing Sites
  - Intake and Assessment
  - Case Management Counseling
  - Case Conferencing and Review
  - HIV Treatment Programs
  - Partner Notification Programs
  - Syringe Exchange Programs
  - Harm Reduction Outreach Programs
  - Mobile Counseling & Testing Programs
  - Health Care Clinics
  - Support Groups
- Remind participants that HCV information, counseling and care will only reach clients if it is effectively integrated into existing programs; therefore it is important to consider not only **why** and **where** to integrate, but **what** to integrate and **how** to do it.
  - Tell participants that the rest of the day will focus on **what** and **how** to integrate HCV.
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## PRESENTATION:

### INTEGRATING COUNSELING/EDUCATION MESSAGES FOR HEPATITIS C VIRUS

Prevention counseling helps individuals confront their own risk behaviors, consider their options, and develop a plan to reduce their risk of contracting HCV, as well as HIV, STD's, and other forms of hepatitis. Because an individual's risk for one of these infections is likely to put him/her at risk for others, prevention counseling that helps reduce risk behavior for one disease also helps reduce the risk for a number of other infections.

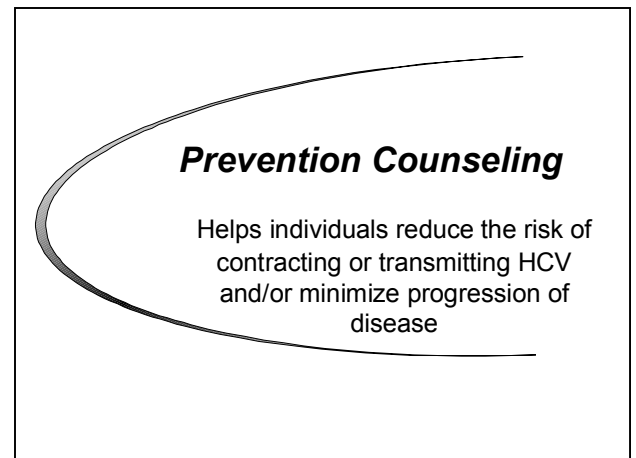
Likewise, counseling messages that encourage medical monitoring and positive self-care are often applicable to many differing infections. HIV pre- and post-test counselors, prevention educators, case managers and others who have 1:1 or small group interactions are in a unique position to readily integrate prevention counseling into their work.

#### **Counseling Messages When HCV Status is Unknown**

When an individual's HCV status is unknown, the following core messages should be integrated into all prevention education and counseling activities:

#### **HCV is transmitted primarily through blood-to-blood contact.**

- Injection drug use is the most common way HCV is transmitted.
- Persons who have shared injection equipment, even once, are at risk for HCV infection.
- Other types of exposures are less likely to transmit HCV though they are not without risk. These include: needlesticks, sharing tattoo equipment or ink and unprotected sex.



#### ***Counseling Messages When HCV Status is Unknown***

- HCV is transmitted primarily through blood-to-blood contact
- Injection drug use is the primary way HCV is transmitted
- If you are at risk, consider testing for HCV
- Casual contact does not transmit HCV

#### ***HCV is Transmitted Primarily Through Blood-to-Blood Contact***

- Persons who have shared injection equipment, even once, are at risk for HCV infection.
- Other types of exposure are less likely to transmit HCV though they are not without risk: Needlesticks, sharing tattoo equipment or ink, unprotected sex.

## **Injection drug use is the primary way HCV is transmitted.**

### ***If injecting:***

- Consider a drug treatment program.
- Always use a new sterile syringe, cotton, cooker and fresh water *for each injection*.
- Do not share syringes, cotton, cooker or water.
- Sterile syringes are available at syringe exchange programs and at ESAP pharmacies.
- If you are splitting drugs, split them when they are dry (in powder form) or use a new sterile syringe to split them.
- Don't backload into someone else's syringe.
- Clean the injection site and avoid contact with blood.
- If you must share, use bleach to clean your syringe before injecting. It is still unknown if bleach effectively kills HCV.

### ***If You Are Injecting:***

- Consider a drug treatment program.
- Always use a new sterile syringe, cotton, cooker and fresh water for each injection. Do not share syringes, cotton, cooker or water.
- Sterile syringes are available at syringe exchange programs and at ESAP pharmacies.
- If you are splitting drugs, split them when they are dry (in powder form) or use a new sterile syringe to split them.
- Don't backload into someone else's syringe.
- Clean the injection site and avoid contact with blood.
- If you must share, use bleach to clean your syringe before injecting. It is still unknown if bleach effectively kills HCV.

### ***When having sex:***

- Although HCV is not easily transmitted through sex, about 15% of infections are sexually transmitted.
- Sexual activities that may involve blood, such as rough sex, anal sex, or fisting, increase the chance of transmission.
- Sex with multiple partners or in the presence of STD's with open sores also greatly increases risk.
- Using a latex condom, latex glove, or other barrier method will reduce your risk of becoming infected with HCV, as well as HIV, HBV and other STD's.
- Talk with sexual partners about using protection, as well as past and current risk.

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- Talk with sexual partners about using protection, as well as past and current risk

### **If you are at risk, consider testing for HCV.**

- Knowing your HCV status can help you make choices about liver health even without other treatment options.
- If your results are negative, you can get information to make sure you stay that way!

### ***If You're at Risk: Consider Testing for HCV***

- Knowing your HCV status can help you make choices about liver health even without other treatment options
- If your results are negative, you can get information to make sure you stay that way!

**Casual contact with HCV+ persons is not a risk.**

- HCV is not spread by hugging, coughing, sharing utensils, or any other casual contact.
- Persons living with HCV-infected individuals should avoid sharing household items that may have blood on them, such as razors and toothbrushes.

**Contact With HCV+ Persons**

- HCV is *not* spread by hugging, coughing, sharing utensils, or any other casual contact.
- Persons living with HCV infected individuals should avoid sharing household items that may have blood on them, such as razors and toothbrushes.

**Counseling Messages for HCV Negative Persons**

HCV negative individuals (like HIV negative persons) with ongoing risk factors require risk and harm reduction counseling concerning ways to prevent future infection and to encourage positive steps toward behavior change. The messages given are similar to persons whose HCV status is unknown.

**Counseling Messages for HCV-  
Persons**

- Risk and harm reduction counseling similar to persons whose HCV status is unknown
- Encourage positive steps toward change
- Can become infected in the future

**Counseling Messages for HCV Positive Persons**

Persons who test positive for HCV may require:

- 1) counseling and education to understand HCV disease and reduce the risk of transmission to others;
- 2) risk and harm reduction counseling;
- 3) referrals to drug and alcohol treatment, support groups and mental health care;
- 4) counseling on liver health and positive self-care, including the effects of alcohol;
- 5) education that HCV is usually a slowly progressive disease and there's a lot you can do to take care of yourself;
- 6) medical referrals to determine the extent of their liver disease, if appropriate; and
- 7) immunization for HAV and HBV, if needed.

**To reduce the risk of HCV transmission to others, all HCV+ persons should be encouraged to :**

- Not share syringes, cotton, cooker or water used to prepare or inject drugs.
- Discuss their HCV status with sexual and/or needle sharing partner(s) and refer them for testing.
- Discuss with their partner(s) whether to use barrier precautions during sex.
- Not share items that may have blood on them (i.e. razor, toothbrush, clippers).
- Not get tattoos or body piercing in unlicensed settings.
- Not donate blood, body organs, other tissue, or semen.
- Cover cuts and sores on the skin.
- Clean up blood spills with bleach solution.

### ***Counseling Messages for HCV+ Persons***

#### **Reducing Risk of Transmission**

- Don't share needles, syringes, cotton, cooker or water used to prepare or inject drugs
- Discuss HCV status with sexual and/or needle sharing partner(s) and refer them for testing
- Discuss with partner(s) whether to use barrier protection during sex
- Don't share items that may have blood on them
- Don't get tattoos or body piercing in unlicensed settings
- Don't donate blood, body organs, other tissue, or semen
- Clean up blood spills with bleach solution
- Cover cuts and sores on the skin

The impact of alcohol and other drug use on disease transmission and progression cannot be overestimated. Drug use can be a direct route of transmission, a contributor to high-risk sexual activity, and a powerful contributor to liver disease in HCV positive persons. Since abstinence from drugs and alcohol may not be an acceptable choice for many clients, it is important to have a variety of approaches to help individuals make positive health changes and reduce the risk of transmission to others.

### **Client-Centered Counseling to Reduce Harm from Injection Drugs:**

- Offer a referral to substance abuse treatment, if interested.
- Try to abstain from or reduce the use of injection drugs.
- If possible, get sterile needles from a syringe exchange program or ESAP pharmacy.
- Always try to use sterile syringes and clean, unused cooker, cotton and water. Don't share any of this equipment.
- If you need to split drugs, use a new sterile syringe to divide up the drugs or split them when dry (in powder form).
- Don't backload into someone else's syringe.
- If you need to share syringes or a cooker, use bleach to clean your equipment.

### ***Counseling Messages: Reducing Harm from Injection Drugs***

- Offer a referral to substance abuse treatment, if interested
- Try to abstain from or reduce the use of injection drugs
- Always try to use sterile syringes and clean unused cooker, cotton and water. Don't share any of this equipment
- If you need to split drugs, use a new sterile syringe to divide up the drugs or split them when dry (in powder form)
- Don't backload into someone else's syringe
- If you need to share syringes or a cooker, use bleach to clean your equipment



## **Counseling Messages to Reduce the Risk of Disease Progression**

- Get a medical evaluation (even if not currently ill). Try to be open about your health and about alcohol and substance use.
- See a specialist who understands HCV such as a hepatologist, infectious disease specialist, or gastroenterologist who provides comprehensive care (mental health and substance use counseling, treatment adherence services, etc.)
- Consider getting vaccinated for HAV and HBV, if not previously exposed.
- Alcohol has *serious* consequences for the liver. If you can, abstain from drinking or reduce alcohol consumption. Consider a treatment program or support group.
- Take care of your liver. Drink plenty of water and make a choice to focus on eating well. Try to avoid high fat food. Add fresh vegetables, fruits, beans, whole grains, and lean meats to your diet.
- Cigarette smoking increases the progression of disease. Consider help to quit or cut down on smoking.
- Check with your doctor before starting any new medicines, including over-the-counter and herbal medicines.
- Get plenty of rest. The liver is a hard working organ. When you rest, it rests.

### ***Counseling Messages to Reduce Disease Progression***

- Get a medical evaluation (even if not currently ill)
- See a specialist who understands HCV
- Consider getting vaccinated for HAV and HBV, if appropriate
- Alcohol has *serious* consequences for the liver. If you can, abstain from drinking or reduce alcohol consumption

### ***Counseling Messages to Reduce Disease Progression***

- Take care of your liver
- Drink plenty of water and eat well
- Talk to your doctor before starting any medications
- Get plenty of rest

## ACTIVITY: WHAT AND HOW

- Break participants into small groups (4 or 5 people works best). Inform participants that they will be discussing ways to integrate HCV counseling messages into different types of programs.
- List the following programs on newsprint and ask participants to consider which services best meet/define the needs of everyone in the room. Invite participants to add other programs or services to the list. Ask each group to choose (or assign) one of the topics selected.

- **HIV Pre/Post-Test Counseling**
- **HIV Case Management**
- **Harm Reduction Outreach**
- **Prison/Jail HIV Education**
- **Peer Education Program**
- **HIV Medical Facility**
- **Drug/Alcohol Treatment Program**

**TIP:** Depending on the size and needs of the group, one or all of the programs may be covered. Unless all the participants are from the same site, it's likely several will be covered.

- Ask each group to:
  - List **what** HCV prevention and counseling messages can be integrated (into the area on their newsprint) in one column. Encourage participants to be as specific as possible.
  - List **how** HCV can be integrated (specific activities, programs, policies, etc. that would need to happen) in the other column.
  - Depending on the client population you will reach, include messages that will be helpful to persons at risk or for those who are HCV positive.
  - Circle the three most important messages and activities to be integrated.
- Share responses with the large group and post newsprint.

## SUMMARIZE

Ask participants:

- Which counseling messages do you think will be most useful for your clients?
- Which counseling messages will be most difficult to integrate? Why?
- What steps do you plan to take to integrate HCV into your work?

Encourage participants to share previous successes in integrating HCV prevention and care messages.

## Module 7

### Strategies for Successful Integration

#### OBJECTIVES:

1. Participants will practice and demonstrate the integration of one HCV counseling message.
2. Participants will identify resources to assist in their work.

#### MATERIALS NEEDED:

Handouts: Role-Play Descriptions

#### TIME:

1 hour, 15 min

#### AT A GLANCE:

- Review *Guidelines for Good Feedback* and *Role-Play Descriptions* with counselor and client groups.
  - Give participants 10-15 minutes to complete role-plays.
  - Process for key counseling messages.
  - Switch client and counselor roles and set up second role-play.
  - Refer participants to the resource section in their manual and discuss additional resources they may need to assist clients.
  - Summarize and close the training by asking participants to share one way they plan to integrate HCV into their work.
  - Handout *Post-Training Questionnaire* and *Training Evaluation*.
- 

#### ACTIVITY: PRACTICING THE MESSAGE

- Role-plays are designed to help make the transition from theory to practice.
- Each person will have the opportunity to role-play a client as well as a provider.
- Review *Guidelines for Good Feedback*.
- Break participants into two groups. One group will play the client and the other group will play the counselor/educator.
- Hand out *Role-Play Descriptions* to each group.

- Ask counselors/educators to think of 3 key counseling messages they want to incorporate in the role-play with their client.
- You might ask the participants to brainstorm as a group the key counseling messages they might want to incorporate in the specific role-play they are preparing for.
- Answer any questions participants may have.
- Pair client and counselors for role-play. Ask participants to spread out in the room and set up their role-play space.
- Walk around the room and offer assistance if participants are “stuck”.
- Upon completion of time, stop each role-play and ask the “counselor” and “client” to:
  - ❑ Share how they felt in their respective roles.
  - ❑ Clients: Tell counselors what they did that helped and what they would have liked to hear/experience (use the Guidelines here!)
  - ❑ Counselors: Tell clients what the 3 key counseling messages were. Discuss successes and difficulties encountered. Share anything you would want to do differently.
- Bring everyone back together as a large group and discuss:
  - ❑ What were the needs of the client?
  - ❑ What key messages did you incorporate?
  - ❑ What worked well?
  - ❑ What might you do differently?
- Switch “client” and “provider” groups and prepare for a second role-play.
- Upon completion of role-plays, thank participants for taking a risk.
- Reinforce how the skills participants use everyday can also be used to integrate HCV counseling/education messages.

**TIP:** Post key counseling messages from Module 6 on flip chart paper around the room for participants to refer to.

#### **TIPS FOR EFFECTIVE ROLE-PLAYS**

- Choose the role-play(s) that will be most helpful to the largest number of participants.
- Define “client-centered” and “open- and close-ended questions” to make sure everyone understands what the terms mean. Ask for examples from the group.
- Encourage everyone to “stay in role” for the entire time: “If you feel the urge to laugh, “start over”, or stare blankly, close your eyes and re-focus. You can always get back on track.”
- Try not to interfere with a role-play unless it has fallen apart. Sometimes the best learning happens when participants have to think on their feet or sit in silence.
- Remind counselors that their client won’t always “offer” all the information needed. It’s important to ask specific questions and share additional information.
- Ask participants to leave plenty of space between their role-play area and others in the room. Close quarters usually mean less useful role-plays.
- If time allows, separate the “clients” and “counselors” and review the roles with each group. This allows “counselors” to discuss key issues, needs and strategies.

## PRESENTATION AND CLOSING

### Utilizing Resources

- Refer participants to the resource section in their manual. Walk through key resources and referrals that are important for HCV+ clients and persons at risk.
- Ask participants to consider what other community resources they may need:
  - Medical specialists (Infectious disease, gastroenterologist, hepatologist, psychologist and/or psychiatrist)
  - Local HCV support groups
  - Substance abuse treatment programs
    - Inpatient
    - Outpatient
    - Detox
    - AA/NA
  - Syringe exchange programs
  - Participating ESAP pharmacies

### Closing

- Ask each participant to state one way they plan to integrate HCV into their existing work.
- Handout Post-Training Questionnaire and Training Evaluation Form.
- If time allows, review answers to the Training Questionnaire with the participants (answer key at end of manual).

## Guidelines for Good Feedback

Feedback can help someone make the choice to learn about him or herself. When delivered accurately and sensitively, it can reinforce positive qualities and help a person understand ways in which their actions impact others. When received openly, it can help provide new insights and give direction for continued learning. To make role-plays as useful as possible, good feedback is necessary. The following guidelines can help facilitate constructive feedback for each participant

### When giving feedback

- Ask:** Check in to see if the person is ready to hear feedback.
- Be specific:** Describe what you heard and how you were affected. Feedback that states “When you \_\_\_\_\_, I felt \_\_\_\_\_” is a good way to focus on specific actions.
- Be constructive:** Suggest changes the participant can do something about. No one wants to hear that the pimple on their face is distracting!
- Be sensitive:** Focus your comments on helping. If the person clearly is upset or feeling bad about the role-play, this is not the time for a long list of comments, no matter how constructive.
- Don't overload:** No one is expected to remember everything they just learned!

### When receiving feedback

- Ask:** Let the other person know you'd like feedback.
- Listen openly:** Don't discount or block the information as you receive it. It's not helpful to get defensive or argue.
- Check for understanding:** Ask for clarification if you are not sure what someone means. Restating is a good tool to use here: “So what you're saying is ... Is that correct?”
- Sit with the information:** Take time to decide for yourself, based on the feedback, what you want to incorporate. Remember that feedback is a gift...you can use it or leave it in the closet with the other gifts that aren't useful!

**Role-Play #1**  
**Seeking Testing: Unknown HCV Status**  
**(For Client)**

**Client:** You have been in a court-ordered in-patient drug treatment program for the last 6 weeks. You are getting ready to be released in a couple of weeks. The person who comes to the facility from the Health Department to provide HIV education recently talked about HCV transmission and testing. You have made an appointment to discuss your risk and to obtain a test. Prior to being “clean” you did a “bunch of stuff you’re not proud of”. If asked, you will admit to receiving a tattoo while incarcerated about 3 months ago.

**Instructions to client:** *The counselor knows very little about you. The counselor will ask you questions (client-centered of course) and will try to sharpen his/her counseling skills . You will answer all questions courteously (you will not be the client from hell), but if the counselor asks a close-ended question, you will give him/her the corresponding short answer.*

**Role-Play #1**  
**Unknown HCV Status**  
**(For Counselor)**

**Counselor:** The client is living at an in-patient drug treatment facility. He/she is getting ready to “graduate” from the program in the next couple weeks. After your presentation on hepatitis C the other day, the client became interested in testing for HCV. He/she will admit to “a bunch of stuff he/she’s not proud of” in the past.

***Instructions to counselor:*** This exercise will allow you to enhance and practice your education and counseling skills, specifically as they relate to HCV. You will assess client risks, discuss HCV testing, and provide harm reduction information.



**Role-Play #2**  
**Looking for Information: Unknown HCV Status**  
**(For Client)**

**Client:** You are a 23-year-old college student majoring in biochemistry. Occasionally you use speed to get through the grueling hours of course work. There are several students that study together and you have used the same “works” but don’t ever share the needle. You have recently been studying viral infections and your awareness of hepatitis C has increased. You would like additional information on the risk of sharing “works” but do not want to be tested because if you are positive, you’re not quite sure how you would handle it and finals are just around the corner, so the stress level is already too high.

**Instructions to client:** *The counselor knows very little about you. The counselor will ask you questions (client-centered of course) and will try to sharpen his/her counseling skills. You will answer all questions courteously (you will not be the client from hell), but if the counselor asks a close-ended question, you will give him/her the corresponding short answer.*

**Role-Play #2**  
**Unknown HCV Status**  
**(for Counselor)**

**Counselor:** Client is a 23-year-old college student. Client never shares the needle and really doesn't do "a lot" of drugs, though he/she seems hesitant to discuss other equipment sharing. He/she is concerned about his/her risk for hepatitis C since he/she has been studying viral infections in class.

***Instructions to counselor:*** *This exercise will allow you to enhance and practice your education and counseling skills, specifically as they relate to hepatitis C. You will begin a discussion of client risks and make the transition into hepatitis C.*

### **Role-Play #3 Giving HCV Positive Results**

Gloria is a 27-year old female client who is a sex worker. You have talked with her three times in the last year when she came to your agency's mobile healthcare van and tested negative for HIV infection. She trusts you and has described heavy alcohol use; of drug use she is polite but will only say, "look, that's my business" and "I'll handle it without you." She uses condoms more frequently now than when you first met her and sometimes talks of giving up street life if she could just find a way out.

*Additional information:* Counseling reveals she had a miscarriage 7 months ago and would like to be pregnant again; she thinks it would give her a way off the street. She says her "boyfriend" (you assume she means her pimp) does not want her to be pregnant. She finally confided that she occasionally injects but doesn't want anybody to know, because if her "boyfriend" finds out, he would kill her!

She decides to be tested for hepatitis C after the discussion and has decided to make an attempt to use some of her money to purchase new needles.

Gloria has tested EIA and RIBA+ for hepatitis C and has returned to the van to get her results.

***Instructions:*** Both Client and Counselor will have this same scenario sheet. Counselor will deliver the hepatitis C positive result message and client will respond with appropriate feelings and questions.

## **Role-Play #4**

### **Encouraging HCV Positive Care**

Sandra is a 32-year old female who has struggled to remain clean and sober since testing positive for HIV and HCV last year. As her HIV case manager, you have seen most of her energy going toward staying clean, learning about HIV, keeping up with her medical appointments, and adjusting to the HAART her doctor has her on. Now that her HIV seems under control, Sandra expresses concern about how the HCV will impact her HIV disease. She is uncertain when her doctor tells her she's doing great and not sure what to do about it.

Sandra's current boyfriend of 5 months is also HIV+. He has known about her HIV status but she informs you he recently found out about her HCV status and became very angry with her. While they use condoms most of the time, Sandra is afraid she may have passed HCV to her boyfriend.

During previous meetings with Sandra, she shared her history of depression. In fact, she met her boyfriend in a therapy group. He knows all about her past and seems committed to the relationship. Sandra is distraught and overwhelmed when she arrives to see you at your office.

***Instructions:*** Both Client and Counselor will have this same scenario sheet. Using a client-centered approach, counselor will assess needs and discuss HCV care. Client will respond with appropriate feelings and questions.

## **Role-Play #5**

### **Street Encounters to Reduce Harm**

You are a 52-year-old who is well known to the neighborhood as “Gopher” because you’ve been running drugs for dealers for years. You make enough money to keep your apartment and an occasional bottle of malt liquor in your hand. You rarely shoot up anymore unless some really “fine” stuff comes your way that someone is willing to share. You prefer alcohol these days since a “junkie life is a hard life”. You know just about everyone who comes through the neighborhood, and as far as you can tell, no one is sick. Word travels quickly and you’re certain you would have heard if someone you cut drugs with was sick.

You know the outreach team from the neighborhood center though you’ve never taken them up on the offer to use the needle exchange or see a doctor. You did get tested for HIV once and figure if you don’t have HIV, the rest is gravy. Lately, you’ve been feeling run down but “business calls”. You’re hanging out at the end of the day when an outreach worker stops by.

**Instructions:** *Both Client and Counselor will have this same scenario sheet. Using a client-centered approach, counselor will engage client and invite a discussion of HCV, harm reduction options, and medical care.*

## **HEPATITIS RESOURCES**

### **FREE HEPATITIS C COUNSELING, TESTING AND REFERRAL FREE HEPATITIS A AND B VACCINATION New York City Department of Health and Mental Hygiene**

#### **Riverside STD Clinic**

160 W. 100th Street, 1st Floor  
Manhattan  
(212) 865-1951

Testing and Hepatitis B vaccinations offered on a first-come, first serve basis Monday-Friday starting at 8:30 a.m. Hepatitis A vaccinations are not available.

#### **Morrisania STD Clinic**

1309 Fulton Avenue, 2nd Floor  
Bronx  
(718) 901-6564

Testing and Hepatitis A and B vaccinations offered on a first-come, first serve basis Monday- Friday starting at 8:30 a.m.

#### **Crown Heights STD Clinic**

1218 Prospect Place  
Brooklyn  
(718) 735-0580

Testing and Hepatitis A and B vaccinations offered on a first-come, first serve basis Monday- Friday starting at 8:30 a.m.

*Bulk quantities of a simple fact card that lists these free clinics and provides basic information on hepatitis A, B and C can be ordered by contacting John Thacker at (212) 427-5120.*

## **WORKSHOPS AND TRAININGS**

#### **ACRIA (AIDS Community Research Initiative of America)**

Workshops for clients & trainings for staff in English and Spanish (free).  
[www.acria.org](http://www.acria.org)  
(212) 924-3934 ext.129

#### **AIDS Institute Regional Training Centers**

[www.upstate.edu/cei/training.shtml](http://www.upstate.edu/cei/training.shtml)  
(518) 474-9866

#### **Harm Reduction Training Institute**

Workshops for staff only, will travel off-site (for a fee).  
[www.harmreduction.org/hrti/index.html](http://www.harmreduction.org/hrti/index.html)  
(212) 213-6376

**HIV Training Institute (HTI)**

New York City Department of Health and Mental Hygiene  
40 Worth Street, Rm. 1602

Hepatitis C and a wide range of HIV-related trainings for service providers (free)

For a course catalogue and application, call: (212) 341-9810 or e-mail:

losborne@health.nyc.gov

**NATAP (National AIDS Treatment Advocacy Project)**

Workshops and forums for clients & trainings for staff in English and Spanish (free).

[www.natap.org](http://www.natap.org)

(212) 219-0106

**New York City Department of Health and Mental Hygiene**

Karen Schlanger – Director, Hepatitis C Program (212) 227-6021

Email: [kschlang@health.nyc.gov](mailto:kschlang@health.nyc.gov)

Workshops in English, will travel off-site (free).

**FREE BROCHURES, EDUCATIONAL MATERIALS, TREATMENT INFORMATION****ACRIA (AIDS Community Research Initiative of America)**

[www.acria.org](http://www.acria.org)

(212) 924-3934 ext. 129

Free brochures, educational materials, and treatment newsletter.

**AIDS Treatment Data Network**

[www.atdn.org/hcv.html](http://www.atdn.org/hcv.html)

(212) 260-8868 ext. 12

Simple fact sheets on Hepatitis C, HIV/HCV Co-infection and Liver Function Tests.

**American Liver Foundation**

[www.liverfoundation.org](http://www.liverfoundation.org)

(800) 465-4837

Newsletter (\$25/yr) and brochure on Hepatitis C (free).

**Centers for Disease Control and Prevention**

[www.cdc.gov/ncidod/diseases/hepatitis/resource/materials.htm](http://www.cdc.gov/ncidod/diseases/hepatitis/resource/materials.htm)

Hepatitis C fact sheets, frequently asked questions, brochures, posters, slides and on-line training, as well as information on prevention and guidelines for treatment.

**Harm Reduction Coalition**

[www.harmreduction.org/pamphlets/brochure\\_exchange.html](http://www.harmreduction.org/pamphlets/brochure_exchange.html)

(212) 213-6376

Simple fact sheets, a curriculum on Hepatitis C, and a brochure on liver health.

**Hepatitis C Support Project (HCV Advocate)**

[www.hcvadvocate.org](http://www.hcvadvocate.org)

Fact sheets, listing of national HCV events and support groups, and a newsletter.

**HIVandHepatitis.com**

[www.HIVandhepatitis.com](http://www.HIVandhepatitis.com)

Regularly updated website which features cutting-edge information on Hepatitis A, B, and C as well as HIV, including reports from recent conferences.

**Immunization Action Coalition**

[www.immunize.org](http://www.immunize.org)

One-page fact sheet on vaccinations for people living with Hepatitis C.  
and

[www.hepprograms.org](http://www.hepprograms.org)

Links to many hepatitis service organizations, including prevention-based programs.

**NATAP (National AIDS Treatment Advocacy Project)**

[www.natap.org](http://www.natap.org)

(212) 219-0106

Co-infection booklet and e-mail update subscription (free).

**National Institutes of Health**

[http://consensus.nih.gov/cons/116/116cdc\\_intro.htm](http://consensus.nih.gov/cons/116/116cdc_intro.htm)

Consensus Development Conference Statement, *Management of Hepatitis C: 2002*.

**New York City Department of Health and Mental Hygiene**

Karen Schlanger – Director, Hepatitis C Program (212) 227-6021

Email: [kschlang@health.nyc.gov](mailto:kschlang@health.nyc.gov)

Free “Living with Hepatitis C” educational video (in English and Spanish)

**New York State AIDS Institute**

Literature available. Email [hivpubs@health.state.ny.us](mailto:hivpubs@health.state.ny.us) to request an order form.

**Veterans Affairs – National Hepatitis C Program**

[www.va.gov/hepatitisc](http://www.va.gov/hepatitisc)

Information on Hepatitis C is available on-line through the Education link, in the Hepatitis C section.

**SUPPORT GROUPS****American Liver Foundation (ALF)**

[www.liverfoundation.org](http://www.liverfoundation.org)

(212) 943-1059 ext.12

Provides referrals for ALF- and non-ALF-affiliated hepatitis support groups.



**H.E.L.P.P. (Hepatitis Education Liver Disease Awareness Patient Support Program)**

Teresa Abreu (718) 352- 7772

General liver disease support group. Meets every 3<sup>rd</sup> Sunday of the month at New York Hospital of Queens. Does not meet during summer months.

**Latino Organization for Liver Awareness**

[www.lola-national.org](http://www.lola-national.org)

(718) 892-8697

Bi-lingual support group in Spanish and English.

**NATAP (National AIDS Treatment Advocacy Project)**

[www.natap.org](http://www.natap.org)

Dawn Schuk (212) 219-0106

Support group for Hepatitis C/HIV co-infected individuals.

**St. Vincent's Hospital**

(212) 535-1850

Support group for people affected by or infected with Hepatitis C.

## Hepatitis C Clinics in New York City Public Hospitals (HHC)

**NOTE: All listed clinics will accept patients regardless of insurance status. Other public hospitals may also have clinics for patients with hepatitis C.**

### Location:

#### **Bellevue Hospital Center**

462 First Avenue  
New York, New York 10016  
General Information number: (212) 562-4141

#### **East New York Diagnostic & Treatment Center**

2094 Pitkin Avenue  
Brooklyn, NY 11207  
General Information number: (718) 240-0400

#### **Elmhurst Hospital Center**

79-01 Broadway  
Elmhurst, NY 11373  
General Information number: (718) 334-4000

#### **Harlem Hospital Center**

506 Lenox Avenue  
New York, NY 10037  
General Information number: (212) 939-1000

#### **Kings County Hospital Center**

470 Clarkson Avenue  
Brooklyn, NY 11203  
General Information: (718) 270-1112

#### **Metropolitan Hospital Center**

1901 First Avenue  
New York, NY 10029  
General Information number: (212) 423-6262

### Clinic Details:

Friday mornings 9am-12pm  
Call (212) 562-8625 for info  
Must have Bellevue doctor referral  
Call (212) 562-3291 for referral appt.

Tuesdays & Thursdays 5-8pm

Thursdays  
Go to walk-in diagnostic (8am-8pm)  
to get a referral & appointment

Every Thursday morning  
Call (212) 939-2910 to  
make an appointment

Call for appointment

Friday afternoons 1pm  
Call (212) 423-6881 for info  
Need a doctor's referral  
Call (212) 423-6144 for referral appt.

# **Understanding Hepatitis C: A Training for Service Providers**

## **Pre-Training Questionnaire**

**Name:** \_\_\_\_\_

*Please circle True or False, or fill in the blank for each question.*

1. Some people infected with hepatitis C spontaneously clear the virus from their body. T    F
2. Most persons with chronic hepatitis C develop serious liver damage (serious liver damage = cirrhosis of the liver or liver cancer). T    F
3. Hepatitis C and hepatitis A are transmitted in the same ways. T    F
4. Approximately 90% of injection drug users become infected with hepatitis C within five years of initiating needle use. T    F
5. A single liver function test (LFT) can measure the degree of liver damage. T    F
6. Persons with hepatitis C genotype 2 respond more favorably to treatment than persons with genotype 1. T    F
7. HIV infection accelerates the progression of HCV disease. T    F
8. People with mental illness including depression can be successfully treated for HCV disease. T    F
9. A positive EIA test always means that the person is currently infected with HCV. T    F
10. List 2 important counseling messages for persons who are HCV positive about preventing transmission to others:

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11. List 3 ways a person with hepatitis C can care for their liver:

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**Understanding Hepatitis C: A Training for Service Providers**  
**Post-Training Questionnaire**

**Name:** \_\_\_\_\_

*Please circle True or False, or fill in the blank for each question.*

1. Some people infected with hepatitis C can spontaneously clear the virus from their body. T    F
2. Most persons with chronic hepatitis C develop serious liver damage (serious liver damage = cirrhosis of the liver or liver cancer). T    F
3. Hepatitis C and hepatitis A are transmitted in the same ways. T    F
4. Approximately 90% of injection drug users become infected with hepatitis C within five years of initiating needle use. T    F
5. A single liver function test (LFT) can measure the degree of liver damage. T    F
6. Persons with hepatitis C genotype 2 respond more favorably to treatment than persons with genotype 1. T    F
7. HIV infection accelerates the progression of HCV disease. T    F
8. People with mental illness, including depression, can be successfully treated for HCV disease. T    F
9. A positive EIA test always means that the person is currently infected with HCV. T    F
10. List 2 important counseling messages for persons who are HCV positive about preventing transmission to others:

\_\_\_\_\_

\_\_\_\_\_

11. List 3 ways a person with hepatitis C can care for their liver:  
\_\_\_\_\_  
\_\_\_\_\_

# Understanding Hepatitis C: A Training for Service Providers

## Training Evaluation

Date: \_\_\_\_\_

Trainer Name(s): \_\_\_\_\_

Using the scale below, please rate how strongly you agree or disagree with each statement.

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

The training objectives were clear. \_\_\_\_\_

The information was presented in a way that was easy to understand. \_\_\_\_\_

I know about who is at risk for hepatitis C and how to prevent it. \_\_\_\_\_

It will be easy to incorporate HCV counseling messages into my work. \_\_\_\_\_

The trainers were knowledgeable about hepatitis C. \_\_\_\_\_

The participant manual was clear and helpful. \_\_\_\_\_

There was enough time to cover the information. \_\_\_\_\_

There was enough time to ask questions. \_\_\_\_\_

There was a good balance of information and skill building activity. \_\_\_\_\_

I will be able to use this information in my work. \_\_\_\_\_

I would recommend this training to other people. \_\_\_\_\_

What was the most useful thing you learned today?

What would you change about the training?

If you're a service provider, what kind of work do you do?

Any other comments or suggestions?



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