HEALING HANDS

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Hepatitis C Update

A major public health problem in the United States and worldwide, the hepatitis C virus (HCV) is the leading cause of death from liver disease and the principal indication for liver transplantation in the United States (Ghany, Strader, Thomas, & Seeff, 2009). Approximately 3.2 million persons are infected with HCV, making it the most common chronic bloodborne infection in the US. Infection is most prevalent among baby boomers—those born from 1945 to 1965—the majority of whom were likely infected during the 1970s and 1980s when rates of infection were highest. Hepatitis C progresses slowly and usually is asymptomatic until the advanced stage, so chronic hepatitis C is under recognized, especially in the outpatient setting (Centers for Disease Control and Prevention [CDC], 2012a; Clarke, 2013).

A review of the literature to determine the prevalence of HCV infection in the US found that in studies involving homeless persons, the prevalence of HCV ranged from 22.2 to 52.5 percent; two studies that involved homeless veterans found prevalence rates of 41 and 44 percent. These findings suggest a conservative estimated number of HCV cases in the homeless population ranging from 142,760 to 337,610. These data highlight the burden of HCV infection in people who are experiencing homelessness and underscore the importance of education and prevention before they become infected or before long-term complications develop if already infected (Chak, Talal, Sherman, Schiff, & Saab, 2011).

EPIDEMIOLOGY

Transmission. HCV is spread primarily through contact with blood, when blood from a person infected with the virus enters the body of someone who is not. Currently, most people become infected with HCV by sharing needles, syringes, or other equipment used to inject drugs. HCV transmission also occurs through needlestick injuries in health care settings, from mother to child at the time of birth and—less commonly—through sexual contact with a person infected with the HCV or sharing personal care items that may have come in contact with another person's blood, such as razors or toothbrushes (CDC, 2012b; United States Department of Health and Human Services [HHS], 2011).

Since the 1990s, the development of serologic screening tests and other prevention strategies has contributed to large declines in HCV transmission. Despite these advances, approximately 20,000 persons are newly infected with HCV in the US annually (HHS, 2011); 75 to 85 percent of these infections will become chronic (CDC, 2012c). There is no vaccine to prevent hepatitis C, although research into the development of a vaccine is underway (CDC, 2012a).

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Prevalence. About 1.5 percent of the US population has HCV infection; however, the prevalence is much higher in certain groups:

- 3.25 percent among baby boomers
- 15 – 40 percent among incarcerated persons
- an estimated 70 percent among injection drug users

Other populations disproportionately affected by viral hepatitis include persons who are homeless, HIV (human immunodeficiency virus)-infected persons, and MSM (men who have sex with men). Women are less likely to acquire infection than men. Infection is twice as prevalent among African Americans when compared with the general US population (Clarke, 2013; HHS, 2011).

Because HIV, hepatitis B (HBV), and HCV share common modes of transmission, one-third of HIV-infected persons are coinfected with HBV or HCV. HIV infection accelerates the progression of viral hepatitis, so those who are coinfected experience greater liver-related health problems than non-HIV-infected persons (HHS, 2011).

Hepatitis C among HCH clients. A study of homeless adults using eight health care for the homeless (HCH) clinics nationally found that the overall prevalence of HCV-antibody positivity was 31 percent, including 70 percent among injection drug users and 15.5 percent among reported non-injectors. The majority of the participants—53.3 percent—were unaware of their positivity status (Strehlow et al., 2012).

Another study of HCV infection among homeless adults in the Skid Row area of downtown Los Angeles revealed that 26.7 percent of participants tested HCV-positive and 4.0 percent tested HIV-positive. Despite this high prevalence of HCV infection, about half of the cases—46.1 percent—were unaware of their HCV positivity and few had ever received HCV-related treatment. Injection drug use was the strongest predictor of HCV infection; other predictors included older age, less education, prison history, and multiple tattoos (Gelberg et al., 2012).

Shifting demographics. According to **Valery M. Shuman, ATR-BC, LCPC,** associate director of the Midwest Harm Reduction

Institute (MHRI) in Chicago: "Injection drug use and the resultant risks of contracting hepatitis C are increasing among younger suburban populations, and we are seeing a shift in the demographic of opioid users. These younger users are becoming addicted to prescription opioids, then turning to the cheaper, more accessible, and more potent high of heroin, and they typically lack peers to teach them safer injecting practices."

Shuman's field observations are backed up by University of Cincinnati research, which found that hepatitis C is striking white suburbanites in their 20s due to an apparent resurgence of heroin use and indiscriminate needle-sharing. Researchers urged clinicians to recognize this changing pattern of disease and to consider screening more young people for hepatitis C (Morse, 2013).

MORBIDITY & MORTALITY

Viral hepatitis infection causes substantial morbidity and mortality. Because viral hepatitis can persist for decades without symptoms, 65 – 75 percent of infected Americans do not know of their infection status and are not receiving care and treatment. Without treatment, 15 – 40 percent of persons living with viral hepatitis will develop liver cirrhosis or experience other conditions that affect the liver, including hepatocellular carcinoma (HCC). Over the last several decades, rates of liver cancer have tripled with at least half of these cases attributable to HCV. Researchers expect that in the coming decade over 150,000 Americans will die from viral-hepatitis-associated liver cancer or end-stage liver disease as infected persons grow older and as their disease progresses (CDC, 2012c; Clarke, 2013; HHS, 2011). Since 2007, deaths related to HCV and its complications have exceeded deaths due to HIV/AIDS (Highleyman, 2011).

A NEW HCV TESTING STRATEGY

Given that many Americans with HCV do not know they have the infection and many are diagnosed late in the disease course, the CDC and other groups began questioning the adequacy of traditional risk factor-based screening for HCV. In 2012, the CDC issued a new recommendation for one-time screening for HCV in all individuals born between 1945 and 1965, and reiterated the need to continue HCV screening in other groups based on known risk factors. Identifying those with HCV infection is one strategy for prevention and control of HCV infection and HCV-related chronic disease. By testing, unrecognized infections are identified, transmission is limited, and HCV-infected persons are helped to get treatment before the onset of severe disease. The CDC estimated that the new recommendation for birth cohort screening for HCV in the primary care setting is cost effective and will save lives (CDC, 2012c; Clarke, 2013).

The CDC launched *Know More Hepatitis*, a national education campaign, to raise awareness, support the new screening guidelines, increase testing for hepatitis C, and link those identified with chronic infection to care. An assessment tool and downloadable fact sheets and posters are online at www.cdc.gov/knowmorehepatitis.

RISK FACTORS FOR HEPATITIS C

While injection drug use is the major risk factor for transmission, some sexual practices might increase the risk of HCV transmission, including anal receptive intercourse, unprotected intercourse, intercourse with multiple partners, and intercourse with a partner known to have HCV, HIV, or another sexually transmitted infection (Clarke, 2013). The CDC recommends routine HCV screening for these high-risk individuals (CDC, 2012a):

- persons born from 1945 to 1965
- current or former injection drug users, including those who injected only once many years ago
- recipients of clotting factor concentrates made before 1987
- recipients of blood transfusions or solid organ transplants before July 1992
- long-term hemodialysis patients
- persons with known exposures to HCV, such as
  - ❑ health care workers after needlesticks involving HCV-positive blood
  - ❑ recipients of blood or organs from a donor who later tested HCV-positive
- persons with HIV infection
- children born to HCV-positive mothers

Family physician **Eowyn A. Rieke, MD, MPH,** at Outside In, Portland, Oregon, says, "It is important to offer every at-risk patient an opportunity to be tested for HCV—regardless of the treatment options—and to explain what the testing means. Clinicians must provide the information and opportunity, then the patient can decide what to do."

BLOOD TESTS DETECT HCV INFECTION

Testing for HCV is readily available, minimally invasive, reliable, and cost effective (2012c). To test for HCV infection, several types of blood tests can be performed, including (CDC, 2012a)

- screening tests for antibody to HCV (anti-HCV);
- recombinant immunoblot assay (RIBA);
- qualitative tests to detect presence or absence of virus (HCV RNA polymerase chain reaction [PCR]); and
- quantitative tests to detect amount (titer) of virus (HCV RNA PCR).

COUNSELING PATIENTS WITH HEPATITIS C

Individuals testing positive for both HCV antibody and HCV RNA should be told that they have HCV infection and need further medical evaluation for liver disease, ongoing medical monitoring, and possible treatment. Clinicians should evaluate the person's level of alcohol use and provide a brief alcohol intervention, if clinically indicated. (Screening and intervention tools to help persons adopt healthy behaviors regarding alcohol use are in the toolkit on page 7). Clinicians should also provide information about (CDC, 2012c)

- HCV infection;
- risk factors for disease progression;
- preventive self-care and treatment options; and
- how to prevent transmission of HCV to others.

Rieke adds, "I advise patients that maintaining a healthy weight is helpful in avoiding fatty liver, which—along with hepatitis C and alcohol abuse—is another cause of cirrhosis of the liver."

Perceptions of HCV & treatment. "Know the word on the street," says **Maya Doe-Simkins, MPH,** a training and technical assistance manager who works with MHRI. "Pair the client with a peer who can help educate the person about their disease, treatment options, and the risks and benefits of treatment. There are many misconceptions,

half-truths, and outdated information about hepatitis C and its treatment. Given the number of experimental treatments that people have heard of over the years—especially for treating HIV—many fear that they are being recruited as test subjects. Clients may fear becoming suicidal, that the medication will cause body hair loss, or that relapse is likely. There is fear that combining HCV treatment with medication for other chronic conditions will cause liver cancer. A provider may have clinically appropriate reasons for not putting a client on therapy, but the client may misinterpret the decision as discriminatory. Be clear and plain spoken about why this particular patient is unable to receive treatment."

Counseling messages for patients with HCV infection are summarized in **Table 1**.

PREVENTION: EFFECTIVE APPROACHES TO COMPLEX ISSUES

Given that homeless people have higher rates of HIV, hepatitis C, and TB, harm reduction measures, including syringe exchange programs and free condom distribution, could help prevent HIV and hepatitis C (Highleyman, 2012). In addition to providing access to sterile injecting equipment, HCH projects can provide people who are experiencing homelessness with hygiene products that might come into contact with blood, such as toothbrushes, razors, and nail clippers (Robertshaw, 2012).

"We know that over 70 percent of youth are sharing syringes," says Rieke, "even when they know that there is a hepatitis C positive person in their group. People share needles for a variety of reasons. Often these youth feel that they don't have a future or they may exchange clean needles for drugs."

Harm reduction. The Midwest Harm Reduction Institute provides training, technical assistance, and consultation to help clinician providers be more effective in working with participants who have hepatitis C. "We train clinical providers how to talk to people about the way the patients themselves want and are able to change their behavior and identify areas where this aligns with clinical priorities," says Shuman. "We base our work upon a harm reduction philosophy and use motivational interviewing techniques. We work with clinicians on their beliefs and attitudes about sex and drug use so they can work in a nonjudgmental way."

TABLE 1. Counseling patients with hepatitis C

- Do not donate blood, semen, or organs.
- Do not share razors or toothbrushes.
- Do not start new medications without physician approval.
- Do not use NSAIDs in the presence of advanced liver disease.
- Limit acetaminophen to 2 g per day.
- Practice monogamy with or without condoms.*
- Stop use of injection drugs & needle sharing.
- Stop use of alcohol completely.
- Stop use of marijuana completely.
- Undergo vaccination against hepatitis A & B, *Streptococcus pneumoniæ* & influenza.

NSAIDs = nonsteroidal anti-inflammatory drugs

* Condom use is not necessary if in a long-term monogamous relationship with a spouse or partner without infection, other than avoiding anal-receptive intercourse & intercourse during menses.

Source: Clarke, 2013

"Harm reduction most certainly plays a role in preventing hepatitis C transmission," Shuman says. "Our training and consultation with clinicians on approaches to working with drug users can have a significant effect on treatment retention and success." MHRI provides training and technical assistance aimed at increasing the understanding of the harm reduction philosophy; building the skills necessary to implement harm reduction strategies; strengthening harm reduction leadership across a diversity of disciplines and communities; and developing an awareness of the attitudes that contribute to discrimination against drug users and other marginalized groups.

"Our goal is to have a broad impact on the transmission rate," says Shuman, "and to do that, we work to train all staff who interact with our participants so that everyone can have these conversations and reinforce messages. Often participants will develop a rapport with a particular staff member, so we work to make use of these relationships to help participants stay in treatment and to implement prevention strategies."

Harm reduction housing. Clinicians may be hesitant to start treatment before the HCV patient is housed. Doe-Simkins says, "Being housed helps, but never refuse to offer medical treatment based on housing status; make the decision on an individual basis. Regard this as an opportunity to be creative and flexible. Ask the client 'Do you think you can you do it? Can you make appointments? What if appointments came to you or were offered on a walk-in basis? Do you have mental health concerns that you'd like to address first?'"

Similar to the Housing First model, harm reduction housing is designed to maximize access to housing and provide the support necessary to minimize the loss of housing for people who use substances and engage in other high-risk behaviors (MHRI, n.d.). Harm reduction housing models vary based on location, the type of lease involved, the amount of support provided by the program, and the kind of people served by the program. Regardless of the model, Shuman says, "Success is defined as maintaining housing, rather than behavior change related to substance use or other risky behavior." Supportive services are available to residents in order to assist them in meeting their goals (e.g., physical, mental health, employment), and using these services is voluntary.

TREATMENT

While testing is expected to lead to more infected persons being identified, to improve health outcomes those who test positive for HCV must be provided with appropriate care and treatment, a critical component of the strategy to reduce the burden of disease (CDC, 2012c). Fortunately, treatments for hepatitis C can reduce morbidity and are cost-effective. Economic studies of therapy have yielded estimates of cost-saving to $120,000 per quality-adjusted life year gained for HCV therapy (HHS, 2011).

Current antiviral treatment regimens for chronic HCV infection are effective at reducing viral load to non-detectable (Brown, 2012). Treatment is neither always successful nor well tolerated, however. Conventional pharmacotherapy for managing chronic hepatitis C consists of pegylated interferon plus ribavirin, which is associated with adverse side effects, causing 10 – 14 percent of patients to not complete treatment. Eighty percent of patients experience flu-like symptoms (i.e., fever, headache, myalgia); 40 percent develop clinically significant depression and irritability (Clarke, 2013).

Pretreatment assessments. Not all clients are good candidates for antiviral therapy. For example, current guidelines recommend that all patients with chronic HCV be evaluated for psychiatric disorders—particularly depression and suicide risk—since uncontrolled depression or active suicidal ideation is an absolute contraindication to interferon-based therapies. Patients should also be evaluated for substance use disorders since alcohol and illicit drug use may affect HCV treatment adherence and response to therapy (US Department of Veterans Affairs, 2012).

Laboratory testing. Genetic testing for the hepatitis C genotype can help direct treatment choices (Hepatitis C, 2011). In 2011, the Food and Drug Administration approved the protease inhibitors telaprevir and boceprevir for the treatment of HCV genotype 1. Adding one of these two protease inhibitors to the conventional therapy of interferon and ribavirin is shown to increase rates of sustained virologic response (SVR), which is defined as undetectable HCV RNA 24 weeks after treatment completion. Achieving viral clearance is predictive of a reduction in morbidity and mortality, particularly from HCC (CDC, 2012c; Clarke, 2013). Even if treatment does not remove the virus, it can reduce the chance of severe liver disease (Hepatitis C, 2011).

"Six genotypes exist," says **Mary L. Tornabene, APN, CNP,** at Heartland Health Outreach (HHO), in Chicago, "and genotype 1—the most common type—is also the hardest to treat. Genotype 1 patients are using the newer pharmaceutical treatment, and at HHO, we are seeing good results consistent with the data."

CARE IN THE HCH SETTING

Doe-Simkins recommends training HCH staff to better understand HCV infection and prevention. "Sometimes, the immediate assumption of providers is that opioid users are incapable of being adherent with their HCV treatment regimen. Current drug users are capable of being adherent with their medications and successfully treated," she says. "Consider the participant without preconceptions. Opioid-dependent people are great at adherence. The question is can adherence to an opioid habit be transferred to adherence to prescribed medications for HCV treatment? It's an issue to be teased out between the patient and their provider. Coordinate care with other providers, and ask if the client is known to be adherent with other medications."

TABLE 2. Monitoring patients with hepatitis C in the primary care setting

Clinical
- Alcohol, drug abstinence
- Depression, especially with interferon
- Decompensated cirrhosis (jaundice, ascites, variceal bleeding, encephalopathy)
- Transmission risks

Laboratory
- Alanine aminotransferase
- Platelet count
- Prothrombin time
- Renal function in ascites
- Serum albumin
- Total bilirubin

Other
- EGD for varices at diagnosis of cirrhosis
- US for HCC every six to 12 months in cirrhosis

EGD = esophagogastroduodenoscopy; US = ultrasound; HCC = hepatocellular carcinoma

Source: Clarke, 2013

Primary care clinicians can provide much of the care necessary for initial evaluation and management of persons with HCV infection, but antiviral treatment is complex and collaboration between primary care providers and specialists facilitates delivery of optimal care (CDC, 2012c). Tips for monitoring patients with hepatitis C in the primary care setting are summarized in **Table 2**; **Table 3** advises primary care providers when to make a subspecialist referral.

Community-based treatment. In 2011, the San Francisco Department of Public Health (SFDPH) received a grant to establish a weekly HCV support and education group for the clients of its Housing and Urban Health Clinic (HUHC), which serves patients living in supportive housing. In addition to educating patients about HCV infection and treatment options, the group allowed researchers to gather recommendations to guide next steps in developing services to optimize success of community-based HCV treatment for patients living in San Francisco's Tenderloin neighborhood. The curriculum for the group covered topics including stress management, harm reduction, nutrition, and mindfulness-based meditation, and peer advocates worked with the group to share the patient's experience of treatment, i.e., "what it's really like."

TABLE 3. Indications for specialist referral
- Assistance with diagnosis
- Candidate for HCV pharmacotherapy
- Coinfection with hepatitis B or HIV
- Comorbid liver disease
- Complications of disease or treatment
- Liver biopsy
- Uncertain prognosis

HCV = hepatitis C virus
HIV = human immunodeficiency virus

Source: Clarke, 2013

A physician with HUHC and one of the group's facilitators, **Kelly Eagen, MD,** says, "Support and education groups provide a safe place, and members share so much. Being in a group with others who are going through what you are experiencing helps normalize the disease process." The patient needs to be ready to engage in treatment, which lasts six to 12 months. Interviews with program participants revealed that before beginning treatment, participants wanted to achieve stability with housing, substance use, and relationships. All participants expressed an interest in attending a support group, and when asked what is the most important thing to help succeed in HCV treatment, participants stressed peer support.

One of HUHC's clients, **Clarence V.**, says that before being diagnosed with hepatitis C, he did not know about the disease nor does he know how or when he became infected. Clarence lives in supportive housing and is doing well, although he experienced chills and aches early on in treatment. Clarence advises others with hepatitis C: "Learn about the disease, how it is spread, and what treatment is available. I have grandkids, so I'm concerned that I don't spread the disease to them." He says he especially appreciates **Jocelyn Poulin, RN,** co-facilitator of the clinic's HCV group, who regularly checks on him and his progress. "It's good knowing that someone is concerned," Clarence says.

Credit: Outside In

Eowyn A. Rieke, MD, MPH, Outside In, Portland, Oregon

Table 4 contains an outline of what the SFDPH researchers found to be key in a primary care-based treatment program.

BARRIERS TO TREATMENT

Access to care for homeless persons with HCV varies. In Portland, Oregon, for example, Rieke explains that there is little access to treatment given that most homeless individuals are uninsured. The state's health care plan for low-income residents—Oregon Health Plan—only covers treatment for the very sickest, those with cirrhosis or other severe complications. "The irony is," Rieke says, "that the best way for uninsured patients to get medical care for their HCV infection is to go to state prison for a year, where there are resources for treatment." Rieke does not provide treatment for hepatitis C infection in the primary care setting but says that may change once the treatment moves to an all-oral regimen. Prescription assistance would also help increase care access and lower the risk of complications.

High cost of untreated disease. Of the untreated HCV infection among urban homeless adults, researcher **Lillian Gelberg, MD, MSPH,** explains: "The costs of their untreated hepatitis C may start escalating soon, as many are approaching 20 years of infection, which is the point at which we see escalating risk for liver cirrhosis and end-stage liver disease, requiring expensive health services utilization and liver transplantation" (Rivero, 2012).

TABLE 4. Fundamental elements of a primary care-based treatment program

- Supportive clinic administration & staff
- Treating provider
  - ❑ IAS-USA Viral Hepatitis Management trainings
  - ❑ Local mentor experienced in HCV treatment
- Local consultant (hepatologist or infectious disease specialist)
  - ❑ Complex cases
  - ❑ Adverse reactions & complications
- RN Champion
  - ❑ Weekly medication dispensing
  - ❑ Regular phone or in-person check-ins
- Psychiatric partner for pre-treatment evaluation & ongoing care as needed
- Social work evaluation
  - ❑ Housing
  - ❑ Insurance
  - ❑ Food access
  - ❑ Support systems
  - ❑ Transportation
- Local support groups, peer advocates, substance abuse counseling & harm reduction group

Source: Eagen & Starbird, 2013

INTERFERON-FREE THERAPY MAY BECOME REALITY

A clinical trial published in the *New England Journal of Medicine* suggests that 12 weeks of therapy with a combination of a protease inhibitor, a nonnucleoside polymerase inhibitor, and ribavirin may be effective for treatment of HCV genotype 1 infection (Poordad et al., 2013). As we go to press, about 20 HCV treatments are in clinical trial, and treatment recommendations will change as new medications become available (CDC, 2012c).

Tornabene says, "We are on the cusp of moving to an orally administered, short-time period treatment regimen that will be tolerable and more effective. HCH clinicians should join the cause. Homeless clients receive better care in HCH projects by having integrated, multidisciplinary teams providing primary care and behavioral health services. Our clinicians are experienced in motivational interviewing and practice a harm reduction philosophy. This model is preferable to what our clients may experience at a specialty clinic. It's a lot of work, but the rewards of a good outcome are worth it." ■

PRACTICE PEARLS: COMBATTING THE SILENT EPIDEMIC OF VIRAL HEPATITIS

"Trends and patterns of how people get HCV infection are complex and dynamic. Involve patients in any harm reduction training to be sure that content is relevant and to provide insight into current trends."

—Maya Doe-Simkins, MPH, Training & Technical Assistance Manager
Midwest Harm Reduction Institute, Chicago

"Hepatitis C can be spread from routinely used injection equipment—including water, containers, and the materials used to mix and filter drugs—not just syringes. Since HCV can live for up to three weeks under favorable conditions, prevention messages should stress the importance of eliminating all equipment-sharing practices."

—Eowyn A. Rieke, MD, MPH
Outside In, Portland, Oregon

"Take advantage of the pharmaceutical manufacturers' patient assistance programs to get your patients' viral hepatitis therapies."

—Kelly Eagen, MD, Housing & Urban Health Clinic
San Francisco Department of Public Health

TOOLKIT OF PRACTICAL HEPATITIS C RESOURCES

Guidelines & Practice Recommendations

American Academy of Family Physicians | Hepatitis C | AAFP *CME Bulletin* | January 2013	www.aafp.org/online/etc/medialib/aafp_org/documents/cme/selfstudy/bulletins/hepc.Par.0001.File.dat/HepatitisC.pdf
American Association for the Study of Liver Disease	www.aasld.org
Centers for Disease Control & Prevention	www.cdc.gov/hepatitis/hcv/GuidelinesC.htm
CDC Know More Hepatitis	www.cdc.gov/knowmorehepatitis/
CDC Recommendations: One-Time HCV Testing & Linkage to Care for Persons Born 1945 – 1965	www.medscape.org/viewarticle/769593
Guidelines for Viral Hepatitis Surveillance & Case Management	www.cdc.gov/hepatitis/Statistics/SurveillanceGuidelines.htm
Hepatitis C: Guidelines & Best Practices for Health Care Providers | US Department of Veterans Affairs	www.hepatitis.va.gov/provider/guidelines/index.asp
Integrated Prevention Services for HIV Infection, Viral Hepatitis, STDs & TB for Persons Who Use Drugs Illicitly: Summary Guidance from CDC & the US DHHS	www.cdc.gov/mmwr/preview/mmwrhtml/rr6105a1.htm
Recommendations for the Identification of Chronic HCV Infection Among Persons Born During 1945 – 1965 | CDC *MMWR* | 2012	www.cdc.gov/mmwr/preview/mmwrhtml/rr6104a1.htm
Reference for Interpretation of HCV Test Results	www.cdc.gov/hepatitis/HCV/PDFs/hcv_graph.pdf
Screening & Counseling to Reduce Alcohol Misuse: Recommendations from the US Preventive Services Task Force | 2004	www.uspreventiveservicestaskforce.org/uspstf/uspsdrin.htm
Managing adverse effects & complications in completing treatment for hepatitis C virus infection | *Topics in Antiviral Medicine* | October/November 2012	www.iasusa.org/tam/octobernovember-2012

Resources for harm reduction & behavioral interventions

Ask, Screen, Intervene | Online training from the National Network of STD HIV Prevention Training Center	http://depts.washington.edu/nnptc/online_training/asi/
The ASSIST Project: Alcohol, Smoking & Substance Involvement Screening Test | WHO | 2008	www.who.int/substance_abuse/activities/assist/en/index.html
Getting Off Right: A Safety Manual for Injection Drug Users	http://harmreduction.org/drugs-and-drug-users/drug-tools/getting-off-right/
Harm Reduction Coalition	http://harmreduction.org
Harm Reduction: Pragmatic Strategies for Managing High-Risk Behaviors, Second Edition, Guilford Press | 2012	Chapter 1: Current Status, Historical Highlights & Basic Principles of Harm Reduction | https://catalyst.uw.edu/workspace/collinss/9542/243860
Helping Patients Who Drink Too Much: A Clinician's Guide | NIAAA | Updated 2005	http://pubs.niaaa.nih.gov/publications/Practitioner/CliniciansGuide2005/guide.pdf
Midwest Harm Reduction Institute	www.heartlandalliance.org/MHRI
Motivational Interviewing	www.motivationalinterview.org
Recommended Best Practices for Effective Syringe Exchange Programs in the United States: Results of a Consensus Meeting | 2009	www.cdph.ca.gov/programs/Documents/US_SEP_recs_final_report.pdf

Resources on screening

Hepatitis C Screening: An Urgent Priority	www.knowhepatitis.org/hepcscreening

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Hepatitis C Screening & Diagnosis Algorithm	www.checkforhepc.com/sites/checkforhepc.com/files/documents/HCV_Screening_Algorithm.pdf
Primary Care Management of Patients	www.checkforhepc.com/sites/checkforhepc.com/files/documents/Primary_Care_Management_of_Patients_trifold.pdf

Patient education

Hepatitis C Information for the Public | CDC	www.cdc.gov/hepatitis/C/index.htm
Hepatitis C Tip Sheet	www.checkforhepc.com/sites/checkforhepc.com/files/documents/HepC_Tipsheet.pdf
Hepatitis Risk Assessment Resources | Buttons, poster, e-card & more	www.cdc.gov/hepatitis/RiskAssessment/HRAResources.htm
OASIS Clinic | Organization to Achieve Solutions in Substance Abuse | Free education materials, books & videos	www.oasiscliniconline.org/8_BOOKS_VIDEOS.html
What I need to know about Hepatitis C | National Digestive Diseases Information Clearinghouse	http://digestive.niddk.nih.gov/ddiseases/pubs/hepc_ez/index.aspx?control=Tools

Training & CME Opportunities

CDC Recommendations: One-Time HCV Testing & Linkage to Care for Persons Born 1945 – 1965	www.medscape.org/viewarticle/769593
HIVandHepatitis.com | Library of CME Programs	http://hhdev.rockgarden.net/home1706522085/content/library-of-cme-programs
KnowHepatitis.org | Webinars & training videos	www.knowhepatitis.org/hepctherapy
National Institute on Alcohol Abuse & Alcoholism Clinician's Guide Online Training | HHS/NIH | CME/CE credit available	www.niaaa.nih.gov/publications/clinical-guides-and-manuals/niaaa-clinicians-guide-online-training

Managing Occupational Exposure to HCV

Guide to Infection Prevention in Outpatient Settings | CDC	www.cdc.gov/HAI/pdfs/guidelines/Ambulatory-Care-04-2011.pdf
Needle Safety | American Nurses Association	www.nursingworld.org/safeneedles
Needlestick Safety & Prevention Act | Department of Labor, OSHA's Bloodborne Pathogens Standard	www.osha.gov/needlesticks/needlefaq.html
Needlestick Guidelines | 2012	http://emedicine.medscape.com/article/784812-overview

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