Increasing Hepatitis C Screening and Linkage to Care in the Community

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Learning Objectives

- Review data supporting community-based HCV screening, and strategies for integration with publicly funded programs.


- Discuss integral role of HCV bridge counseling or patient navigation in assisting underserved population with chronic HCV infections.
Figure 4.1. Reported number of acute hepatitis C cases — United States, 2000–2015

Source: CDC, National Notifiable Diseases Surveillance System (NNDSS)
The Changing Face of HCV in US

Estimated 3 - 4 million infected persons in the U.S

Adapted from Davis GL et al Gastroenterol 2010;138:513-521
Annual Deaths Associated with Hepatitis C Infection

Among persons with chronic hepatitis C infection and no liver cirrhosis, the hepatitis-C related deaths peak in 2030 to 2035.

Hepatitis C Care Continuum

Interventions along Care Continuum

Populations
- People living with chronic viral hepatitis
- Diagnosed by serology
- Visited provider for hepatitis care, assessment of treatment eligibility (not always specialist care)
- Initiated treatment
- Completed HCV treatment or maintained on HBV treatment
- Cure (HCV) or viral suppression (HBV)

Stages of care continuum
- Testing
- Linkage to care
- Treatment uptake
- Treatment adherence
- Viral suppression

Operational interventions to optimise engagement and retention along care continuum
- Improved access to testing
- Education about testing
- Prompts to increase testing by providers
- Facilitated referral to specialist
- Programmes to help patients meet criteria for treatment eligibility
- Co-located testing and care services
- Education about treatment
- Psychological therapy and counselling for comorbid patients
- Resources for primary care providers to manage treatment
- Coordinated treatment for hepatitis and other comorbidities
- Education about treatment
- Directly observed therapy
- Coordinated treatment for hepatitis and other comorbidities
- Directly observed therapy

The Lancet Infectious Diseases 2016 16, 1409-1422 DOI: (10.1016/S1473-3099(16)30208-0)
Hepatitis C Testing: Strategies in the Community
The Centers for Disease Control and Prevention recommends routine hepatitis C testing among which of the following groups?

1. Incarcerated persons
2. Men who have sex with men
3. Pregnant women
4. None of the above
CDC HCV Testing Recommendations

- Adults born from 1945 through 1965 should be tested once

- HCV testing is recommended for those who:
  - Currently injecting drugs
  - Ever injected drugs, including those who injected once or a few times many years ago
  - Have certain medical conditions, including persons who:
    - received clotting factor concentrates produced before 1987
    - were ever on long-term hemodialysis
    - have persistently abnormal alanine aminotransferase levels (ALT)
    - have HIV infection
    - Were prior recipients of transfusions or organ transplants

https://www.cdc.gov/hepatitis/hcv/guidelinesc.htm
CDC HCV Testing Recommendations

- **HCV-testing based on a recognized exposure is recommended:**
  - Healthcare, emergency medical, and public safety workers after needle sticks, sharps, or mucosal exposures to HCV-positive blood
  - Children born to HCV-positive women

- **Persons for whom routine HCV testing is of uncertain need:**
  - Recipients of transplanted tissue
  - Intranasal cocaine and other non-injecting illegal drug users
  - Persons with a history of tattooing or body piercing
  - Persons with a history of multiple sex partners or STDs
  - Long-term steady sex partners of HCV-positive persons

https://www.cdc.gov/hepatitis/hcv/guidelinesc.htm
### Risk Exposures

- Persons on long-term hemodialysis (ever)
- Persons with percutaneous/parenteral exposures in an unregulated setting
- Healthcare, emergency medical, and public safety workers after needle-stick, sharps, or mucosal exposures to HCV-infected blood
- Children born to HCV-infected women
- Prior recipients of transfusions or organ transplants, including persons who:
  - Were notified that they received blood from a donor who later tested positive for HCV
  - Received a transfusion of blood or blood components, or underwent an organ transplant before July 1992
  - Received clotting factor concentrates produced before 1987
- Persons who were ever incarcerated

### Other Conditions and Circumstances

- HIV infection
- Sexually-active persons about to start pre-exposure prophylaxis (PreP) for HIV
- Unexplained chronic liver disease and/or chronic hepatitis, including elevated alanine aminotransferase (ALT) levels
- Solid organ donors (deceased and living)
# HCV Testing for Persons With Ongoing Risk Factors

## Recommendation for HCV Testing for Persons With Ongoing Risk Factors

| RECOMMENDED                                                                                                                                                                                                 | RATING  
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------
| Annual HCV testing is recommended for persons who inject drugs and for HIV-infected men who have unprotected sex with men. Periodic testing should be offered to other persons with ongoing risk factors for HCV exposure. | IIa, C  |
Question #2

Screening for hepatitis C programs have been reported from various community settings, with the exception of?

1. Federally qualified healthcare centers
2. Tattoo parlors
3. Homeless shelters
4. County detention centers or jails
CDC Hepatitis Testing and Linkage to Care Initiative: Durham County, North Carolina

- To conduct 2000 HCV tests to identify chronic HCV-infected persons not previously aware of their infection
  - Targeted screening - STD clinic, homeless clinic, community sites including residential substance abuse recovery program
  - Universal screening – Detention center

- To link a minimum 75% of persons who test positive for HCV RNA to care, treatment, and preventive services.
  - HCV Bridge Counselor (patient navigator)
  - Collaborations with HCV care providers
  - On-site HCV assessment clinics
## HCV Testing Results, Durham County, 2012-2014

<table>
<thead>
<tr>
<th>Testing Facility</th>
<th>Total Tests</th>
<th>HCV Antibody Positive</th>
<th>HCV Antibody Positive/RNA Positive</th>
<th>HCV Antibody Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>County Jail</td>
<td>699</td>
<td>87 (12%)</td>
<td>71 (10%)</td>
<td>612 (88%)</td>
</tr>
<tr>
<td>STD Clinic</td>
<td>773</td>
<td>110 (14%)</td>
<td>82 (10%)</td>
<td>662 (86%)</td>
</tr>
<tr>
<td>Community Testing Sites</td>
<td>1418</td>
<td>272 (19%)</td>
<td>210 (15%)</td>
<td>1146 (81%)</td>
</tr>
<tr>
<td>Homeless Clinic</td>
<td>113</td>
<td>32 (28%)</td>
<td>27 (24%)</td>
<td>81 (72%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3003</strong></td>
<td><strong>501 (17%)</strong></td>
<td><strong>390 (13%)</strong></td>
<td><strong>2501 (83%)</strong></td>
</tr>
</tbody>
</table>

Screening Programs for Hepatitis C


Catelyn Coyle, MPH1, Kendra Viner, PhD2, Elizabeth Hughes, DrPH3, Helena Kwakwa, MD2, Jon E. Zibbell, PhD2, Claudia Vellozi, MD3, Deborah Holtzman, PhD3 (Author affiliations at the end of text)

Hepatitis C Virus Testing and Linkage to Care in North Carolina and South Carolina Jails, 2012–2014

ABSTRACT

Objective. We evaluated a hepatitis C virus (HCV) testing and linkage-to-care post-release program among detainees of small- to medium-sized jails in North Carolina and South Carolina as part of the Hepatitis Testing and Linkage to Care initiative.

Methods. An HCV testing and linkage-to-care program was implemented in

DOI 10.1186/s12889-017-4102-5

HCV screening in a cohort of HIV infected and uninfected homeless and marginally housed women in San Francisco, California

Kimberly Page1†, Michelle Yu2, Jennifer Cohen3, Jennifer Evans2, Martha Shumway4 and Elise D. Riley5
Strategies in the Community

The National Viral Hepatitis Action Plan 2017-2020 states:

“...Integrating or including viral hepatitis prevention and care services with other physical health, mental health, and social services can effectively prevent infection or identify and link individuals with viral hepatitis into care.”
Durham FOCUS Program

- Gilead FOCUS partnership with UNC-CH Infectious Diseases and the Durham County Department of Public Health in March 2016.

- Routine opt-out HIV and HCV testing (with reflex RNA) was implemented at Durham County Human Services:
  - Health Department Clinics: STI, TB, Immunization, Refugee, Family Planning, Maternal Health, Dental
  - County Detection Center and community testing locations
  - Durham County Department of Social Services
  - Lincoln Community Health Center Primary Care
<table>
<thead>
<tr>
<th>Clinic or Program</th>
<th>HCV tests</th>
<th>HCV Ab+ n (%)</th>
<th>HCV RNA+ n (%)</th>
<th>Linked to HCV care n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>4558</td>
<td>340 (7.5)</td>
<td>230 (5.0)</td>
<td>147 (65)</td>
</tr>
<tr>
<td>STI clinic</td>
<td>680</td>
<td>49 (7.2)</td>
<td>37 (5.4)</td>
<td>31 (84)</td>
</tr>
<tr>
<td>Tuberculosis Clinic</td>
<td>108</td>
<td>7 (6.5)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Refugee Health Clinic</td>
<td>32</td>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Family Planning Clinic</td>
<td>32</td>
<td>2</td>
<td>0</td>
<td>_</td>
</tr>
<tr>
<td>Maternal Health Clinic</td>
<td>493</td>
<td>5 (1.0)</td>
<td>3 (0.6)</td>
<td>2 (67)</td>
</tr>
<tr>
<td>FQHC Clinics</td>
<td>1013</td>
<td>86 (8.5)</td>
<td>54 (5.3)</td>
<td>44 (81)</td>
</tr>
<tr>
<td>Social Services</td>
<td>369</td>
<td>27 (7.3)</td>
<td>16 (4.3)</td>
<td>9 (56)</td>
</tr>
<tr>
<td>Community Outreach</td>
<td>585</td>
<td>27 (4.6)</td>
<td>22 (3.8)</td>
<td>14 (64)</td>
</tr>
<tr>
<td>Detention Center</td>
<td>1246</td>
<td>133 (10.7)</td>
<td>96 (7.7)</td>
<td>45 (47)</td>
</tr>
</tbody>
</table>

Nearly half (41.7%) of persons identified with chronic HCV were from the detention center.
HCV Education for Healthcare Providers in Community
Vulnerability Assessment of North Carolina Counties

RED = highest injection drug use and acute HCV incidence
Rural North Carolina Counties Designated Health Professional Shortage Areas

HPSA* by profession:
- **Yellow**: Primary care only
- **Blue**: Dental only
- **Red**: Mental/behavioral health only
- **Light Green**: Primary care and dental
- **Orange**: Primary care and mental/behavioral health
- **Dark Orange**: Primary care, dental and mental/behavioral health

*Shortage area may be whole county, or population group or geographical area within a county. Data as of September 16, 2014.

*Counties that are white are urban counties or rural counties without an official HPSA designation.

Data provided courtesy of the North Carolina Office of Rural Health and Community Care.
Question #3

Telemedicine approaches to expand hepatitis C education among primary care providers are not likely to be cost-effective.

1. True
2. False
3. Not known
Telemedicine = use of telecommunication and information technologies with the goal of providing clinical healthcare to distant or isolated individuals.
Welcome to CHAMP

Carolina Hepatitis C Academic Mentorship Program (CHAMP) is a dynamic telemedicine training platform designed for providers delivered by providers.

Mission

To improve the health of rural and underserved communities in North Carolina by building a primary care workforce with the expertise to manage and cure hepatitis C.

Our goals

- Establish a North Carolina primary care workforce trained to diagnose, care for, and cure persons infected with hepatitis C infection.
- Expand access to primary care providers with specialty training in hepatitis C care in rural and low resource settings.
- Recruit health care providers practicing in local health departments, Federally Qualified Health Centers (FQHCs), hospitals, and community clinics.
- Remove barriers to care for persons diagnosed with hepatitis C.

https://www.med.unc.edu/champ
NC CHAMP “Bootcamp” Training

HCV Testing and Linkage to Care

• If HCV Ab+, check quantitative HCV RNA, genotype, liver panel (ALT, Tbili, alb), INR, Cr, platelet count.
• Check HAV IgG and HBsAg, HBsAb, HBcAb and vaccinate if not immune.
• Check HIV if indicated.
• Abdominal imaging for liver cancer screening if cirrhosis suspected on exam or labs.
• Evaluate modifiable risk factors.
• Limit Tylenol to 2g per day.
• Two cups of coffee daily has liver benefits.
• Fibrosis assessment (next talk).
• Discuss limiting transmission (small groups).
### Key Points for Community Providers

**Interpretation of HCV Laboratory Tests**

<table>
<thead>
<tr>
<th>Antibody to HCV</th>
<th>HCV RNA</th>
<th>Interpretation</th>
<th>Other possible interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative</td>
<td>Negative</td>
<td>No infection</td>
<td>---</td>
</tr>
<tr>
<td>Positive</td>
<td>Positive</td>
<td>HCV present</td>
<td>---</td>
</tr>
<tr>
<td>Positive</td>
<td>Negative</td>
<td>Resolved infection</td>
<td>False (+) &lt;1% Treated infection</td>
</tr>
<tr>
<td>Negative</td>
<td>Positive</td>
<td>Infection present (immunocompromised)</td>
<td>Early infection False (+)</td>
</tr>
</tbody>
</table>

*Source: UNC Health Care*
Key Points for Community Providers

Combining tests?

- EASL guidelines

EASL-ALEH. J Hepatol. 2015
Key Points for Community Providers

**Principles of All-Oral Regimens for HCV**

- Combine drugs from different classes
  - Hit multiple targets to increase efficacy
  - Diminish risk of viral resistance

- Possible strategies
  - Two drugs: Backbone/anchor drug +/- additional agent
  - Multiple drugs: When combined achieve superior efficacy than might be predicted by individual drug characteristics

- If done properly
  - Near universal efficacy
  - Shortened duration of therapy
  - Adverse events have minimal impact on quality of life
Key Points for Community Providers

Chronic Hepatitis C: Patterns of Response
SVR = Cure

- **Baseline**
  - HCV RNA Undetectable

- **Treatment**
  - Viral Breakthrough

- **Follow-up**
  - Relapser
  - Sustained Virological Response

SVR
Summary

IT TOOK US 25 YEARS TO BRING HIM TO HIS KNEES... NOW LET'S FINISH HIM OFF...
Addressing the Gaps in HCV Care

- **HCV Screening**
  - Reflex HCV RNA testing
  - Electronic medical record prompts

- **HCV Assessment**
  - Algorithms for baseline tests (platelets, LFTs)
  - Genotype, fibroscan
  - Harm reduction counseling
  - Referrals (Medicaid/Medicare, mental health and substance abuse services)

- **HCV Management**
  - Patient navigators or bridge counselors
  - Trained providers
  - Highly effective, less expensive drug regimens
  - Pharmacy assistance
  - Primary care for management post-HCV cure
“Erasing” HCV and Reducing Morbidity

- Assess the needs and resources in your community;
- Collaborate with public health;
- Use CDC guidance for HCV screening, but consider other high-risk populations;
- Train more healthcare providers in HCV screening, assessment and management;
- Provide support services to assist clients throughout the HCV care continuum.
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Liz Mallas, Regional Lead
BRIDGE COUNSELING
&
PATIENT NAVIGATION

Candice Givens, BSW
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BRIDGE COUNSELORS/ PATIENT NAVIGATORS

- Lacks universal definition
- Connect to screening
- Follow-up post screening
- Facilitate linkage to care
- Address barriers care*
- Assist through treatment process
- Make referrals
- Advocates
- Emotional/ Social support
NAVIGATION PROCESS

**Referral Received:**
- EMR Notification
- Health Education Transfer

**Initiate Contact**
- Phone calls (3 attempts)
- 2 Letters to home address
- Home visit to address on file

**Missed Appointment**

**Facilitate Scheduling:**
- Appt Reminder calls, letters, and transportation assistance

**Attended 1st Appt**

**Supportive Services**
- Substance Abuse
- Mental Health
- Medicaid
- Primary Care

**Bridging Session**
- Control Measures
- Release of Info
- Biopsychosocial Assessment
- Patient Education
- Immunization Review

**HCV Referral**
- Hepatology (Duke)
- Infectious Diseases (UNC)
- Primary Care Provider
  *Dependent on insurance/patient preference
QUESTION #4:
The role of the Bridge Counselor or Patient Navigator includes tasks that closely resemble roles of ALL of the following **except**: 

1. Social worker/ case manager
2. Community outreach worker
3. Infectious Disease/ GI Specialist
4. HCV Community Advocate
BRIDGE COUNSELORS/ PATIENT NAVIGATORS

- Health Educators
  - Community Outreach Workers
- Case Managers
- Social Workers
- Nurses
IMPACT ON HCV TREATMENT CASCADE

- Comprehensive linkage interventions
- Successful navigation addresses multiple points along the cascade
- *Individualized* case management services
- Flexibility
HIV VS. HCV LINKAGE TO CARE

Long-term
Re-engaged “lost to care”
HIV providers

Motivational interviewing
Addressing barriers
Linkage to care for newly diagnosed persons

Short-term > Cure
Engaged “not in care”
HCV providers

UNIVERSAL LINKAGE-TO-CARE MODELS ARE APPLICABLE TO ALL CHRONIC HCV PATIENTS REGARDLESS OF PERSONAL DEMOGRAPHICS, BARRIERS, AND LOCATION OF SCREENING.

1. TRUE  2. FALSE
LINKAGE TO CARE FROM VARIOUS SETTINGS

ONE SIDE DOES NOT FIT ALL!

- Health Department Clinics
- Department of Social Services
- Community health centers
- Primary Care Clinics
- Prisons
COMMON BARRIERS TO CARE

- Insurance status
  - Uninsured, underinsured
- Transportation
- Low health literacy/education
- Low socioeconomic status
- Cultural orientation
- Lack of trust in medical systems
- Scheduling
- Access to healthcare from rural areas
- **Incarceration**
- Competing health priorities (including substance abuse)
- Patient, provider, and systems barriers
LOST TO FOLLOW-UP

- Occurs at various points along cascade
- VULNERABLE POPULATIONS
- Opportunities for continued contact
  - Baltimore study at local health departments found those not linked to care “were seen at the STI clinic 3 or more times within the 9mos. following their diagnosis”.
- Interventions needed across the cascade. Addressing distal barriers have greater impact than earlier occurrences.
HCV AND INCARCERATION

- Increased difficulty to link to care
  - Especially for post-release linkage to care models
- Competing Priorities (housing, income, reunification, etc.)
- Substance abuse
- Mental health
- Health comorbidities
- Highest lost to care rate among Durham Co. FOCUS
  - Follows nationwide trend
- Outside only model >>> Release Focused Model
SOLUTIONS FOR LINKAGE IMPROVEMENTS

- More detailed contact information.
  - i.e.: Multiple phone numbers/addresses
- Pre-release bridging sessions
- Incentive Packages
- Health resource page for all inmates
- Housing referrals
WHY IS BRIDGE COUNSELING/NAVIGATION IMPORTANT?

- Improved screening rates and follow-up
- Supportive and addresses barriers improves assessment and treatment
- Encourages teamwork among multidisciplinary teams
- HCV Advocacy
  - Prevention
    - Safe injection programs
  - Testing
  - Streamline HCV treatment management
RESOURCES


