Hepatitis C in Western North Carolina

A collaborative approach to increase capacity for screening, linkage to care, and treatment for hepatitis C-infected persons in Western North Carolina

Representatives from the North Carolina Division of Public Health met with stakeholders and public health leaders in Asheville, NC for a one-day meeting on March 10, 2016 to map the regional burden of hepatitis C and identify sustainable approaches utilizing area resources. From this meeting, specific actions were assigned to the state, region, and counties to facilitate collaboration between public health partners and deploy strategic practices to reduce the incidence of disease. This report was developed in collaboration with local health departments in Public Health Regions 1 and 2.

Western North Carolina Hepatitis C Stakeholders Meeting

Contents

Introduction

The primary goal of this report is to concisely document the resources, barriers, and limitations identified during a one-day meeting attended by public health leaders, local health departments (LHD), medical providers, and community leaders in Western North Carolina to address the acute hepatitis C and injection drug use (IDU) epidemics. It is the hope that the findings from this session will begin to inform the Western North Carolina Region (WNCR) and North Carolina Division of Public Health on the impact and effectiveness of their respective efforts to increase screening initiatives, expand linkage to care services, and identify sustainable treatment options for hepatitis C infected persons and resources to support substance abuse disorders. Finally, it is the intention of this report to increase understanding of how LHDs, community based organizations, and government agencies in Western North Carolina can benefit and thrive within their respective communities to identify common goals through collaborative efforts. In order to understand strengths and limitations in the Western Region, meeting attendees were asked the following questions:

1. Are there barriers and limitations that are unique to Western North Carolina?

2. What strengths are identified by public health leaders in Western North Carolina, as they exist today?

3. What resources exist today that can be leveraged by Western North Carolina members for implementation to address the root causes of acute hepatitis C?

4. What would increase collaboration between Western North Carolina regional members?

In addition to these questions, data were also gathered to identify assets needed to implement sustainable strategies for the western region and state of North Carolina and challenges to that implementation.

Background

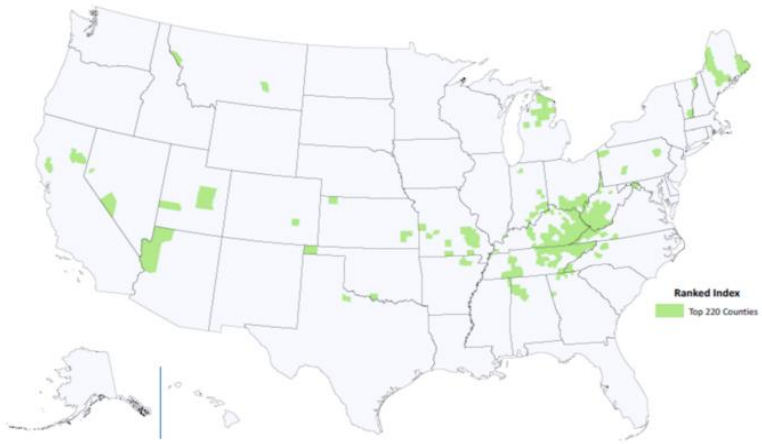
Hepatitis C is a liver infection caused by the hepatitis C virus and is the most common blood borne infection in the United States. Seventy-five to eighty-five percent (75%–85%) of those infected with hepatitis C will go on to develop chronic infection. This can lead to serious health problems including liver disease, liver failure, and liver cancer. Unlike hepatitis A and B, there is no vaccine available for hepatitis C.

Hepatitis C is transmitted through exposure to infected blood. Today, the most common way people become infected with hepatitis C is through injection drug use.

Exposure to infected blood can result from receiving contaminated blood products or organs; needle stick injuries; and birth to an infected mother.
Infrequently hepatitis C can be transmitted through sex, sharing personal items, and invasive healthcare procedures.[1]

An emerging epidemic of acute hepatitis C has been recognized among young persons who inject drugs in primarily rural, resource poor areas. The Southeast in particular has experienced hepatitis C and injection drug use epidemics that have firmly taken hold across the region, particularly in Western North Carolina. Western North Carolina is home to a culturally diverse population situated amongst the Appalachian Mountains. Over the past five years, North Carolina has experienced over a three-fold increase in reported acute hepatitis C cases; with the highest rates of acute hepatitis C reported in Western counties.

Figure 1.
A CDC report identified 220 counties where factors such as unemployment rates, overdose deaths, and sale of prescription painkillers contribute to a high vulnerability for outbreaks of HIV and hepatitis C among injection drug users.



Source: County-level Vulnerability to Rapid Dissemination of HIV/HCV Infection Among PWIDs

See Epidemiology Appendix

"Hepatitis C is a growing public health problem in our counties. I am ready to do what we can do to stop it." *Jacquelyn Clymore, HIV/STD/Hepatitis Director, North Carolina Division of Public Health*

How Data were Gathered and Analyzed

On March 10, 2016 Western North Carolina (WNC) public health leaders and their partners came together with State Communicable Disease experts to better understand the situation with hepatitis C infection in the United States, the state and the region. Prior to the meeting, a letter was sent to Local Health Directors in Regions 1 and 2 by the NC DHHS requesting a co-sponsored meeting. [2] Stakeholders and thought leaders gathered for a one-day meeting convened at the Mountain Area Health Education Center (MAHEC) to discuss issues associated with hepatitis C infection: screening practices, testing, linkage to care, barriers, and community resources. Representatives in the region included: local law enforcement, local health directors, behavioral health providers, medical providers, medical directors, support service providers, activists, and community based organizations. From that discussion came a perspective on some of the root causes of the hepatitis C epidemic, the assets available in the WNC communities, some specific challenges in WNC, and goals and potential strategies for addressing the issue. Each county developed a list of specific efforts they could implement with their available resources.

A meeting facilitator, Gibbie Harris; was contracted to guide the group discussion and to report on information gathered during the day. Gibbie Harris is one of the founding partners of Praxis Partners for Health. She retired from county government after 25 years in local public health service, most of that time as a local health director. Her efforts in the community involve facilitating the identification of health priorities, convening efforts to improve the health of all residents in the county and leading her community to address public health needs and issues. Other responsibilities included communicable disease prevention and control, providing or assuring critical health care services in the community, and facilitating safety net services across the community.

"It's encouraging to see this type of discussion and willingness to collaborate amongst community partners and local health departments to ensure the highest quality of public health for our citizens." *Gibbie Harris, Praxis Partners for Health*

Findings

Root Causes of Hepatitis C and Injection Drug Use

"Root causes" are defined as the fundamental reason for the occurrence of a problem. [3] It is important to identify and understand root causes in order to select strategies necessary to permanently eliminate the problem. Resources such as funding, personnel, and time are often our biggest hurdles to solve with the most impact.

The causes recognized by the group ranged from large socioeconomic issues to causes more specific to the population at risk of contracting acute hepatitis C through injection drug use. In particular, causes identified included issues that create an environment where individuals cannot be successful, are living in stressful circumstances and in some cases resort to injecting drug use to cope with their situation.

Group	

Socioeconomic	• Living in Poverty
	• Lack of:
	  ○ Educational opportunities
	  ○ Affordable Housing
	  ○ Living wage job opportunities
	• Overburden of the healthcare systems
	• Criminalization of addiction and drug use which makes treatment and behavior change difficult

Environmental	• Over prescribing of opioids which can lead to injection drug use (i.e. Heroin) • Sharing of needles for injection drug use • Adverse Childhood Experiences (ACEs): trauma that negatively affects the lives of those involved ○ Loss of hope
Cultural Bias	• Perceptions of the disease and its causes as a personal failure versus failure of the system • Negative perceptions of addiction and the associated social stigma

Lack of Resources	Lack of primary and secondary prevention efforts:
	• Lack of knowledge and awareness of how hepatitis C can be transmitted and prevented
	• Lack of education for primary health care providers regarding: disease pathology, screening, and treatment options
	• Lack of available clean needles or Syringe Service Programs (SSP)
	• Limited or Lack of Access to:
	  ○ Primary Care Providers
	  ○ Behavioral Health Care

	○ Integrated Health Care • General lack of resources and support services for the population • Lack of evidence-based programs to address hepatitis C
Barriers to Access	• Lack of insurance coverage (un-insured or underinsured), making substance abuse treatment, primary care, and hepatitis C treatment un-accessible for those most at risk for acute hepatitis C • Cost of treatment • Lack of treatment options • Lag time between screening, treatment which creates a reservoir of infection

When looking at the data, the root causes of acute hepatitis C was grouped according to participant feedback and were broken down into five main categories – socioeconomic, environmental, cultural bias, lack of resources and barriers to access. These are described in **Table 1.**

Table 1. Root Causes of Acute Hepatitis C and Injection Drug Use Epidemics as Identified by Public Health Leaders in Western North Carolina

Western North Carolina Assets

Public health clinicians and leaders from Western North Carolina counties began their county-level focus group work by identifying the assets that are available in their communities as they exist today. This list was used to develop strategies to combat the rising acute hepatitis C cases and injection drug use epidemic in the region. Resources identified are not exhaustive and counties in attendance will continue to identify new interventions which can be implemented and evaluate measures of success.
See Table 2.

Table 2. Western North Carolina Assets by County

	FQHC	LHD	MAHEC	UNCA	Behavioral Health Treatment	Methadone Clinics	Needle Exchange Program	Syringe/ Drug Disposal Sites	Indigent Care	Task Force/ Coalition	Free Clinic
Buncombe County	✓	✓	✓	✓	✓	✓		✓	✓		
Caldwell County		P/AC	✓	✓							✓
Cherokee County		P/AC	✓	✓							
Clay County		P/MA	✓	✓							
Graham County		✓	✓	✓							✓
Haywood County	May 2016	✓	✓	✓		✓		✓			
Henderson County	✓	✓									
Madison County	✓	✓	✓	✓						✓	
Toe River District		ARH								✓	

Key

- Federally Qualified Health Center (FQHC)
- Local Health Department (LHD)
- Primary (P)/Acute Care (AC)
- Medication Assistance (MA)
- Adult Rural Health (ARH)/
- Mountain Area Health Education Center (MAHEC)
    - Continuing education programs
- University of North Carolina in Asheville (UNCA)
- UNC CH School of Pharmacy satellite at UNCA: Provides training and interns

Regional Resources

- Mountain Area Health Education Center (MAHEC)
- Community Care of WNC (CCWNC)
- Smokey Mountain LME/MCO (behavioral Health)
- University Of Northern Carolina in Asheville (UNCA)
- School of Pharmacy
- WNC AIDS Program (WNCAP)

Western North Carolina Challenges

There are also specific challenges that can create barriers to successfully addressing hepatitis C in WNC. In many cases, these obstacles are related to the causes acknowledged earlier. See Table 3.

Table 3. Challenges Identified by Meeting Attendees

Challenge	Issue	Impact
Funding	• Lack of public health state of emergency for this issue (both Injecting Drug Use and hepatitis C infection) • Limited availability and high cost of confirmatory testing • Lack of funding to cover cost associated with curative treatment • Lack of access to free hepatitis A vaccine (rather than combination vaccine) • Lack of public health funding • Individuals are not eligible for free Hep A/Hep B (Twinrix) vaccine once they have completed Hep B vaccination series	• Lack of attention and public will to address the issue • Many individuals unaware of their hepatitis C status, enabling transmission and progression to costly chronic disease • Few are being treated to resolution, enabling transmission and progression to costly chronic disease • Persons who are HCV positive are at risk for hepatitis A and hepatitis B
Public Health Policy	• Lack of Medicaid expansion • Lack of understanding on what to do when cases are identified	• Lack of access to screening and care, leading to increased transmission, costly chronic disease and increased costs to the healthcare system
Infrastructure	• Lack of primary care providers who are knowledgeable and comfortable treating individuals with hepatitis C; usually seen by gastroenterologists who are few in WNC • Lack of substance abuse resources • Lack of mental health services • Capacity for public health awareness and education • Lack of public health infrastructure to adequately address the two epidemics	• Barrier to care, leading to increased transmission, costly chronic disease and increased costs to the healthcare system • Little to no support to address the issues that lead to substance abuse • Little to no support for behavior change • Difficult to build the political will to address the epidemics
Behavior Change	• Behavior change is difficult; addictions are hard to break; effective treatment requires adherence to the treatment	• Growing epidemics of IDU and acute hepatitis C • Unable to complete full course of treatment

	regimen • Need commitment to complete 8-12 week course of treatment • Challenges for injecting drug users to complete treatment	
Support from Community Partners	• Pharmacology companies not realizing their potential to assist in this epidemic	• Expensive medications are not readily available to the population
Best Practice Model	• Lack of treatment algorithm for primary care physicians: who to test, who and how to treat	• Primary care physicians are reluctant to screen and treat individuals at risk for and with acute hepatitis C
Pathophysiology of Disease	• Successful treatment does not guarantee immunity to future infection	• Possibly of re-infection if not change in IDU behavior
Ethical Considerations	• Ethically should we treat all as part of reducing transmission or only those who are committed to behavior change and adherence to treatment plan? Whose role is it to make that determination?	• Potential discrimination and continued spread of hepatitis C and related chronic disease

Goals and Strategies: Prevent the Transmission of Hepatitis C

State and county leaders present at the meeting developed particular interventions to address the acute hepatitis C epidemic agreed upon strategies and goals. **See Figure 2**.

Figure 2. Proposed goals to reduce the prevalence of hepatitis C in Western North Carolina

Education, Prevention, and Screening	Increase the number of persons who know their hepatitis C status
	Increase hepatitis C screening/testing
	Decrease transmission of HCV in the community by implementing legal needle exchange programs
	Increase the number of persons receiving hepatitis C prevention education messages
	Increase the number HCV-infected person who are educated about liver health strategies
	Increase the number of HCV-infected persons who receive Hep A/Hep B vaccinations
	Identify and engage primary providers in communities to build HCV linkage to care
	Offer academic mentorship opportunies to build HCV care network
	De-stigmatize injection drug use and raise public awareness
	Reduce the number of persons incarcerated for substance abuse and implement alternate methods to address the issue

Strategies

The following are proposed strategies outlined by the meeting attendees to develop public health infrastructure to combat the hepatitis C epidemic**.** Strategies were grouped according to jurisdiction responsible for implementation:

- **State**
- **Region-Western North Carolina (WNC)**
- **County**
- **Local Community**

State

The NCDPH Communicable Disease Branch, realizing the urgency of this issue and also the limited availability of new resources to address hepatitis C in NC, decided to launch a new hepatitis C program targeting counties at high risk for acute hepatitis C transmission. The program focuses on vulnerable counties and regions identified through surveillance activities, starting in the western and southeastern regions of the State. The initial emphasis has been on messaging and education about acute and chronic hepatitis C, increased screening of high risk individuals, and enhanced surveillance. In addition to this new program, the State envisions messages and/or

public service announcements (PSAs) to raise awareness across the State to increase the number of persons seeking hepatitis C screening per CDC guidelines.

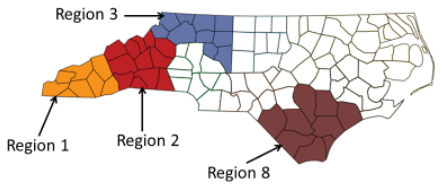
Program Overview

North Carolina DHHS launched **North Carolina Hepatitis C: Test, Link, Cure (TLC)**; a program to combat the increasing acute hepatitis C epidemic. The program aims to establish new partnerships with health care providers and stakeholders in North Carolina with a specific focus on hepatitis C screening, testing, prevention education, linkage to care, and treatment. Initial activities will be implemented through local health departments, community based organizations, substance use treatment centers, and federally qualified health centers in the western and southeast coastal regions of the state. The goal is to eventually advance the program statewide.

Program Description:

- Enhanced Surveillance
  - The State will move towards requirement of electronic laboratory reporting of all positive results for tests used to diagnosis hepatitis C

Public Health Regions of Initial Focus
for NC Hepatitis C – Test, Link, Cure (TLC), 2016



- Outreach and Screening
  - NC DHHS will provide free anti-HCV and HCV RNA (NAAT) testing through the North Carolina State Laboratory of Public Health (NC SLPH) to all WNC counties as long as funding is available to support the program.
    - Screening will be focused to high-risk populations:
      - Persons who inject drugs
      - Persons who have a past history of injection drug use
      - Persons who are HIV positive
      - People born during 1945-1965 (Baby Boomers).
  - Materials and messaging will be developed to educate physicians, HCV-infected persons, and communities in WNC.
  - Communicable Disease Branch will continue to work collaboratively with the Immunization Branch to assure availability of hepatitis A/B vaccination

UPDATE: as of August 31, 2016, a total of 1,346 HCV tests have been done in Regions 1 and 2, with an overall positivity rate of 5.9%. This testing will continue until available funding expires, approximately April, 2017.

- Linkage to Cure
    - The State will work with Region 1 health directors to establish one Hepatitis C Bridge Counselor in WNC with the potential for more if resources and need dictate.
    - The Bridge Counselor will work with newly diagnosed acute cases to assure access to care and treatment and help them navigate the system.
    - The State will continue to work with physicians to develop an algorithm for pre-treatment assessment, treatment and care of acute cases, with the intent of expanding primary care capacity to treat hepatitis C.

- FOCUS Program
  Gilead Sciences launched the FOCUS program in 2010 to develop replicable model programs that embody best practices in HIV and HCV screening and linkage to care. The program now has over 96 partner organizations in multiple cities across the United States that are heavily impacted by HIV and Hepatitis C. Grants have been awarded to hospitals, local health departments and federally qualified health centers.

  In 2015, Gilead began establishing FOCUS program sites in North Carolina. This is an opportunity for local health departments to partner with hospitals and FQHCs in their area to build infrastructure, increase hepatitis C testing and linkage to care for hepatitis C patients. More information can be found about this program can be found at:
  http://gilead.com/~/media/files/pdfs/other/hiv-focus-program.pdf?la=en

"The FOCUS grant award will allow the local health department and local FQHC to link hepatitis C patients in Madison County to hepatitis C care."

Dr. Marianna Daly, Health Director, Madison County Health Department

Messaging Campaigns

Throughout the day, participants voiced the need to incorporate statewide messaging campaigns for hepatitis C and injection drug use. Participants felt such *"Campaigns not only raise public awareness but galvanize prevention and care activities in local communities"*. Conversations around the development of public health campaigns focused on several themes. Target audiences for campaign include: general public, IDUs, vulnerable populations, persons at increased risk for hepatitis C infection, and health care providers. Messages should be consistent to meet outcome objectives and tailored to reach the general public and specific populations, e.g. people who inject drugs. **See Figure 3.**

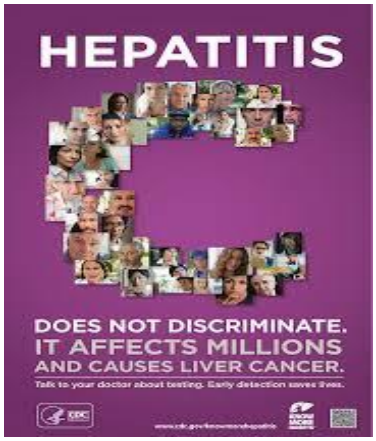
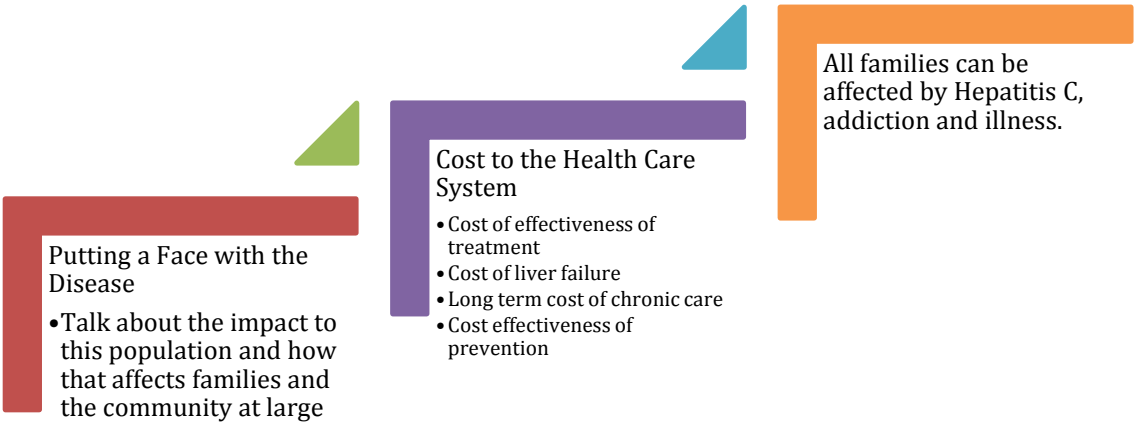


Figure 3. Proposed Messaging Campaigns Themes



"Overcoming all the challenges of curing hepatitis C in all our communities will require active partnerships across many agencies." *Jan Shepard, Health Director, Buncombe County*

"We are often challenged to conquer serious public health problems like hepatitis C with little to no funding. We have no choice but to do all we can to help those who need it and prevent future cases." *Steve Smith, Health Director, Henderson County*

Regional

Strategies outlined in this section have been identified by public health leaders for implementation throughout Western North Carolina region. Strategies detailed in the section are specific to hepatitis C and injection drug use epidemics. **See Figure 4**.

Figure 4. Regional strategies for Western North Carolina

Key Center for Disease Control and Prevention (CDC); Community Care of Western North Carolina (CCWNC)

Prevention	Acquire statement from NC Board of Pharmacy supporting needle exchange and encouraging pharmacists to assist those requesting to purchase needles
	Develop Syringe Service Program Network, working with WNCAP to develop needle exchange programs across WNC.
	Seek funding for needle exchange programs
	Utilize messaging from the NCDPH to inform the general public, physicians and others in the medical community and affected populations.
	Provide the CDC recommendations related to HCV:
	Adults born from 1945 through 1965 should be tested once (without prior ascertainment of HCV risk factors)
	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
Outreach and Care	Work with NCDPH Communicable Disease Section to develop algorithm for screening and treatment:
	Follow Communicable Disease Control and Prevention (CDC) Screening Guidelines
	Follow USPSTF guidelines for hepatitis C care and treatment
	Connect provider community (create mentorships) -CCWNC to take the lead
	Block time for hepatitis C agenda for CCWNC Medical Providers Meeting
	Identify "health care provider champions" in the community
	Develop dataset for hepatitis C-infected persons. Look to CCWNC database
	Investigate group visit model
	Engage ASOs and other nonprofits that work with the population to develop collaborative initiatives
	Explore regional grant possibilities for care coordination, syringe service program, and treatment for top 5 most vulnerable counties at risk for rapid dissemination of HIV/HCV: Coordinate through treatment Pilot care team includeing pharmacist Evaluation
	Educate behavioral health providers about hepatitis C- Smoky Mountain Center to take the lead

County

Strategies outlined in the section have been identified by public health leaders intended for implementation in individual counties in Western North Carolina region. **See Figure 5.**

Figure 5. County Level Strategies

Providers	Work with CBOs
	Provide education, training and CMEs for providers Identify champions in the community
	Build upon existing provider networks and increase number of providers who treat viral hepatitis Engage gastroenterologist to serve as mentors and resources for primary care providers
	Work with School of Pharmacy regarding needle exchange
	Collect county specific data on acute and chronic hepatitis C as well as injecting drug use and other high risk behaviors
	Connect with laboratories for HCV RNA (NAAT) confirmatory testing
	Develop care coordination/nurse navigator programs specific to hepatitis C
	Incorporate hepatitis screening prompts into agency electronic medical records (EMR) systems to increase population screening and identify HCV-infected persons

Key
Hepatitis C Ribonucleic Acid (HCV RNA), Nucleic Acid Amplification Test (NAAT)
Community Based Organization (CBO)

"Not everyone who is living with hepatitis C got it from abusing drugs. Everyone who is living with hepatitis C deserves to live healthier." *W. Scott Parker, Western North Carolina Community Health Services*

Community

Strategies outlined in the section have been identified by public health leaders intended for implementation at the community level in counties in Western North Carolina. **See Figure 6 and 7.**

Figure 6. Local Health Departments working with Community Part

Education	Educate community members about hepatitis C prevention, screening guidelines, and curative treaments. Generate awareness by: Hepatitis C programming on county TV channels Billboards- "Stop Hepatitis C" Refer to CDC Know More Campaign Messages on Facebook Page Engage school health nurses and school resource officers as educators on hepatitis C and associated risks
Prevention	Develop prevention efforts including working with CFPT, CCPT and DSS to discuss and prevent Adverse Childhood Experiences (ACEs) Seek sustainable support from County Commissioners to support messaging and new iniatitives to promote prevention, screening and treatment as appropriate Increased screening and testing of at risk populations.
Infrastructure Development	Create Drug Task Force as means of sharing information/joint activity Analyze kids who pledged through DARE Program and follow through on long term impact Expand drug drop boxes Resource assessment/gap analysis/create resource directory Work with 211 Work with NCDPH Communicable Diseases staff to identify sustainable efforts to promote prevention messages, increase screening, and linkage to care networks for HCV-infected persons
Advocacy	Create hepatitis C support group

Key
Certified Family Trauma Professional (CFTP)
Certified Clinical Trauma Professionals (CCTP)
Department of Social Services (DSS)
Adverse Childhood Experiences (ACEs)

Figure 7. Community Level Strategies: High Risk Populations

Mental Health and Substance Abuse Clinical Services	Work with Smoky Mountain Center to increase access to appropriate mental health and substance abuse services Identify clinics that are culturally sensitive to PWIDs who can provide screening services
County Jails	Work with local jails personell to: Increase screening Offer classes to inmates for risk reduction Work with new releases from jail to access appropriate care and treatment Connect releases from jail to county of origin
Healthcare Delivery Systems	Engage hospital infection control nurses Screen at risk persons according to CDC screening guidelines Work with Federally Qualified Health Cetners (FQHCs)/others to get people signed up for insurance

Next Steps

Based upon assets, challenges, and strategies identified by public health leaders and clinicians in Western North Carolina and staff present from NC DHHS, a list was generated and assigned to leaders in their appropriate jurisdictions in order to develop a collaborative hepatitis C approach between the State, WNC as a region, individual counties, and local communities. The following are next steps discussed and agreed to by those in attendance (**Figure 8**):

State

- Provide an algorithm for screening and treatment of hepatitis C for key providers to increase patient care and treatment and reduce new infections.
- Provide funds to a lead county in Region 1 for a Hepatitis Bridge Counselor
- Make hepatitis C testing available at NC SLPH for identified western counties
- The State will begin to develop a messaging platform for hepatitis C. Local partners will provide input and feedback as requested by the State.

- UPDATE: Screening and treatment algorithm has been completed.
- Testing through the NC SLPH is approved for western counties, focusing on poeple who inject drugs and Baby Boomers.
- Job description for Bridge Counselor in Jackson County is complete and funds identified.

Regional Partners

- Pursue dialogue and seek funding opportunities with industry partners and government agencies
- Educate Board of Health, County Commissioners, and Local Law Enforcement
- Discuss/Collaborate with Local Medical Boards
- Regional partners will continue to develop and implement plans
- Regional WNC partners will assist in identifying provider champions and in the development of the algorithm. Do not want to exclude PA or NP's who are treating or would like to treat persons with HCV

Community Partners

- State and local partners need to determine how to continue the collaborative work and how to measure success. Reporting out on successes, what is working and what is not, will encourage accountability and keep this issue as a priority at both the State and local level.

Summary

This one-day meeting was possible through the support of public health leaders, stakeholders in Western North Carolina and representatives from NC DPH. Meeting participants identified regional resources and strategies to combat barriers to hepatitis C screening, testing, and linkage to care. The results from this analysis identified regional resources for the prevention and treatment of hepatitis C and for people who inject drugs. Gaps in regional and state infrastructure were identified, as were potential opportunities to tackle those gaps through partnerships. It is important for next steps to address the hepatitis C and injection drug use epidemics as a regional concern in order to develop a collaborative approach between public and private sectors that can be sustainable and far reaching.

Call to Action

UPDATE: Thanks to the partnership of the NC SLPH, funding for hepatitis C testing is in place until approximately April, 2017. At that time, depending on the volume of testing that has been conducted, funds will expire and free HCV testing offered in identified local health departments or community health centers will be discontinued, until state appropriations or other funding is identified. NEW FUNDING WILL BE NEEDED to continue hepatitis C testing efforts.

UPDATE: Clean syringe exchange programs were legalized in North Carolina in July 2016 by the NC General Assembly.

Effort must be made to reach out to people who inject drugs (PWIDs) for testing and treatment, substance use care, and access to clean syringes.

Educational efforts are needed for PWIDs, Baby Boomers and the needle –sharing partners of these groups, about the risk and treatment for hepatitis C.

Vaccination for hepatitis A and B must be delivered to those at risk.

Active partnerships and collaborations are needed with substance abuse and mental health agencies to offer flexible, accessible and effective services to persons living with co-morbidities especially in more remote or rural parts of the state.

Better active partnership and education is needed across CBOs, faith based partners, and law enforcement.

Public awareness campaigns should be designed to increase understanding of hepatitis C risk, screening, and prevention and decrease stigma.

Appendix

Epidemiology Assessment

Background

Hepatitis C is a liver infection caused by the hepatitis C virus and is the most common blood borne infection in the United States. Seventy-five to eighty-five percent (75%–85%) of those infected with hepatitis C will go on to develop chronic disease. Chronic disease can lead to serious health problems including liver disease, liver failure, and liver cancer. Unlike hepatitis A and B there is no vaccine available for hepatitis C.

Hepatitis C is transmitted by exposure to infected blood. Today, the most common way people become infected with hepatitis C is through injection drug use. Exposure to infected blood can result from receiving contaminated blood products organs; needle stick injuries; and birth to an infected mother. Infrequently hepatitis C can be transmitted through sex, sharing personal items, and invasive healthcare procedures.[1]

The Centers for Disease Control and Prevention (CDC) conducted a vulnerability assessment for counties at risk of a possible rapid dissemination of HIV/HCV where people who inject drugs (PWID). The analysis was prompted by last year's outbreak of HIV infection among PWID in Scott County, Indiana. More than 90% of the persons found to be infected with HIV in that outbreak were also infected with hepatitis C. The preliminary results of the analysis identify potentially vulnerable jurisdictions where state, local, and federal authorities can work together to assess the risk of transmission of HIV and hepatitis C; control it if detected; and, prevent transmission from occurring in the future.

The results of this assessment do not mean an outbreak of HIV or increases in hepatitis C transmission are imminent. The results of this assessment provide a planning tool to help states detect and prevent the introduction and spread of hepatitis C and avert HIV outbreaks like that which occurred in Indiana.

The State of Hepatitis C in the US, in NC and in WNC
In the United States we are experiencing a "Syndemic" related to hepatitis C and HIV.

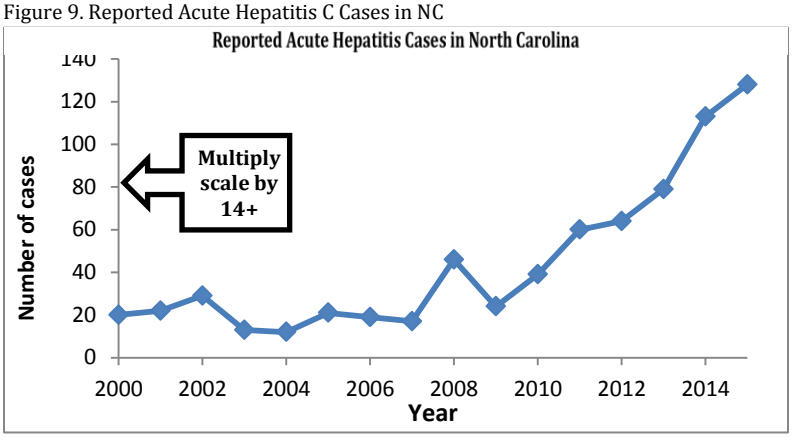
A **syndemic** is defined as the convergence of two or more diseases that act synergistically to magnify the burden of disease, in this case coinfection of HIV and hepatitis C through injection drug use.[2] Twenty-five percent (25%) of HIV-infected people are co-infected with hepatitis C. Fifty percent (50%–90%) of HIV-infected injection drug users are co-infected with hepatitis C and 7% of new HIV cases in 2014 were exposed through injection drug use.

In the United States, we are facing two epidemics, chronic hepatitis C and emerging acute hepatitis C. Baby boomers, people born between 1945 and 1965, are five times more likely to be infected with chronic hepatitis C. This has led to a doubling in liver cancer rates during the last 10 years. More emergent is **acute** hepatitis C, which is more related to the injecting drug use (IDU) epidemic. **Individuals most affected are younger, male, white, and live in poorer rural communities**.

As mentioned earlier, North Carolina has 5 of the 220 counties in the country that may be vulnerable to increased hepatitis C acute infections. Since 2008, the numbers of acute HCV infections reported have increased dramatically, and are continuing to increase. See Figure 8.

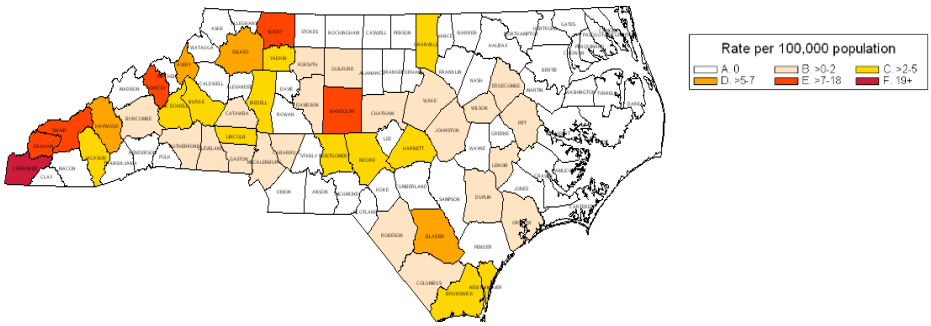
The spike in new acute cases beginning in 2008 is related in part to the downturn in the economy, high unemployment rate and minimum wage jobs. These are the reported cases and projections are that the actual number could be as high as 14 times those reported.

Figure 9. Reported Acute Hepatitis C Cases in NC



The projected number of individuals infected with chronic hepatitis C completes the picture of this epidemic. Western NC is a retirement destination for many with the possibility of an increasing number of chronic cases. Already overtaxed health care systems will struggle to meet the increasing needs of those with liver cancer and other complications from chronic hepatitis C.

Figure 10. Rates of reported acute hepatitis C cases by county, NC, 2014



Below are the deaths in North Carolina reported due to heroin overdoses for 2012-2014.

Table 4. Unintentional heroin poisoning deaths by Western North Carolina Counties, North Carolina

County	2012	2013	2014
Buncombe	0	3	12
Haywood	0	1	0
Henderson	0	2	2
Madison	0	1	1
Rutherford	0	0	1

Not all drug overdoses, both those that are survived and those that result in death are reported accurately, so our data does not tell the entire story. However, hospitals, emergency medical personnel, law enforcement and care providers are beginning to understand the importance of accurate reporting if we are to understand the full extent of the problem in our communities

Hepatitis C Treatment

Treatment for hepatitis C has seen significant progress over the past several years. Older drugs used to treat the infection required prolonged treatment and had serious side effects. Recently released direct action antivirals (DAAs) bring the opportunity for shorter treatment and fewer serious side effects. These medications are highly effective, however they are currently very expensive and most often prescribed by specialists which makes them less accessible to the most affected population. In addition, the key to successful elimination of the infection is completion of the course of treatment which can be challenging for those dealing with addiction. Resources for care coordination and management will be critical to successful treatment within the population of concern for acute hepatitis C.[5]

Invitation Letter to the Regions 1 and 2 Hepatitis C Assessment Meeting

North Carolina Department of Health and Human Services
Division of Public Health

Pat McCrory
Governor

Richard O. Brajer
Secretary

Daniel Staley
Division Director

February 9, 2016

Janice Patterson
Health Director
Clay County Health Department

Steve Smith
Health Director
Henderson County Health Department

Lynda Kinnane
Health Director
Toe River Health District

RE: Hepatitis C Assessment and Planning Meeting

Dear Ms. Patterson, Mr. Smith and Ms. Kinnane:

Thank you for inviting us to the January 14, 2016 Regions 1 and 2 Health Director's meeting to discuss hepatitis C and related health issues in your regions. It was a pleasure to see you all in person and open a dialogue to discuss the emerging hepatitis C disease crisis in the area. The Communicable Disease Branch is committed to working with you and your key partners to identify best practices in order to deploy a strategic and sustainable hepatitis C prevention program. By working together, I am confident we can prioritize activities for testing, linkage to treatment, and curative therapies that can positively impact the health of your communities.

As we have been discussing, an emerging epidemic of acute hepatitis C has been recognized among young persons who inject drugs in primarily rural, resource-poor areas. The 2015 HIV outbreak in Indiana provides insight to the importance of public health collaborations that can improve health outcomes for patients with mental health and substance use disorders, including decreasing the transmission of hepatitis C and HIV.

We are writing to you today, to ask you and your regional Health Director colleagues to co-sponsor a meeting with us to discuss our approach to hepatitis C. We would like to propose meeting on March 10, 2016 at 9 am at Mountain Area Health Education Center (MAHEC) for a one-day ***Hepatitis C Community Assessment and Planning Meeting***. We envision this daylong event as a time to gather stakeholders and thought leaders to discuss issues associated with hepatitis C infection: screening practices, testing, linkage to care, barriers, and community resources.

The Communicable Disease Branch is also seeking, through this collaboration with you, opportunities to catalyze a robust response and strengthen existing network relationships. We are pursuing an experienced facilitator to assist us at this meeting and help us distribute a written report of key meeting discussions and next steps. In addition, we have heard from industry partners, several of whom will be in attendance and have resources to share with you. Our goal is to have

www.ncdhhs.gov • www.publichealth.nc.gov
Tel 919-733-7301 • Fax 919-733-1020
Location: 225 N. McDowell St • Raleigh, NC 27603
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representatives present who can speak to the needs of their communities, and strategize towards a united and energized response. This meeting comes at a pivotal time for us all, as we plan our response to conquering hepatitis C and injection drug use in our state.

Please extend this invitation to local Health Directors and their Community Directors for mental health and substance abuse disorder treatment, medical directors, Federally Qualified Health Centers (FQHC) medical directors in your area, community based organizations, and other partners you think would enjoy working with us on hepatitis C and related issues.

In order to achieve our event objects and facilitate small group discussion, please invite up to 30 participants to attend.

If you have any questions or need help coordinating for this event please contact Kimberly Psaltis RN; Viral Hepatitis Prevention Coordinator at (919) 733-9508. We look forward to seeing you soon and appreciate all the work you do to improve North Carolina's public health.

Sincerely,

Evelyn M. Foust

Evelyn Foust, CPM
Communicable Disease Branch Head
Division of Public Health
North Carolina Department of Health and Human Services

Jacquelyn Clymore

Jacquelyn Clymore, MS
HIV/STD Director
Communicable Disease Branch
Department of Health and Human Services

Cc: Megan Davies
Danny Stanley
Colleen Bridger
Kimberly Psaltis
Sarah Rhea
John Peebles

Resource List

Table 5. Resources that provide access to medical/behavioral health services, identified by County or Region

County	Resource	Contact Information	Description
Buncombe County	• WNC Community Health Services and Appalachian Mountain Community Health Centers	**http://www.wncchs.org/** **http://www.amchc.org/**	• Care for indigent and uninsured individuals • Both are federally qualified health centers
Caldwell County	• Free Clinic • Bethel Colony-Addiction Program • Northwest AHEC	**http://www.helpinghandsclinic.org/** **http://bethelcolony.org/** **http://northwestahec.wfubmc.edu/**	• Addiction Program for Men • Continuing education programs for providers
Cherokee County	• Local Hospital	**http://www.murphymedical.org/**	• Charity Care Program
Clay County	• MedMark Treatment Center	**http://medmarktreatmentcenters.com/**	
Graham County	• School resource officers	**http://www.grahamcounty.org/**	• Provides classes and engaging recovering addicts
Henderson County	• Collaborative residency program providing training to medical residents in primary care and obstetric care in WNC. • Hope Rx	**http://www.brchs.com/** **http://hope-rx.org/**	• Partners include Pardee Hospital, Blue Ridge Community Health Services, and MAHEC • Coalition on SA issues
Madison County	• Substance Abuse Coalition	**http://www.madisoncountyhealth.org/substance-awareness-coalition.html**	•
Toe River District	• Drug Abuse Task Force • Local Law Enforcement	**https://www.facebook.com/MitchellYanceySubstanceAbuseTaskForce/posts/975215505894698**	•

Letter to Region 1 and 2 HD regarding Hepatitis C testing at the SLPH

North Carolina Department of Health and Human Services
Division of Public Health

Pat McCrory
Governor

Richard O. Brajer
Secretary

Daniel Staley
Division Director

March 2, 2016

TO: Region 1 and 2 Health Directors

FROM: Evelyn M. Foust, CPM, MPH, Head, Communicable Disease Branch
Scott J. Zimmerman, DrPH, MPH, HCLD (ABB), Director, State Laboratory of Public Health

SUBJECT: Submission of Hepatitis C Samples to the State Laboratory of Public Health

In response to the increasing incidence of acute hepatitis C virus (HCV) infection associated with injection drug use in North Carolina, the North Carolina Division of Public Health intends to expand HCV testing to all local health departments in Regions 1 and 2, through partnership with the North Carolina State Laboratory of Public Health (SLPH). Expanded HCV testing will be available as long as funding is sufficient (predominantly through federal HIV prevention sources) to meet testing demands.

The criteria for HCV testing must be specific and limited to those who are at highest risk for HCV infection. At this time, this will include only

- People who currently inject drugs (PWID);
- People with a history of injecting drug use;
- People who are HIV positive

CDC has advised that people born during 1945 – 1965 (i.e., baby boomers) should be tested once for HCV (without prior ascertainment of HCV risk factors). However the baby boomer cohort is too large for current SLPH testing resources. Therefore, please do not submit HCV tests for baby boomers to the State Laboratory unless they meet other criteria for testing as described above.

County health departments/districts eligible to submit HCV tests as of March 1, 2016 to the SLPH are:
Region 1: Cherokee, Clay, Graham, Haywood, Jackson, Swain, Transylvania
Region 2: Buncombe, Burke, Caldwell, Cleveland, Henderson, Madison, Rutherford-Polk-McDowell, Yancy-Mitchell-Avery.

Our next steps include a conference call with all local health departments involved in HCV screening (nurses, counselors and/or laboratory staff) to discuss the HCV program on the following items:

- DHHS T1535 HIV/HCV Testing Report Form.
- HCV screening criteria and process for submitting samples to the SLPH
- HCV transmission, treatment, referral, prevention messages and SLPH HCV Algorithm
- HCV counseling script

Local health departments should develop referral procedures to the best of their ability as soon as they are approved to send samples to the SLPH. Referral resources should improve once our provider development strategies have had time to build provider capacity for HCV.

References

1 Viral Hepatitis-Hepatitis C Information
http://www.cdc.gov/hepatitis/hcv/cfaq.htm

2 Letter sent to Region 1 and 2 Health Directors, see pg. 24 and 25.

3 Definition of "root cause."
http://www.collinsdictionary.com/dictionary/english/root-cause

4 Commission on Social Determinants of Health. Achieving Health Equity: from root causes to fair outcomes.
http://apps.who.int/iris/bitstream/10665/69670/1/interim_statement_eng.pdf