

2014 Washington State

HEPATITIS C STRATEGIC PLAN

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Contents

Executive Summary 4

Introduction..... 6

 Hepatitis C - Where things stand today 6

 Update of the Washington State Hepatitis C Strategic Plan 9

 Goals 11

Identify people with hepatitis C, link them to care, and get them to a cure 12

 Steps to be Taken 13

 Step 1: Build a Washington health care workforce prepared to diagnose, care for, treat and cure persons infected with hepatitis C. 13

 Promising Practice 14

 Recommended actions 14

 Step 2: Educate communities about risk factors for hepatitis C, how to reduce risk, and the availability of prevention, testing, and treatment services..... 15

 Recommended actions 16

 Step 3: Improve testing, care, and treatment and raise the bars along the care continuum 17

 Promising Practice 19

 Recommended actions 19

Prevent new infections..... 20

 Steps to be Taken 21

 Step 1: Ensure persons who inject drugs have access to hepatitis C screening, prevention, care, and treatment services 21

 Recommended actions 22

 Promising Practice 23

 Step 2: Mobilize a coordinated response to drug user health 23

 Recommended actions 24

 Step 3: Expand access to and delivery of hepatitis education and prevention services in correctional settings and beyond..... 24

 Recommended actions 25

 Promising Practice 25

Strengthen data systems and increase data use..... 26

 Steps to be Taken 26

 Step 1: Monitor HCV-associated transmission, disease, mortality and health disparities..... 27

 Recommended actions 27

 Step 2: Monitor the provision and impact of hepatitis C prevention, treatment and care, highlighting population-specific differences in access to services 28

Recommended actions	28
Promising Practice	29
Step 3: Develop and implement new regulations, technologies and lab procedures to improve surveillance	29
Recommended actions	30
Citations	31

Executive Summary

Hepatitis C (HCV) is a significant health problem in the U.S., where an estimated 2.7–5.2 million Americans are believed to be chronically infected. It's also a significant problem in Washington, where more than 100,000 residents could be living with infection. Most people living with HCV have few symptoms of illness until 10-to-30 years after initial infection, when life threatening health complications can develop, including end-stage liver disease, liver cancer, and eventually death. If nothing is done in the coming years to intervene against it, 10s of thousands of Washington residents infected in the 1970s and 1980s may go on to discover that they have advanced disease, leading to billions of dollars in health-care costs and lost productivity.

The good news is that we have opportunities to lessen this anticipated wave of HCV-related illness. We have entered a revolutionary era in HCV treatment. Highly effective and well-tolerated oral medications have recently been approved by the Food and Drug Administration; many other therapeutic agents are being actively tested and will become available in the coming months and years. For the first time, HCV infection will be curable for the most people living with this disease.

We have many challenges in front of us. Up to half of the people who have chronic hepatitis C have not been tested and do not know they are infected. For those who have been diagnosed, many of them and their health care providers have been awaiting approval of new medications before starting treatment. Now that better treatments are here, it is too expensive to treat everyone with disease; people with more advanced liver scarring are being prioritized. However, the eventual goal is to treat an increasing number of people as a public health strategy to prevent transmission and infection. Now, as baby boomers are experiencing the negative health outcomes of living for decades with disease, more young people who inject drugs are becoming infected.

Washington has the foundation for a successful infrastructure to control and eventually eliminate HCV. We have widespread use of electronic health records (EHR) and electronic laboratory reporting of HCV test results; a successful HIV clinical training network (Project ECHO); community providers who are experienced at linking people to health care and other services (such as the Hepatitis Education Project); and successful health insurance expansion through the Affordable Care Act related to health plan enrollment. Our state is moving toward transformation of the systems that support health. Many entities across public health and the health system are interested in partnering to create a more coordinated state response to the epidemic since no entity can do it alone. However, despite our solid infrastructure, the capacity to adequately address the challenge of HCV with a comprehensive, coordinated, sustainable statewide health care system and public health response is not yet a reality, one that seems increasingly difficult to achieve as public health faces its most serious funding crisis in decades.

The following plan created at the request of the 2014 Washington State Legislature through a budget proviso is also an update to the plan we created in 2004. It contains three primary areas around which recommended actions are grouped:

- Identify people with hepatitis C, link them to care, and get them to a cure
 - Build a Washington health care workforce prepared to diagnose, care for, treat and cure persons infected with hepatitis C.
 - Educate communities about risk factors for hepatitis C, how to reduce risk, and the availability of prevention, testing, and treatment services.
 - Improve testing, care, and treatment and raise the bars along the care continuum.
- Prevent new infections
 - Ensure persons who inject drugs have access to hepatitis screening, prevention, care, and treatment services.
 - Mobilize a coordinated response to drug user health.
 - Expand access to and delivery of hepatitis education and prevention services in correctional settings and beyond.
- Strengthen data systems and increase data use
 - Monitor HCV-associated transmission, disease, mortality, and health disparities.
 - Monitor the provision and impact of hepatitis C prevention, treatment and care, highlighting population-specific differences in access to services.
 - Develop and implement new regulations, technologies and lab procedures to improve surveillance.

Some recommended actions are achievable with existing resources in the public health system; some may be achieved by leveraging resources and technology in other systems, primarily the health care delivery system; and some recommended actions will require additional investments, primarily in the area of scaling-up promising practices.

The sooner we act:

- the more people with long-standing infection we will save from life-threatening disease and death
- the sooner we see returns on our investments in public health
- the more new infections we will avert so another generation is not impacted by disease; and
- the sooner we can eliminate hepatitis C in Washington.

Introduction

Hepatitis C - Where things stand today

Hepatitis C is a significant health problem in the U.S. Between 2.7-5.2 million Americans are believed to be chronically infected with the hepatitis C virus (HCV), yet it remains a neglected disease^{1 2}. Because many people were exposed decades ago, morbidity and mortality associated with HCV is rising. The total number of people with HCV-related cirrhosis (scarring of the liver) is expected to peak at one million in 2020³. Complications of cirrhosis include liver cancer and liver failure, and it is the leading reason for liver transplants in the U.S., accounting for nearly 40 percent of liver transplants in adults. Annual deaths from HCV range from 17,000 to 80,000, and more people now die each year from HCV than from HIV/AIDS^{4 5 6}. People with HCV are 12 times more likely to die compared to those without HCV; moreover, they die on average 23 years earlier^(5 6). Costs of premature mortality from HCV and lost productivity alone from 2010 to 2019 are estimated to total \$75 billion.⁷

¹ Chak E, Talal AH, Sherman KE, Schiff ER, Saab S. Hepatitis C virus infection in USA: an estimate of true prevalence. *Liver Intl* 2011;31:1090-1101.

² Denniston MM, Jiles RB, Drobeniuc J, Klevens RM, Ward JW, McQuillan GM, Holmberg SD. Chronic hepatitis C virus infection in the United States, National Health and Nutrition Examination Survey 2003 to 2010. *Ann Intern Med* 2014; 160:293-300.

³ Davis GL, Alter MJ, E-Serag HB, Poynard T, Jennings LW. Aging of Hepatitis C virus (HCV)-infected persons in the United States: a multiple cohort model of HCV prevalence and disease progression. *Gastroenterology* 2010;138:513-521.

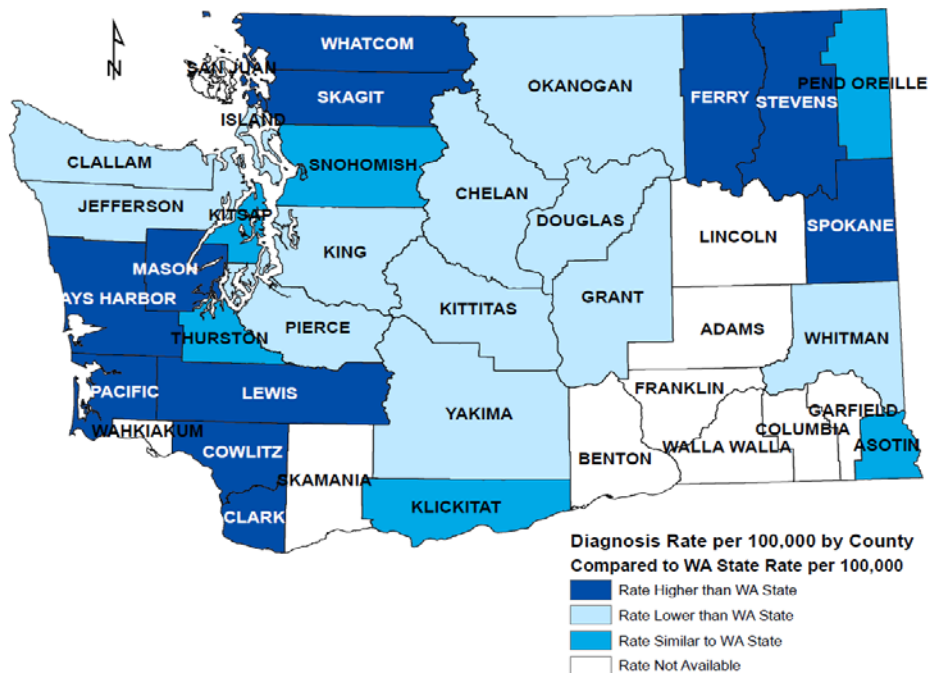
⁴ Ly KN, Xing J, Klevens RM, Jiles RB, Ward JW, Holmberg SD. The increasing burden of mortality from viral hepatitis in the United States 1999 and 2007. *Ann Intern Med* 2012;156:271-278.

⁵ Ly KN, Xing J, Liu SJ, Moorman AC, Rupp L, Xu F, Holmberg SD. Causes of death and characteristics of decedents with viral hepatitis, United States, 2010. *Clin Infect Dis* 2014;58:40-49.

⁶ Mahajan R, Xing J, Liu SJ, Moorman AC, Rupp L, Xu F, Holmberg SD. Mortality among persons in care with Hepatitis C virus infection: the chronic hepatitis cohort study (CHeCS), 2006-2010. *Clin Infect Dis* 2014;58:1055-1061.

⁷ Mathis AS. Economic burden and current managed care challenges associated with Hepatitis C. *Amer Jour Managed Care* 2012 Dec;18(14 Suppl):S350-359.

Figure 1. Chronic HCV Diagnosis Rates per 100,000 by County Compared to WA State Rate, 2010-2012



The burden of chronic HCV in Washington is significant. Between 2000 and 2012, a total of 75,193 chronic HCV cases were diagnosed and reported to the Department of Health. It is estimated that more than 100,000 people could be living with chronic hepatitis C. About 5,700 new cases were diagnosed per year, on average, between 2008 and 2012. Figure 1 shows that hepatitis C impacts counties across the state; some counties do not show case rates either because numbers of reported cases were not large enough to generate case rates or because the county does not have adequate capacity for case reporting.

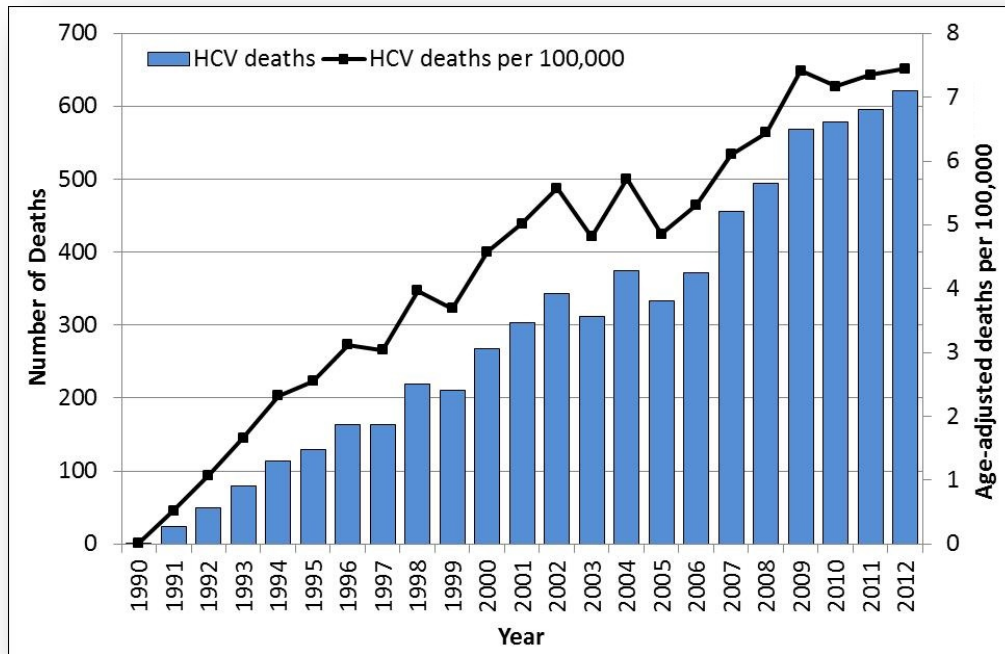
About 60 percent of chronic cases are among males, and most cases are diagnosed when persons are age 45-64 years old. About 60 percent of chronic hepatitis C cases are missing race or ethnicity data, so it is difficult to accurately describe health disparities; for those with race/ethnicity data reported, most are white, non-Hispanic. Risk information is missing for about 75 percent of reported cases; when the information is available, injection drug use is the most frequently reported risk factor.

State Correctional facilities have a disproportionate share of the burden of hepatitis C. The overall prevalence of chronic HCV is 16 percent among inmates entering the state prison system in Washington. The prevalence rate among incarcerated women is 25 percent and 15 percent among incarcerated men. Each year since 2010, the state prison system has identified almost 1,200 unique individuals infected with HCV, which is more than 5,000 cases in 4.5 years.

The number and rate of annual deaths in which HCV was the underlying or one of multiple causes of death continue to increase. In the last decade the number of such deaths increased

from 343 in 2002 to 622 in 2012. The statewide age-adjusted death rate in 2012 was 7.4 deaths per 100,000 compared to 5.6 deaths per 100,000 in 2002. In Washington, HCV-related deaths surpassed HIV-related deaths in 1998.

Figure 2. Washington State Chronic HCV-Related Deaths and Age-adjusted Death Rates per 100,000, 1990-2012



Also of concern is the growing trend of hepatitis C virus (HCV) infection among young people who inject drugs. In recent years, an emerging epidemic of HCV infection has been detected among young people who inject drugs in rural and suburban settings in the United States. These young people are primarily white, male and female, and from suburban and rural settings.⁸ Many of these young injectors started misusing prescription opioids before transitioning to heroin injection. We are beginning to see evidence of a similar trend in Washington; there has been an increase in heroin use across the state, with young adults a major population of concern,⁹ and a likely associated increase in acute HCV in recent years.

⁸ Pollini RA, Banta-Green CJ, Cuevas-Mota J et al. Problematic use of prescription-type opioids prior to heroin use among young heroin injectors, *Substance Abuse and Rehabilitation* 2011;2:173-180.

⁹ Banta-Green C, Jackson TR, Freng S et al. Drug abuse trends in the Seattle/King County area: 2013; http://adai.washington.edu/pubs/cewg/CEWG_Seattle_June2014.pdf.

Update of the Washington State Hepatitis C Strategic Plan

In 2003 the Washington State Legislature requested that the Washington State Department of Health, via Substitute Senate Bill 5039, design a state plan to address hepatitis C virus infections. The plan was developed in collaboration with a wide variety of stakeholders and included recommended actions to prevent new disease transmission while effectively managing disease in those already infected. It was delivered to the legislature in 2004. However, the implementation plan was not supported by adequate resources. Some elements of the plan were accomplished, but many remained unfinished.

Ten years later, we find ourselves watching morbidity and mortality steadily increase in people unknowingly exposed decades ago, and new infections among young PWID increasing. The good news is that opportunities have opened up and progress has been made in ways that position our state to have some meaningful impact on the epidemic. Factors that weigh in our favor in 2014 include the following:

- In 2011, the U.S. Department of Health and Human Services (HHS) led the development of its first-ever cross-agency action plan called, “Combating the Silent Epidemic of Viral Hepatitis: Action Plan for the Prevention, Care, & Treatment of Viral Hepatitis.” This plan signaled recognition of hepatitis as a significant cause of morbidity and mortality and focused more coordinated efforts on addressing the disease. The plan was updated this year to reflect progress made in treating infection.
- Washington has embraced the Affordable Care Act, expanding Medicaid and creating a state Health Benefits Exchange. More people have access to health care, which means more people have the opportunity to be screened for hepatitis C and, if they are infected, seek care and treatment for their disease. And substantial resources have been invested by the federal government in community health centers so that underserved populations have improved access to primary care health services.
- In the past year, highly effective therapy has become available to treat and cure people with HCV. Previous therapies had toxic side effects, limiting the number of patients who could tolerate them and providers willing to treat these patients. Now, treatments can result in cure rates of about 90 percent with a shortened course of treatment that is easy to tolerate. Two new medications will likely be approved by the Federal Drug Administration this year, and several more will be approved in 2015-2016. With these new drugs, cure rates will approach 100 percent. This is truly a revolutionary time in treatment for hepatitis C.
- In 2014, the Centers for Disease Control and Prevention (CDC) and the U.S. Preventive Services Task Force revised guidelines to simplify screening for those at risk for hepatitis C. One-time screening is now recommended for all people born from 1945 to 1965, who are five times more likely to be infected than other age groups. Regular screening is also recommended for populations at higher risk of infection, every six months for people who inject drugs. The Affordable Care Act requires health plans sold in the individual

and small group markets as well as state-based Medicaid plans to cover clinical preventive services recommended by the U.S. Preventive Services Task Force (those graded “A” or “B”) without copayment or coinsurance, including HCV.

- In 2013, Washington was one of six states to receive three-year supplemental funding from CDC to enhance HCV surveillance. Funding is being used to collect more information from a representative sample of people with chronic hepatitis C so we can better understand who is infected and what work must be done to get them into treatment and care.
- Washington has developed several promising models of practice that, given resources, could be scaled-up. These include using a telehealth model, Project ECHO (Extension of Community Health Outcomes), to build HCV treatment capacity and using electronic health records to enhance screening for disease.
- Washington has a history of effectively addressing another chronic infectious disease, HIV. We have built an infrastructure of experienced case managers who have been able to work with individuals to help keep them virally suppressed, and systems that help individuals get access to medications.
- Washington is engaged in health system transformation as described in the State Health Care Innovation Plan. The plan has components related to integration of physical and behavioral health, use of health information, and workforce development that will contribute to our ability to address HCV.

During the 2014 legislative session, the Washington State Legislature directed the Washington State Department of Health to update its current hepatitis C strategic plan. The budget proviso language states:

Within the appropriations provided in this section, the department shall update its hepatitis C strategic plan for the state to include recommended actions pertaining to, at a minimum:

- *Using prevalence data to determine the number of undiagnosed hepatitis C patients in the state;*
- *How to best reach undiagnosed patients, with special consideration to people born between 1945 and 1965 and new infections;*
- *The status of the more than 60,000 state residents who have already been diagnosed with hepatitis C;*
- *A framework for improving hepatitis C testing and linkage to medical care; and*
- *A framework for the prevention of hepatitis C.*

The department of health shall present its updated strategic hepatitis C plan to the appropriate committees of the legislature by September 15, 2014.

We face many challenges. Though the federal government created a plan, there are few resources for implementation. Many of the people who have been diagnosed with HCV and their health care providers have been waiting for new medications to be approved before initiating treatment. Now that better treatments are here, it is too expensive to treat everyone with disease; people with more advanced liver scarring are being prioritized. However, the

eventual goal is to treat an increasing number of people as a public health strategy to prevent transmission and infection. Now, as baby boomers are experiencing the negative health outcomes of living for decades with disease, more young people who inject drugs are becoming infected.

Washington has the foundation of a successful infrastructure to control and eventually eliminate HCV. We have widespread use of electronic health records (EHR) and electronic laboratory reporting of HCV test results; a successful HVC clinical training network (Project ECHO); community providers who are experienced at linking people to health care and other services (such as the Hepatitis Education Project); and successful health insurance expansion through ACA-related health plan enrollment. Our state is moving toward transformation of the systems that support health. And we have numerous entities across public health and the health system that are interested in partnering to create a more coordinated state response to the epidemic since no entity can do it alone. However, the capacity to adequately address the challenge of HCV with a comprehensive, coordinated, sustainable statewide health care system and public health response is not yet a reality.

Goals

In better coordinating our systems and bringing to scale our promising practices, our goal is to achieve several outcomes:

- Increased percent of people with HCV who know their status
- Increased percent of people with HCV who receive treatment
- Increased percent of people who are cured
- Decreased number of new infections
- Decreased HCV-related morbidity
- Decreased number of HCV-related deaths

While the National Action Plan addresses all viral hepatitis, this plan specifically focuses on hepatitis C and the populations most impacted by disease, including the baby boomers and people who inject drugs. The plan contains three primary areas around which recommended actions are grouped:

- Identify people with hepatitis C, link them to care, and get them to a cure
- Prevent new infections
- Strengthen data systems and increase data use

In each area, promising practices that are already being used in Washington are described.

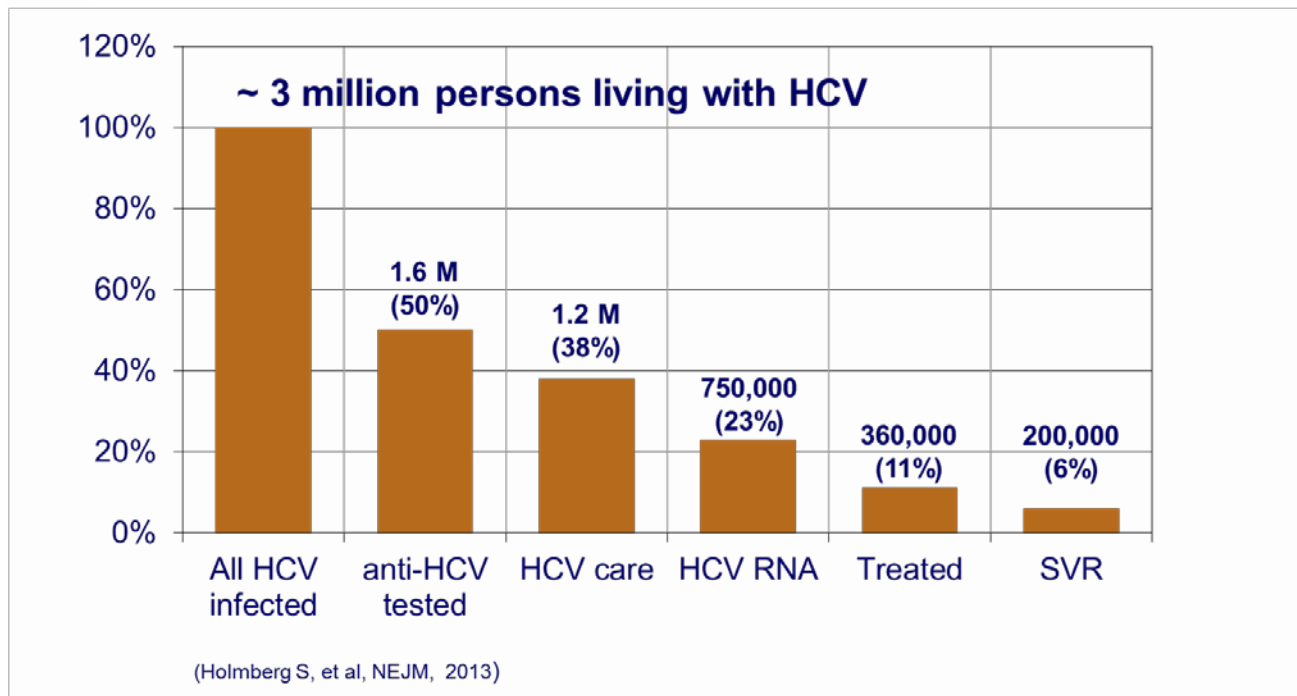
In acting quickly to make progress on achieving these outcomes, we have the opportunity to save lives and dollars while starting to envision a Washington free of hepatitis C.

Identify people with hepatitis C, link them to care, and get them to a cure

There are significant opportunities to improve our response to HCV at every point along the HCV care continuum. Figure 3 reflects breakdowns in each step of the HCV care continuum, from HCV diagnosis to completion of effective treatment. Nationally, as few as 50 percent of HCV-infected patients are aware of their diagnosis, and once diagnosed, only about a third of patients (32-38 percent) are referred to care, 7-11 percent are treated and 5-6 percent are cured¹⁰. Attrition at each step in this care continuum reflects low levels of testing associated with the previous relatively complicated HCV testing process, lack of adequate access to HCV specialists and treatment, lack of medical insurance, real or perceived contraindications to therapy, and the absence of a well-coordinated clinical and public health response to HCV.

Raising the bars will require a collective effort. Health care providers at all levels must become more educated on HCV prevention, care, and treatment and then have the tools to diagnose, keep infected people engaged with care, and provide treatment. At the same time, the general public, especially people in priority populations, must be knowledgeable and informed about how to prevent, diagnose, and treat hepatitis C.

Figure 3. HCV Test, Linkage to Care, and Cure (Sustained Viral Response) Continuum, United States



¹⁰ Holmberg SD, Spradling PR, Moorman AC, Denniston MM. Hepatitis C in the United States. *N Engl J Med* 2013;368:1859-1861.

Steps to be Taken

In order to raise the bars along the continuum, we must work with health care providers at all levels to build their knowledge and capacity. We must also work with communities that have high rates of disease to build the community-clinical linkages necessary to address the epidemic. Three steps are crucial to success:

1. Build a Washington health care workforce prepared to diagnose, care for, treat, and cure people infected with hepatitis C.
2. Educate communities about risk factors for hepatitis C, how to reduce risk, and the availability of prevention, testing, and treatment services.
3. Improve testing, care, and treatment to raise the bars along the care continuum.

Step 1: Build a Washington health care workforce prepared to diagnose, care for, treat and cure persons infected with hepatitis C.

More health care professionals caring for people at risk for or living with hepatitis C must be knowledgeable about its prevalence, risk factors, and screening guidelines. They must also learn of the new treatment advances, various other conditions that can hasten the progression of liver disease (e.g., obesity, alcohol use), how to monitor patients for signs of disease progression, and when to refer patients for specialty care. Providers treating patients with hepatitis C will need guidance regarding the use of more effective but rapidly evolving medications, including decision support tools (e.g., standing orders, electronic physician reminders, telemedicine consultations). As the implementation of screening recommendations expands and therapeutic options for viral hepatitis become more effective and better tolerated, the need for a well-informed health care workforce will become paramount. Strengthening training systems and other forms of provider support is vital for expanding the Washington health care workforce capacity to address hepatitis C successfully.

Local health agencies have a longstanding relationship with medical providers to support screening, diagnosis, and treatment. As more people have access to medical providers, local health officials are shifting their focus from safety-net provision of services to supporting medical provider practice. This presents an opportunity to dovetail ongoing communication and support of best practices with existing formal educational offerings.

Professional organizations could help identify relevant training and tools for members and offer guidance and leadership in the field. They can use their networks, annual meetings, and other outlets to share expertise and foster change and improvement in clinical practice.

Promising Practice

Washington State Promising Practice Using EHR platforms to improve testing and linkage to care

Starting in 2013, the Department of Health and Public Health – Seattle & King County collaborated with the University of Washington’s Harborview Medical Center to increase HCV testing in three primary care clinics. Staff used electronic health records (EHRs) to develop a pre-clinic report identifying persons born during 1945 and 1965 with no previous HCV test. The proportion of patients tested in the three clinics involved in the project increased 150-375 percent following the EHR alert intervention. At present, 63-74 percent of patients born between 1945 and 1965 have been tested for HCV. This project could be replicated in other practices and built on to promote additional improvements in HCV care.

Collaboration among key public health, medical, and other professional organizations will enhance and expand the capacity of the Washington health care workforce to address hepatitis C. Partnerships with medical, nursing, and other health professional societies will better equip a greater number and variety of providers to skillfully provide hepatitis C prevention, care, and treatment services. Education of providers can start during graduate and postgraduate education through partnering with health professions schools.

Recommended actions

1.1 Work with health professional chapters, associations, and commissions (the state Medical Association, Nursing Association, Washington Association of Community and Migrant Health Centers, American Indian Health Commission, Veteran’s Administration) to include presentations about HCV screening guidelines, treatment advances, and training opportunities in newsletters and at conferences.

1.2 Develop and support training opportunities for health care providers and others and encourage participation (promote the University of Washington’s HCV Online, an Internet-based HCV curriculum for health care providers that offers continuing medical education (CME) credits; work with the AIDS Education and Training Center to incorporate HCV training). Include information in the training about screening recommendations, Project ECHO, fibrosis, protocols for treatment, and the role of case management.

1.3 Work with entities that are measuring performance of providers/health care systems to incorporate measures related to adoption of screening, management, and treatment guidelines (accreditation entities, the Performance Measurement Committee for the State Health Care Innovation Plan, HEDIS, etc).

1.4 Summarize and distribute information for providers about eligibility/coverage for HCV treatment and options for treatment outside of insurance, such as studies and Patient Assistance Programs.

1.5 Expand the capacity of providers to treat HCV by expanding the capacity of Project ECHO, a telehealth model that links front-line primary care clinicians with a team of specialists at the University of Washington to manage patients with HCV. Make telehealth/telemedicine a reimbursable service.

1.6 Expand the availability of tools or systems that use the electronic medical record (EMR) platform to identify people eligible for HCV screening. Share best practices on how to use EMR platforms to identify people eligible for screening.

1.7 Expand training for providers related to management of addiction, including cultural competency/stigma.

1.8 Develop and support local public health agency work to support medical provider practice to improve testing, diagnosis, management and treatment.

Step 2: Educate communities about risk factors for hepatitis C, how to reduce risk, and the availability of prevention, testing, and treatment services.

Enhanced and expanded provider education efforts are vital to raising the bars across the hepatitis C care continuum. This must be complemented by active work designed to educate communities about the disease and the benefits of prevention, screening, care, and treatment. Greater awareness about how to prevent, diagnose, manage and treat HCV is essential among the general public and especially among people in priority populations (e.g., baby boomers, people who inject drugs, people attending substance abuse treatment centers, people with HIV, etc). An education strategy that includes targeted outreach to populations at greatest risk can raise awareness of hepatitis C as an important health concern, increase knowledge regarding the benefits of prevention and care, and encourage people to seek and accept testing, care, and treatment.

Educating communities can happen in a variety of ways. Public education and testing campaigns and other awareness activities are key strategies for improving public understanding and influencing health behaviors among populations most impacted by hepatitis C. Significant investments have been made at the national level in campaigns such as CDC's Know More Hepatitis, and work can be done at the state level to expand the reach of these campaigns. In Washington, materials have been developed that are targeted to PWID. We can identify and engage new partners who can enhance and extend efforts to educate communities using

available materials. And May 19th has been established as the annual observance of Hepatitis Testing Day in the United States, which falls during Hepatitis Awareness Month. Observances such as this can be promoted via media, online social networks, and to targeted communities.

Recommended actions

2.1 Implement a statewide media campaign using the “Know More Hepatitis” materials to increase awareness about hepatitis C and educate those born between 1945 and 1965 to get tested for hepatitis C.

2.2 Find ways to disseminate hepatitis C education messages to young people, including social media, peer networks, school-based health education, drug treatment, and syringe service sites.

2.3 Collaborate with community-based organizations, including tribal, to customize media campaigns, educational materials, and messages to meet the specific needs of priority groups in order to increase their awareness about hepatitis C. Disseminate messages and materials in ways most likely to reach the priority populations.

2.4 Partner with organizations like the American Association of Retired Persons (AARP) to send information to members about testing recommendations for baby boomers.

2.5 Work with the business community/large employers to hold hepatitis C screening events for baby boomers as part of workplace wellness initiatives.

2.6 Work with partners who are educating communities about the Affordable Care Act and opportunities for increased access to comprehensive health care coverage that includes preventive care benefits, hepatitis C screening among the benefits.

2.7 Support efforts to expand the role of Community Health Workers, including peer supports, navigators, and care coordinators, to create linkages for communities to clinical care. Support reimbursement models for these members of the health team. Train them on hepatitis C so they can share information with priority populations.

2.8 Work with private industry and media to get messages out about screening of the baby boomer population. Promote observances such as Viral Hepatitis Testing Day on May 19th.

Step 3: Improve testing, care, and treatment and raise the bars along the care continuum

Hepatitis C testing, referral to care, treatment, and achievement of viral suppression or cure represent a continuum of care that can be used to evaluate and improve efforts to comprehensively address this epidemic. Earlier diagnoses and improvements along the entire continuum of care can lead to reductions in the incidence of cirrhosis, liver cancer, and liver transplantation in Washington, as well as improved health and productivity for infected people.

Effective treatment of hepatitis C requires timely diagnosis. Half or more of individuals infected with hepatitis C do not know it, and this large percentage persists even when people are engaged in care. Now that the CDC and U.S. Preventive Services Task Force recommendations for hepatitis C screening have been aligned, provider and payer confusion about reimbursement should be reduced, and there is opportunity for adoption and promotion of testing across a variety of health care settings. Health Information Technology offers many opportunities to help promote routine screening by keying in on information contained in the electronic health record; this is particularly true for testing of the baby boomer population.

Testing individuals according to current recommendations must become the standard of care in primary care settings and other settings where people at high risk can be reached, such as STD clinics, substance abuse prevention and treatment programs, and correctional health programs. Most of those infected with HCV in corrections are young drug users. The CDC age-based testing strategy would not identify most of HCV infections and thus, universal testing is recommended in the correctional setting.¹¹ County jails are also an ideal setting for case finding using rapid test kits, but due to lack of funding, jails in Washington are currently not offering any testing.

Current testing technologies for hepatitis C do not always meet the needs of health care providers who use them to identify patients and link them to care and treatment. To differentiate acute HCV infection from chronic HCV infection requires at least two different blood tests. There is also need for testing technology such as genotyping that is important in guiding the treatment of chronically infected individuals.

The next bar in the care continuum describes the percentage of people who are diagnosed with HCV and then linked to care. Challenges that have previously hampered progress in improving outcomes at this step of the continuum have included lack of providers who are knowledgeable about hepatitis C; difficulty accessing health insurance due to cost or preexisting conditions; and program capacity for adequate follow-up with referral to a health care provider. We have started to overcome some of these barriers through the Affordable Care Act and supporting

¹¹ Larney S, Mahowald MK, Scharff N et al. Epidemiology of hepatitis C virus in Pennsylvania state prisons, 2004-2011: limitation of 1945-1965 birth cohort screening in correctional settings. *Am J Public Health* 2014;104:e69-e74.

telehealth programs like Project ECHO. Active and timely linkage to care following diagnosis is essential to improve health outcomes.

An important component of raising the next bar of the continuum involves retaining people in care and helping them stick to their medication schedule during treatment. Many patients with HCV face social barriers, behavioral health issues, or have co-occurring medical conditions that make it challenging for them to remain in HCV-related medical care. Work must be done with health care facilities, case management agencies, health homes, and managed care to improve care coordination. In Washington, there are several organizations that currently support linking individuals with chronic infectious disease to care and help them stay engaged with care. The Hepatitis Education Project (HEP) employs case managers who work with clients who have been diagnosed with HCV to get them from diagnosis through care and treatment. Washington also has a strong infrastructure of organizations that support individuals through their ongoing management of HIV in order to achieve viral suppression and maintain optimal health. There are opportunities to use these existing structures, as well as other parts of the health services delivery system, to keep people engaged in care.

Since cases of HCV are overrepresented in the correctional system, it is important that transitions in care across the continuum are addressed for this population. Washington's Department of Corrections (DOC) currently treats a percentage of inmates identified with chronic infection, but is limited in ability to treat the estimated 600-700 individuals with advanced liver disease in the system on any given day. DOC uses a modified ECHO model to treat inmates at eight facilities around the state, having a weekly conference call to educate providers and review clinical cases. Despite having treatment protocols in place to treat HCV since 1999, the prison system is already beginning to notice an increase in the number of inmates with end stage liver disease within the system. A significant number of deaths within the prison system over the past several years have been due to end stage liver disease and liver cancer as a result of underlying HCV infection. This trend is likely to continue unless more inmates are treated for the infection earlier in the course of disease now that more effective medications are available. Efforts are currently underway to enroll inmates in health insurance before release so that they can access health care, including HCV treatment, in the community if they are not treated before release. Adequate discharge planning is crucial for connecting individuals to the care in the communities into which they are released. Although inmates often are not in jail long enough to be treated, jails can still play a key role in linkage to care. However, jails have limited resources to dedicate to enrolling inmates in health insurance and providing discharge planning.

Clinical quality measures can play a role in improving viral hepatitis care and treatment after diagnosis. Clinical quality measures help measure and track the quality of health care service provided across many aspects of patient care, including health outcomes, clinical processes, patient engagement, and care coordination.

Promising Practice

Washington State Promising Practice Providing support to individuals along the care continuum

Washington State has developed a robust system of supporting individuals with another chronic infectious disease, HIV, across the care continuum. This system has several components that could potentially be used to address HCV:

- Use of surveillance data to identify people who have tested positive but have not been linked to care, or were linked to care at one time and need to be re-engaged.
- Use of disease investigation staff and case management staff to find and link or re-link individuals to care.
- Different thresholds of case management depending on patient characteristics – some individuals need occasional check-ins, others need more intensive assistance.
- Methods of prioritizing surveillance-based case investigations.
- A model of release planning for inmates to link them with care in the community.

It will be particularly important to use some of the tools mentioned above to prioritize action across the HCV care continuum because of limited resources and a much higher prevalence of disease than HIV.

Recommended actions

3.1 Support and share best practices related to inclusion of screening, treatment, and disease management guidelines in electronic medical records to improve testing and referral patterns. As federal partners develop tools, make health care providers and health systems aware of them.

3.2 Integrate screening/testing for hepatitis C into HIV/STD screening and testing programs.

3.3 Establish and/or enhance public health community-based and clinic-based case management programs to provide outreach case management and treatment case management to keep people engaged with care and adherent to medications. Develop reimbursement models for these providers.

3.4 Use mid-level providers and clinical pharmacists to improve outcomes along the care continuum by providing screening in pharmacies and giving support to patients who are being treated so they can stay connected to care and adherent to medications.

3.5 Establish care models that are comprehensive and integrate physical and behavioral health care.

3.6 Work with national partners, industry, state government and agencies, and insurance companies to bring down the cost of medications so that everyone with hepatitis C can be treated and cured.

3.7 Encourage local laboratories to automatically conduct PCR testing (reflex testing) when someone tests antibody-positive for hepatitis C.

3.8 Continue to identify quality of care/performance measures that can be used to monitor performance and motivate providers and health care systems to excel in diagnosing, managing and treating hepatitis C.

3.9 Institute HCV screening programs using rapid test kits in the jails around the state.

3.10 Position the Department of Corrections to access HCV medications at public health (340b) prices.

3.11 Enroll inmates in health insurance before their release date so that they can have access to health care upon release.

3.12 Use discharge planners in the state prison system to build partnerships with community providers and link inmates to these providers upon release so the inmates can be treated for HCV and other issues.

Prevent new infections

In Washington and nationally, injection drug use is the most commonly identified risk factor for new cases of hepatitis C infection. An estimated 70-77 percent of people who inject drugs are chronically infected with HCV in the U.S.¹² As in other parts of the country, there has been an emergence of injection drug use in young people and with it, an increase in hepatitis C infection. These young people who inject drugs, male and female, are primarily from rural and suburban settings—some started prescription opioid use before moving to heroin injection. There is a need to provide all people who inject drugs with access to comprehensive health services in order to address their hepatitis C infection and the many negative health outcomes associated with injection drug use (chemical dependency, abscesses, overdose, and cardiac problems, to name a few).

¹² Nelson PK, Mathers BM, Cowie B et al. Global epidemiology of hepatitis B and Hepatitis C in people who inject drugs: result of systemic reviews. *Lancet* 2011 Aug 11;378:571-83.

Steps to be Taken

Step 1: Ensure people who inject drugs have access to hepatitis C screening, prevention, care, and treatment services.

Step 2: Mobilize a broader response to drug user health.

Step 3: Expand hepatitis education and prevention services in correctional settings and beyond.

Step 1: Ensure persons who inject drugs have access to hepatitis C screening, prevention, care, and treatment services

The prevalence of hepatitis C is high among people who inject drugs, including those entering substance abuse treatment programs. Integrating medical and behavioral drug treatment and recovery services with hepatitis C prevention, care, and treatment services can help to improve health outcomes and reduce the further transmission of infection.

Many substance abuse treatment providers remain unaware of the high rates of hepatitis C among those facing addictions and the role they could play in helping to diagnose or prevent hepatitis C. It is important to incorporate HCV education into training materials for providers working with people who inject drugs and others seeking medical treatment for opioid addiction.

A key approach to addressing hepatitis C among people who use drugs is to cross-train and integrate addiction and mental health services with hepatitis C prevention, screening, and referral to care for people who inject drugs and others who use drugs. Integrating hepatitis C services into existing behavioral health services will leverage existing systems that are already working with people who inject drugs but may not typically focus on infectious disease. An example is integrating HCV services where people are receiving medication-assisted treatment such as methadone or buprenorphine. In Seattle, HCV screening and referral to care have been available at one of the largest methadone treatment centers in the city, Evergreen Treatment Services. Screening is provided by staff from HEP and confirmatory testing and referral to care is provided by treatment center staff. HCV education is also provided in the required HIV education class. This program could serve as a model for other treatment centers. Since integration of physical and behavioral health is a cornerstone of Washington's State Health Care Innovation Plan, there may be other opportunities to scale-up this model.

It is important to identify infection among people who inject drugs and treat them for their infection since curing these people reduces opportunities for disease transmission. We also must recognize that addiction is a chronic disease with the possibility of relapse and that as

people receive treatment for hepatitis, they need access to new syringes and equipment so that they do not become re-infected. Syringe service programs are, and will remain, important health care access points for this disenfranchised group. People who work closely with this population play crucial roles in building community-clinical linkages for drug users, and we must find ways to include them, and reimburse them, as members of interdisciplinary health teams.

Recommended actions

1.1 Provide training and education about HCV (prevalence of disease, new treatments) for recovery and treatment providers and increase screening for HCV at chemical dependency treatment centers.

1.2 Work with partners to advocate for and design Community Health Worker models that improve community-clinical linkages for disenfranchised groups. Support reimbursement models for these members of the health team.

1.3 Identify providers who can provide nonjudgmental health care to people who inject drugs and work to build capacity to care for and treat people with co-morbidities such as substance abuse and HCV.

1.4 Develop the capacity of syringe service programs to function as health care access points for people who inject drugs, including the ability to provide rapid and confirmatory testing for HCV, the ability to enroll people for health insurance, and the ability to link people to care with appropriate providers.

1.5 Encourage entities that train providers (medical schools, residency programs, ongoing training) to include treatment of addiction.

1.6 Engage other partners such as pharmacists, law enforcement officers, and emergency personnel to provide information on the importance of HCV screening, overdose prevention, and access to Narcan.

1.7 Make hepatitis C training (importance of screening, how to screen, availability of new treatments) available for all providers licensed to dispense naloxone and buprenorphine.

1.8 Promote peer education models for people who inject drugs.

1.9 Assure access to new syringes for people who inject drugs.

Promising Practice

Washington State Promising Practice Strengthening the HCV care continuum for people who inject drugs in Tacoma

Department of Health is working with syringe service programs (SSPs) to develop and expand their capacity to screen people for HCV using rapid test kits; assist people using SSPs in getting access to care by enrolling them in health insurance; and for those who test positive for HCV, linking them to care in the community. At the same time, Department of Health is working to facilitate connections between Project ECHO and community providers so these providers can develop the skills to treat disease. In Tacoma, the Point Defiance AIDS Project is conducting rapid testing of people who inject drugs, signing people up for health insurance, and linking them to Community Health Care (CHC), an organization that is working with Project ECHO to build provider capacity to treat disease.

Step 2: Mobilize a coordinated response to drug user health

Hepatitis C is one of many health issues that impact people who use drugs. Our approach to drug user health is fragmented across systems. Partnerships across the public and private sectors are needed to improve health outcomes for all drug users. It is critical, especially in rural and underserved areas, that these partnerships include an array of organizations, including health agencies, pharmacies, law enforcement, social service agencies, community organizations, health care providers, schools, and families.

Lots of attention has been focused on overdose prevention, related to both prescription drug misuse and opioids. This is an urgent matter, as is the control of the spread of hepatitis C in people who inject drugs. People working on these two different issues have opportunities to support each other's efforts and craft a more comprehensive response to drug user health issues. In Washington, syringe service programs are already providing both HCV screening and naloxone/overdose education and there are opportunities to learn from these programs.

In Washington's State Health Care Innovation Plan, a comprehensive prevention framework is being developed to improve population health. The priority of this framework is on prevention and management of chronic disease and behavioral health issues, and an initial area of work on this priority is mental health and substance abuse/use. As physical and behavioral health become better-integrated as a result of removing service and payment silos, there will be increased opportunities to improve health outcomes for all drug users.

Recommended actions

2.1 Address the needs of young people infected with and at risk for HCV. Put out appropriate risk reduction messages via peer networks and social media for young people who are at risk of transitioning to injecting or who are currently injecting.

2.2 Educate law enforcement and emergency response staff about drug user health issues, including HCV and opportunities to connect people to testing and treatment.

2.3 As Accountable Communities of Health form under health system transformation in Washington, provide community-level data that summarize the health issues, health disparities, and health care costs of this population that has difficulty accessing and staying engaged with the health care delivery system.

2.4 As prevention enhancements are considered for the State Health Care Innovation Plan, prioritize integration of physical and behavioral health for this population.

2.5 Educate entities that interact with young people, such as pediatricians and schools, about the increasing trends in injection drug use and HCV in young people. Update school curricula related to injection drug use and HCV.

2.6 Engage community businesses like tattoo parlors and licensed marijuana retail sites, in educating clientele about hepatitis C and the availability of testing and treatment.

Step 3: Expand access to and delivery of hepatitis education and prevention services in correctional settings and beyond

The prevalence of high risk behaviors for acquiring HCV is high among people who are incarcerated, many of whom have a history of injection drug use, commercial sex work, trading sex for drugs, and non-professional tattooing. Health care providers and other support staff (e.g., social workers, case managers) working in correctional facilities need ongoing education to understand the significance of HCV infection, routes of transmission, and how to prevent it so that adequate counseling, testing, and treatment can be offered. Inmates also need education. In Washington, the Hepatitis Education Project has provided training directly to offenders at all 12 prison facilities as well as King County Jail for more than 10 years. It is also important to have risk-reduction programs in the correctional setting to reduce the acquisition and transmission of HCV, since during incarceration and after release many inmates will continue to participate in high-risk behavior. As part of a research study, in 2012 Washington DOC piloted a peer-based risk reduction model for HIV and HCV prevention in the correctional setting in four facilities. It worked. There is interest in continuing and expanding the program

now that feasibility has been demonstrated, but resources to continue and expand the program have been limited.

Recommended actions

3.1 Educate in correctional workers about HCV, including the burden of disease in correctional settings, how to prevent transmission, the importance of treatment, and the new medications.

3.2 Educate inmates about risk behaviors associated with HCV acquisition, the importance of getting tested for HCV, and the availability of new, effective treatments.

3.3 Implement and/or expand risk reduction programs for inmates to decrease acquisition and transmission of infection, e.g. Project SHIELD (see below).

Promising Practice

Washington State Promising Practices Project SHIELD

Initially as part of a research study, Washington State Department of Corrections in collaboration with the Hepatitis Education Project piloted an evidence-based program to reduce drug, tattoo, and sexual risk factors within hard to reach populations both during incarceration and after release. The CDC HIV risk reduction program, SHIELD (Self-Help in Eliminating Life-Threatening Diseases), was modified to include HCV and was tailored for the correctional setting. The model relies on peer networks to reduce risk behaviors. Participants are trained by 1-2 facilitators to be peer educators during six interactive small-group sessions that involve role-plays, demonstrations, and group discussions. Participants are asked to improve their own health behaviors and promote risk reduction among their social networks and community contacts. The pilot program involved one session at each of four facilities where it was very well received with excellent feedback from participants, prison health staff and administrators.

Strengthen data systems and increase data use

Surveillance/monitoring and other health data are necessary to guide effective hepatitis C prevention, care, and treatment initiatives. Data can be used to make decisions on the best allocation and prioritizing of resources and to meet the needs of the at risk population for HCV or infected with HCV. As Washington engages in transformation of the health care delivery system, there will be opportunities to build new relationships and maximize use of available data across health systems. Recent changes in Health Information Technology (HIT) are revolutionizing how and which data are collected, providing many potential opportunities to strengthen our understanding of the epidemic and inform our response.

In Washington, acute and chronic hepatitis are reportable conditions. However, due to diminishing resources, the existing state/local surveillance system increasingly lacks the capacity to capture and analyze the data needed to accurately describe the scope of the problem among the chronically infected as well as for those experiencing emerging or reemerging outbreaks. There are wide variations across the state in how, or if, chronic hepatitis cases are investigated and reported. Local health agencies face many challenges associated with chronic hepatitis surveillance, including large numbers of reports, both initial and duplicate; limited information received on laboratory reports; lack of timely response from providers; lack of training on chronic hepatitis follow-up; and difficulty following up with patients. The barriers to surveillance have led some counties to scale back or eliminate case follow-up and reporting of new chronic hepatitis C cases. Fifty-four percent of people with chronic hepatitis live in counties in which there is no capacity for follow-up. In counties where there is some level of follow-up, the data that are collected are the most readily obtainable and often incomplete.

Washington has received short-term supplemental funding from the CDC to enhance surveillance to better estimate the magnitude of the problem and the populations most impacted. In addition, a new notifiable conditions data system is being implemented over the next couple of years that will allow for better connections with data from the data repository, electronic health records, and electronic laboratory reports.

Steps to be Taken

Step 1: Monitor HCV-associated transmission, disease, mortality and health disparities.

Step 2: Monitor the provision and impact of hepatitis C prevention, treatment, and care, highlighting population-specific differences in access to services.

Step 3: Develop and implement new regulations, technologies and lab procedures to improve surveillance.

Step 1: Monitor HCV-associated transmission, disease, mortality and health disparities

Surveillance data are important to help decision-makers understand, prioritize, and act upon public health threats. Hepatitis C surveillance has been challenging for multiple reasons - low levels of health care provider awareness leading to missed opportunities to test; complex testing and diagnosis processes leading to incomplete testing and reporting; large numbers of cases reported to health agencies with missing information; lack of capacity to collect, analyze, and disseminate data; lack of capacity to summarize data across data systems to describe the true impacts of infection (e.g., cancer data and death data); and the slowly progressing nature of chronic viral hepatitis infections that fails to instill the sense of urgency needed to understand and address the epidemic.

The Affordable Care Act and accompanying focus on HIT offers many opportunities to improve, such as incentives for using electronic health records. More data are being generated and captured and our ability to use data effectively is expanding. HIT advances can improve the provision and documentation of services in clinical settings and the reporting of cases to public health authorities due to increased connectivity between clinical settings and public health. We must make use of the opportunities offered by advances such as automated case detection, enhanced connectivity and reporting, and increased capacity to monitor services provided and performance measures.

A key part of expanding surveillance efforts is the development of new partnerships. Commercial laboratories, health care systems, third-party payers, health researchers, and others who collect data should work together to improve and supplement existing information about people with hepatitis C. Enhanced information will help ensure a more targeted response to emerging epidemics and direct efforts to reach people who are infected and not yet diagnosed.

Recommended actions

1.1 Participate in discussions about the data repository being developed by Health Care Authority and OneHealthPort. Advocate for functionality that allows for automated case reporting to public health.

1.2 Collaborate with the state prison system to share its database, which can track all inmates testing positive for hepatitis C antibody linked with needed demographic data.

1.3 Standardize approaches to hepatitis C surveillance across the governmental public health system, including use of a common data system for disease reporting.

1.4 Support local health capacity to collect expanded information on reported cases and link them to care. Use information to update estimates of the number of prevalent cases and their characteristics.

1.5 As syringe service programs build capacity to do rapid HCV testing for people who inject drugs and link them to care, ensure that new cases are reported to the public health system.

1.6 As Accountable Communities of Health form, compose community profiles of the local impacts of HCV so they can be considered in prioritization processes.

1.7 Refine estimates of people living with HCV in Washington, making use of surveillance data, local estimates of HCV seroprevalence among current people who inject drugs collected as part of the National Behavioral Surveillance System, vital statistics data, and other sources.

Step 2: Monitor the provision and impact of hepatitis C prevention, treatment and care, highlighting population-specific differences in access to services

There are many health disparities in hepatitis C, including disproportionate impact on African Americans, American Indians, and Alaskan Natives, on men who have sex with men, people with HIV, baby boomers, and people who inject drugs. There are also differences in the access to prevention, care, and treatment services these groups have. Data must be used to monitor these differences as well as initiate service provision through linkage to care.

Improvements in disease reporting and access to additional data sources will allow for measurement of testing rates. With some adjustments to surveillance methods and reporting requirements, we can collect information on whether people have been linked to care, treated, and cured. These data will allow us to create a graph showing the bars of the care continuum that are specific to Washington and eventually, to specific populations. Ability to look at these data, both at the population level and the provider/health system level, will allow us to understand where we are making progress and where we need to enhance efforts.

Recommended actions

2.1 Use HCV surveillance data to identify newly and previously reported persons who are out of care and ensure linkage/relinkage with community medical providers.

2.2 Use interactions with reporting providers to increase their knowledge about need for follow-up for patients who test positive and options for treatment.

2.3 Use maps to identify areas with high disease burden and location of community providers to guide efforts to build capacity to link people to care and treat them.

2.4 Work with Health Care Authority and OneHealthPort to assure that public health has access to population-level data in the data repository in order to better describe provision of testing and treatment by provider groups and insurance entities.

2.5 Contribute to conversations about quality measures and advocate for HCV-related measures.

2.6 Collect information about stage of liver fibrosis, treatment status, HCV ribonucleic acid (RNA) over time, and case management indicators.

2.7 Create an inventory of providers who are treating HCV and their case loads to understand system capacity issues.

Promising Practice

Washington State Promising Practice Enhanced surveillance for hepatitis C and case reporting through the Health Information Exchange

The Washington State Department of Health is currently involved with two CDC-funded surveillance projects that could benefit how we conduct hepatitis C surveillance in Washington. The first is a short-term hepatitis surveillance project that ends in 2015. The purpose of this project is to determine whether it is possible to conduct surveillance and provide statewide epidemiologic data by investigating and following-up on a random sample of 10 percent of new cases, rather than attempting to do comprehensive surveillance and follow-up for all new cases. Staff from Public Health – Seattle & King County have been sampling their cases for about 18 months, and statewide sampling will begin in late summer/early fall 2014. Washington Department of Health is also in the first year of a five-year sexually transmitted disease (STD) surveillance project that will advance its capacity to conduct disease investigation by obtaining STD case reports through the Health Information Exchange. This important step forward will likely increase timeliness and completeness of case reports and save time for healthcare providers and local health jurisdiction staff. Once these new processes are established for STD reporting, they should be readily transferrable to other disease conditions.

Innovations in hepatitis C surveillance are needed to improve our understanding of and response to the disease. New laboratory tools and techniques can help us better understand and identify transmission among people at risk and promote the development of improved technologies.

In addition to developing new tools and techniques, we must make best use of the tools we already have available to make diagnosis and reporting of disease as efficient as possible, particularly considering disease burden. To do this, we must find ways to automate processes when possible. We must also ensure that disease reporting requirements are not barriers to efficient disease reporting.

Recommended actions

3.1 Make revisions to Washington Administrative Code (WAC) so that hepatitis-related laboratory test results are reportable to the state Department of Health (they are now reportable only to local health agencies).

3.2 Make revisions to WAC that change surveillance practice so that both positive and negative RNA results are reportable to state and local health.

3.3 Increase and streamline electronic laboratory reporting, assuring that electronic lab results automatically populate the data system supporting HCV surveillance.

3.3 Encourage local laboratories to automatically conduct PCR testing (reflex testing) when someone tests antibody-positive for hepatitis C.

3.4 Advocate for development of a process or rapid PCR test that can use finger-stick blood for confirmatory testing in outreach settings where skilled phlebotomists are often unavailable.

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