

# Public Health Approaches Toward Eliminating Hepatitis C Virus in Rhode Island

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## ABSTRACT

Hepatitis C Virus (HCV) continues to be a cause of significant morbidity and mortality around the world surpassing HIV, Tuberculosis and Malaria as the leading cause of death by an infectious disease. In the United States, advances in screening, testing and treatment have put the goal set by the World Health Organization (WHO) to HCV elimination within reach. Rhode Island has taken an innovative public health approach to eliminating HCV by improving disease surveillance activities, supporting disease reduction strategies and removing barriers across the continuum of care, particularly for populations that are disproportionately impacted by the disease. Through the coordination of the Rhode Island Hepatitis C Action Coalition, the Rhode Island Department of Health (RIDOH), the Executive Office of Health and Human Services (EOHHS), community organizations, and clinical leaders, important steps have been taken to reduce transmission of the disease and work toward HCV elimination.

**KEYWORDS:** hepatitis C virus, elimination, Rhode Island

## INTRODUCTION

Globally, viral hepatitis has now become the most common cause of mortality from an infectious source surpassing HIV, Malaria and Tuberculosis for cause of death.<sup>1</sup> In the United States (US), hepatitis C virus (HCV) is the most common blood-borne infection and is an important cause of liver related morbidity and mortality.<sup>2</sup> It is estimated that at least 2.4 million individuals in the US are currently living with HCV and there are approximately 17,000 new cases each year, although given concerns of underreporting, the incidence and prevalence of the disease is likely quite higher.<sup>3,4</sup> HCV is estimated to cost in excess of \$10 billion annually in the US alone and is a significant contributor to the increase in morbidity and mortality related to hepatocellular carcinoma, cirrhosis and liver failure.<sup>5,6</sup>

First described in 1989, HCV is a virus that affects the liver and is predominantly transmitted through exposure to infected blood or bodily fluids that contain blood. It has been classified into eight genotypes with a highly varied global distribution and 1a being the most common in the US.<sup>7</sup> Acute infection is often mild or asymptomatic and leads to

chronic infection in approximately 75% of exposed individuals.<sup>8</sup> Morbidity and mortality associated with HCV most frequently results from the complications of chronic infection including cirrhosis, liver failure and hepatocellular carcinoma.<sup>9,10</sup> The HCV epidemic in the US disproportionately impacts certain groups including those born between 1945 and 1965, known as the Baby Boomer generation, individuals who received blood transfusions or organ transplants prior to 1992, people who inject drugs (PWID), men who have sex with men (MSM) and in particular those who are infected with HIV.<sup>3</sup> Baby Boomers have a particularly high burden of disease which is thought to be related to the lack of standardized sterilization techniques and injection practices.<sup>11</sup> However, there has been an increasing disease burden among younger individuals due in large part to the growing opioid epidemic in the US.<sup>12,13</sup> Persons who have ever injected drugs are at increased risk for HCV given the possibility of transmission through syringes and injection equipment contaminated with HCV and injection drug use is the most common risk factor for HCV acquisition in the US.<sup>14</sup> It is estimated that between 69 to 77% of persons who inject drugs have been exposed to HCV amounting to approximately 1.5 million individuals in the US.<sup>15</sup> However, despite the growing burden of the disease, it is estimated that at least half of all persons with HCV are not aware of their infection.<sup>16</sup>

Although HCV remains a significant threat to public health, there have been incredibly promising strides in the treatment and cure of the disease. The development of a number of safe, well tolerated and highly effective treatment regimens of Direct-Acting Antiviral (DAAs) agents, several of which are pangenotypic and require relatively brief dosing regimens of as little as 8 weeks, makes elimination of the disease attainable.<sup>17</sup> The WHO has established a goal of eliminating HCV as a public health threat by 2030 aiming to reduce HCV incidence by 90% and HCV related mortality by 65% within the next 10 years.<sup>18</sup> This has catalyzed a significant public health response including the development of a National Viral Hepatitis Plan<sup>19</sup> in the US as well as state-based elimination plans.<sup>20</sup> Action plans to attain the goal of elimination have largely focused on risk reduction for the group with the greatest burden of new infections, namely PWID, as well as reducing barriers along the continuum of HCV care from prevention to testing through sustained virologic response (SVR, equivalent to cure).

## RESPONDING TO THE HCV EPIDEMIC IN RHODE ISLAND

Similar to elsewhere in the US and globally, Rhode Island has been increasingly impacted by the HCV virus and its complications. Over the past 10 years, mortality related to the HCV has increased by 272% and far outpaces the mortality related to HIV in the state.<sup>21</sup> However, measuring the true incidence and prevalence of the disease has met with similar challenges faced by other parts of the world. Prior estimates suggest that approximately 2% of Rhode Islanders have been exposed to HCV (16,603 to 22,660 individuals) with approximately 1.5% having developed chronic infection (12,286 to 16,768 individuals).<sup>22</sup> Importantly, the state has also continued to be disproportionately impacted by the national opioid epidemic with higher rates of substances use and overdose deaths compared to the national population, potentially worsening the HCV epidemic as well.<sup>23</sup> As a result, the RIDOH has developed a response with the goal of reducing the risk of transmission among those at highest risk for acquiring the disease as well as expanded testing and treatment services, taking advantage of expanded HCV screening guidelines, facilitating point-of-care HCV testing and supporting community services for risk reduction approaches.<sup>24,25</sup>

## RHODE ISLAND HEPATITIS C ACTION COALITION

The Rhode Island Hepatitis C Action Coalition (RIHAC) was formed in 2014 by Rhode Island Public Health Institute (RIPHI). RIHAC is currently led as a partnership between RIDOH and the Executive Office of Health and Human Services (EOHHS). The primary goal of this partnership is to reduce the HCV burden in the state by improving access to HCV risk reduction programming, disease testing and linkage to effective treatment programs that are designed for population groups most at risk for infection. The coalition is comprised of many stakeholders including medical providers, patient advocates, public health officials, community-based organizations and clinical researchers. RIHAC is responsible for coordinating the statewide public health response to addressing the HCV epidemic in Rhode Island including formulation of a statewide elimination plan. RIHAC has also worked on policy issues related to HCV, including reducing restrictions on HCV medications to improve access.

## DECREASING HCV INCIDENCE THROUGH RISK-REDUCTION INTERVENTIONS

A key element to the state response has been to coordinate prevention programming with community organizations and public health programs already working with vulnerable populations, particularly among PWID. Risk-reduction activities have focused on encouraging safe injection

practices to reduce the transmission of HCV, HIV and other life-threatening complications associated with injection drug use. Efforts in Rhode Island have been led by AIDS Care Ocean State (ACOS), which was the first community-based organization to provide harm reduction and integrated HIV/Viral Hepatitis services in the state. ACOS is the major source of clean syringes and statewide harm reduction services organized through the ENCORE Program (Education, Needle Exchange, Counseling, Outreach, and Referrals). The ENCORE program was established in Providence since 1995, and currently operates two fixed sites as well as mobile units in five cities including: Providence, Woonsocket, Newport, Pawtucket and Central Falls. The main hub for ENCORE is located at 557 Broad Street in the Southside of Providence, RI. In 2018, ACOS had 1,350 total client encounters, serving approximately 600 unique clients; collected approximately 48,000 used syringes for safe disposal; and distributed 75,000 clean syringes and 40,000 harm reduction kits. In the same year ACOS distributed 222 kits of Naloxone/Narcan and received reports back on 55 of those kits (25% Utilization Rate) saving 55 individuals.

ACOS has also partnered with another key community-based organization, Project Weber/RENEW (PWR), in its risk-reduction programming, including overdose prevention and needle exchanges. PWR provides safe spaces, innovative services, referrals, and advocacy for high-risk people, including individuals who engage in transactional sex. PWR employs a peer-driven model to develop and implement direct services and community advocacy for clients through street outreach, compassionate peer-to-peer counseling and critically important data collection. Project Weber/RENEW has grown in the past three years to operate three drop-in centers (two co-located in Providence, and one in Pawtucket). The organization employs 13 staff, 5 part-time and 8 full-time, who represent a range of identities, ethnicities, races, and ages. The great majority of employees are themselves in recovery from substance use disorder (SUD). The goal is for every client to walk through the doors and see someone who shares their identity and life experiences. PWR's primary goal is to provide compassionate and non-judgmental health and social support services to at-risk men and women in Providence. Through street and venue-based outreach, PWR provides comprehensive HIV and drug-associated harm reduction counseling, and critical life-saving harm reduction tools. PWR facilitates weekly social support groups for high-risk people, which promote self-competencies and supportive social relationships between peers and build HIV knowledge and harm reduction skills. Staff also assist with supported referrals to health care, mental health and addiction support services, legal aid, and shelter. Project Weber/RENEW's commitment to the health and well-being of at-risk men and women in Rhode Island, including overdose, HIV, STI and viral hepatitis prevention, extends beyond its counseling, testing and referral services.

The organization plans and holds trainings, workshops, and community events that increase knowledge and awareness of the obstacles faced by the population.

### IMPROVING ACCESS TO HCV TESTING THROUGH COMMUNITY-BASED PROGRAMMING

RIDOH has helped to coordinate the essential work of improving testing and reducing the number of people in Rhode Island who are infected with HCV but are unaware of their diagnosis. Innovative approaches through partnerships with community-based organizations that already work with individuals at greater risk of HCV infection have been well received and garnered significant support. Support from RIDOH has allowed for the provision of point-of-care HCV testing at multiple venues including mobile vans, street-level outreach as well as already existing clinics such as methadone clinics. Increased HCV testing is also being supported through peer-provided services and integration into needle exchange programs, SUD management and community health services. ACOS's ENCORE program for example, in addition to providing a needle exchange program and harm reduction kits, also includes both standing and mobile HCV testing sites and a street outreach program with 11 staff (9 staff with Qualified Professional Test Counselor (QPTC) certifications, four are agency consumers (peers). In 2018, ACOS conducted 890 Rapid HCV tests with a 5.2% positivity rate which is significantly higher than national average. With recent funding from RIDOH, ACOS is providing a Social Network Strategy (SNS) to recruit high-risk clients who do not know their status to HIV testing. This strategy is being expanded to include messages about clean syringes and other harm reduction tools as well as using recruiter to promote the harm reduction program to network associates (ENCORE SNS).

Expanded testing and linkage to HCV care services has also been offered through Project Weber/RENEW (PWR), complementing their risk reduction programming for at-risk men and women in Rhode Island. Each year, PWR provides over 400 HIV and HCV tests, over 1500 Narcan kits, over 125 support groups, over 15,000 condoms, over \$50,000 in basic needs assistance, among dozens of other services. Additionally, the organization has partnered with The Miriam Hospital on "Project Break," a program focused on MSM who are struggling with SUD and with Sojourner House on the state's first (and only) human trafficking shelter to link individuals who are at risk or test positive for HCV and HIV to medical treatment and other prevention services.

### IMPROVING HCV CARE CONTINUUM OUTCOMES

Accompanying the efforts to expand access to testing in Rhode Island are robust linkage to care programs to ensure individuals that test positive for HCV are quickly and

effectively linked to the highly effective treatments. The statewide RIDOH initiative to address the HCV epidemic has led to significant health systems changes allowing for the integration of SUD management and HCV care, particularly for individuals with SUD that have historically encountered significant barriers to accessing health care and HCV treatment. Key elements of this initiative have been piloted at CODAC, the state's largest non-profit provider of methadone care. There, all individuals who are receiving SUD care are screened for HCV and those who are infected are immediately linked to onsite HCV treatment services with the goal of promptly initiating appropriate curative therapy. This integrated approach starting at the very beginning of the HCV care continuum has shown to be a promising model for successful HCV micro-elimination among individuals with a significant SUD history that frequently face a number of barriers to accessing care.<sup>26,27</sup>

RIDOH has also been successful in partnering with the state's Department of Corrections (RIDOC), which is also responsible for the clinical care of a population disproportionately impacted by HCV. Incarceration provides an opportunity for testing and linkage to care but also presents unique challenges to continuity of care, as it may involve a change in health insurance status and risks the interruption of the treatment of disease in the transition from community to incarceration and vice versa. As a result, in addition to supporting increased access to prevention interventions and HCV testing, RIDOH in coordination with RIDOC has helped to increase access to HCV treatment within the RIDOC facilities as well as supporting discharge planning for individuals who would benefit from linkage to treatment services in the community.

The Miriam Hospital Immunology Center has also been a key community partner for expanding access to HCV treatment programming. The Center is the state's only publicly funded sexually transmitted infection (STI) clinic which has significantly increased testing for HCV as part of its standard STI screening procedures. The Center also includes a robust clinical care program for people living with HIV and has significant experience and dedicated programming for people living with HIV who are also co-infected with HCV which started in 2003. In 2019, the Center performed 472 HCV serologic antibody tests, with a positivity rate of 5.51%. All reactive antibody tests were followed up with an HCV RNA test, of which 69% had a detectable viral load.

### FUTURE DIRECTION

Prior research estimated that in order for Rhode Island to attain a goal of HCV elimination in line with the goals laid out by the WHO, there would need to be a significant increase in the number of individuals treated for the disease, up to 2,000 annually.<sup>28</sup> This will require continued commitment from multiple stake holders along with buy in from

the highest levels of government and public health administration in the state. While the innovative programming developed and implemented in Rhode Island has helped to expand access to HCV prevention, screening and treatment services, progress still needs to be made if the state is to meet the goal of elimination by 2030. This should include ongoing efforts to reduce barriers along the HCV care continuum including increased testing among all providers in the state as part of standard primary care, particularly in light of the recent changes in the USPSTF recommendations, as well as removing barriers to accessing treatment that include a burdensome and complex prior authorization process to access DAA treatment. Rhode Island has already made great strides in developing a recipe for success to eliminate HCV but efforts will need to be redoubled to ensure continued progress over the next 10 years.

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