



Harm Reduction – West Virginia Local Health Departments Lead Efforts to Mitigate Human and Financial Costs of Opioid Epidemic

West Virginia is in the midst of an unprecedented public health crisis touching every citizen and disrupting the lives of not only individuals and families but also entire communities and regions. We all have friends, neighbors, or relatives who are affected by the epidemic of heroin and opioid abuse. Local health departments are leading the way in many parts of the state in mitigating the infectious risks of intravenous drug use. They are providing compassionate care to people using these addicting substances, moving many toward recovery and saving lives with naloxone training and distribution. Local health departments are essential partners in combatting West Virginia’s opioid/heroin epidemic.

Background

The scale of the epidemic is staggering. In 2014, according to the U.S. Census Bureau, West Virginia had the highest age-adjusted rate of overdose deaths in the nation: 35.5 per 2,000. The state also ranked highest in the nation in the rate of Hepatitis B and second highest for Hepatitis C. These are but two infectious complications of the sudden rise in intravenous drug use that come largely from sharing dirty needles. Hepatitis C is the leading infectious killer in the United States. According to the Centers for Disease Control and Prevention (CDC), Hepatitis C cases in West Virginia, Kentucky, Tennessee and Virginia increased 364 percent from 2006 to 2012. Of those infections, 73 percent can be traced back to injection drug use.

Scott County, Indiana, is an example of the type of situation that West Virginia’s local health departments are trying to avoid. Like most of West Virginia, Scott County is rural. Although it had a population of only 23,972 people in 2013, the county had almost 200 cases of HIV infection in a single year. The direct economic treatment costs are staggering. The CDC estimates the lifetime costs of treating the HIV patients and Hepatitis C patients in Scott County alone could approach \$100 million.

Out of the 3,100 counties across the nation, the CDC has identified 220 counties as being at risk for HIV outbreaks similar to that in Scott County, Indiana. Among those 220 counties, 28 of them are in West Virginia. Intravenous drug users are also at risk of other infectious complications, including life-threatening bacterial complications like osteomyelitis (bone infection) and endocarditis (infection of the heart lining and valves), both of which require expensive and lengthy hospital stays.

A 2015 study (Oderda, Lake, Rudell, Roland, and Masters) published in the *Journal of Pain and Palliative Care Pharmacotherapy* looked at societal costs. They include direct and indirect costs like lost productivity and criminal justice expenses. The authors identified an annual cost of \$50 billion in the United States. In addition, the human costs of shattered lives of substance abusers, families, and especially children, are inestimable. Substance abuse knows no socioeconomic boundaries; it affects individuals from all income and education levels. The need for action is urgent. In 2010 dollars, the lifetime cost of treating someone with HIV is \$379,000, according to the CDC.

Public Health 3.0

Such demands on local health departments come at a time when they are in transition to a new model of public health called Public Health 3.0. Public Health 1.0 was the period from the late 1800s through much of the 1900s, when modern public health became an essential government function on the federal, state and local levels. Public Health 2.0 emerged late in the 1900s, as public health agencies went through increased professionalism and adopted common goals and standards. In the new period of Public Health 3.0, public health agencies across the country are going beyond their traditional functions, taking on the role of chief health strategists for their communities, and working with other community partners to address the social factors that affect the health of their populations.

As a report from the U.S. Department of Health and Human Services put it, public health departments “are forging a new framework for public health that is leveraging new partnerships and resources to create the conditions in which everyone can be healthy.” That report encouraged public health leaders to embrace the role of chief health strategist for their communities. It also said that public health departments should engage with community stakeholders – public and private – to form vibrant, structured, cross-sector partnerships designed to foster shared funding, services, governance and collective action. Further, the report suggested that funding for public health should be enhanced and substantially modified with exploration of innovative funding models.

The local public health departments in West Virginia that are addressing the crisis presented by the opioid epidemic are doing so in the context of the Public Health 3.0 movement. They are going beyond their traditional roles and recognizing the need to address factors in society that are affecting the health of the people in their communities. They are engaging in cross-sector partnerships and exploring innovative funding models.

Public health departments should engage with community stakeholders – from both the public and private sectors – to form vibrant, structured, cross-sector partnerships designed to develop and guide Public Health 3.0-style initiatives and to foster shared funding, services, governance and collective action. Funding for public health should be enhanced and modified substantially. Innovative funding models should be explored to expand financial support for Public Health 3.0-

style leadership and prevention initiatives. The emphasis should be on improvement. At the minimum, further cuts should be prevented.

Harm Reduction and Health Departments

To mitigate the effects of the unprecedented public health crisis of the opioid epidemic, the Cabell-Huntington Health Department, the Kanawha-Charleston Health Department, and the Wheeling-Ohio County Health Department, as well as others, have started syringe exchange programs. They also offer other services, such as recovery coaches, Hepatitis B and C testing, HIV testing, sexually transmitted illness testing and treatment, long-acting reversible contraception, naloxone treatment and distribution, and health navigators. All those services are offered under the umbrella term of *harm reduction*. That term refers to policies, programs and practices that attempt to reduce the harm associated with the use of psychoactive drugs among people who are unable or unwilling to stop using them. As the name suggests, the focus is on the prevention of harm rather than the prevention of drug use itself. Harm reduction is a good example of Public Health 3.0.

The experiences of the Cabell-Huntington Health Department, the Kanawha-Charleston Health Department and the Wheeling-Ohio County Health Department offer good examples of how harm reduction programs work and the benefits they can provide. The state should use them, as well as other successful programs around the country, as case studies when developing guidelines. But state guidelines should be careful not to interfere with local innovation. The success of the Cabell-Huntington, the Kanawha-Charleston and the Wheeling-Ohio County Health Department harm reduction programs is the result of local control, commitment and innovation.

Cabell Huntington: The Cabell-Huntington Health Department started providing comprehensive harm reduction services in September 2015. Services include syringe exchange, education, counseling, testing, treatment, and referral to address infectious disease prevention and treatment, as well as substance use and mental health needs. In the first year of operation, more than 1,900 individuals sought services through the syringe exchange. More than 177,000 sterile syringes were distributed during that time and syringe sharing in the community fell by two-thirds. Testing for Hepatitis C increased by more than 300 percent, and although the rate of infection is high, it is less than the rates reported in most syringe exchanges in other states. Thus, the Cabell-Huntington Health Department has a great opportunity to prevent infection in many drug-injecting users.

There are other differences between local opioid epidemics in West Virginia and the epidemic represented by two-year-old national data. Local health departments are measuring local events in real time. Responses are more appropriate and effective, and the interventions are delivered faster by trusted community agencies.

As noted earlier, West Virginia in 2014 had the nation's worst overdose death rate. In 2016, because of the local health department response, the death rate in Huntington could be

measured, recognized, and addressed before it even appeared in state and national reports. Since February 2016, the Cabell-Huntington Health Department's harm reduction program has dispensed more than 1,500 donated naloxone kits to city police and fire departments and members of the community. In that time, naloxone has reversed more than 200 overdoses. Therefore, strong local response by a strong local health department is saving lives and reducing the spread of disease – basic functions of local health departments.

Kanawha-Charleston: The Kanawha-Charleston Health Department, which serves both Kanawha and Putnam counties, initiated its harm reduction program on December 2, 2015. It is a community-wide initiative that relies on help from volunteers and donated supplies. Volunteers come from organizations involved in detoxification, recovery and substance abuse treatment, including Recovery Point, Pretera and Highland Hospital. A volunteer nurse and a volunteer pharmacist are among the regular attendees. Other volunteers have included medical students from West Virginia University and the West Virginia School of Osteopathic Medicine, and physician assistant students, nursing students and pharmacy students from the University of Charleston. Generous donors supporting the initiative include Fruth Pharmacy, Family Care and Cabin Creek Health Systems. The program received \$5,000 from the Kanawha County Commission and \$500 from Highland Hospital but currently receives no other financial support and has no special budget.

The center of the program is syringe exchange. It operates weekly on Wednesdays from 10:00 a.m. to 3:00 p.m. and is designed to reduce sharing of dirty needles and therefore reduce incidents of Hepatitis B and C and HIV infection, as well as bacterial complications from intravenous drug use. In waiting areas, recovery coaches engage patients to try to move them from addiction to detoxification and recovery programs.

The program also offers patients testing for sexually transmitted illnesses, Hepatitis B and C and HIV. A harm reduction clinic offers assessments of injection sites for signs of infection and long-acting reversible contraceptive services for female patients of reproductive age. The Kanawha-Charleston Health Department recently signed an affiliation agreement with the West Virginia University School of Public Health to establish a collaborative relationship to research the health needs of patients in regard to harm reduction services (including infectious diseases such as HIV and sexually transmitted infections), education and prevention efforts, and related subjects. The Kanawha-Charleston Health Department also is partnering with Johns Hopkins University to research methods to improve the delivery of harm reduction in Appalachia. In addition, the department has partnered with First Choice Health Systems to have an onsite navigator present during the harm reduction clinic to assist patients in signing up for health insurance. The demand for services has grown since inception at an average of 24 new patients per clinic.

By October 24, 2016, the department had served 1,190 non-repeating patients through its harm reduction clinic. Among them, 275 received other services including STI testing, Hepatitis B and C testing, HIV testing, contraceptives and contraceptive counseling, influenza vaccinations and other routine vaccinations, health insurance services, and recovery services.

While it is difficult to track the number of patients who have gone into recovery due to the anonymity of the patients, recovery coaches identified at least 15 who have availed themselves of recovery services since the clinic began.

Another important aspect of the clinic that often is overlooked is the treatment of each patient with dignity, respect, and kindness. The patients are often deeply ashamed of their behavior and have been treated coarsely in other medical settings. When arriving for the first time for the harm reduction clinic, patients often will not make eye contact or speak unless someone speaks to them. Over time, the attitudes of these patients shift. They begin to speak and even joke with the staff. They express gratitude for the program and the way they are treated. Such gradual softening is encouraging. Restoring their humanity and dignity can help to provide them with the hope that life can be better and gently nudge them toward recovery and reconnection with the greater community.

The harm reduction program also includes the distribution of naloxone and training in its use as an opioid antagonist, which can rapidly and effectively reverse opioid-induced overdoses. That can save lives.

The Kanawha-Charleston Health Department received a donation from Kaleo Pharma of 400 Evzio® naloxone auto-injectors valued at \$3,800 each. The auto-injectors are unique in that recorded voice instructions are built into the kits to improve the correct usage of those kits in a critical overdose scenario, minimizing human error. Each kit includes one trainer and two live doses. The department has given 265 auto-injector kits to eligible community members, who include people who are at risk of opioid overdoses, those knowing or living with such persons, and those who work in settings where overdoses might occur. Each receives 30 minutes of training in the use of the kits. West Virginia state code requires such training. The health department offers training out in the community, as well as at the department before each harm reduction clinic. At least 18 individuals have been saved with the use of the Evzio® naloxone auto-injectors.

Wheeling-Ohio County: The Wheeling-Ohio County Health Department started its harm reduction program, which is the smallest of West Virginia's three public health harm reduction programs, in September 2015. The program holds a weekly syringe exchange clinic at a community mental health partner agency, Northwood Health Systems. Over a year, the clinic distributed 2,350 clean syringes to more than 160 area residents.

The Wheeling-Ohio County Health Department's needle exchange program provides a way for drug users who continue to inject to safely dispose of used syringes and to obtain sterile syringes at no cost. The program addresses two issues with the growing intravenous drug problem in the area: It assists in stopping the spread of infectious disease by getting dirty needles off the streets and creates an opportunity for health care workers to connect with addicts. The overall goal of the program is to reduce and/or prevent the spread of HIV and Hepatitis through the use of dirty syringes. The needle exchange offers a one-for-one exchange of syringes at a specific location.

The exchange also offers other services including; HIV/AIDS education, testing and counseling; condom distribution to prevent sexual transmission of HIV and other sexually transmitted diseases; referrals to substance abuse treatment and other medical and social services; distribution of alcohol swabs to help prevent abscesses and other bacterial infections; and scheduling of specific vaccinations and screenings.

The program also operates a smaller exchange during the department's weekly homeless outreach program.

In addition, the Wheeling-Ohio County Health Department operates a community naloxone training and distribution program as part of its harm reduction outreach activities. Community residents, businesses and first responders have been trained by the department and are provided initial supplies of naloxone. The department has trained and supplied the Ohio County Sheriff's Department with naloxone.

Costs and Return on Investment

The costs of conducting harm reduction clinics vary from health department to health department depending on factors such as number of patients and the number of services provided beyond syringe exchange. At the Kanawha-Charleston Health Department, the approximate cost of the disposable materials used is \$160,000 per year, and that does not include labor or administrative costs. That also is roughly how much is saved by avoiding a single hospital admission for bacterial endocarditis. Consider further that the cost of a 12-week treatment for Hepatitis C is almost \$100,000, according to the *Los Angeles Times*. In addition, according to an opinion piece in the *New York Times*, six dollars are saved for every one dollar invested in avoiding HIV infection.

Here is one way to calculate the costs of a harm reduction program. The Charleston-Kanawha Health Department has 1,500 people from Kanawha and Putnam counties in its program. In a typical week, 200 people show up for the clinic. Similarly, about 170 people typically show up for Cabell-Huntington's weekly clinic. The cost for supplies is about \$12.50 and the cost for administration also is about \$12.50 for each person.

The Kanawha-Charleston program is expected to grow to about 300 visits per week. At that point, the total would be about \$7,500.00 each week. That would make the annual cost about \$390,000. The total population of the two counties combined is 247,925. Dividing the total annual cost of the program in Kanawha and Putnam counties by the population yields a per capita cost of \$1.57. West Virginia has a population of about 1.8 million people. At \$1.57 per capita, it would cost a bit more than \$2.8 million to fund harm reduction programs in all 55 counties.

Bottom Line

While certain other entities have taken the lead in a few communities in handling harm reduction and should be allowed to continue doing so, local health departments generally are the organizations best equipped to manage harm reduction programs because of their community connections. But they need both stable baseline budgets and additional funding to proceed with those programs. However, the state's fiscal difficulties have reduced the budget line-item for local health departments by 24 percent. Further cuts would reduce the departments' ability to respond to the public health crisis and would be counterproductive, considering the substantial return on investment for harm reduction programs. Instead of cutting funding for local health departments further, the state should provide incentives for the establishment and expansion of harm reduction programs. It would be a sound investment in the health of West Virginia's communities.