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EFFECTS OF THE NEEDLE EXCHANGE PROGRAM AND ITS CURRENT STATUS IN WEST VIRGINIA

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Introduction

One of the main problems that have impacted the state of healthcare in West Virginia has been the rising costs of treatments for bloodborne infections (Bates et al., 2019). Bloodborne pathogens and their resulting diseases have commonly spread by exchanging contaminated needles (Denault & Gardner, 2021). In West Virginia, Needle Exchange Programs (NEPs) have been implemented to reduce the transmission of certain infections, such as HIV, hepatitis B, and hepatitis C, which have been more common among drug users (Beck & Kersey, 2018). In 2015, West Virginia had the second-highest rate of cases of hepatitis C Virus (HCV) in the country (3.4 per 100,000) (Davis et al., 2018). The overdose rate has drastically increased over the last decade in the US (Dasgupta et al., 2018). In 2015, West Virginia had the highest overdose rate of 33,091, accounting for 41.5 deaths per 100,000 people (Hedegaard et al., 2017). The HIV rate increased by over 300% in West Virginia, between 2007 and 2015, with the most frequently indicated risk factors for acquiring HIV infections being used drugs distributed on the street and injection drug use (Rudd et al., 2016).

Literature Overview

In response to these elevated rates, NEP opened in West Virginia starting in 2015, with the first onset in one of the largest cities, Huntington (Davis et al., 2017). With an average of roughly 41.5 deaths per 100,000 people in 2015 related to drug overdoses, West Virginia has also been labeled a center of illegal drug use (Dydyk et al., 2021). These spikes in drug overdoses have been related to over-prescription cases that plagued the region previously (Okorie, 2019). West Virginia was found to have led the US in the opioid crisis in 2015, with the state dominating the country's opioid-related overdose deaths (Kaski et al., 2019). The same year, West Virginia was also determined to be home to one of the country's highest synthetic opioid death rates, with roughly 26.3 persons per every 100,000 persons (Seth et al., 2018). Lastly, West Virginia, behind Indiana, had the second-highest hepatitis C virus (HCV) infection rate in 2018, at 3.9 persons per 100,000 (CDC, 2018). The problem of contaminated needle utilization has been one that has plagued West Virginia for years (Vestal, 2016).

NEPs have intended to target even the worst needle sharers. Distributive syringe sharers have been described as self-identified users at needle exchange sites who report having shared their syringes multiple times in a previous 30-day period (Adams et al., 2019).

Methodology

The purpose of this study was to examine the effects of the needle exchange program in West Virginia to determine its influence on healthcare costs, rates of infectious disease, and the prevalence of drug use as well as to analyze its current legal policy. This study utilized mixed

methodologies with a literature review complemented by semi-structured interviews with specialists in the field to cover data that has yet to be published in the academic literature.

Results

The research showed that implementing NEP in West Virginia led to decreased rates of HIV and hepatitis among injection drug users. Preventative measures taken by the program also helped to avert future healthcare costs related to treating infectious diseases. The review suggested a positive relationship between implementing NEP and healthcare outcomes, healthcare costs, and the spread of bloodborne diseases. Despite the growing evidence that a well-run needle and syringe program can save lives and healthcare costs and have an impact on the community in a positive way, it has remained politically charged and difficult to implement. The West Virginia Legislature passed Senate Bill 334, the Syringe Services Program Act, in July 2021. The Bill placed severe limitations on NEPs and required various licensure processes. Roundly criticized by those in the field, many said NEP could not adequately operate with Senate Bill 334 as the new law; contrary to the advice and objections from leaders in the field, the West Virginia Legislature decided to control these syringe services (Milan Puskar Health Right v. Crouch, 2022). Since the law's passage, many NSPs have been forced to close their doors, and rates of bloodborne diseases are up ticking (Stuck, 2021).

For an infected patient with HIV, lifetime costs have been found to total more than \$450,000 (Bingham et al., 2021). Researchers have found that syringe service programs (SSPs) have helped lower infection rates, lessened the presence of needles in public places, and reduced healthcare costs (CDC, 2019).

West Virginia's Opioid Epidemic Next Harm Reduction organization, a non-profit online website that provides supplies, education, and support to drug abuse users, found that harm reduction programs and needle exchanges did not increase or promote substance or drug abuse but rather facilitated people to get the proper care they needed (PBS, 2021). It was explained that removing NEP not only facilitated HIV and hepatitis C transmission but forced drug users to engage in risky behavior, such as sharing needles or utilizing the same needle up to 20 to 30 times (PBS, 2021). NEPs have been found to reduce HIV transmission rates by one-third to two-fifths (ACLU, 2021). Many have provided access to sterile paraphernalia, acting as access points to discard used needles and even providing condoms and additional services to reduce the spread of disease in the community (Fernandes, Cary, Duarte, Jesus, & Alarcao, 2017). Participants of NEP were found to have been five times more likely to enter drug treatment when compared to those who had never participated in the program (ACLU, 2021).

In 2017, Cabell County, WV, recorded 831 non-fatal overdoses and 182 overdose deaths (Fire Chief for the City of Huntington Fire Department Interview, 2021). In 2018, however, with the continued implementation of NEP in the county, the number of non-fatal overdoses decreased by 40%. Another 25% reduced it for fatal overdoses (Fire Chief for the City of Huntington Fire Department Interview, 2021). In total, the clean needle exchange program was found to have prevented an estimated 200 overdoses in Cabell County since 2015, the year of implementation of the program (Physician Specialist Cabell County Health Department, 2021). According to this

specialist, the estimated cost of one overdose death was \$1.1 million, and healthcare costs associated with IV drug use were valued at \$1 million. Translated, the funds saved in preventing one overdose could run the clean needle exchange program for two years (Physician specialist Cabell County Health Department, 2021).

Another study found that the preventative HIV costs associated with needle-exchange programs totaled between \$4,000 and \$12,000 annually per injecting drug user (Iozzo, 2011). For an average to a smaller city in the US, the cost of running a needle exchange program was deemed somewhere near \$160,000 or about \$20 per user per year (ACLU, 2021). Treating an individual for HIV, specifically an injecting drug user, costs \$190,000 yearly (Iozzo, 2011). Therefore, the costs associated with running a needle exchange program amounted to less than the treatment costs for one infected HIV patient in some cities. A single tri-state needle exchange program that services Kentucky, Ohio, and West Virginia reported collecting more than 27,000 needles (Bixler, et al., 2018). A spokesman for the program explained that those are 27,000 needles that would have been left in the streets and exposed citizens to public harm if not for the operation of NEP (Suro, 2017).

Other actions that included going beyond handing out clean needles or educating and providing resources to needle and syringe users included NEP successfully catching HIV outbreaks. Through its screening and questioning of needle users, a needle exchange group in Charleston, West Virginia, named Solutions Oriented Addiction Response or SOAR, discovered an HIV outbreak, specifically in Cabell County, that spread to roughly 50 individuals (Vergano, 2021). The severity of the need for NEP has been showcased in the fact that two of the four most significant HIV outbreaks to occur in the US in 2021 occurred in West Virginia and that these NEP helped to eliminate the rapid transmission of HIV primarily from those who injected heroin, fentanyl, and methamphetamines because of opioid addiction (Vergano, 2021). It has also been reported that the use of contaminated needles in West Virginia was a public health disaster as Charleston, with nearly 178,000 citizens, had been found to have a higher rate of new HIV cases, with 35 new cases in 2020 compared to New York City who had a recorded 36 HIV cases tied to intravenous drug use in 2019, but with a population of more than 8 million (Raby, 2021).

An examination into the importance of NEP found that with an annual \$10 to \$50 million funding increase, 194-816 HIV infections would be averted (Nguyen et al., 2014). The cost per infection prevented totaled somewhere between \$51,601 and \$61,302, meaning that the rate of financial return would be between 7.58 and 6.38 (Nguyen et al., 2014). In March 2018, with Kanawha County in the middle of an overdose epidemic followed by an HIV outbreak, the needle exchange program in Charleston, WV, suspended health department operations (Pollini, 2019). The state capital was left with little to no sterile needles for drug users, leaving needle users desperate, digging in the dirt or trash for old needles (Leffler, 2021). This allowed for a spike in the spread of infectious bloodborne diseases within the region and resulted at the end of one of the most studied methods to prevent the spread of HIV and hepatitis C (Peace, 2020). From 2018 to 2019, when the Kanawha health department needle exchange program remained disbanded, there was an uptick in HIV cases related to intravenous drug use from 12.5% to 62.4% (Raby, 2021). Thus, an association between the closing of the needle exchange program was recognized as a reason for the increased rates of hepatitis C and HIV in the state (Davis et al., 2019).

Conclusion

The literature review and semi-structured interviews suggested a strong association between implementing NEP and decreased incidents of bloodborne infections, increased health outcomes, and decreased health costs.

The study showed that implementing NEP in West Virginia led to decreased rates of HIV and hepatitis among injection drug users. Preventative measures taken by the program also helped to avert future healthcare costs related to treating infectious diseases. Despite the growing evidence that a well-run needle and syringe program can save lives and healthcare costs and have an impact on the community in a positive way, it has remained politically charged and difficult to implement. The barriers set up by the West Virginia Legislature with Senate Bill 334 have been costing West Virginia's taxpayers possibly millions and millions yearly in excess healthcare costs.

Senate Bill 334, the Syringe Services Program Act, severely limited NEPs and required various licensure processes. Since the law's passage, many NSPs have been forced to close their doors, and rates of bloodborne diseases are up ticking. Roundly criticized by those in the field, many said NEP could not adequately operate with Senate Bill 334 as the new law; contrary to the advice and objections from leaders in the field, the West Virginia Legislature decided to control these syringe services.

There has been significant controversy regarding NEP in West Virginia as there has been an opinion that NEP enables drug users and needle users. However, this study is one of many that have confirmed that implementing NEP helped positively impact healthcare costs and outcomes. The CDC also echoes this by allocating \$7.7 million to States strengthening syringe service programs. It is time for the leadership in West Virginia to accept the established science and quit being poised to remain last in every measure of success. Assuming the trend is not reversed, and Senate Bill 334 is not repealed, the West Virginia Legislature will exacerbate the problems of the opioid epidemic and cost a considerable amount of funds for West Virginia taxpayers.

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