AN ANALYSIS OF THE SCIENTIFIC EVALUATION OF ORANGE COUNTY'S DISCONTINUED STERILE SYRINGE DISTRIBUTION PROGRAM AND ITS IMPLICATIONS FOR DRUG POLICY IN CALIFORNIA

Brief Report

BACKGROUND AND SIGNIFICANCE

The state of California faces an ongoing epidemic of infectious disease transmission among people who inject drugs (PWID). Between 2016 and 2020, women who inject drugs made up between 10%-13% of incident cases of HIV among women, while men who inject drugs made up between 3%-4% of cases among men. Overall, approximately 5% of all people living with HIV/AIDS in California report having injected drugs.[1] Additionally, PWID in California make up 68% of new infections of hepatitis c virus (HCV).[2] With efforts to end epidemics of HIV and HCV among Californians accelerating, it is critical to mitigate risk factors for disease transmission among the state's population of PWID. To that end, needle and syringe sharing among PWID has long been identified as a key risk factor, as the re-use of contaminated syringes is a highly efficient mode of HIV and HCV transmission.[3-7]

Syringe service programs (SSPs)—also known as a —is an evidence-based public health intervention to prevent disease transmission among PWID by reducing needle and syringe sharing. Syringe Services Programs (SSPs) not only play a pivotal role in reducing the spread of infectious diseases by providing clean syringes, preventing overdose via the distribution of naloxone (a medication to reverse opioid overdose), but they also offer crucial wound care services to PWID. Further, by serving as a bridge to broader health services, SSPs help connect marginalized communities with healthcare services. Beyond their effectiveness in reducing transmission risk, **four decades of scientific evidence also demonstrates that SSPs are not associated with risk compensation**—that is, that accessing these services is not associated with greater risk-taking among PWID.[4,8-10] With respect to concerns regarding increased syringe-related litter as a result of SSPs, evidence from a comparative study of San Francisco, which has a sterile syringe distribution program, and Miami, which does not, found eight times more improperly discarded syringes in Miami;[11]

Nevertheless, concerns remain among communities and policymakers that establishing SSPs can promote risk or increase public drug use and drug-related litter despite a lack of supporting evidence. This perception can result from the increase in scrutiny or measurement of drug use outcomes in communities only after programs are set up. These public concerns and measurement issues can be heightened in suburban settings that have less experience with public health interventions for preventing drug-related harms.

Between 2016 and 2018, Orange County, California, California's third most populous county, established a fixed site SSP to meet the needs of the county's population of PWID. The site operated on a 1-for-1 exchange model, with clients required to dispose of used syringes at the site in order to be provided with sterile ones. Ultimately, the service was closed as a result of local opposition. After its closure, a mobile needle exchange program was proposed to serve four cities across Orange County. However, approval for the mobile service was blocked after local government entities sued to block it, and a San Diego County Superior Court Judge ultimately issued an order that required the state to rescind its approval of SSPs in 2019.[12] Local officials suggested that there was "a possibility that the project will result in an increase in used needle litter, a biohazard," despite no evidence that sterile syringe distribution programs contribute to drug-related litter. **By contrast, evidence from a variety of settings—including a 20-city study by the U.S. Centers for Disease Control and Prevention, employing data from its National HIV Behavioral Surveillance System—demonstrate that these programs are associated with reductions in publicly-discarded syringes**.[11,13-15]

In the wake of the service's closure, and given the need to identify interventions that can support efforts to end the epidemics of HIV and HCV in the state of California, we undertook a secondary analysis of data from scientific evaluations of the Orange County syringe distribution program. These findings were never previously published, and the objectives of this policy brief are to 1) provide a description of the service's clients, and 2) to assess how its closure influenced disease transmission risk and other drug use-related outcomes.

METHODS

We employed two sources of evidence for this secondary analysis. First, we accessed unpublished data from a scientific evaluation undertaken by the Orange County Needle Exchange Program (OCNEP) in partnership with evaluators from the University of California, Irvine and University of California, Riverside. This evaluation included three sources of data. First, it included quantitative surveys of a sample of the program's clients, which were obtained in August–September 2016. Second, it included geographic data collected from clients in August–September 2017. Third, the first 2 years of the needle exchange program's records were also assessed.

Second, we accessed data from a study independently conducted by a substance use research scientist at the request of the California Department of Public Health, Office of AIDS, which was undertaken after the closure of the OCNEP'sfixed site. The primary aims of the study were to assess the Orange County's community needs for sterile syringe distribution and to assess syringe litter issues within Orange County after the closure of the service. This study included two sources of data. First, a visual inspection walkthrough was conducted in the cities of Costa

Mesa, Anaheim, Orange, and Santa Ana to assess for the presence of injection equipment and injection paraphernalia in July 2018. Second, in Fall 2018, focus group data were collected in two cities in Orange County, Santa Ana and Costa Mesa, where OCNEP proposed to locate services after the closure of their initial site. Participants for the focus groups were recruited by snowball sampling. All participants were over the age of 18 and reported daily injection drug use. All groups were audio recorded and one moderator and one note taker facilitated the focus groups. A total of fifteen participants participated in two focus groups (n = 7 in Santa Ana and n = 8 in Costa Mesa). Audio recordings of both focus groups were transcribed for analysis.

For this brief, we present these data, undertake a secondary analysis, and provide interpretation of results in the wake of current public health needs in the state of California with respect to the prevention of HIV and HCV among PWID.

RESULTS

Who were the clients of the Orange County Needle Exchange Program and what did it accomplish?

Between 2016 and 2018, the SSP had 17,435 unique client encounters, while it distributed 2,658,092 sterile needles and collected 2,359,276 needles (a 90% return rate).

The scientific evaluation team collected surveys from a subsample of 302 respondents. Respondents were almost always from the same county and many from the same zip code as the needle exchange. **Figure 1**, below, depicts the spatial density of participants who reported accessing the OCNEP As can be seen, the largest proportion of clients were located in the area directly surrounding the service. Specifically, respondents reported a median travel distance of 2.8 miles (interquartile range: 0-7.6 miles) to reach the program.

The majority of respondents were male (63%) and spoke English (91%), and were unstably housed (85%), in poverty (63%; defined as <$20,000 annual income), unemployed (63%), and undereducated (65%; high school or lower). Most participants reported injecting at least daily (72%), while a large proportion of respondents also specifically reported frequent injection of heroin (73%), methamphetamine (69%), and speedballs (56%; combination heroin and methamphetamine). Additionally, 8% of respondents reported using no drugs but accessing the needle exchange for other ancillary health and social services. Most respondents (56%) also reported a history of being arrested and detained by police, and half of them reported being detained for reasons that are not against the law, such as homelessness (30%), holding injection paraphernalia such as syringes (48%; legal when obtained from an authorized NEP), and overdose (5%).

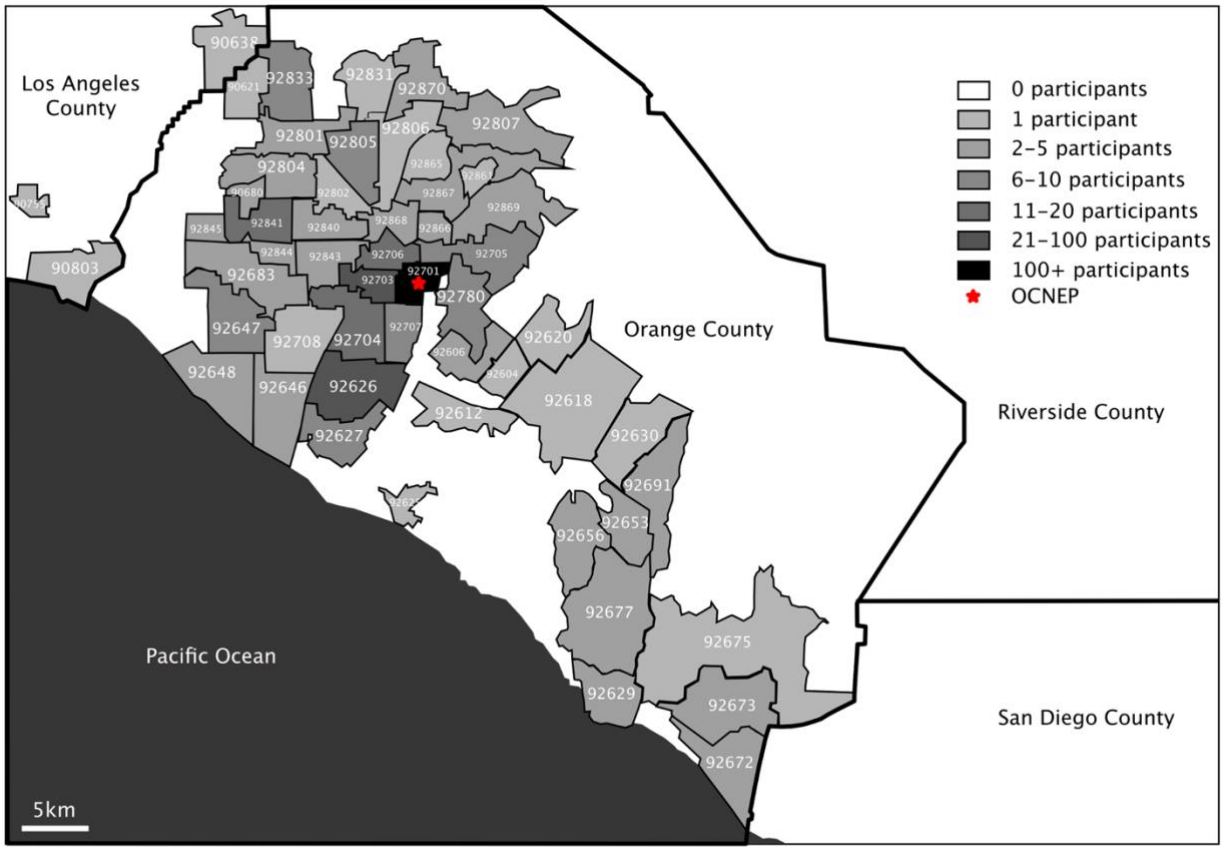

Figure 1: Population density map of NEP respondents.

What happened after the OCNEP closed?

While the needle exchange program had a limited geographic scope, it nevertheless provided an essential evidence-based service to protect people who use drugs in Orange County from infectious disease transmission and to connect them with ancillary services. In the aftermath of its closure, focus group participants in Santa Ana and Costa Mesa (proposed sites for the reopening of the needle exchange) described their current behaviors and service access needs.

Syringe access: In the absence of a needle exchange, respondents from both settings reported that they no longer had any route to obtain sterile syringes. This is despite the fact that pharmacies are legally allowed to sell sterile syringes to individuals who use drugs in California via Senate Bill AB136. However, many respondents reported that pharmacists would refuse to sell syringes to them, and that they perceived this to be related to drug use stigma. One respondent stated: “If you go there shot out like a j****e nine times out of ten they won’t sell them to you.”

Syringe reuse: Focus group respondents from both settings reported high levels of syringe reuse. This was directly related to the lack of a needle exchange program and the refusal of pharmacies to consistently provide sterile syringes for purchase. One respondent noted that: "I probably reuse it quite often. Usually, till it clogs, but I have used it 'til like 15 times or more."

Syringe litter: In Santa Ana, a visual inspection walkthrough showed a substantial amount of syringe litter months after the closure of the needle exchange. This suggests that syringe litter is a problem in Santa Ana, and that this problem is not driven by the presence of a needle exchange program. Furthermore, not having access to a syringe exchange or proper disposal for PWID likely increases the problem of litter waste, according to the large evidence base on this topic.[13]

Other impacts of the closure: Focus group respondents reported that, beyond limited access to sterile syringes, the closure of the needle exchange had other impacts on their health and social well-being. This included lack of access to HCV testing, as testing was offered by needle exchange staff. Respondents also reported an increased incidence of major abscesses among PWID in the aftermath of the closure, as well as increased desperation for antibiotics, as the needle exchange had previously provided safer injecting guidance, wound care guidance, referrals for prescriptions, and referrals for addiction treatment.

INSIGHTS AND RECOMMENDATIONS

The OCNEP was highly unique in providing care for people who use drugs in a suburban center, given the rarity of these programs and their evaluation in suburban settings. The insights gleaned from its implementation and its closure can be valuable to policymakers across California who are seeking to end the epidemic of HIV and HCV among people who use drugs. To that end, we offer the following insights and recommendations based on the data generated.

Insight #1: The OCNEP distributed a large number of sterile syringes and was successful in collecting 90% of syringes. This suggests that needle exchange programs can be effective in suburban settings in California.

Insight #2: In the absence of reliable access to sterile syringes via pharmacies, the OCNEP played an outsized role in disease prevention among people who use drugs across the county.

Insight #3: Improperly discarded syringes were present in Santa Ana after the closure of the needle exchange program, and this may have been exacerbated by the fact that the program's syringe collection activities ended when it closed.

Insight #4: The OCNEP did not appear to be associated with a 'honeypot' effect (i.e., creating public disorder by attracting large numbers of people from other settings), as the median distance travelled was under 3 miles, and a large proportion of respondents reported traveling under half a mile.

Insight #5: The clients of the OCNEP were, based on their reported behaviors and experiences, overwhelmingly made up of people highly vulnerable to infectious disease transmission.

Insight #6: The closure of the OCNEP had negative effects on people who use drugs, including more frequent reuse of used syringes, greater risk of skin infections, lower levels of access to medication, and a lack of access to safer injecting education and other resources. The closure therefore resulted in increased risk of HIV and HCV transmission among PWID who had previously been able to access OCNEP.

Recommendation #1: Immediately implement sterile syringe distribution in Orange County and other suburban settings in California where people who use drugs are at high risk of infectious disease transmission.

Recommendation #2: Given the large service area of Orange County and the short distance of client travel, clients are likely not to travel from across the county despite a need for services. As such, consider multiple program sites and a mobile distribution model.

Recommendation #3: Decouple syringe distribution and collection systems. This is because 1-to-1 exchange models have been shown to limit the disease prevention potential of SSPs. Secondly, decoupling would allow for more targeted resourcing, and likely lower rates, of drug-related litter.

Recommendation #4: Strengthen the continuum of care for people who use drugs by providing funding to SSPs in Orange County and other suburban settings to resource them to more formally integrate with clinical and social service provision.

LIMITATIONS

This research has a number of limitations. First, self-reported data was provided by a subset of needle exchange program clients that were recruited via convenience sample methods. As such, we cannot assume that they reflect the broader client population of the program. Second, self-reported data were collected after the closure of the needle exchange program. While this allowed for a retrospective assessment of the impact of the service and its subsequent closure, recall bias may have influenced self-report, while social desirability bias may have also affected responses.

CONCLUSIONS

Orange County has a large population of PWID at high risk of infectious disease transmission due to needle sharing. SSPs in suburban counties have not often been evaluated, and the evidence suggests that the OCNEP was was effective in both distributing and collecting syringes. Its closure has created a 'service desert' in which infectious disease risk remains very high, particularly in the absence of a continuum of care for PWID. Policymakers should immediately prioritize implementing evidence-based disease prevention servicespreventions services, including sterile syringe distribution and linked clinical and social services, in a decentralized model to meet the needs of those at risk of HIV and HCV.

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