CORRESPONDENCE

Evaluation of an Unsanctioned Safe Consumption Site in the United States

TO THE EDITOR: Nearly 70,000 people in the United States die each year from a drug overdose.[1] Opioid-involved overdose deaths may be preventable by the timely administration of naloxone. Eleven countries have responded to health concerns regarding people who use drugs by opening sanctioned safe consumption sites; however, no such sites exist yet in the United States. Safe consumption sites provide a space for people to bring preobtained drugs and use them with sterile supplies under clean conditions and with safe disposal of used drug equipment. These sites provide monitoring by staff equipped and trained in the use of naloxone to reverse overdose. Most sanctioned sites can also provide related services, including voluntary screening for infectious diseases, peer counseling, wound care, and referral to other social and medical services, such as substance use treatment. Observational studies from sites outside the United States show that sanctioned safe consumption sites improve the health of people who use the sites by reducing overdose mortality,[2] infectious disease risk, and drug use[3] and by facilitating access to health and social services.[4]

In September 2014, in response to a local opioid overdose crisis, an organization in an undisclosed U.S. city opened an unsanctioned safe consumption site.[5] Injections by people who came to this site were monitored by trained staff and were conducted with sterile equipment on stainless-steel tables disinfected before each use, thereby limiting the risk of transmission of human immunodeficiency virus or hepatitis C virus. All syringes were used only once, after which they were disposed of safely at the site. Site staff used an online data-collection system to document every drug injection, type of drug used, opioid-involved overdose, and related death that occurred during injections at the site, and we used that information to evaluate the first 5 years of operation of this unsanctioned site. (The methods are described in the Supplementary Appendix, available with the full text of this letter at NEJM.org.)

In total, there were 10,514 injections and 33 opioid-involved overdoses over 5 years, all of which were reversed by naloxone administered by trained staff (Table 1). No person who overdosed was transferred to an outside medical institution, and there were no deaths. The number of overdoses increased over the years of operation, due partially to the number of injections increasing over the same period of time (Fig. S1 in the Supplementary Appendix). The types of drugs used at the site changed over the 5 years of operation, with a steady increase in the proportion of injections involving the combination of opioids and stimulants, from 5% in 2014 to 60% in 2019 (Fig. S2).

Although this evaluation was limited to one city and one site that is unsanctioned, and therefore the findings cannot be generalized, our results suggest that implementing sanctioned safe consumption sites in the United States could reduce mortality from opioid-involved overdose. Sanctioning sites could allow persons to link to other medical and social services, including treat-

Table 1. Injections, Opioid-Involved Overdoses, and Overdose Deaths at an Unsanctioned Safe Consumption Site, 2014 through 2019.*

Year	Injection Events	Opioid Overdoses	Overdoses per 1000 Injections	Overdose Deaths
2014	350	0	0.00	0
2015	1,076	1	0.93	0
2016	1,536	1	0.65	0
2017	1,759	3	1.71	0
2018	2,867	13	4.53	0
2019	2,926	15	5.13	0
Total	10,514	33	3.14	0

* The data are from an unsanctioned safe consumption site in an undisclosed city in the United States.

ment for substance use, and facilitate rigorous evaluation of their implementation and effect on reducing problems such as public injection of drugs and improperly discarded syringes.

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Supported by Arnold Ventures, which had no role in the design and conduct of the study; collection, management, analysis, or interpretation of the data; preparation, review, or approval of the manuscript; or decision to submit the manuscript for publication.

Disclosure forms provided by the authors are available with the full text of this letter at NEJM.org.

This letter was published on July 8, 2020, at NEJM.org.

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DOI: 10.1056/NEJMc2015435

Supplementary Appendix

This appendix has been provided by the authors to give readers additional information about their work.

Supplement to: Kral AH, Lambdin BH, Wenger LD, Davidson PJ. Evaluation of an unsanctioned safe consumption site in the United States. N Engl J Med 2020;383:589-90. DOI: 10.1056/NEJMc2015435

Evaluation of an Unsanctioned Safe Consumption Site in the United States

SUPPLEMENT

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Methods

Data Collection

All data used in this study were observed and reported at the unsanctioned safe consumption site. The first time a participant used the unsanctioned safe consumption site, they were required to answer 3 questions to generate a unique identifier and 12 questions regarding their demographics and drug use. During the first 3.5 years of operation, the 12 questions were asked every time a person used the site. However, this requirement was dropped because it was cumbersome for the staff and participants. For the last 1.5 years of the 5-year observation period, participants were asked the 12 questions only at the initial encounter. For subsequent use of the site, participants were simply asked for their unique identifier and the type of drug they were about to use. If staff observed an overdose, it would be entered by the staff with the participant's unique identifier.

All data were collected by a staff person at the unsanctioned safe consumption site and entered in a web-based data collection system (Limesurvey v3.19.2, Limesurvey GmbH, https://www.limesurvey.org/) on a tablet computer. All data input into the system automatically had a date and time stamp associated with them. We did not collect data related to the behaviors of participants when they were not using the site, which means we do not know if they overdosed or died elsewhere. The Institutional Review Board of the University of California, San Diego, determined the analysis presented here to be exempt from human subjects review under 45 CFR 46.101(b)(4). The research team visited the unsanctioned safe consumption site regularly and reviewed overdose-related data with the site leadership to assure accuracy.

Because this safe consumption site is unsanctioned, the authors have been asked by the staff that the location of the site not be disclosed. No staff were willing to be named as coauthors or in the acknowledgment section for fear of disclosing the location of the site and/or personal legal

consequence. The manuscript was reviewed and approved by the leadership of the unsanctioned safe consumption site.

Study Population

The study population consists of all observations when individuals used the unsanctioned safe consumption site in its first 5 years of operation from September 2014 to September 2019. Eligibility for participation in the unsanctioned safe consumption site was determined by site staff and included having to be at least 18 years old and prior injection of illicit drugs. We did not track data on the number of people who refused to participate, but the leadership of the SCS say only three people have ever refused.

Intervention

The unsanctioned safe consumption site consists of two adjoining rooms in a building in an urban area. One room is for people to inject drugs and it is equipped with individual "stations"—each consisting of a stainless-steel table, a mirror, a chair, and a biohazard waste container. Sterile syringes and related injection equipment are provided for all individuals using the site. Each station is cleaned with disinfectant after each use. A second room has couches and chairs for people to spend time post injection. The injection room started with 5 stations. After 3 years, a sixth station was added, along with a cushioned table so people could lie down during injection when necessary. Both rooms are staffed by trained personnel who provide peer counseling, intervene during overdose events, and call emergency medical services as needed.

Access to the site is by invitation only. An initial group of individuals were invited by site staff to make use of the site on the condition that they not reveal the existence of the site to anyone else. Because of the limited number of injecting stations and the desire to reduce the risk of disclosure, the number of individuals eligible to use the site at any given time is capped at approximately 60 people. As individuals

stop using the site—for example, because of cessation of drug use, incarceration, death, or leaving town—individuals using the site recommend new people from their broader social circles. For the first 3 years, the site was open 4 to 6 hours per day, 5 days per week; for the past 2 years the site was open 6 to 8 hours per day, 5 days per week.

Individuals bring their own pre-obtained drugs, and if they would like assistance with an injection, they can ask other participants to help them. Although technically there is no time limit to the injection, if there is a line of people waiting, it is expected that individuals spend no more than 20 to 30 minutes at a station. There is always a staff member in the injection room, and another staff member in the adjoining room. There also is an overdose protocol, a pulse oximeter, and intramuscular naloxone for reversing an opioid-involved overdose. In the event of a potential overdose, staff place the pulse oximeter on the person to monitor their oxygen saturation. If the person is unresponsive and the oxygen saturation is below 75, naloxone is administered by staff using an intramuscular syringe. When breathing resumes, site staff calmly explain what happened and they maintain oximeter readings for 60 minutes to ensure post-overdose stability. The protocol does not require calling emergency services, and emergency services have not been called post-overdose during the 5 years of observation.

Outcomes

The main study outcomes are the number of observed opioid-involved overdoses, the rate of observed opioid-involved overdoses per 1000 injections, and the number of observed opioid-involved overdose deaths. All injections, overdoses, and deaths were observed by consumption site staff and recorded in the online data collection system immediately. As regional drug use patterns in the United States are distinct and well documented, we aggregated all drug types used into 3 general categories to reduce the risk of disclosing the location of the site: opioids only (e.g., heroin and opioid pills), stimulants only (e.g.,

cocaine and methamphetamine), and a combination of opioids and stimulants (e.g., opioid plus cocaine, or “speedball”; opioid plus methamphetamine, or “goofball”).

Analysis

We tabulated the annual number of injection events, opioid-involved overdoses, and opioid-involved overdose deaths occurring at the unsanctioned safe consumption site and calculated the annual overdose rate per 1000 injections. We tabulated the monthly number of injection events occurring at the site (Figure 1) and the class of drugs (opioid, stimulant, or combination of opioid and stimulant) that participants reported using at the site on a quarterly basis (Figure 2). The data represent the census of injection events occurring at the site, thereby requiring no estimations, confidence intervals, or statistics. Tabulations and calculations were made using the software program Stata.[1]

Acknowledgments

We thank all the staff, board members, and participants for their contributions to the evaluation. It is important to recognize and respect that none of these individuals wished to be acknowledged by name. No authors have any potential conflicts of interest, including relevant financial interests, activities, relationships, or affiliations.

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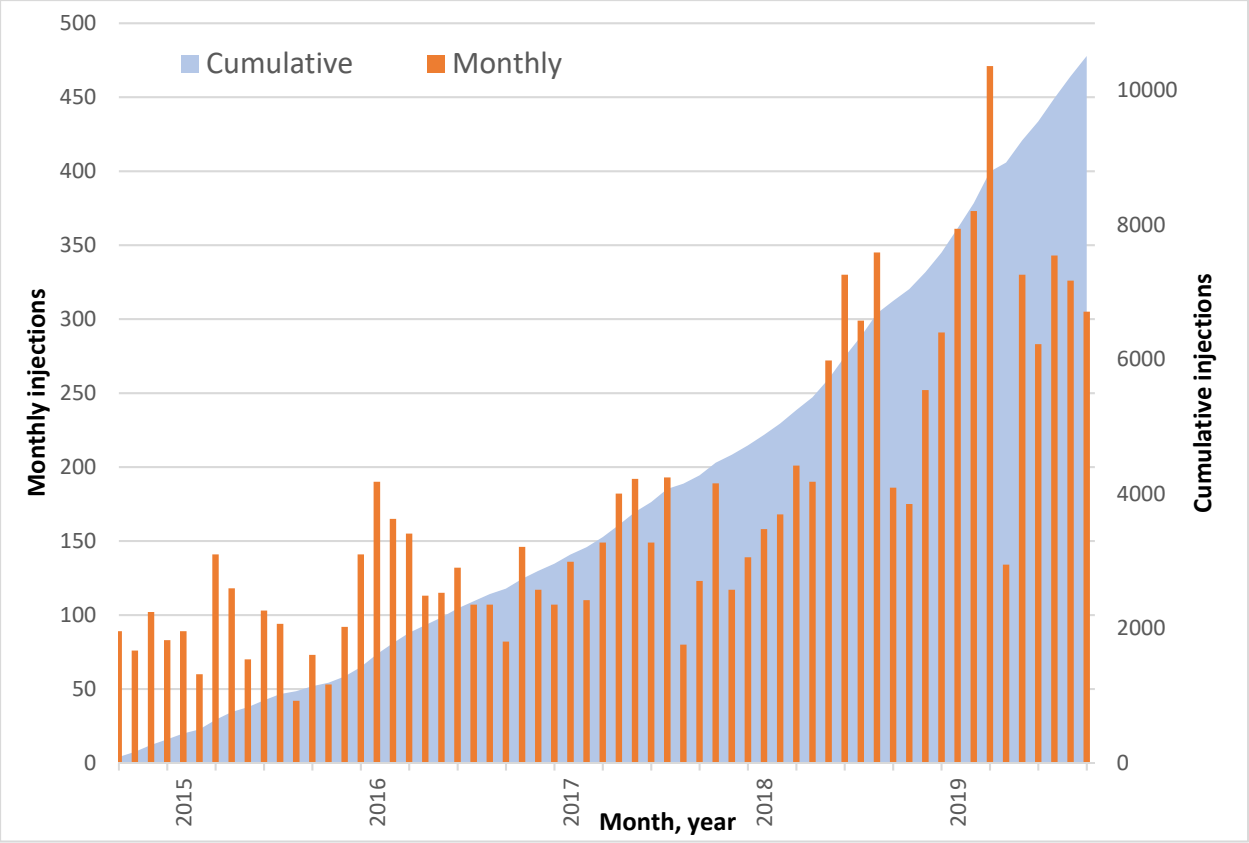

Figure 1. Number of Injections Per Month and Cumulative at an Unsanctioned Safe Consumption Site in the United States, 2014–2019

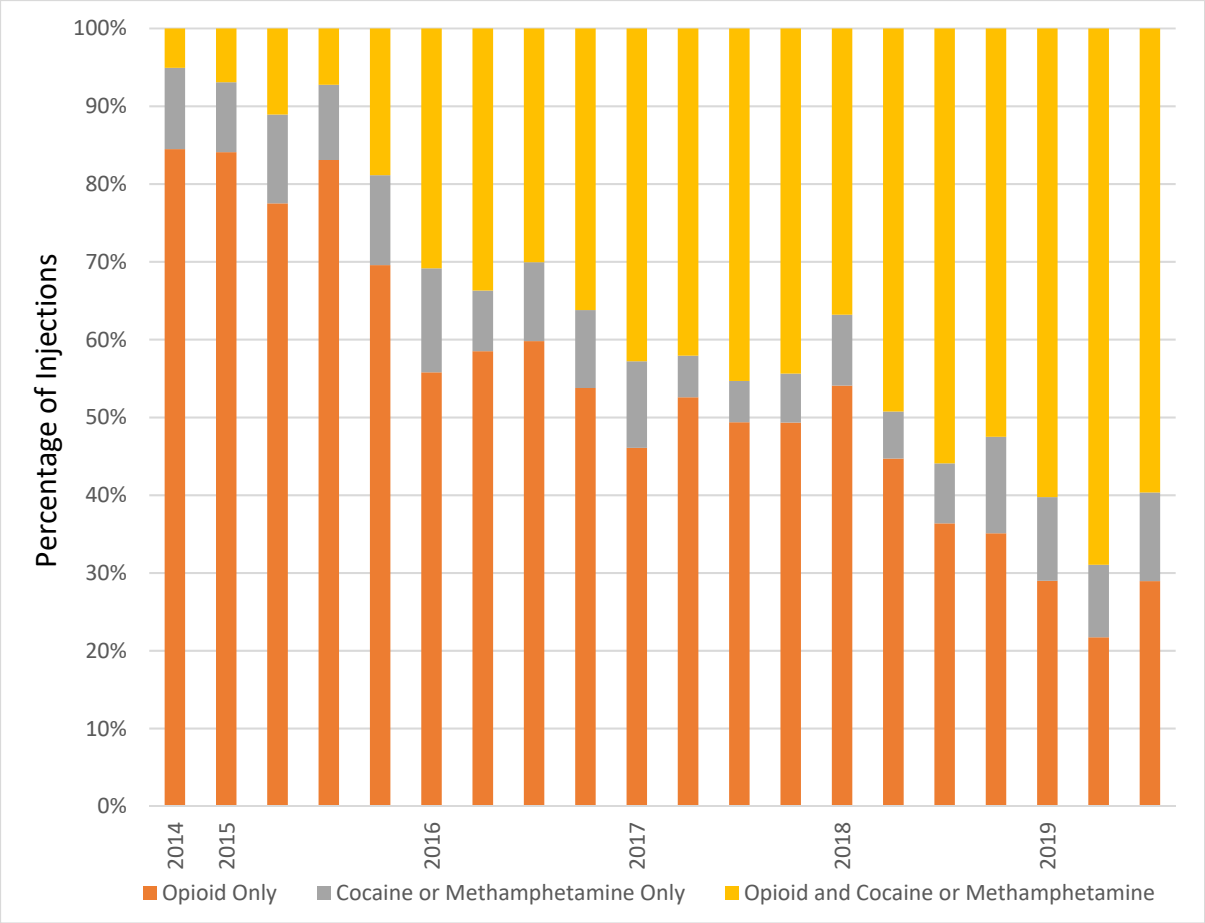

Figure 2. Type of Drugs Injected as a Percentage of All Drugs Injected, by Calendar Quarter Year at an Unsanctioned Safe Injection Site in the United States.