MPA/MPP/MPFM Capstone Projects

James W. Martin School of Public Policy and Administration

2024

The Impact of Measure 110 on Fatal Overdoses, Property and Violent Crime in Oregon

Hannah Mercado
University of Kentucky, hannah.odell@uky.edu

The Impact of Measure 110 on Fatal Overdoses, Property and Violent Crime in Oregon

Hannah Mercado

March 4, 2024

Abstract

Rates of Substance Use Disorder (SUD) in Oregon have historically been far above the national average, which lead to the passage of the Drug Addiction Treatment and Recovery Act (Measure 110) in late 2020. This act effectively decriminalized all illicit substances in the state, while putting in place safeguards to help combat SUD from a public health stance. A difference-in-differences analysis was conducted to determine the impact of Measure 110 on rates of property crime, violent crime, and fatal drug overdoses. It was determined that there were no statistically significant changes in these variables due to the implementation of Measure 110. Ultimately, there is a wide debate surrounding decriminalization as a tactic for drug policy with most studies unable to come to a clear-cut conclusion on the best way to address substance use disorder from a policy standpoint.

Introduction

In November 2020, the Drug Addiction Treatment and Recovery Act (also known as Measure 110) was passed in Oregon with the purpose to provide access to treatment and recovery services available to anyone who may need to utilize them, while focusing on a health-oriented approach towards substance use disorder (SUD) across the state through the removal of low-level drug possession criminal penalties (Oregon Health Authority, n.d.). Historically, Oregon has consistently had some of the highest rates of substance use in the U.S., making this a pertinent issue which was addressed through the implementation of Measure 110. Citing a critical need for SUD treatment and support across the state, in addition to other mental health care gaps, Oregon chose to utilize the decriminalization approach to hopefully close these care gaps and hopefully reduce rates of SUD in the state (Shea, 2023). The policies behind Measure 110 were largely based off the Portuguese Drug Policy Model (PDPM) which decriminalized the possession of illicit substances in Portugal and put in place many safeguards to orient towards a more treatment and support based model for substance use disorder and mental health treatment (Rego et al., 2021).

Prior to Measure 110, Oregon experienced an increase in crime rates, particularly in big cities (Oregon Health Authority, n.d.). Although the COVID-19 pandemic certainly could have contributed to the rise in crime, there are many theories surrounding the relationship between crime rates and illicit drug use which could be contributing to the increasing prevalence of these issues in Oregon. For instance, in states where the use of illicit drugs is criminalized, the procurement, possession, and use of the drug itself is a criminal act; the use of a drug can also contribute to criminal activity by altering the user's mental status and behavior, possibly even leading to violence and otherwise out of character acts (U.S. Department of Justice, n.d.). It's difficult to quantify this relationship because majority of crimes occur for a variety of reasons

(personal, economical, situational, etc.) and the definition of a "drug-related" crime is not clear-cut, meaning that studies can have inconsistent results based upon their criteria. However, there is strong evidence across the board that "indicates that drug users are more likely than nonusers to commit crimes, that arrestees and inmates were often under the influence of a drug at the time they committed their offense, and that drug trafficking generates violence" despite a definitive conclusion on how much drug use influences crime (U.S. Department of Justice, n.d.).

It is also difficult to quantify exact rates of substance use disorder prevalence in any area. Self-reporting is not entirely reliable and many of the available surveys have 'flawed' questionnaires, meaning the language is stigmatizing and could possibly deter the participants from answering truthfully (Substance Abuse and Mental Health Services Administration [SAMHSA], 2021.). Furthermore, most of those who suffer with SUD also do not receive treatment, making data collection even harder, so the statistics available on SUD rates can only be estimated. For this reason, the rates of fatal drug overdoses will be used to determine the impact of Measure 110, as this can help us better determine the impact of substance use disorder in Oregon with a more concrete measure. This capstone aims to examine relevant theories and literature surrounding drug policy and perform a difference-in-differences analysis to answer the following research question: How has the passage of Measure 110 (the Drug Addiction Treatment and Recovery Act) impacted rates of fatal drug overdoses, property crime, and violent crime in the state of Oregon?

Literature Review

As previously mentioned, Measure 110 in Oregon was modeled after the Portuguese Drug Policy Model (PDPM) in which Portugal effectively decriminalized low-level possession as well as public and private use of illicit substances across the nation (Rego et al., 2021).

Portugal chose to utilize this approach after the country's rates of problematic drug use (i.e. intravenous heroin use) and drug arrest offenses had rapidly increased throughout the 1980's and 1990's (Laqueur, 2015). Thus, in 2001 Portugal enacted the PDPM, in which they placed an emphasis on treating addiction and substance use disorder as a medical problem rather than a criminal one, as well as focusing on combatting any barriers which may be impeding the individual's recovery (Shea, 2023).

Under implementation of the PDPM, if a person is caught with low quantities of an illicit substance (amount below the enforced threshold limit) they will be appointed to appear before the Commission for the Dissuasion of Drug Addiction for which they could be criminally prosecuted if they do not attend (Laqueur, 2015). However, if found with an amount of a substance above the enforced threshold limit, that person may potentially be charged as a drug trafficker and receive up to 14 years in prison. The Commission for the Dissuasion of Drug Addiction is a multidisciplinary council which can provide a variety of services, treatments, and referrals to help those suffering from substance use disorder receive treatment without criminal penalties (Smiley-McDonald et al., 2023).

Ultimately, Oregon chose to utilize this approach as well, after much of the public agreed that the criminal approach to their substance use disorder problem was not effectively combatting the issue (Oregon Health Authority, n.d.). Prior to the implementation of Measure 110, Oregon had the highest rates of people aged 12 or older who needed but were not receiving treatment for illicit drug use in the country (Substance Abuse and Mental Health Services Administration [SAMHSA], 2021). The primary intention behind Measure 110 was to invest "hundreds of millions of dollars in health services for people who use drugs" by focusing on providing treatment and support services rather than criminal charges for those who are struggling with SUD (Russoniello et al., 2023).

The primary funding for Measure 110 comes from the state's tax revenue from marijuana sales, with "all quarterly revenues in excess of $11,250,000.00" being utilized towards the Drug Treatment and Recovery Services Fund (Russoniello et al., 2023). These funds were intended to be utilized by establishing Behavioral Health Resource Networks in every county across the state, including tribal territories, which will provide a variety of mental health services including crisis care and individualized interventional SUD treatment. These funds will also be utilized towards, "funding Access to Care (ATC) grants to increase treatment, recovery, harm reduction, peer support, and housing services" as well as a 24 hour statewide hotline for health screenings and referrals (Russoniello et al., 2023). These services, including the use of BHRN services and ATC grants are available to the public "at no cost to any individual regardless of ability to pay, immigration status, or involvement in the criminal legal system" with an emphasis on "evidence-informed, trauma-informed, culturally specific, person-centered, and non-judgmental" care (Russoniello et al., 2023).

Similar to the PDPM, Measure 110 reduces small-amount drug possession from a criminal misdemeanor to a Class E violation (which could be punishable by a $100 fine and ticket); however, a notable difference in Oregon's policy is that there will be no additional charges or penalties incurred upon the person if they fail to pay their fine (Smiley-McDonald et al., 2023). This unfortunately creates a loophole for those suffering with substance use disorder, potentially enabling them further down the path of illicit substance use without the ability of law enforcement or other services to intervene. As of February 29, 2024, the state of Oregon had issued 8,025 Class E violations since the implementation of Measure 110 on February 1, 2021, with 988 people being issued multiple violations and 5,586 cases failing to appear or be resolved through the proper legal channels. Furthermore, only 57 people in the state had a substance use assessment verified and filed during this time, although it is important to note that this is not the

full scope of the services implemented under Measure 110 (State of Oregon Judicial Department, 2024).

Critics of the Drug Addiction Treatment and Recovery Act state that "policy makers for Measure 110 fail to see the bigger picture and negative impacts that will result from Measure 110, such as increased drug use, travel to Oregon to use drugs freely, public safety issues, drug dealings, other crimes, impact on juveniles, and the fact that it requires addicts to be responsible enough to seek help on their own accord" (Towles, 2022). Although supporters of Measure 110 cite the success of Portugal's approach towards drug policy, there is emerging data which may discredit the success of the Portuguese Drug Policy Model. Initially, the PDMP was widely praised due to the quick impact seen on drug-related pathologies, including a reduction in drug-related deaths and newly infected HIV-positive cases (Faiola & Martins, 2023). However, new information actually demonstrates spikes in crime in more recent years, with police stating the issue "is at its worst point in decade and the state-funded nongovernmental organizations that have largely taken over responding to the people with addiction seem less concerned with treatment than affirming that lifetime drug use should be seen as a human right" (Faiola & Martins, 2023).

There is a wide debate regarding decriminalization as a tactic to combat substance use disorder rates, with most studies unable to find a satisfying answer on the best way to address drug policy. It appears that combating substance use disorder and the many associated variables is a complex, multi-faceted issue with no clear-cut answer.

Background

Substance Use Disorder

According to a definition provided by the Substance Abuse and Mental Health Services Administration (SAMHSA), "substance use disorders occur when the recurrent use of alcohol and/or drugs causes clinically significant impairment, including health problems, disability, and failure to meet major responsibilities at work, school, or home" (American Psychiatric Association [APA], n.d.). It is important to note that this is different from substance misuse, which is defined as "the use of a substance for a purpose that does not align with legal or medical guidelines" which does not impede the life of the user (APA, n.d). Substance use disorder can appear in many forms; addictions can be developed to alcohol, inhalants, opioids, sedatives, hypnotics, stimulants, and hallucinogens, among many other things.

With repeated substance use over time, physiological changes occur in the brain which can have long-lasting effects after the initial period of intoxication (APA, n.d.). Intoxication is defined as "the intense pleasure, euphoria, calm, increased perception and sense, and other feelings" which would be caused by use of a substance (APA, n.d.). Over time, the body may often develop a tolerance, as well, which causes the user to need larger amounts of the substance to achieve the same intoxication effect. SUDs are a widely prevalent issue, affecting 20.4 million Americans in 2019 and costing over $1 trillion for the U.S. annually.

Substance Use Disorder in Oregon

Substance Use Disorder has been a prevalent problem across the U.S. for decades, but Oregon has routinely ranked among the worst states for these issues (Oregon State University, 2023). According to data extracted from the 2021 National Survey on Drug Use and Health, Oregon was ranked second in the nation for the percentage of their population that had a substance use disorder within the last year at 18.22% versus the national average at 14.54%.

Although it is important to note that due to the difficulty in quantifying exact rates of substance use disorder, these numbers are estimates.

Decriminalization as a Tactic

Passage of Measure 110 in November 2020 led to Oregon being the first state to implement a decriminalization model as an approach to combat substance use disorder (Oregon Health Authority, n.d.). Historically, the approach of the United States government towards drug policy, as well as many others around the world, has been rooted in prohibitionism which criminalized illicit substances and utilizes legal penalties as the primary method of enforcement (Foster, 2023, p.175-178). Decriminalization is not a new policy approach to combat substance use disorder, although it is often seen as highly controversial. The U.S. has placed a large emphasis on "supply control" historically, trying to prevent the use of illicit substances by ensuring the drugs are not able to be distributed throughout the community for use. Critics of the prohibitionist model cite supply control as an extremely ineffective measure, as many illicit substances are manufactured outside of the U.S. and this tactic does not address the issue of demand for the drugs.

The decriminalization model is a public health approach towards combatting substance use disorder by allowing for those with SUD to have better access to treatment and recovery resources rather than being criminally penalized if caught with illicit substances (Oregon Health Authority, n.d.). By offering comprehensive care and support through a decriminalization policy model, such as done with the PDPM and Measure 110, the goal is to reduce the demand for illicit substances by helping people cope with their substance use disorder and hopefully break the cycle of drug use. (Bratberg et al., 2023).

Decriminalization in Portugal

As discussed previously, Measure 110 was largely based on the Portuguese Drug Policy Model. Since the implementation of the PDPM, drug-related deaths and rates of drug use in Portugal have widely remained below the European Union average (Transform Drug Policy Foundation, n.d.). During the first 8 years of this model, Portugal saw a drop of 16.5% in their prison population rates, as well as decreases in HIV transmission rates via syringe and drug-related overdoses (Faiola & Martins, 2023).

In recent years, however, Portugal is seeing other issues become more prevalent. Notably, "sewage samples in Lisbon show cocaine and ketamine detection is now among the highest in Europe, with elevated weekend rates suggesting party-heavy usage" (Faiola & Martins, 2023). From 2021 to 2022, crime rates (which include robberies occurring in public spaces) rose 14% in Portugal. Many law enforcement officers cite the PDPM as the root cause, with many officers describing scenes of drug paraphernalia, such as syringe caps and citric acid packets (used for diluting heroin) littering the streets and sidewalks of the community.

<u>Impacts of Cannabis</u>

Many states are enacting policies which decriminalize or legalize cannabis (i.e. marijuana), which is a highly debated topic on its own. For the purpose of this paper it is important to clarify the impact of decriminalizing marijuana versus all other illicit substances. A research study conducted to include all fifty states examined the relationship between property and violent crime rates between 2010-2014; it was found that these crime rates tended to be slightly higher in areas where cannabis was completely illegal, but this was not a statistically significant result (Maier et al., 2017). Collectively, majority of studies suggest that "cannabis decriminalization and legalization are not having overwhelmingly positive or negative effects on the criminal justice system" (Bailey, n.d.). It is important to note that Oregon has decriminalized

the possession and/or personal use of all illicit substances, including small amounts of LSD, methamphetamine, and heroin, among others with the passage of Measure 110 (Oregon Health Authority, n.d.)

Data and Research Design

To determine the impact of Measure 110 on rates of fatal drug overdoses and crime (property and violent) in Oregon, a difference-in-difference analysis was conducted. This quasi-experimental method was chosen because it allows for us to estimate the effect of Measure 110 by comparing the changes in the outcome variables (overdoses, property and violent crime) between an intervention group (State of Oregon) and a control group (State of Nebraska) pre- and post-implementation of the policy (Columbia University Irving Medical Center, 2023.). Through this model, we were able to estimate the effect and impact of Measure 110 by comparing the rates of fatal drug overdoses, property crime, and violent crime in both states pre and post implementation, which will allow for us to determine if the change was a result of the policy rather than other trends, biases, or differences between the groups .

Nebraska was chosen as a comparison state due to having similar demographics to Oregon, as seen below in Table 1, without having decriminalization statutes surrounding any illicit substances outside of cannabis (Encyclopedia Britannica, 2024.). Nebraska does have less than half of the population of Oregon and less sizeable urban areas, although much of the population makeup and demographics are similar between the two states. Furthermore, Nebraska has historically leaned toward the Republican party during presidential elections, whereas Oregon leans Democratic across the board. These differences could lead to different perceptions of drug policy in Oregon and Nebraska.

As previously stated, the use of fatal overdoses as an outcome was chosen due to it being a quantifiable marker related to substance use disorder. The data for fatal drug overdoses for Oregon and Nebraska was gathered from the Centers for Disease Control and Prevention National Center for Health Statistics. National and state-level statistics for crime are divided into two categories, property crime and violent crime, so we will be examining both categories to determine the impact of Measure 110 on crime overall. Violent crimes, which involve the use or threat of force, are, "composed of four offenses: murder and nonnegligent manslaughter, rape, robbery, and aggravated assault" (Federal Bureau of Investigation, 2016.). Property crime, composed of offenses such as burglary, arson, and larceny-theft, where there is an offense involving the taking of money or property without the use or threats of force against the victims. Data will be examined starting in 2019, prior to implementation of Measure 110, through 2022 for violent and property crime rates, but data is not available past 2021 for drug overdose mortality other than estimates. The University of Kentucky Institutional Review Board (IRB) conclude that this research does not meet the definition of research with human subjects, therefore IRB approval was not needed.

State Demographics	Oregon	Nebraska
Population Estimates (7/1/23)	4,233,359	1,978,379
Persons under 18 (%)	4.9	6.3
Persons > 65+ (%)	19.2	16.9
Persons per household	2.46	2.46
High school graduate (% aged 25+)	91.6	91.9

Median household income (in 2022 dollars)	76,632	71,722
2022 Property Crime (Incidents per 100,000)	2935.3	1888.8
2021 Property Crime (Incidents per 100,000)	2690.9	1818.6
2020 Property Crime (Incidents per 100,000)	2659	1909.2
2019 Property Crime (Incidents per 100,000)	2788.5	2046.7
2022 Violent Crime (Incidents per 100,000)	342.4	282.8
2021 Violent Crime (Incidents per 100,000)	341.3	297
2020 Violent Crime (Incidents per 100,000)	291.9	334.1
2019 Violent Crime (Incidents per 100,000)	293.7	304.6
2021 Drug Overdose Mortality Rate	26.8	11.4
2020 Drug Overdose Mortality Rate	18.7	11.3
2019 Drug Overdose Mortality Rate	14	8.7

Table 1: Information regarding the fatal drug overdose rates, violent crime rates, property crime rates, and demographics of Oregon and Nebraska.

Data Sources:

Centers for Disease Control and Prevention. (2022, March 1). *Drug overdose mortality by State*.
    Centers for Disease Control and Prevention.
    https://www.cdc.gov/nchs/pressroom/sosmap/drug_poisoning_mortality/drug_poisoning.ht
    m

Federal Bureau of Investigation. (n.d.). Crime Data Explorer. Cde.ucr.cjis.gov.
https://cde.ucr.cjis.gov/LATEST/webapp/#/pages/explorer/crime/crime-trend

U.S. Census Bureau quickfacts: United States. (n.d.-a).
https://www.census.gov/quickfacts/fact/table/US/PST045223

Limitations

Limitations to this difference-in-difference analysis may include the COVID-19 pandemic, as it drastically affected the lives of people and greatly magnified substance use and led to increases in overdose-related death, although the full scope of its impact is still not fully understood (Mumba et al, 2021.). Public perception of substance use disorder and the decriminalization of illicit substances could also have an effect, as stigma surrounding drug use and SUD may increase the risk of overdose (Latkin et al, 2019.). Poverty, mental illness, and chronic medical conditions may be associated with increase rates of substance use disorder, but we were unable to account for these in our analysis (Walker & Druss, 2017.). Furthermore, a robust analysis would include multiple comparison states as well as a wide time frame to analyze pre- and post- implementation to get a more accurate scope of the impact of the policy, however this is just not possible under current constraints.

Results

The difference-in-difference analysis found that Measure 110 was not associated with statistically significant increased rates of property crime and fatal drug overdoses. Violent crime rates decreased, but this was also not statistically significant. Table 2, seen below, displays the

difference-in-differences estimate as well as the confidence interval. The difference-in-differences estimate tells us the effect that the treatment, Measure 110, had on the variables, with a positive estimate implying a positive effect and a negative estimate implying a negative effect; a value of 0 means the estimate does not have an effect. With none of the P values being less than 0.05 and each confidence interval containing 0, we can determine these are not statistically significant results. Figures 1, 2, and 3, also seen below, demonstrate the trends in rates of property crime, violent crime, and overdoses, respectively.

Variable	Difference-in-Difference Estimate	P > |t|	95% Confidence Interval
Property Crime	0.0008919	0.241	(-2.537, 2.465)
Violent Crime	-.0039066	0.520	(-0.004, 0.005)
Fatal Drug Overdoses	0.0294482	0.485	(-0.328, 0.387)

Table 2: The difference-in-differences estimate and confidence intervals help describe the association between Measure 110 and rates of property crime, violent crime, and fatal drug overdoses.
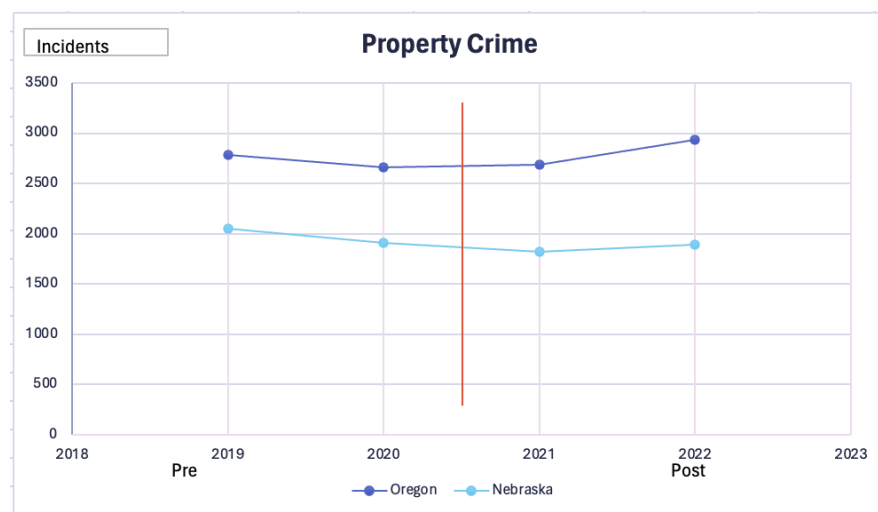

Figure 1: Trends in property crime pre and post implementation of Measure 110 in Oregon versus the control state of Nebraska.
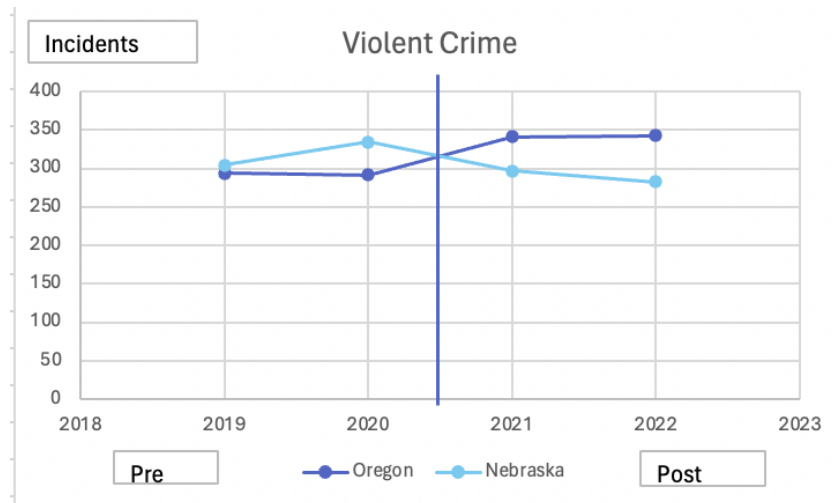
Figure 2: Trends in violent crime pre and post implementation of Measure 110 in Oregon versus the control state of Nebraska.
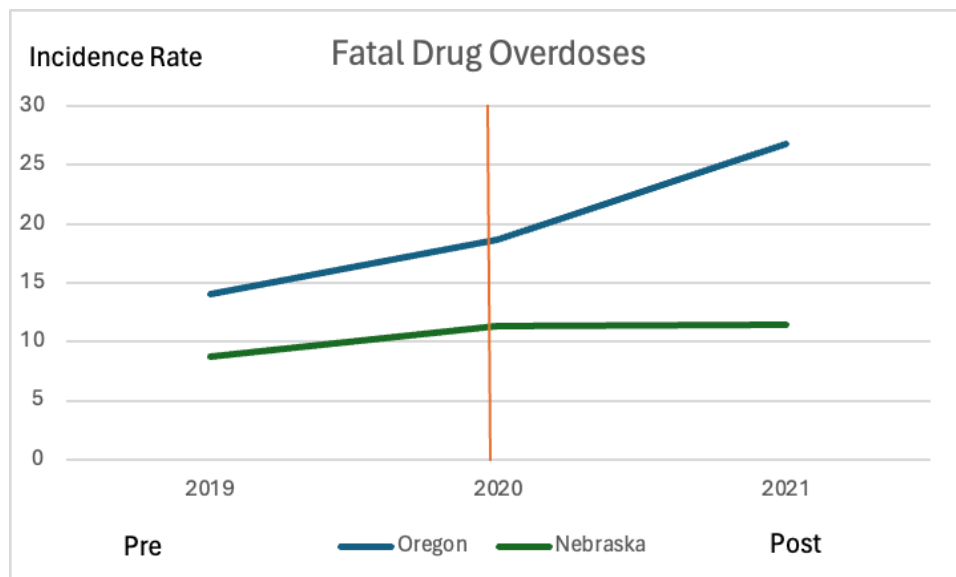

Figure 3: Trends in fatal drug overdoses pre and post implementation of Measure 110 in Oregon versus the control state of Nebraska.

Conclusion and Recommendations

Recently this 2024 Legislative Session, legislators in Oregon voted to repeal Measure 110, citing spikes in public drug use and homelessness across the state (Paun & Hernandez-Morales, 2024). The state also experienced spikes in fatal drug overdoses, but these were on trend with national averages. Legislators state that Oregon still intends to utilize a public health approach towards combatting substance use disorder in the state, but that the state needs to focus on cracking down on public drug use while promoting public safety. Those who still support Measure 110 believe that the 3 year trial run of decriminalization was not enough time to truly see the impact of this model, citing the COVID-19 pandemic, lack of training for law enforcement officers on SUD services offered through Measure 110, as well as an underutilization and underfunding of these services as potential barriers to the policy's success.

Ultimately, the passage of Measure 110, or the Drug Addiction Treatment and Recovery Act, has been a highly controversial approach to combating substance use disorder rates in the state of Oregon. The difference-in-difference analysis conducted demonstrated that there were no statistically significant increases in property crime and fatal drug overdoses, as well as a non-statistically significant decrease in violent crime because off the passage of Measure 110. This is a highly complex issue with no "one size fits all" answer, as seen with the initial success then subsequent decline of the Portuguese Drug Policy Model. Further analysis is needed on a more robust scale (state, national, or international level) with a wider time frame (ideally many years pre- and post- implementation of policy) to truly determine the best way to combat substance use disorder from a policy perspective.

Works Cited

American Psychiatric Association [APA]. (n.d.). What is a Substance Use Disorder? https://www.psychiatry.org/patients-families/addiction-substance-use-disorders/what-is-a-substance-use-disorder

Bailey, M. (n.d.). Impacts-of-cannabis-decriminalization-legalization-6.24 ... https://cjil.sog.unc.edu/wp-content/uploads/sites/19452/2021/06/Impacts-of-Cannabis-Decriminalization-Legalization-6.24.2021.pdf

Bratberg, J. P., Simmons, A., Arya, V., Bhatia, A., & Vakharia, S. P. (2023). Support, don't punish: Drug decriminalization is harm reduction. Journal of the American Pharmacists Association, 63(1), 224–229. https://doi.org/10.1016/j.japh.2022.12.017

Columbia University Irving Medical Center. (2023, March 13). Difference-in-difference estimation: Columbia public health. Columbia University Mailman School of Public Health. https://www.publichealth.columbia.edu/research/population-health-methods/difference-difference-estimation

Encyclopedia Britannica. (2024, March 25). Nebraska. Encyclopædia Britannica. https://www.britannica.com/place/Nebraska-state

Faiola, A., & Martins, C. F. (2023, July 7). Portugal's drug decriminalization faces opposition as addiction ... https://www.washingtonpost.com/world/2023/07/07/portugal-drugs-decriminalization-heroin-crack/

Federal Bureau of Investigation. (2017, August 25). Offenses Known to Law Enforcement. Criminal Justice Information Services Division. https://ucr.fbi.gov/crime-in-the-u.s/2016/crime-in-the-u.s.-2016/topic-pages/offenses-known-to-law-enforcement

Foster, A. L. (2023). The Long War on Drugs (1st ed.). Duke University Press. https://doi.org/10.1215/9781478027553

Latkin, C. A., Gicquelais, R. E., Clyde, C., Dayton, L., Davey-Rothwell, M., German, D., Falade-Nwulia, S., Saleem, H., Fingerhood, M., & Tobin, K. (2019, June). Stigma and drug use settings as correlates of self-reported, non-fatal overdose among people who use drugs in Baltimore, Maryland. The International journal on drug policy. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6535351/#:~:text=Stigma%20related%20to%20drug%20use,settings%20may%20increase%20overdose%20risk.

Laqueur, H. (2015). Uses and Abuses of Drug Decriminalization in Portugal. Law & Social Inquiry, 40(3), 746–781. https://doi.org/10.1111/lsi.12104

Maier, Shana L., Suzanne Mannes, and Emily L. Koppenhofer. "The Implications of Marijuana Decriminalization and Legalization on Crime in the United States." Contemporary Drug Problems 44, no. 2 (2017): 125-146.

Mumba MN, Jaiswal J, Langer-Smith N, Mugoya GT, Brown W, Davis LL. COVID-19 and opioid use disorder: Expanding treatment access in rural settings. Nursing. 2021;51(9):44–47. doi: 10.1097/01.NURSE.0000753988.30717.7e

Oregon Health Authority . (n.d.). Drug addiction treatment and recovery act (measure 110). Drug Addiction Treatment and Recovery Act (Measure 110) : Behavioral Health Services : State of Oregon. https://www.oregon.gov/oha/hsd/amh/pages/measure110.aspx

Oregon State University . (2023, October 31). Substance use disorders. Coast to Forest Web Library. https://c2f.oregonstate.edu/understand/substance-use-disorders

Paun, C., & Hernandez-Morales, A. (n.d.). *Why Portland failed where Portugal succeeded in decriminalizing drugs*. Politco Health Care. https://apple.news/Am3NPk02fQhutsrpHnWBF-g

RÊGO, X., OLIVEIRA, M. J., LAMEIRA, C., & CRUZ, O. S. (2021). 20 years of Portuguese drug policy - developments, challenges and the quest for human rights. Substance Abuse Treatment, Prevention, and Policy, 16(1). https://doi.org/10.1186/s13011-021-00394-7

Russoniello, K., Vakharia, S. P., Netherland, J., Naidoo, T., Wheelock, H., Hurst, T., & Rouhani, S. (2023). Decriminalization of drug possession in Oregon: Analysis and early lessons. Drug Science, Policy and Law, 9, 205032452311674-. https://doi.org/10.1177/20503245231167407

Shea, G. P. (2023b, September 5). Is Portugal's drug decriminalization a failure or success? the answer isn't so simple. Knowledge at Wharton. https://knowledge.wharton.upenn.edu/article/is-

portugals-drug-decriminalization-a-failure-or-success-the-answer-isnt-so-simple/#:~:text=Initial%20Results%20of%20Portugal's%20New%20Drug%20Policies&text=Portugal%20had%20the%20lowest%20drug,use%20injection%20had%20declined%2090%25.

Smiley-McDonald, H. M., Attaway, P. R., Wenger, L. D., Greenwell, K., Lambdin, B. H., & Kral, A. H. (2023). "All carrots and no stick": Perceived impacts, changes in practices, and attitudes among law enforcement following drug decriminalization in Oregon State, USA. The International Journal of Drug Policy, 118, 104100–104100. https://doi.org/10.1016/j.drugpo.2023.104100

State of Oregon . (n.d.). Drug Addiction Treatment and Recovery Act (Measure 110). Oregon Health Authority . https://sos.oregon.gov/admin/Documents/irr/2020/044text.pdf

State of Oregon Judicial Department . (2024, February 29). Measure 110 Statistics. Oregon Judicial Department. https://www.courts.oregon.gov/about/Documents/BM110Statistics.pdf

Substance Abuse and Mental Health Services Administration [SAMHSA]. (2021.) 2019–2020 National Survey on Drug Use and Health: Model-Based Prevalence Estimates (50 States and the District of Columbia). Substance Abuse and Mental Health Services Administration, URL https://www.samhsa.gov/data/sites/default/files/reports/rpt35339/2020NSDUHsaePercents012422/ NSDUHsaePercents2020.pdf.

Transform Drug Policy Foundation. (n.d.-b). Drug decriminalisation in Portugal: Setting the record straight. https://transformdrugs.org/blog/drug-decriminalisation-in-portugal-setting-the-record-straight

Towles, J. (2022). The Deficiencies of Oregon Ballot Measure 110. SMU Science and Technology Law Review, 25(1), 77-. https://doi.org/10.25172/smustlr.25.1.6

Walker, E. R., & Druss, B. G. (2017). Cumulative burden of comorbid mental disorders, substance use disorders, chronic medical conditions, and poverty on health among adults in the U.S.A. Psychology, Health & Medicine, 22(6), 727–735. https://doi.org/10.1080/13548506.2016.1227855

U.S. Department of Justice. (n.d.). Fact Sheet: Drug-Related Crime. Drug & Crime Data. https://bjs.ojp.gov/content/pub/pdf/DRRC.PDF