CENTER FOR GLOBAL HEALTH DELIVERY
HARVARD MEDICAL SCHOOL

PROCEEDINGS

Opioid Use Disorder Around the Globe

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Opioid Use Disorder Around the Globe

PROCEEDINGS

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Rapporteur

Dr. Anna Nicholson, Doxastic

Hosts

Harvard Medical School Center for Global Health Delivery
Brigham Health

Program in Opioid and Pain Innovation

Contents

Abbreviations

ART	antiretroviral therapy
ACT	Australian Capital Territory
AMC	Alexander Maconochie Centre
ATS	Amphetamine-type stimulants
CCAR	Connecticut Communities of Addiction Recovery
CDC	Centers for Disease Control and Prevention
ED	Emergency department
HCV	Hepatitis C virus
LEAD	Law enforcement assisted diversion
MAT	Medication assisted treatment
MDE	Major depressive episodes
MMT	Methadone maintenance treatment
MSIC	Medically supervised injection centers
MSIR	Medically Supervised Injecting Room
NRC	National Rehabilitation Center
NSDUH	National Survey on Drug Use and Health
NSP	Needle and Syringe Programs
OAT	Opioid agonist treatment
OST	Opioid substitution treatment
OUD	Opioid use disorder
PCSS	Providers Clinical Support System
PWID	People who inject drugs
SAMHSA	Substance Abuse and Mental Health Services Administration
SCDI	Supporting Community Development Initiatives
SMI	Serious mental illness
SUD	Substance use disorders
THN	Take-home naloxone
UAE	United Arab Emirates
UNODC	United Nations Office on Drugs and Crime
WHO	World Health Organization

1 Introduction and organization of the Proceedings

In June 2021, a multipart workshop was hosted to convene stakeholders and scientists from around the world to examine and showcase various practice-based approaches and public health policies that address opioid use disorder (OUD) and opioid-related overdoses and deaths. The workshop was held over five days. Day one was moderated by Scott Weiner, emergency physician and director of Brigham Comprehensive Opioid Response and Education program at Brigham and Women's Hospital. The panelists discussed current strategies for addressing OUD in the US and Canada, along with potential strategies that may be employed in the future. Day one is described in Chapter 2 of these proceedings. Day two was moderated by Joji Suzuki, addiction psychiatrist at, director of the division of addiction psychiatry, and program director for Brigham Addiction Medicine Fellowship at Brigham and Women's Hospital; it included presentations on the use of opioid substitution treatment in Europe and the state of OUD in the United Arab Emirates. Day two is described in Chapter 3 of these proceedings. Day three of the workshop was moderated by Weiner, and it included presentations on the state of OUD in Australia and Malaysia. Day three is described in Chapter 4 of these proceedings. Day four was moderated by Gloria Brand, program director of the Program in Opioid and Pain Innovation at Brigham and Women's Hospital. Day four included panelist presentations about drug policy reform in Vietnam, and the events of day four are detailed in Chapter 5 of these proceedings. Day five was moderated by Suzuki; it included discussion of the impact of the COVID-19 pandemic on OUD, the state of drug use in South Africa, and a broader overview of the history, trends, and innovations in OUD treatment and policy reform. Day five is described in Chapter 6 of these proceedings.

1.1 Opening remarks

Weiner explained that the opioid epidemic has been ongoing for over two decades, and it has been exacerbated – both in terms of mortality and disparities – by the COVID-19 pandemic. Still, many countries impacted by OUD have developed unique treatment and policy strategies. By highlighting innovative approaches from around the world, this workshop series is aimed at revealing the best innovations that can be brought to bear to address OUD. Suzuki shared that he has witnessed the impact of OUD in his communities. Despite advances in addressing OUD, there is still much work to be done. He expressed his hope that convening a diverse group of experts will generate new insights and offer opportunities to sharing learnings from around the world.

2 Strategies for addressing opioid use disorder in North America

2.1 Addressing the opioid crisis in the US

2.1.1 National Survey on Drug Use and Health

Deepa Avula[1], chief of staff and chief financial officer at Substance Abuse and Mental Health Services Administration (SAMHSA), discussed how the opioid crisis in the United States is addressed. She explained that the National Survey on Drug Use and Health (NSDUH) is the primary source of information on the nature and extent of substance use and behavioral health in the US (see Box 2-1). She noted that due to a slight lag between data collection and reporting, the most current NSDUH report is from 2019—ie, there are not yet NSDUH data from the COVID-19 pandemic. Consequently, the current NSDUH does not reflect substance use and behavioral health trends associated with the pandemic. Avula noted that substance use and behavioral health issues are expected to rise as a result of the pandemic.

Box 2-1. National Survey of Drug Use and Health

The National Survey on Drug Use and Health (NSDUH) provides up-to-date information on tobacco, alcohol, and drug use, mental health, and other health-related issues in the United States. It is a comprehensive household interview survey used to estimate prevalence and incidence of substance use, substance use disorders (SUD), and mental health disorders, as well as the receipt of treatment services for these disorders. The survey is collected face-to-face by field interviewers who read questions and record the respondent's replies. The interviewers use a computer-assisted self-interviewing process to ask participants more sensitive questions. The NSDUH sample is drawn to represent the civilian, noninstitutionalized population of the United States aged 12 years or older. Participants are randomly selected and include persons in households, college dorms, homeless in shelters, and civilians on military bases. As a household survey, NSDUH excludes active military, long-term hospital residents, prison populations, and homeless not in shelters. Thus, NSDUH estimates do not represent the total US population and can underestimate the extent of opioid use disorder. The data are collected year-round from all 50 states plus the District of Columbia, with approximately 67,500 persons interviewed annually.

2.1.1.1 2019 National Survey on Drug Use and Health Report

2.1.1.1.1 Mental illness and substance use disorders in the US

Avula reviewed findings from the 2019 NSDUH report.[2] Among adults aged 18 or older, 61.2 million people had a mental illness and/or substance use disorder. Of these, 19.3 million (7.7%) adults had a substance use disorder, 51.5 million (20.6%) had a mental illness, and 9.5 million (3.8%) had both. Among those with a substance use disorder, 2 in 5 (38.5% or 7.4 million) struggled with illicit drugs; 3 in 4 (73.1%

1 Speaker did not submit comments.
2 More information about 2019 National Survey of Drug Use and Health is available at https://www.samhsa.gov/data/release/2019-national-survey-drug-use-and-health-nsduh-releases (accessed July 19, 2021).

or 14.1 million) struggled with alcohol use; and 1 in 9 (11.5% or 2.2 million) struggled with illicit drugs and alcohol. An estimated 1.6 million people had an opioid use disorder in 2019. Among those with a mental illness, 1 in 4 (25.5% or 13.1 million) had a serious mental illness (SMI). Since 2018, rates of mental illness and/or substance use disorder have increased 5.9%, primary driven by increases in mental illness.

2.1.1.1.2 Opioid misuse

An estimated 10.1 million Americans (3.7% of total population) misued opiods in the past year; the vast majority of people who misused opioids in the past year misused prescription pain relievers. Specifically, 9.7 million people (96.6% of opioid misusers) misused prescription pain relievers in the past year compared with 745,000 people (7.4% of opioid misusers) who used heroin. An estimated 404,000 (4.0% of opioid misusers) have misused prescription pain relievers and used heroin. In the US, hydrocodone products were the most commonly misused subtype of prescription pain relievers in 2019, with an estimated 5.1 million people misusing. An estimated 3.2 million people misused oxycodone and 269,000 misused prescription fentanyl products. Overall, a modest decline in misuse was reported in all opioid categories except prescribed fentanyl, which had no change.

2.1.1.1.3 Opioid misuse related to other substance use, major depressive episodes, and serious mental illness

In the US, a major focus has been on addressing co-occurring disorders. Because NSDUH collects both mental health and substance use data, the NSDUH report anaylzes the association between opioid misuse and other substance use or mental illness. Regarding co-occuring SUD, results indicate a strong positive association between opioid misuse and use of marijuana, cocaine, methamphetamine, and heavy alcohol consumption. Opioid misuse is also associated with major depressive episodes (MDE) and SMI. The survey also reports that those with substance use disorder have significantly higher rates of suicidality including suicidal ideation, plans, or attempts.

2.1.1.1.4 Sources of pain relievers

Among the 9.7 million people aged 12 or older who misused prescription pain relievers in the past year, the most common source for the last pain reliever they misused was from a friend or relative. More than half (50.8%) obtained pain relievers from a friend or relative in some way: 37.0% of people obtained pain relievers from a friend or relative for free, 9.2% bought them from a friend or relative, and 4.6% took their pain reliever from a friend or relative without asking. Furthermore, of those who obtained pain relievers from a friend or relative for free, 83.8% of the friends or relatives had a prescription from a single doctor. Another 37.5% obtained pain relievers through prescription(s) or stole pain relievers from a health care provider, and 6.2% bought pain relievers which they misused from a drug dealer or other stranger. The finding that the vast majority of misused opioids come from a friend or family member who obtained the drug from a prescription from a single physician indicates the need to increase provider education regarding careful prescribing practices.

2.1.1.1.5 Misuse among past year users of opioid products

Among those who used prescription pain relievers in 2019, most did not misuse them. Buprenorphine, an effective treatment for opioid use disorder, is the most commonly misused prescribed pain reliever. Among past year users of buprenorphine products, 27.8% (686,000 people) misused them. Buprenorphine is not benign and can be unsafely used, particularly when diverted. Thus, prescribers should be aware that buprenorphine is reported to be significantly misused.

2.1.2 Approach to addressing addiction in the US

A whole health approach is used to address addiction in the US, stated Avula. A whole health approach to substance use recognizes the array of issues that substance use behavior creates for individuals. Drug use disorders are associated with life-threatening complications apart

from the risk of overdose death. Those with substance use disorders are more likely to be homeless, victims of crime, food insecure, have co-occurring physical or mental health problems, and have legal issues. Injectable drug users are also at risk for endocarditis, cellulitis, and abscesses. Although the number of opioid overdose deaths is an important indicator, it is not the sole measure of success for substance use programs. Effective treatment involves providing the supports and services to address all of the consequences of substance use. Apart from preventing opioid overdose deaths, the goal of treatment is to keep people living a healthy, productive, happy, and socially connected life. Therefore, the approach employs evidence-based practices to address the many needs of individuals with substance use disorders. A continuum of community-level and individual services can be implemented to help prevent and treat substance use disorders and support individuals in recovery. For instance, communities across the US have implemented syringe exchanges to ensure the physical health of users; such programs are critical in mitigating the spread of infectious disease. Despite worldwide interest, safe injection sites have been recently deemed a violation of the US Controlled Substances Act. Therefore, the strategy is not being pursued in the US. Other strategies include naloxone education and distribution programs and peer supports in emergency departments and on the streets. A focus has also been placed on making medication assisted treatment (MAT) widely available. The approach aims to meet the psychosocial needs of those affected, with particular attention paid to special populations such as the incarcerated, women and their children, and those with serious mental illness. Youth have also been targeted for prevention efforts.

From 2017 to 2021, the major focus in the opioid crisis was on prevention and making treatment readily available. SAMHSA funded a series of programs on the conceptual framework of prevention, treatment and recovery, and many of the programs are currently ongoing. The State Opioid Response grant program recognized the varying needs across states and allowed each state to design and develop a strategy to address their local needs. These strategies were required to include prevention, treatment, and recovery services, but states were free to tailor programs to the needs of their communities. Set-asides were placed for tribal needs and states hardest hit by the epidemic. The programs also used evidence-based practices for substance abuse prevention strategies. The prevention programs include activities and services provided in a variety of settings and populations such as students and youth. One strength of the program is the use of community-based prevention messaging from faith leaders, teachers, and other community members to lead awareness and develop a strong community coalition. SAMHSA requlations require provider networks to offer MAT for patients in states receiving funding from the State Opioid Response grant program, although patients may choose other treatment options. This policy evinces the acceptance of MAT as a legitimate, effective, and evidence-based treatment, and it made state implementation of MAT services easier by reducing the stigma for both patients and providers.

Avula explained that the Substance Abuse Prevention and Treatment Block Grant Program aims to help plan, implement, and evaluate activities that prevent and treat substance abuse. The Medication Assisted Treatment-Prescription Drug and Opioid Addiction (MAT PDOA) grant funded implementation of services related to MAT for OUD. Criminal justice programs support people with OUD or other substance issues involved in the criminal justice system by providing paths to treatment such as drug courts, pre-arrest diversion, and offender re-entry. SAMHSA also supports service provisions for pregnant and parenting women with OUD and their children in addition to programs that focus on individualized community needs and expanding capacity. The Overdose Reversal Drug Access program and First Responder Training programs focused on overdoses and reversal drugs. SAMHSA also funded a series of programs aimed at workforce development and training. Peer specialist training programs increased community outreach and recovery efforts. The Minority Fellowship Training program in addiction psychiatry, addiction medicine, and psychol-

ogy was funded to serve high need communities and encourage engagement. Training and technical assistance grants funded education on substance and opioid use disorders lacking in the mainstream medical school and healthcare curricula. The goal was to increase provider knowledge and confidence in providing care and treatment for OUD. In particular, State Targeted Response to Opioids team-based training and education is an innovative strategy addressing the crisis by federally funding local training teams in each state. Teams provided training and technical assistance in communities to help shape the local response. Other programs include Providers Clinical Support System (PCSS) for MAT, Addiction Technology Transfer Centers, Substance Abuse Prevention Technology Transfer Centers, and PCSS-Universities.

2.1.2.1 Results

The programs demonstrated many positive impacts.[3] From 2016-2019, opioid misuse and rates of opioid use disorder significantly decreased in all age groups: 12-17 years, 18-25 years, ≥26 years, and ≥12 years. Prescription pain reliever misuse also significantly decreased among the age groups of 12-17 years, 18-25 years, and ≥26 years. With regard to prevention efforts, heroin initiation decreased from 2016 to 2019. Avula noted the importance of prevention and early intervention to decrease rates of heroin use. Rates of treatment services also improved. The number of individuals receiving pharmacotherapy for opioid use disorder (MAT) increased overall and respectively for methadone, buprenorphine, and naltrexone.

2.1.2.2 Impact of COVID-19

Avula also discussed the impact of COVID-19 on substance use. The Administration was pleased with the 2019 NSDUH results; however, the COVID-19 pandemic resulted in changes to life and routine which greatly affected millions of Americans. Changes included: loneliness and isolation; unemployment, business jeopardy, and financial stressors; children out of school and parents trying to home school; and loss of usual health and/or mental health services, particularly for those with special needs unable to access services. Overall, the pandemic resulted in stress, trauma, anxiety, depression, grief, and negative mental health effects[4] which are risk factors for increased substance and opioid use. Mitigation strategies for the physical effects and viral containment of COVID-19—though necessary—resulted in unintended mental health consequences. Decision makers lacked an understanding of these sequelae and could have better addressed the spectrum of adverse effects of lockdowns and business closures, suggested Avula. For example, discrepencies arose regarding standard social distancing requirements; the US required 6 feet, while other countries required three. It remains unclear whether the 6-feet requirement was necessary and it made access to treatment services more difficult. Furthermore, the US social distancing requirements closed mental health treatment centers and made it harder to obtain methadone or attend group therapy. The Centers for Disease Control and Prevention (CDC) reports[5] substantial increases in drug overdose deaths across the US; this was primarily driven by rapid increases in overdose deaths involving synthetic opioids excluding methadone (likely illicitly manufactured fentanyl). A concerning acceleration of the increase in drug overdose deaths, with the largest increase recorded from March 2020 to May 2020, coincided with the implementation of widespread mitigation measures from the COVID-19 pandemic. The geographic distribution of overdose deaths involving synthetic opioids changed with the largest percent increase occuring in states in the western US. Overdose deaths involving psychostimulants with abuse potential (eg, methamphetamine) also increased significantly.

The strategies implemented for COVID-19 should have better addressed substance use and mental health along with physical health, said Avula. Furthermore, mental health should not be considered separate from physical

3 Past year, 2016-2019 NSDUH, 12+
4 Czeisler et al 2020
5 CDC Health Advisory 2020

health. Mental health has a profound impact on an individual's wellbeing and health strategies should consider a person's whole health.

2.1.2.3 Future plans

Future policies should keep in mind those most affected by the pandemic. Despite the development and widespread availablity of COVID-19 vaccines, the effects of the pandemic are not behind the millions of Americans who've either developed or exacerbated an existing substance use disorder. Therefore, future plans include increasing MAT, developing evidence-based practices, and caring for high-risk populations. Avula also noted the importance of addressing all substance use, rather than just opioids. A critical lesson learned during the opioid crisis is that focusing on one drug type will result in the rise of another. Therefore, substance use policy needs to align with the way that substance use works in communities and not just one drug at a time. Work should also continue on workforce development and training as mainstreaming substance use disorder treatment improves results for both individuals and practitioners. Finally, individuals with opioid use disorder deserve the same type of care as individuals with any other type of chronic condition in the United States. The Substance Abuse and Mental Health Services Administration will continue to focus on reducing stigma to improve access to quality services.

2.2 Addressing opioid with a harm reduction perspective

Mark Tyndall[6], professor at the University of British Columbia School of Population and Public Health, infectious disease specialist and epidemiologist with a focus on urban health, drug use and harm reduction, former executive director of the British Columbia Centre for Disease Control and the Deputy Provincial Health Officer, reviewed a harm reduction approach to opioid use disorder in Canada. He described how the rise in overdose deaths has unmasked drug policy issues as well as discussing policy interventions introduced in British Columbia.

In the domain of harm reduction and the treatment of substance use disorders, a large proportion of the most vulnerable people are left without care, said Tyndall. This is because the current strategy is primarily founded on abstinence-based recovery programs, which block treatment based on drug use. Tyndall suggested that the medical approach to drug use is backwards. From a harm reduction point of view, it is critical to provide services during all stages of recovery—even to active substance users. A harm reduction approach focuses on empowering people with substance use disorders to choose to reduce or stop their drug use once they receive support. Abstinence-based recovery programs are unsuccessful for the many people whose drug use is a tactic for living with physical, mental, and emotional injuries. For many, drugs are not their primary problem, but a mechanism for coping with their problems. Therefore, the approach to substance use should focus more on supporting the lives of those affected. To make an impact on the drug crisis, the approach to drug use needs a major overhaul. Drug prohibition and the war on drugs has led to increases in overdose deaths and the rise of fentanyl and synthetic opioids. In Canada, the rate of heroin use is decreasing as the illegal drug market switches to more potent synthetic drugs, such as fentanyl. The rise of fentanyl across North America is the direct result of prohibition. Overall, increases in synthetic drug use are leading to more overdose deaths.

2.2.1 Policy intervention

Most drug users are affected by trauma, stated Tyndall. Until properly addressed, many drug users will remain unable to obtain services and are vulnerable to death. For example, the aboriginal populations in Canada are greatly affected by deep-seated trauma (eg, residential schools) and are disproportionately represented in addiction programs. Stigma and trauma also arise from drug policies. In addition to a medical approach of offering medications and other services, strategies for

6 Speaker did not sumbit comments.

addressing drug crises should aim to reduce the harm caused by law enforcement policies.

Tyndall discussed several harm reduction interventions and his experience in the downtown east-side Vancouver community. An impoverished section in the middle of the wealthy city, the area has been a laboratory in harm reduction techniques and interventions. Described as a "prohibition police state," the area has disproportionately high levels of drug use and repeat incarceration. Several harm reduction interventions have been implemented. Downtown east side Vancouver was the home of one of the first needle exchanges in North America. In 2003, the supervised injection site, INSITE, opened. Tyndall lamented that supervised injection sites remain illegal under federal law in the United States, despite evidence from Canada and Australia demonstrating the successes of these programs. Supervised injection sites are a place to engage and show compassion for those who use drugs and have nowhere to go; as such, these types of sites are one of the most impactful drug-use interventions.

In 2016, the provincial government of British Columbia declared drug overdose a public health emergency, which led to the opening of overdose prevention and supervised injection sites. Currently, 20 sites are open across the province and remain well attended. Tyndall also noted that supervised injection sites have served to offset some of the isolation caused by COVID-19. Additionally, an extensive community-based naloxone program has been implemented that has trained many people to carry naloxone kits and intervene in overdoses. However, intervening in an overdose with a naloxone kit is a form of late intervention and, for many drug users, it comes too late. Among those who die of overdose in British Columbia, 80% die alone and are found long after they have died. He noted that people are incentivized to use drugs in isolation due to drug criminalization. So, although supervised injection sites reach a large proportion of people, others are still unable to obtain access to much needed care.

Furthermore, the approach in British Columbia and across Canada aims to give a voice to people who use drugs. Medical systems frequently patronize drug users. Tyndall stated that terms such as "opioid use disorder" evinces the over-medicalization of an issue defined by people's suffering and their attempts to cope by self-medicating. Often, drug users use whatever drug is most readily available, accessible, and cheap. For example, some areas of Canada have very little fentanyl use but high levels of crystal meth; these trends reflect the local availability of drugs that are cheap and long lasting. People who wish to use drugs to cope with their suffering will often use whatever drug is available to alleviate the pain they are experiencing.

2.2.1.1 Drug poisoning crisis

The overdose crisis is exacerbated by the prevalence of fentanyl and polysubstance use. Polysubstance use increases the likelihood of inadvertently or periodically using opioids through adulteration. A potent opioid, fentanyl often overwhelms users and leads to drug poisoning. Public health practitioners should view the issue as a "drug poisoning crisis" rather than an overdose crisis. This terminology better reflects the unintentional nature of drug poisoning deaths, as victims of drug poisoning typically die after taking doses they believed to be safe. Moreover, North America has a drug poisoning epidemic caused by synthetic opioids. Tyndall indicated three necessary responses to this crisis:

- Provide drug users with access to a safer, alternative supply of opioids to reduce drug poisonings.
- Decriminalize drug use to stop harmful cycles of drug user incarceration.
- Defund police or restructure police systems to shift focus away from punishing drug distribution, use, and possession.

Moreover, he suggested that resources should be reallocated to support drug users with services such as housing and trauma counselling. Criminal punishment is an unsustainable and ineffectual solution for the crisis. Indeed, pursuing drug criminalization policies has led to the untimely deaths of many people.

2.2.1.2 Crosstown Clinic

Canada has slowly started to adopt safe supply programs. For instance, the Crosstown Clinic[7] is a hydromorphone and medical-grade heroin injection program in Vancouver. The program was established as part of a large clinical trial and has operated for over a decade. About 200 people attend the supervised clinical setting to inject heroin 2-3 times daily. Safe supply programs are gradually expanding in British Columbia. To quickly combat the overdose crisis, Tyndall called for substance use treatment to be "de-medicalized." A safe pharmaceutical supply of drugs should be available for drug users, rather than allowing them to continue buying poison and unknown drugs on the black market.

2.2.1.3 MySafe project

Tyndall discussed the safe supply project called MySafe,[8] which expands beyond structured medical models of providing injectable heroin or hydromorphone. Since January 2016, more than 5,545 people in British Columbia have died of an overdose; this death toll amounts to an average of nearly 4 deaths per day. To combat the increasing opioid-involved overdoses, the MySafe initiative uses a vending machine to provide participants with a safer supply of opioids. Drug users have access to a prescribed amount of medical quality hydromorphone which are dispensed from vending machines in Downtown East Side Vancouver. Participant eligibility is based on their use of street fentanyl, which puts users at risk of drug-related death. Originally, participants could use the machine up to four times a day. With COVID-19, participants were allowed to receive their daily allotment through a single visit. Many drug users are putting themselves at risk by buying toxic street drugs; this program helps drug users have autonomy, reduce crime, and avoid illicitly produced, potentially contaminated drugs. In sum, the program is saving lives by providing dependable, medical quality hydromorphone. Although seemingly counterintuitive, providing a safe supply of drugs is often the first step towards reducing or not using drugs. Thus, the MySafe project offers drug users an opportunity to start their recovery.

2.3 Discussion 1 (June 1, 2021)

2.3.1 Buprenorphine Treatment

2.3.1.1 Increasing accessibility by lifting prescriber training requirement

Scott Weiner, emergency physician and director of Brigham Comprehensive Opioid Response and Education program at Brigham and Women's Hospital, asked about recent changes in the US regarding healthcare practitioner training in the prescribing of buprenorphine. Prior to April 28, 2021, physicians and other healthcare practitioners in the US were required to receive 8 or 24 hours of training, respectively, to be authorized to treat OUD patients with buprenorphine. The training requirements remain for practitioners wanting to treat more than 30 patients simultaneously. Avula commented that the purpose of the training requirement was to ensure that practitioners understood the complexity of treating OUD and the possible consequences of buprenorphine diversion or misuse. This change was intended to increase patient access to buprenorphine by increasing the number of providers who can prescribe it. However, prior to this repeal, there were already many providers who were able to treat individuals with buprenorphine, so the educational requirement may not have been the major barrier to access. Avula stated that she is hopeful that this change will make buprenorphine more accessible without increasing diversion, but the outcomes of this change must be monitored and evaluated. Tyndall added that drug diversion is the result of systemic issues that drive individuals to seek opioids through unregulated means.

2.3.1.2 Challenges to patient adoption of buprenorphine

Weiner asked how buprenorphine compares to other OUD medications, like methadone and hydromorphone. Tyndall pointed out that Suboxone (the buprenorphine formulation in Canada)

7 More information about the Crosstown Clinic is available from https://www.providencehealthcare.org/hospitals-residences/providence-crosstown-clinic (accessed July 19, 2021).
8 More information about the MySafe project is available from https://mysafe.org/ (accessed July 19, 2021).

has been readily available in recent years. However, despite being the first-line therapy for OUD patients seeking substitute opioids, Suboxone has been less successful than methadone. Tyndall suggested that the lack of patient usage is due to the potency and limitations of buprenorphine. Methadone gives patients a mild high and it allows patients to continue using some alternative opioids, while buprenorphine "makes people feel very normal" and is less permissive to other opioid use. Tyndall added that opioid substitution therapies like buprenorphine and methadone are only appropriate for OUD patients at a certain point in their trajectory; many people are not ready to adopt or adhere to the strict regulations required by these treatments.

2.3.2 Addressing the risk of diversion

Weiner asked about the ethical challenge of making OUD medications like Suboxone available over the counter, specifically with regard to the risk of adolescent opioid exposure. Tyndall responded that the risks of not making opioid substitute treatments more accessible outweigh the risks of drug diversion. Tyndall noted that drugs are almost always given to friends or people experiencing withdrawal symptoms. It is highly unlikely, although possible, that someone may divert these drugs to children. Additionally, Tyndall pointed out that it is far more effective to put resources toward education and protecting people from the trauma that leads to drug use rather than prohibiting drug usage. Tyndall asserted that hundreds of thousands of lives should not be jeopardized by the fear of drug diversion. Avula asserted that drug diversion is common and has real and significant impacts on young people and families, and that the government has a responsibility to ensure the safety of all of its citizens.

2.3.3 Addressing the psychological challenges of providing and seeking OUD treatment

2.3.3.1 Efforts to support addiction treatment workers

A participant asked the panelists to discuss initiatives to provide psychosocial support and improve working conditions for workers in addiction treatment facilities, given the stressful and emotionally challenging aspects of these jobs. Avula acknowledged the high turnover and low salaries in the addiction treatment field and cited high burnout rates as a key concern. Avula noted that it is important to make sure that people entering these jobs receive adequate training and understand the challenges they will face in these roles. Additionally, Avula highlighted efforts to expand the workforce that treats OUD patients by training primary care practitioners to initiate interventions earlier and financially incentivizing addiction treatment careers—for example, by providing higher compensation, loan forgiveness, and student repayment.

2.3.3.2 Efforts to improve patient care

Tyndall emphasized the patient experience and acknowledged that medical systems often do not engage individuals struggling with drug use with empathy and understanding. Tyndall strongly advocated for supervised injection sites for OUD patients because they offer the opportunity to make connections with community and healthcare workers in a safe environment. Tyndall stated that patients often associate emergency departments and specialty clinics with trauma; the discomfort people experience in these settings undermines their willingness to access care in those types of facilities. In response, Avula highlighted efforts to build Recovery Community Organizations that interface with local communities and medical institutions. These organizations are directed by individuals who are in recovery from substance use disorders. Avula pointed out that because of their lived experience, these people are more likely to be able to meet the needs of OUD patients than emergency room doctors.

2.3.4 Cost effectiveness of safe drug supply interventions

A participant asked about studies that have examined the relative financial costs of providing safe drug supplies versus the current systems used to manage drug use (eg, emergency department visits, hospitalizations, criminal justice, economic costs of lives lost from overdose). The

participant also asked whether access to a safe drug supply reduces involvement in the more urgent and expensive present systems of care. Tyndall cited the NAOMI trial[9], which provided supervised heroin and hydromorphone injections for OUD patients. He reported that the trial included a comprehensive costs evaluation, which found that this intervention reduced time spent in the hospital as well as reducing the burden on the criminal justice system and the number of crimes committed. Tyndall also stated that his team is beginning an economic evaluation of the MySafe program for publicly dispensing opioids to OUD patients. Tyndall added that studies in Vancouver report that hospitalizations, criminal justice, and other intangible costs amount to $50-100,000 annually for the average person entrenched in poverty and street drug use. Tyndall concluded by emphasizing that maintaining the status quo is an expensive endeavor, but safe drug supply interventions appear to be extremely cost effective.

2.3.5 Implications of the COVID-19 pandemic for OUD treatment

In closing, Weiner asked about how systemic changes in response to the COVID-19 crisis may lead to positive and lasting improvements for helping people struggling with drug use. Avula highlighted the improvements and expansion in the use of telehealth, which have made care more accessible for people that are unable to easily visit in-person clinics. Tyndall remarked that prior to COVID-19, there were no conversations about decriminalization of all drugs or implementing regulated drug supply interventions, but now both are being discussed and considered.

9 Oviedo-Joekes et al 2014

3 Opioid substitution treatment and the state of OUD in the European Union and United Arab Emirates

3.1 The state of opioid substitution treatment implementation in European prisons

Heino Stöver, professor of social scientific addiction research at the Frankfurt University of Applied Sciences in Germany[10], director of the Archive and Documentation Centre for Drug Literature and Research at the University of Bremen, president of akzept e.V. (national umbrella organization for harm reduction), and consultant for the European Commission, United Nations Office on Drugs and Crime, WHO, European Monitoring Centre for Drugs and Drug Addiction, International Committee of the Red Cross, and Open Society Institute. In his presentation, he reviewed the implementation of opioid substitution treatment (OST) in European prisons.

3.1.1 Introduction

The Nelson Mandela Rules are the guiding principles for the treatment of prisoners worldwide, and they include essential paragraphs that require healthcare delivery to prisoners, stated Stöver. The Rules started in 1955 and were originally known as the UN Standard Minimum Rules for the Treatment of Prisoners. A revised version of the Rules was later adopted and renamed the "Nelson Mandela Rules" to honor the legacy of the late President of South Africa who spent many years in prison and became the most famous prisoner in the world. He highlighted Rule 24, which states:

- The provision of health care for prisoners is a State responsibility. Prisoners should enjoy the same standards of health care that are available in the community, and should have access to necessary health-care services free of charge without discrimination on the grounds of their legal status.
- Health-care services should be organized in close relationship to the general public health administration and in a way that ensures continuity of treatment and care, including for HIV, tuberculosis and other infectious diseases, as well as for drug dependence.

Prisoners are a target population partially because of their increased risk for infectious diseases. The prevalence of unprotected sex, multiple sexual partners, low and inconsistent condom use, intravenous drug use, sharing of injecting equipment (syringes, needles, and other drug paraphernalia), and prison tattooing and body piercing are among the principal drivers of the global HIV epidemic.[11] The prevalence of HIV, sexually transmitted infections, hepatitis B and C, and tuberculosis in prison populations has been estimated to be between 2-15 times higher than in the general population.[12] HIV prevalence is higher among prisoners than in the general adult population in many countries including the Ukraine (15 times higher), Argentina (10 times higher), and South Africa and the USA (2 times higher). The incidence rate of tuberculosis is estimated to be 23 times higher among prisoners.

The DRUCK Study funded by the Federal Ministry of Health, and conducted by the German central health monitoring institution, The Robert Koch Institute, also found that prisoners were more likely to inject drugs. The sero-behavioural survey aimed to collect biological and behavioral data among people who inject drugs. It sampled

10 More information about Frankfurt University of Applied Sciences in Germany is available at www.frankfurt-university.de/isff (accessed August 6, 2021).
11 Jürgens et al 2009
12 UNAIDS 2014

2,077 people.[13] Results indicated that 81% (CI: 79.1-82.5) of participants had been incarcerated. The average duration in prison was 5 years with a median of 3.5 years and range of 1 month to 30 years; participants were imprisoned an average of 5.6 times. The study found that 30% (CI: 37.3-31.7) of those ever incarcerated injected while in prison. Of those ever incarcerated who injected while in prison, 11% (CI: 8.2-13.8) started their intravenous drug use in prison.

Thus, prisoners are more likely to inject drugs and are at increased risk for the associated infectious diseases like HIV. The United Nations Office on Drugs and Crime (UNODC) advocates for opioid use disorder treatment among prisoners in their publication on HIV prevention, treatment, and care in prisons and other closed settings.[14] The comprehensive package is comprised of 15 key interventions. One critical intervention is drug dependence treatment, including OST. Stöver maintained that OST is the most effective drug dependence treatment for people dependent on opiates and, therefore, should be accessible in prisons.

The importance of OST accessibility is highlighted in the case of Wenner vs. Germany.[15] A plaintiff with long-term dependence to opiates was denied drug substitution treatment while incarcerated in a Bavarian/German prison. The case was taken to the European Court of Human Rights in Strasbourg, France. The court found that the physical and mental strain that Wenner suffered as a result of his untreated or inadequately treated health condition could, in principle, amount to inhuman or degrading treatment. Furthermore, the failure to adequately assess Wenner's treatment needs was a violation of the prohibition of inhuman or degrading treatment. The case also illustrates how law is more powerful than science. The law was able to rule on the importance of OST long after the conclusion of scientific research.

3.1.2 Opioid substitution treatment: evidence, obstacles, and progress

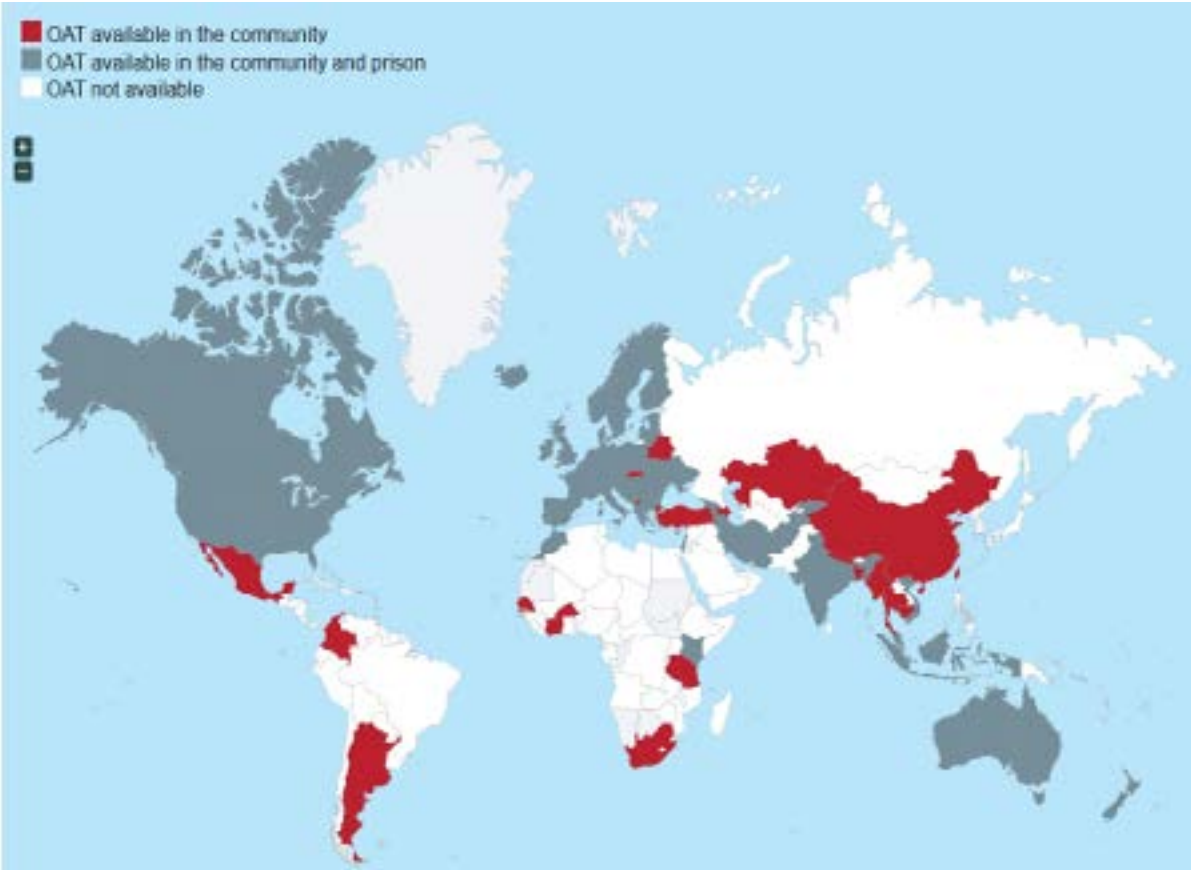
Stöver then reviewed evidence regarding the use of OST in prisons. Accumulating evidence from the literature suggests that OST is an effective intervention. One cohort study[16] enrolled 16,715 opioid dependent people who were in prison between 2000 and 2012. Being in OST was associated with a 74% lower hazard of dying in prison (adjusted HR (AHR) 0.26; 95% CI 0.13 to 0.50), compared to time not in OST. Being in OST was also associated with an 87% lower hazard of unnatural death (AHR 0.13; 95% CI 0.05 to 0.35), a 94% lower all-cause mortality hazard during the first 4 weeks of incarceration (AHR 0.06; 95% CI 0.01 to 0.48), and a 93% lower hazard of unnatural death during the first 4 weeks of incarceration (AHR 0.07; 95% CI 0.01 to 0.59), compared to time not in OST.

However, the global availability of OST in the communities and prisons varies (see Figure 3-1).[17] Most countries worldwide do not have OST in prisons. Even where OST is available, significant diversity exists in the accessibility of OST. Additionally, there is often a lag between the introduction of OST in the community and prisons.[18] In general, there is a delay of 7-8 years in introducing OST in prisons compared with its implementation in the community. For example, The Netherlands introduced OST in the community in the early 1960s and waited 20 years to launch it into the prison setting. Other countries, like Germany, instituted both relatively simultaneously. Largely, most European countries have at least some coverage of OST in prisons.[19] Sweden, Germany, Hungary, Bulgaria, and Greece have OST available in some prisons.

13 Zimmermann 2014
14 More information about UNODC's policies is available from https://www.unodc.org/documents/hiv-aids/HIV_comprehensive_package_prison_2013_eBook.pdf (accessed July 16, 2021).
15 European Court of Human Rights, Wenner v. Germany, no. 62303/13, § 59, ECHR 2016
16 Larney et al 2014
17 Harm Reduction International 2020 https://www.hri.global/global-state-of-harm-reduction-2020 (original bad link provided https://www.hri.global/files/2020/10/27/Global_State_of_Harm_Reduction_2020.pdf)
18 More information available at https://www.emcdda.europa.eu/best-practice/evidence-summaries/opioid-substitution-therapy-reduce-deaths-prison_pt (accessed June 28, 2021)
19 European Monitoring Centre for Drugs and Drug Addiction 2021

In Poland, OST is officially available in all prisons, but has low coverage due to the additional requirement for abstinence. Ukraine, Slovakia, Bosnia and Herzegovina, and Turkey have no coverage. A study[20] was conducted on the European healthcare delivery in prisons and targeted opiate dependent people. In 2016, the number of inmates on OST was 52,000 within 24 countries. The United Kingdom, France, and Germany had 24,877, 14,900, and 1700 inmates on OST, respectively. Results also indicated that the coverage rate of OST among prisoners is low. For example, the prevalence (%) of heroin use before imprisonment among prisoners in Slovenia is 20% and percentage of prisoners being on OST in 2016/2017 was 44.6%. The UK had rates of 16% and 29.2%, respectively.

Figure 3-1. Global availability of opioid agonist therapy in the community and in prisons



Note: OAT = opioid agonist therapy
Source: Stöver presentation, https://www.hri.global/global-state-of-harm-reduction-2020

3.1.2.1 Governance of prison healthcare services

The framework for treatment of drug users in EU prisons involves various political documents, principles, national policies, and plans.[21] Many European political documents recommend OST on a national and international level. Such documents include the 2002 Council Resolution on

20 Stöver et al 2021
21 European Monitoring Centre for Drugs and Drug Addiction 2021

drug treatment in prison, the 2004 European Parliament recommendation on the Rights of Prisoners in the EU, and the 2000-2012 and 2013-2020 EU Drug Strategies as well as their corresponding EU Drugs Action Plans. Two principles provide the basis for providing health treatment for people in prison: equivalence of care and continuity of care. Based on the Nelson Mandela Rules, the two guiding principles are internationally recognized. Furthermore, the governance of prison health services in Europe, for the most part, rests with the ministry managing prison services overall, typically the ministry of justice. World Health Organization (WHO) recommends that ministries of health provide and be accountable for healthcare services in prisons. These recommendations have prompted some countries in Europe to transfer the responsibility for healthcare in prison to the health ministry. In France, Italy, Slovenia, United Kingdom, Norway, Sweden, and Spain the governance of healthcare in prison rests with the health ministry. The move is an ongoing process. Some countries, such as Croatia, have a mixed model with supervision by the ministry of health. In Europe, 12 countries have prison health objectives in a national drugs strategy, and 9 countries cover drugs in their prison health strategies.

3.1.2.2 Problems of implementation

Stöver reviewed the obstacles to implementing OST interventions in prison. Little information is available in most countries.[22] Currently, OST is available in all countries except Greece and Slovakia, yet coverage of services has large variability and is not available in all prisons. In particular, Germany has large gaps in coverage and long waiting lists. Generally, OST provisions are increasing, however, coverage is low in prisons. The percent of prisoners receiving OST is greater than 10% in 7 countries, 3-10% in 9 countries, and less than 3% in the other countries. There are also issues regarding implementation of OST as maintenance treatment and detoxification. Those that do provide OST mainly use it as continuation from community treatment. Only 8 countries—Austria, Estonia, Finland, France, Greece, Luxembourg, Slovenia, and Spain—allowed the initiation of OST while in prison. Additionally, substance control barriers impede buprenorphine expansion. Presently, approximately 70% of OST programs use methadone and 30% use buprenorphine. Dosage of OST medication also varies. Most prison OST services in Europe are provided by external providers and rarely given with psychosocial interventions, although an exception is the Integrated Drug Treatment System in the United Kingdom. Lastly, he noted that there are large distinctions between formal guidelines and recommendations and actual implementation of OST interventions.

3.1.2.3 Systematic review of opioid substitution treatment in prisons

A systematic review[23] on the impact of OST in prisons analyzed 21 studies, including 6 randomized control trials, and found that OST is effective among the prison population. OST was significantly associated with reduced heroin use, injecting, and syringe-sharing in prison if doses were adequate. OST was also associated with increased treatment entry and retention after release and post-release reductions in heroin use. Pre-release OST saw reduced post-release deaths. Evidence regarding crime and re-incarceration was equivocal. There was insufficient evidence concerning HIV/hepatitis C virus (HCV) incidence. Finally, results indicated that disruption of OST continuity, especially due to brief periods of imprisonment, was associated with very significant increases in HCV incidence.

3.1.3 Conclusions

Stöver summarized the results from a study of OST policies and practices in European countries.[24] In most countries, the coverage is still low. Considerable variation was also found in relation to detoxification models and maintenance methods. OST as prevention of relapse is only functioning in a few countries. Moreover, the provision of OST in prisons varies from one country to another, from one region to another,

22 Montanari et al 2017
23 Hedrich et al 2012
24 Stöver et al 2006

from one prison to another, and even from one doctor to another within the same prison.

The introduction of OST is progressing slowly due to several factors. Obstacles include the predominance of abstinence-only recovery policies, juridical concern, lack of knowledge, lack of infrastructure, confusing OST medications with street drugs by staff and medical doctors (eg, thinking methadone is a street drug), and political barriers. Political factors include decision makers opposing OST in prisons. However, Stöver noted that physicians should recognize their role as an independent, primary provider to prisoners and their medical prerogative to offer OST.

Overall, prison-based OST is a highly effective means of treating OUD and has several advantages. OST is a starting point and stable therapy for treating other disorders and infectious diseases such as HIV and HCV. It is highly effective at reducing the risk of death (75% reduction) among people in the first 4 weeks after release from prison. Despite slight increases in OST capacity, OST lags behind the current needs with respect to opioid use treatment and infectious disease prevention.

3.2 Global Opioid Situation: a perspective from the United Arab Emirates

Hisham Elarabi, consultant at the National Rehabilitation Centre, Abu Dhabi, United Arab Emirates (UAE), developer of the Suboxone Treatment and Rehabilitation Trial in collaboration with the Institute of Psychiatry, and professor of psychology and neurosciences at King's College London, reviewed opioid use in the UAE and the country's innovative approaches to addressing it.

3.2.1 Burden of opioid use disorder in the UAE

Opiates represent the greatest problem in terms of substance use in and around the UAE.[25] The increase in the prevalence of opioid use can be attributed to various factors, including the geographical location of the UAE. The country borders central Asia, positioning it close to the opioid production zones of Afghanistan, Pakistan, and Iran. For many years, it was thought that the UAE was primarily a transit country for illicit substances. However, the UAE has become a frequent destination country for opioids. Geographically, UAE is close to countries with high levels of opioid use[26], major opiate trafficking routes (see Figure 3-2)[27], and areas with frequent drug seizures[28]. Real-time assessment of substance use in the UAE is limited by the rapidly changing landscape of substance use and the lack of comprehensive surveillance systems, he noted. Evidence suggests that opioids have remained a drug of choice in the country for more than 20 years, with primary opioid use representing 27-40% of total substance use. Before 2017, opioid use was a criminal offense subjected to an imprisonment sentence of up to 4 years, but no criminal proceedings were enacted when individuals sought treatment voluntarily or on their first offense.

Figure 3-2. Major drug trafficking routes

Source: Elarabi presentation, UNODC 2018

3.2.2 UAE's National Rehabilitation Center

The National Rehabilitation Center was established in 2002 as the UAE's specialized addiction treatment, care, and prevention facility. In 2010, NRC became a comprehensive addiction response center dedicated to treatment and care, rehabilitation, research and innovation, prevention and early intervention, human capacity building, policy and legislative development, advocacy, and surveillance. In 2017, the NRC became a WHO Collaborative Center. The headquarters is in the capital of the UAE, Abu Dhabi, and does not have additional locations. Service capacity is limited by the geographical distribution and spectrum of care of a single facility, stated Elarabi. It is also the only facility in the country able to provide medication assisted treatment for maintenance therapy. The availability of medication assisted treatment (MAT) is also limited by increasing reports of diversion, non-adherence (abuse), and increased rates of polysubstance use. Social and structural stigma are also significant challenges in opioid treatment in the UAE.

3.2.2.1 Epidemiology

Opioid use disorder (OUD) greatly impacts the UAE. An estimated 0.16%-0.28% of the population are current opioid users. Of people aged 15-64 with OUD, 15,000-28,000 are estimated to have used opioids in the past year. OUD has increased 526% from 1990 to 2010 and is associated with significant total mortality of 0.23%. Most patients spend the best years of their lives and youth using drugs. The average patient starts using drugs young (17.74 years) and continues for 11.4 years before presenting for treatment. Almost 15% of patients with OUD have a positive family history of substance use. Almost 48% inject heroin/morphine, while about 30% use non-injecting heroin/morphine. Only 22% misuse prescription opioids, indicating that most use illicit drugs. About 12% of patients have hepatitis B, C, or both; the prevalence of hepatitis C is higher than hepatitis B. Polysubstance use is also common, with 73.7% of patients using 2 or more non-opioid substances in addition to the primary opioid use: pregabalin (72.1%), benzodiazepines (40.5%), tetrahydrocannabinol (37.5%), carisoprodol (20.8%), captegon (19.2%), trihexphenidyl/procyclidine (22.1%), and alcohol (15.8%). Around one-quarter of patients have had a non-fatal overdose. The proportional risk hazard of non-fatal opioid overdose is 3.8 times higher in polysubstance use, especially when using the muscle relaxer carisoprodol (odds ratio 5.31). Regarding comorbid mental illness, 60.5% have mixed anxiety and depression and 75% have poor sleep quality, which greatly impacts the number of psychotropic drugs prescribed for patients. The average patient is prescribed 1.5 psychotropic drugs other than opioid substitution treatment, with the upper range being 4 psychotropic drugs. Elarabi stated that no information is currently available on medical outcomes of OUD or the association between OUD and comorbidities, but those associations are currently being researched.

3.2.2.2Disease burden

From an economic perspective, drug use disorders cause significant burden. Substance use disorders represent 0.71% of total disability-adjusted life years. A population-based economic assessment estimated that substance use disorders cost the UAE economy 5.4 billion USD or 1.4% of gross domestic product. Of the $5.4 billion lost, 88% of the cost ($4.79 billion) is from productivity loss. Criminal justice system costs, excluding prosecution, represented 12% ($0.65 billion) of the loss. Finally, 0.4% ($0.023 billion) of the total loss was attributable to healthcare costs.

In 2015, the economic disease burden of OUD in the UAE was also assessed using psychometric methods. The analysis used one year as duration of imprisonment and did not account for downstream health care costs. The median history of imprisonment episode was 1.0 (0.0-3.0). That is, every patient included in the assessment was imprisoned at least once. The estimated median annual cost of OUD at the patient level

was 146,783.40 USD (IQR: 114,752 –234,318). The median annual cost of illicit drug purchase was 82,139.50 USD (IQR: 36,715-82,139.5) or 56.2% of the total cost. Estimated productivity loss was significantly less than reported by the economic assessment. Productivity loss was assessed to have a median annual cost of 34,656 USD (IQR: 28,055-25,992) or 23.6% of the total cost. The median annual criminal justice system cost excluding prosecution was 29,740 USD (IQR: 0.00-6126) or 20.2% of total cost.

3.2.3 Policy intervention

The UAE's response to increasing rates of OUD has been to enact legislative and policy amendments, initiate harm reduction policy, and apply evidence-based medicine. The amendment to reduce imprisonment sentencing from 4 years to 2 years for illicit substance use has greatly increased the number of patients presenting for treatment. In the UAE, patients can be involuntarily submitted to treatment by drug enforcement authorities if a 1st or 2nd degree relative declares them as a disturbance and harm to their family. Another amendment facilitates voluntary treatment by expanding the description of 'voluntary patients' to those coerced to treatment upon request of 1st or 2nd degree relatives. In addition, the rise of criminal cases for drug use has called for dedicated drug courts in the justice system. A legislative bill for the inception of drug courts is being considered. Other legislative and policy amendments include listing opioid use as a cause of death in cases positive for opioids on post-mortem testing. For cultural reasons, it was previously unnecessary to report opioid use as a cause of death in the UAE, stated Elarabi. Death certificates now note opioid use. For example, a death certificate might indicate cause of death as hemodynamic instability and opioid use. Amendments have also been introduced to cover substance use disorder treatment under basic health insurance coverage and to pass Good Samaritan laws.

Harm reduction policies have also been implemented in the UAE. For instance, naloxone emergency kits are supplied to first responders. Additionally, naloxone autoinjectors are prescribed to individuals with a history of carisoprodol use due to the increased risk of non-fatal overdose when taken in combination with opioids. Those with polysubstance use who are on buprenorphine medication assisted therapy are closely monitored. Surveillance reports are generated on hot spots to inform the implementation of early intervention and presentation programs. Finally, use of prescription opioids differ by geographic region. For example, 77% of tramadol use in the UAE occurs in Dubai and Northern Emirates. The remaining 23% of tramadol use occurs in Abu Dhabi. Such geographic differences also inform early intervention and prevention programs.

3.2.4 Solutions: innovations

Elarabi discussed the innovative interventions being implemented in the UAE. A public relations campaign expanded treatment accessibility by demonstrating the economic harm of opioid use and cost-benefit of treatment to the community. The demonstration of effective novel interventions also expanded treatment accessibility. For example, researchers found that the only behavioral management approach to impact substance use was a novel intervention which incentivized medication adherence and abstinence with contingent access to unsupervised doses of buprenorphine.[29] Typically, patients had to receive their medication under supervision. The study found that therapeutic drug monitoring enabled contingent access of up to a 28-day supply of take-home medication.

Research is also being conducted to optimize outcomes of substance use disorder treatment. Family engagement in treatment is an important predictor of success.[30] Evidence indicates that family engagement in treatment increases the chances of retention by 3-fold. However, family engagement is hampered by multiple barriers including social stigma, logistics, and family stress and strain. In response, a family-centered program is being developed to address family needs and patient management. The

29 Elarabi et al 2021
30 Al Ghafri et al 2020

family programs are being developed and delivered using digitized platforms and technology to circumvent identified barriers. He added that the COVID-19 pandemic has increased the acceptance of virtual communications methods.

3.2.5 Successes and failures

Elarabi concluded by examining the successes and failures in their approach to opioid treatment. The UAE has been successful in providing ambulatory care instead of extended residential programs or institutionalization. Evidence also indicates that medication assisted treatment should not be limited to detox or short-term treatment but extended to maintenance therapy. Additionally, recovery-oriented systems of care have been found to be more realistic than abstinence-based approaches.

Several recommendations and future plans regarding opioid use treatment were also presented. First, treatment outcomes should be redefined. Opioid use should not be the sole treatment outcome. Rather, aspects such as retention, social recovery, impairments, etc. should also be considered. Second, the development of a prototype, point-of-care buprenorphine quantitation is expected to help establish medication assisted therapy as mainstream treatment. Third, pre- and post-release prison programs are currently being considered. Finally, more research should examine the impact of social and individual stigma on treatment, demand for treatment, and social recovery and reintegration.

3.3 Discussion 2 (June 8, 2021)

3.3.1 Use and stigma against opioid substitution medications in prisons

Joji Suzuki, addiction psychiatrist at, director of the division of addiction psychiatry, and program director for Brigham Addiction Medicine Fellowship at Brigham and Women's Hospital, asked the panelists to address OUD treatment in prisons. He remarked than in the United States, it can be difficult to gain buy-in from prisons because of stigma against OUD substitution medications. Suzuki acknowledged the expansion of opioid addiction medications in Massachusetts prisons, but recognized that this acceptance was fairly recent and has not been widespread throughout the country. Suzuki asked Stöver and Elarabi to describe the medications being used in prisons in Germany and the UAE, respectively, and their strategies for overcoming the stigma that impedes adoption of opioid substitution therapy.

In Stöver's response, he acknowledged the stigma and discrimination not just in prison settings, but throughout the healthcare system. Stöver described witnessing stigmatization many times while visiting over 100 prisons in Europe during a 2006-07 inquiry into OUD and medication assisted treatment (MAT). One example Stöver provided was the inclusion of signs on the cell doors of prisoners with substance use disorders that identified them as "addicted persons." To Stöver, these signs were "the ultimate form of stigmatization for people in MAT." Stöver pointed out that, fortunately, many countries have since changed their policies to be sensitive to MAT stigmatization. Stöver described the suggestions he gives prisons he works with: (1) treat MAT as any other medical treatment; (2) keep the reasons for medical visits confidential from other prisoners and staff members; and (3) provide long-lasting depot injections (eg, buprenorphine) that allow prisoners to receive medication once per week or per month and thereby reduce the frequency of medical unit visits. Stöver highlighted the importance of MAT acceptance not only by the prison system, but also by prison staff and other prisoners. Stöver said that this can be easily accomplished through education on the basics of MAT, either formally or at the peer level—for example, prisoner to prisoner or staff member to staff member. Stöver also stated that prison physicians must play a pivotal role in combating stigmatization by communicating that MAT is a medical treatment just like any other and should be accepted as readily as medication for hypertension or diabetes.

Elarabi added that many prisons are challenged by overcrowding due to the increasing number of prisoners with substance use disorders who relapse and are reincarcerated. Elarabi stated that this has created a need for OUD treatments in prison systems, and framing medications as solutions to overcrowding

may increase their adoption. However, Elarabi also emphasized that more work needs to be done to introduce MAT treatments in prisons.

3.3.2 Non-opioid drug offenses and UAE drug offense demographics

A participant asked Elarabi to clarify the substances that people are arrested for using in the UAE, given the claim in Elarabi's presentation that up to forty percent of patients attending treatment for substance use disorders in the UAE are for opioid use. The participant also asked about the citizen status and gender demographics of people imprisoned for substance use.

Elarabi responded by mentioning that the National Rehabilitation Center (NRC) and UAE law state that all people have access to medical treatment, regardless of immigrant or resident status. Elarabi reported that the drug cases in the UAE involve a mix of citizens and non-citizens. In terms of the non-opioid imprisonments, Elarabi stated that the percentages are always changing, but prescription drugs were high in 2015, followed by stimulants, Captagon (fenethylline; a codrug of amphetamine and theophylline), and alcohol. Elarabi also mentioned that there is very low exposure to cocaine in the UAE. Suzuki commented on the difference in the patterns of substance use in the UAE and the US—where alcohol and cannabis are the major causes of incarceration—compared to the UAE, where opioids accounts for up to 40 percent of substance use.

3.3.3 Transitioning away from imprisonment for drug offenses

Stöver responded to a participant's question regarding the shortening of mandatory minimum sentencing for drug offenses from 4 years to 2 years, and whether this change would impact prisoner outcomes. Stöver identified this change as a major step forward because prisons are not ideal locations for OUD treatment. He noted that the UNODC and WHO have suggested alternatives to imprisonment for drug offenses. Stöver expressed his opinion that seeking and using drugs to treat dependence does not justify imprisonment: only a small minority of people's lives benefit from being in prison. Stöver reaffirmed Elarabi's earlier comment that drug offense prisoners tend to be reincarcerated multiple times; he concluded by emphasizing that "prison does not really bring [people] away from drug use."

3.3.4 Adoption and opposition to harm reduction services in Germany and the UAE

Suzuki asked the panelists to comment on harm reduction services (eg, safe consumption rooms) in their respective countries. Stöver highlighted the fact that 8 out of 16 German states have installed safe consumption rooms, but also emphasized that 8 states denied the judicial basis for this intervention. Stöver mentioned that this is largely a north-south gap. In Frankfurt, where Stöver is based, he reported approximately 200,000 annual drug consumption events at 4 drug consumption rooms and emphasized the success of these interventions for saving lives. Stöver also commented on the "structural contradiction" in Germany, where there are policies for harm reduction in place and, simultaneously, very active law enforcement that targets drug use and related offenses for financing drug use. Stöver stated optimism for emergence of a middle left coalition in the September general elections that would be able to "harmonize" this contradiction. Elarabi reported that in the UAE, there are no current harm reduction services by name, as this may create cultural and political barriers to acceptance of these services. However, Elarabi did state that every action that endorses a recovery system of care is by nature a form of harm reduction. Suzuki commented that the US faces similar struggles to the UAE.

3.3.5 Synthetic opioid usage in Europe and the UAE

Suzuki asked the panelists why addiction to synthetic opioids (eg, fentanyl) has not become as prevalent in their respective countries as it has in North America. Stöver mentioned current participation in a European research project entitled "Are We Prepared?" focused on synthetic opioids. He said that despite a fentanyl epidemic in the early 2010s, when

fentanyl was coming from Russia and primarily affecting eastern European countries like Estonia, synthetic opioids have not been widespread in Europe. Elarabi commented that early warning centers in the UAE have identified traces of fentanyl in illicit heroin and morphine, but there is not a demand for fentanyl on its own. Suzuki added that in Boston, fentanyl has completely displaced heroin, highlighting the dramatic rise in fentanyl prevalence in the US.

3.3.6 Support of drug use by criminal activity

A participant stated that drug use in the US is financed by criminal activity and asked how drug habits are supported in Germany and the UAE. Stöver replied that crimes like sex work, burglary, betrayal, drug dealing, and smuggling are the major ways drug use is supported.

After addressing the question on crime, Stöver added that out of an estimated 160,000 opioid-dependent persons, half are on opioid substitution drugs and MAT treatment, and this has substantially reduced the negative societal costs of drug usage. Stöver concluded by advocating for the continued expansion of MAT to treat additional substance use disorders.

4 The state of OUD in Australia and Malaysia

4.1 Opioid use disorder and responses in Australia

Paul Dietze, alcohol and other drug epidemiologist, program director of Behaviours and Health Risks Program at Burnet Institute, professor and program leader at National Drug Research Institute, Curtin University, recipient of the National Health and Medical Research Council Senior Research Fellowship, reviewed opioid use disorder and responses in Australia.

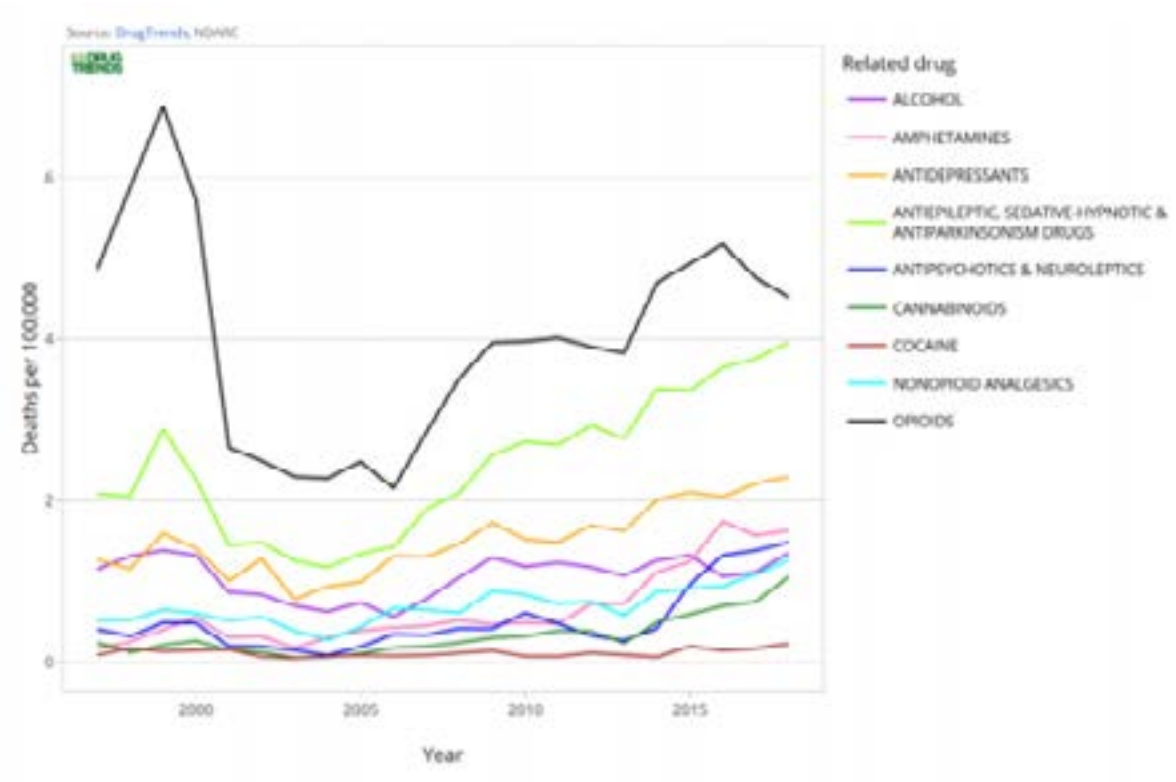
4.1.1 Burden of OUD in Australia: epidemiology and impact

Dietze discussed the impact and burden of opioid use disorder in Australia. Australia is approximately the size of the contiguous United States but has a significantly smaller population of about 25 million people, largely concentrated in major cities on the coastal perimeter. Around 70% of people live in capital cities. Approximately 40% of Australians live within the two largest cities, Sydney and Melbourne. Sydney is Australia's most populated city with an estimated population of 5.4 million people; Melbourne has about 5.2 million people. Moreover, different regions of the country have different patterns of drug use and drug-related harm. For example, rates of heroin and illicit opioid use are highest in Sydney and Melbourne; methamphetamine and prescription opioids are more frequently used elsewhere.

Heroin use in Australia sharply increased during the mid-to-late 1990s, which some term the Australian heroin glut (see Figure 4-1). This crisis was accompanied by a surge of heroin-induced deaths in the country, but in the early 2000s, there was a rapid decline in heroin use and deaths. The causes of the heroin decline have been disputed. Some attribute the sharp drop in heroin users to successful law enforcement in the late 2000s, however, there is no complete explanation, stated Dietze. At its height, the rate of heroin-induced deaths was 6 per 100,000. The highest peak in mortality rate was still considerably less than rates observed in Vancouver or North America. Since the early 2000s, opioid-related fatalities have slowly increased to levels not seen since the mid-1990s. Opioid deaths are primarily driven by pharmaceutical opioid use rather than use of heroin or other illicit opioids.[31] However, from 2007 to 2017, there was an increase in deaths related to exclusive illicit opioid use. Since 2000, characteristics of people who died from opioid overdose have generally remained stable. Approximately 70% of total opioid deaths are male, about 53% engage in injecting drug use, and two-thirds are aged 35 years or older.[32] Similar patterns are seen for non-fatal outcomes of opioid use, such as ambulance attendance and emergency department (ED) presentations.[33] Australia has established a comprehensive ambulance attendance database which has collected data for approximately 20 years. Recently, there has been a significant increase in rates of heroin-related ambulance and ED attendances. In contrast, ambulance and ED attendances rates for any opioid are generally decreasing. Rates of death from exclusive illicit opioid use, ambulance attendance, and ED presentations are still below rates seen in the late 1990s.

31 Sources: https://ndarc.med.unsw.edu.au/program/drug-trends; NDARC
32 Roxburgh et al 2019
33 Lam et al 2020

Figure 4-1. Rates of drug-induced deaths in Australia



Sources: https://ndarc.med.unsw.edu.au/program/drug-trends; NDARC

4.1.2 Policy interventions

Australia has universal health care and many harm reduction policies. Major innovations in harm reduction have been particularly effective at preventing blood borne viral infections. Australia is one of the world's success stories in HIV prevention, stated Dietze. The extensive needle and syringe program has prevented an HIV outbreak amongst people who inject drugs. Hepatitis C treatment is also free for those who continue to inject drugs.

4.1.2.1 National Drug Strategy: harm minimization

Australia's National Drug Strategy is underpinned by the objective of harm minimization. Dietze noted that the nuance of the term harm minimization (versus harm reduction) is often lost on people from outside of Australia. Furthermore, the commitment to harm minimization is based on a balanced adoption of effective demand, supply, and harm reduction strategies. Demand reduction involves treatment-related initiatives such as preventing uptake and/or delaying the onset of use of drugs, reducing misuse in the community, and supporting people to recover from dependence through evidence-informed treatment. Supply reduction includes preventing, stopping, disrupting, or otherwise reducing the production and supply of illegal drugs. Supply reduction also entails controlling, managing, and/or regulating the availability of legal drugs. Finally, harm reduction aims to reduce the adverse health, social, and economic consequences of drug use for users, their families, and the wider community. Since its first iteration in 1985, the harm minimization strategy has remained largely unchanged, but does get regular upgrades and reiterations. Additionally, a national overdose strategy has not been implemented since the end of the heroin glut in 2001.

Figure 4-2. Australia's National Drug Strategy – Harm Minimisation

Source: Dietze presentation

4.1.2.2 Overdose prevention: available interventions

Dietze then discussed overdose interventions available in Australia. Overdose prevention interventions include drug and other treatment options. A comprehensive opioid agonist treatment (OAT) system primarily based on methadone and buprenorphine/naloxone has been established, but injectable opioid agonist treatments such as prescription heroin or hydromorphone are not available in Australia. Injectable opioid programs were considered in the early 1990s, but were abandoned for various political reasons. Additionally, opioid antagonist treatment options are not widely utilized. Naltrexone is only available orally and the naltrexone implant has not been approved in Australia.

Australia's comprehensive first responder system includes ambulance paramedics and fire brigades that are trained to respond to overdoses. For example, they are equipped to resuscitate people who overdose with various mechanisms of artificial respiration. Additionally, law enforcement can exercise discretion when attending to drug overdoses and are not required to prosecute offences. Peer-led education courses have also been sponsored. Specifically, Australia has focused on educating those who inject drugs on overdose recognition and response. An extensive primary care system has been established for key populations such as sex workers and people who inject drugs. Specific primary care centers focus on those key populations. Other interventions include take-home naloxone (THN) and supervised injection facilities.

4.1.2.3 Take-home naloxone

Dietze provided an overview of the THN strategy in Australia.[34] The strategy was originally

34 Kerr et al 2008; Kerr et al 2009; Lenton et al 2009a; Lenton et al 2009b; Lenton and Hargreaves 2000

proposed in Melbourne, Australia in 1992,[35] but little happened thereafter. From 1999-2000, a feasibility study was conducted that was linked to the pioneering naloxone programs in Berlin (Germany), Jersey, and Chicago (US). The study concluded that a national trial was needed. However, the study finished at the end of the heroin glut, when interest in drug-related death prevention initiatives was declining, although research did continue on intranasal naloxone development. In fact, Australia conducted the original intranasal versus intramuscular head-to-head trials. In 2009, publications in the Medical Journal of Australia and Drug and Alcohol Review called for increased naloxone access for peer administration. It was subsequently concluded that a controlled trial was no longer necessary for the implementation of take-home naloxone. Evidence called for increased availability with careful monitoring, Good Samaritan legislation, and support by key stakeholders for rescheduling of naloxone.

The first THN program was conducted in the Australian Capital Territory (ACT).[36] The pilot program trained over 200 participants including 18 inmates at the Alexander Maconochie Centre (AMC) to use naloxone. Participants performed 57 reversals using program-issued naloxone. All reversals were successful, and no serious adverse events were reported. Training has resulted in higher levels of knowledge in the management of overdose, and the program had positive emotional impacts for participants. From such positive results, the intervention was expected to have a major rollout.

Dietze then discussed the current state of THN in Australia.[37] New South Wales, South Australia, and Western Australia are participating in a federally funded pilot which provides free, over-the-counter intranasal or intramuscular naloxone for peer distribution. The Commonwealth PBS National Pilot is Australia's largest THN investment, costing $10 million Australian dollars. Furthermore, peer naloxone training is available in all states/territories except Tasmania, with some online training also available. He noted that Australia does not have consistent Good Samaritan legislation. For example, in one territory an intoxicated person can be prosecuted for trying to administer aid if the attempt goes awry. Good Samaritan protections for those who are intoxicated are only available in the ACT. Despite conducting the original intranasal versus intramuscular head-to-head trial, Australia took many years to approve intranasal naloxone, but it is now widely available. Additionally, THN lacks funding or substantial national coordination, and more research is needed to determine distribution targets. Australia has no standard/universal access to THN through health services such as ambulances, EDs, Needle and Syringe Programs (NSP), and drug treatment services. Moreover, first responders have incomplete naloxone access. For example, some ambulances in rural areas are not supplied with naloxone, but larger states, such as Victoria and New South Wales, are typically equipped. Despite the increased risk of overdose after release from prison, Australia has very limited point-of-custodial-release distribution of naloxone. New South Wales is the only territory to have such a program widely implemented but other jurisdictions are starting to ramp up supply. Finally, there are no consistent programs for pharmacists or primary care providers across the country.

4.1.2.4 Medically supervised injecting centers

Medically supervised injection centers (MSIC) are legally sanctioned indoor facilities where people inject drugs under the supervision of medical staff and health professionals. The centers aim to address street-based, public injected drug use by supplying sterile injecting equipment and providing a safer environment for people to inject drugs. The injected drugs are procured by consumers from outside the facility. The centers improved access by providing referrals to appropriate services such as treatment, material aid, advocacy, and employment. In 2001, Australia opened the first MSIC in the

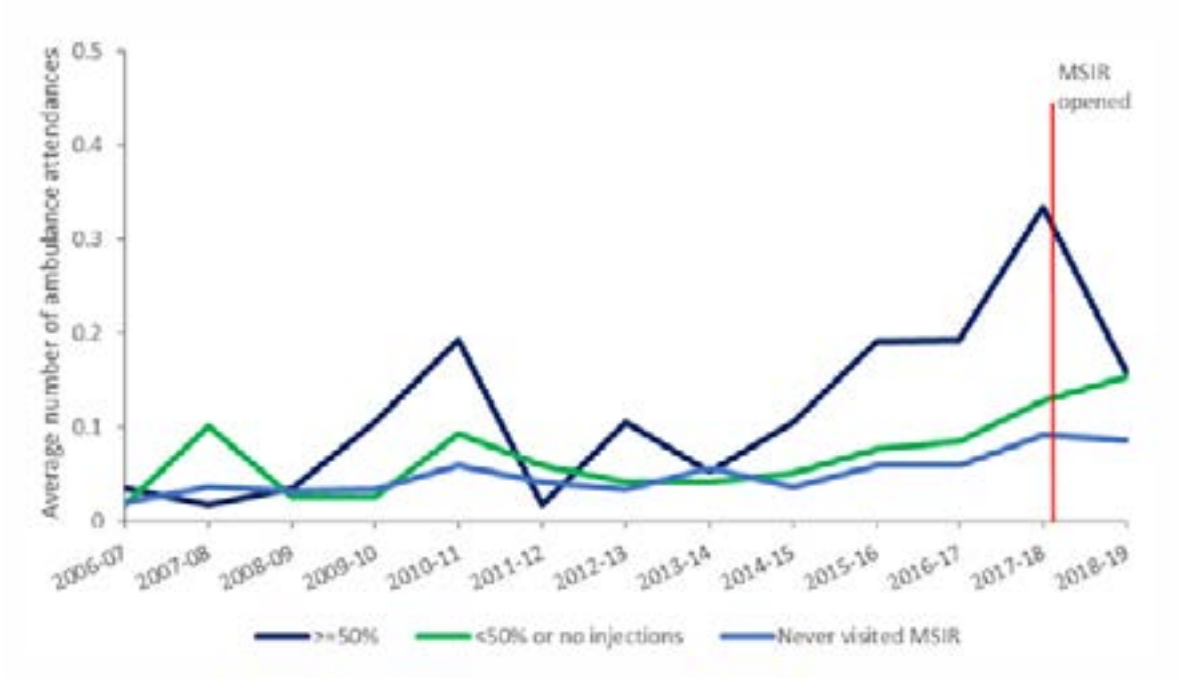
35 Strang 1992
36 Olsen et al 2015
37 More information on THN available at https://creidu.edu.au/naloxone (accessed July 12, 2021).

English-speaking world in Sydney, although the opening was controversial. The facility is located in Sydney's 'red light' district and has an innocuous shopfront. Clients of the MSIC have access to basic hand hygiene stations, supervised and clean injection booths, sharps disposal containers, and injection advice. Once a client has safely injected, they proceed to a recovery room where they can stay with the support of staff until they feel ready to return to the public through the back exit. An evaluation[38] of Sydney's MSIC determined its impact on the community. It found no increase in drug use, increased referrals, and a reduction in ambulance callouts, overdose deaths, public injecting, and discarded injecting equipment. Overall, the center is clearly cost-effective. Despite overwhelming positive evidence of the benefit of MSIC, Sydney only has a single facility. Dietze discussed the reasons why more MSIC have not been opened. First, the Sydney center ran on a trial status for many years. Additionally, the sense of emergency to address injected drug use partly dissipated after the end of the Australian heroin epidemic. The MSIC also has continued vocal opposition with a sustained campaign in the tabloid newspapers. Dietze also suggested that the program had poor planning. The initiative had overwhelmingly positive findings, yet was not widely implemented; he attributed this, in part, to changes in governments and policies.

In 1999, Melbourne planned to establish five supervised injection sites. Despite the success in Sydney, the first facility, the Melbourne Medically Supervised Injecting Room (MSIR) did not open until June 30, 2018. The opening came after a coroner's recommendation. The center is in North Richmond, a suburb of Melbourne, in the vicinity of the largest public housing estate in Australia. The MSIR was initially located in a room in the North Richmond Community Health Center before an adjacent purpose-built facility was completed. The center is also equipped with other healthcare provisions. Since its opening, the MSIR has been well utilized. The initial facility inside the North Richmond Community Health Center had an average of approximately 200 visits a day. Since the opening of the new facility, the average increased to approximately 330 visits—roughly equivalent to the Insite facility in Vancouver. The MSIR is also serving the most vulnerable people.[39] The site attracted the most at-risk people who inject drugs including the unemployed, homeless, those living alone, First Nation Australians, those that engage in public injecting, and those who have been incarcerated in the last 12 months. Supervised injection facilities are associated with many positive impacts. The opening of the Melbourne facility influenced overdose ambulance attendances (see Figure 4-3). People who used the MSIC had a significant reduction in ambulance attendances with naloxone administration compared with those who had not visited the MSIR. This association is particularly significant for those who injected more than half of their injections at the MSIR. An analysis of the number of ambulance attendances where naloxone was administered within 1 km of the MSIR and for the rest of Victoria showed that the MSIR opening was associated with decreased ambulance attendances within 1 km of the MSIR (see Figure 4-4). The number of attendances for the rest of Victoria did not change substantially. One of the biggest impacts from the success of the Melbourne MSIR is the proposal to open a second facility. The idea is proving to be incredibly controversial despite proposing to open the second facility in an area with high levels of injecting drug use, noted Dietze.

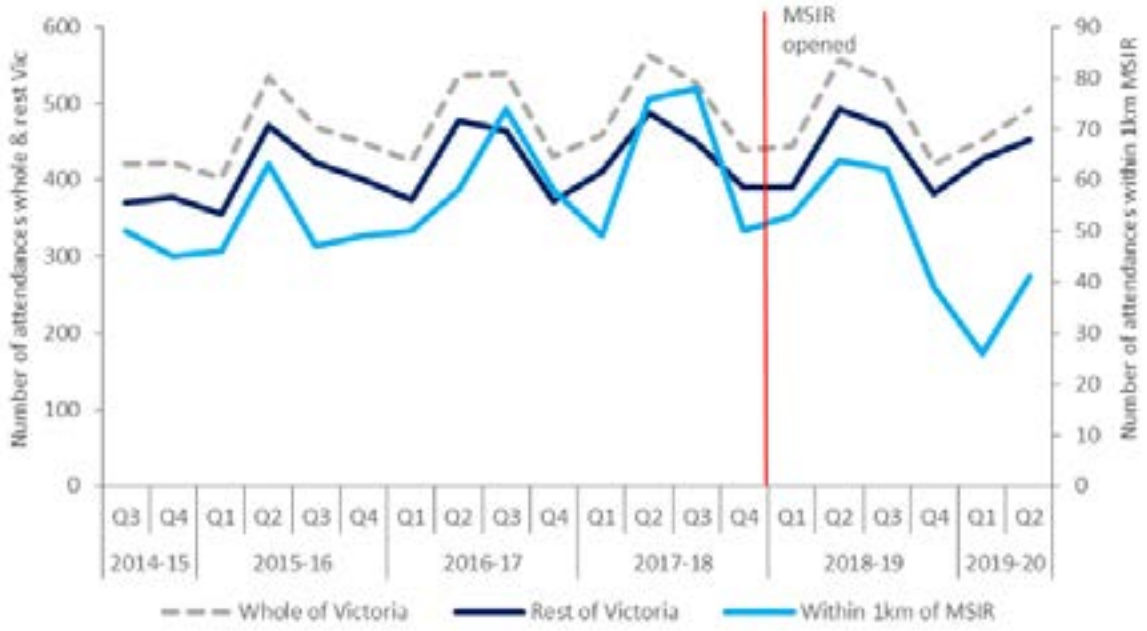
38 MSIC Evaluation Committee 2003; Salmon et al 2010
39 Van Den Boom et al 2021

Figure 4-3. Average number of ambulance attendances with naloxone administration per year by medically supervised injection room frequency of use (2006–07 to 2018–19)



Source: Medically Supervised Injecting Room Review Panel 2020

Figure 4-4. Number of ambulance attendances where naloxone was administered by paramedics



Within 1 km of the medically supervised injection room and for the rest of Victoria (Q3, 2014–15 to Q2, 2019–20)
Source: Medically Supervised Injecting Room Review Panel 2020

4.1.2.5 Other initiatives

Australia has a range of other initiatives underway. National initiatives include drug diversion programs operating across jurisdictions and drug consumer group representation. The ACT has a current enquiry into drug law reform including the decriminalization of possession/use for personal use. The movement for drug decriminalization in Victoria and New South Wales is not yet supported, however. The ACT also has tightly regulated legal cannabis and is undertaking a feasibility study on supervised injection facilities.

4.1.3 Recommendations

Dietze stated that overdose prevention initiatives, such as THN and supervised injection facilities, urgently need to be scaled up. The approach should also focus more on those who inject drugs at home, those who use alone, and those that use drugs in other ways. Other recommendations include the development and implementation of scaled response systems. Additionally, all interventions and mix of interventions should have targets and models. Australia also needs national leadership, a national overdose strategy, and new and improved interventions.

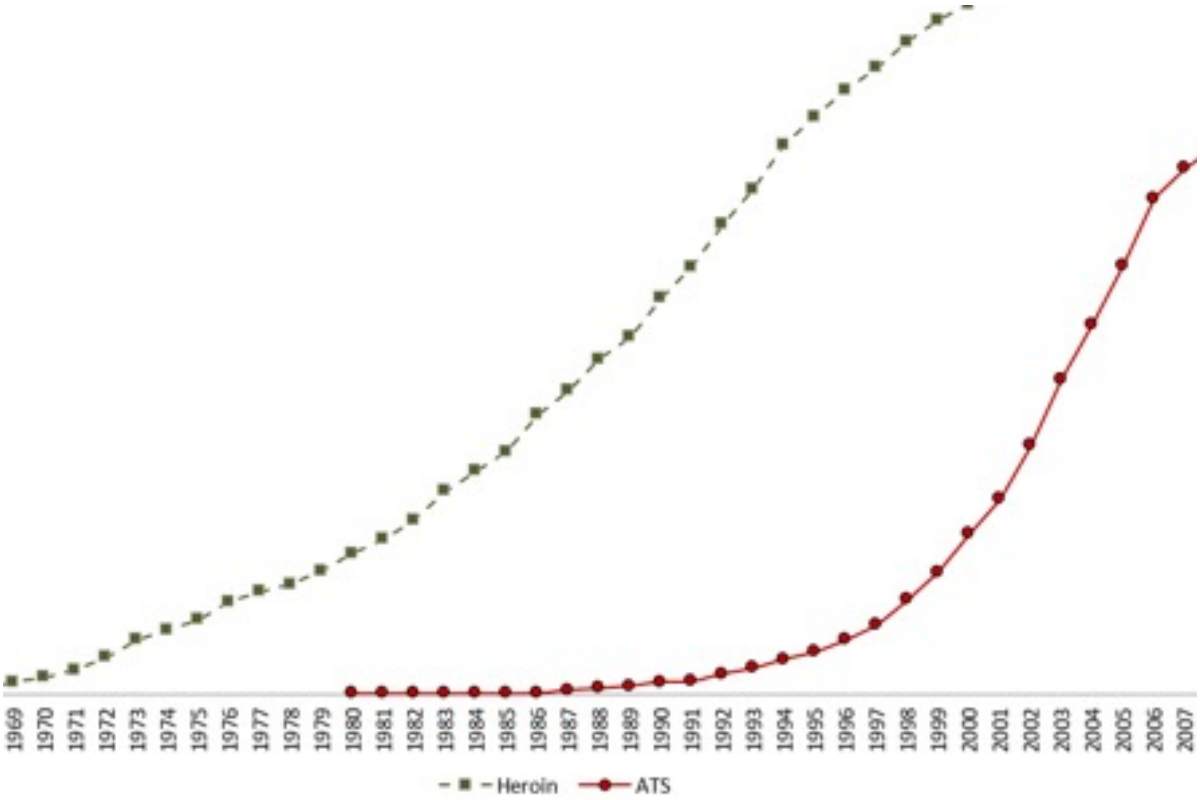
4.2 Opioid use disorder in Malaysia

Vicknasingam Kasinather, director of the Center for Drug Research at the Universiti Sains Malaysia, discussed OUD in Malaysia, beginning with a brief overview of the history of opioid use in the country. He explained that Malaysia is a federal constitutional monarchy in Southeast Asia with a relatively small population of 32 million people. Islam is the country's official religion, practiced by approximately 61% of the population. Historically, opium was the primary drug used by Malaysians, but in the 1970s, heroin became the most popular drug. The heroin epidemic was spurred by Malaysia's proximity to the "Golden Triangle," a large opium-producing region overlapping the borders of Thailand, Myanmar, and Laos. Since the 2000s, amphetamine-type stimulants (ATS) have emerged as a major problem in Malaysia and also in the Southeast Asia region.

A series of surveys of people who use drugs showed the timeline of heroin and ATS use onset in Malaysia (see Figure 4-5).[40] Heroin use increased steadily beginning in the late 1960s and has continued to rise since. ATS use was negligible in the 1980s and increased slowly in the early 1990s and then began rising rapidly after 1997. In the past, Malaysia's drug policy relied solely on prohibition, an approach that is common in many Southeast Asian countries, such as Vietnam and China. In Malaysia, drug use was illegal, and persons suspected of using drugs could be detained and subjected to random drug testing. Physicians were prohibited from providing treatment and were required by law to report people who used drugs to enforcement agencies. Treatment and rehabilitation approaches for drug users were limited to abstinence-based institutional programs. Most treatment services were penitentiary-based and had poor outcomes. In the early 2000s, the United Nations Millennium Development Goals Report highlighted Malaysia's growing problem with HIV. In response to the HIV epidemic, which particularly affected those who injected drugs, Malaysia introduced and disseminated medical treatments and supportive services for people with OUD.

40 Chawarski et al 2012

Figure 4-5. Timeline of onset of heroin and amphetamine-type stimulant use in Malaysia (1968-2008)



Source: Chawarski et al 2012

4.2.1 Introduction of medication assisted treatment and supportive services in Malaysia

Malaysia's drug policy still largely relies upon prohibition, said Kasinather. However, MAT was introduced in the early 2000s to address the interrelated problems of OUD, injection drug use, and HIV. Buprenorphine and methadone were approved in 2002 and 2003, respectively. Currently, approximately 380 private general medical practices provide buprenorphine treatment to an estimated 10,000 patients with OUD. Patients receiving these treatments are responsible for the cost of buprenorphine medication. Approximately 100,000 patients are treated with methadone in one of 369 general practices and 520 government run centers that provide methadone maintenance treatment (MMT). Methadone is provided for free in government clinics and subsidized in private practices. Thus, MMT is widely and easily available in Malaysia. For people who inject drugs (PWID), coverage for OUD medications (mostly methadone) has increased from about 30% in 2016 to almost 90% in 2019.[41] Furthermore, needle and syringe exchange programs (NSP) began in 2006. Currently, approximately 20,000 people participate in an NSP. Those in NSPs are often encouraged to move into methadone programs.

4.2.2 Poor outcome of incarceration-based rehabilitation in Malaysia

Vicknasingam discussed the poor outcomes of penitentiary-based rehabilitation programs in Malaysia. Malaysia has 23 institutions where incarcerated drug users can be mandated by

41 Ministry of Health Malaysia 2020

the courts to attend a two-year drug treatment program. MAT is not available to those in compulsory drug detention institutions. Only psychosocial interventions are offered due to the dated belief that drug use is a social problem and security threat that must managed with discipline. One study examined the outcomes of patients in penitentiary-based rehabilitation in Malaysia.[42] Researchers compared the timing and occurrence of relapse between compulsory drug detention center and voluntary drug treatment center participants. Compulsory drug detention center participants had significantly more rapid relapse to opioid use post-release compared with voluntary drug treatment center participants: median time to relapse was 31 days among compulsory drug detention center participants, versus 352 days for voluntary drug treatment participants. Voluntary participants had an 81% lower chance of opioid relapse compared to compulsory participants. These findings strongly support the use of evidence-based opioid agonist therapies.

4.2.3 Current drug use practices

Vicknasingam described drug use practices in Malaysia. Most heroin users in Malaysia use multiple substances. For example, heroin is frequently used with benzodiazepines and ATS. The most-used substances in Malaysia are heroin and illicit opioids. Rates of prescription opioid abuse are low in Malaysia. Heroin or opioid overdose data are not routinely collected in Malaysia, but fatal heroin overdoses are thought to be rare. This can be explained by the rise in heroin adulteration with substances such as caffeine. A review on heroin composition in Malaysia determined that the most significant change in the composition of street heroin is the decrease in its purity from between 30%-50% in the 1980s to between 3%-5% in the 2010s.[43] Low purity of street heroin may have also led to increased drug injecting practices. Drug users tend to start by smoking heroin before converting to injection drug use. The average time to switch from smoking to injecting heroin has shortened as heroin purity has decreased.

4.2.4 Laws concerning people who use drugs

Vicknasingam discussed three key laws that are used to prosecute drug users in Malaysia. The first law is the Drug Dependants (Treatment and Rehabilitation) Act 1983 (DDTR 1983). Section 3(1) allows an enforcement officer to detain any person reasonably suspected to be drug dependent. Under subsequent section 6(1), the detained should then be evaluated by a government medical officer to be certified as drug dependent. Based on the recommendation, the criminal justice court system can order the detained individual to either a) be sent to an institutional rehabilitation center for two years before undergoing community supervision for another two years, or b) receive community supervision by the National Anti-Drugs Agency, consisting of counselling and random urine drug tests, for two to three years.

The second law is section 15(1) of the Dangerous Drug Act 1952 (DDA 1952). This law does not offer drug users treatment or rehabilitation, and it is often used to bypass the required evaluation by a medical officer in section 6(1) of DDTR 1983. Under section 15(1) of DDA 1952, consuming, taking, or self-administering any dangerous drugs is punishable by a fine not exceeding $5,000 MYR (approximately $1,240 USD) or imprisonment not exceeding two years. Thus, under this section, the enforcement agency does not have to take the individual before a medical officer to be certified as a drug dependent. A positive urine drug test could classify as consuming, taking, or self-administering any dangerous drugs and be used to bring about a penalty of prison time or a fine. Most of those convicted under this law are unable to pay their fine and are thus sentenced to prison.

Finally, enforcement agencies have recently started enforcing section 39C of DDA 1952. This section imposes increased penalties for drug users with prior admissions or convictions. Specifically, two previous admissions and/or convictions under section 15(1)(a)

42 Wegman et al 2017
43 Sulaiman et al 2018

can extend the prison term to between five to seven years and result in between three to nine whipping strokes. Additional previous convictions increase the years of imprisonment and the number of whipping strokes.

Vicknasingam noted that enforcement agencies are detaining more individuals under section 15(1) of DDA 1952 than section 6(1) of DDTR 1983.[44] From 2015 to 2020, the average number of drug users detained under section 6(1) of DDTR 1983 was approximately 8,000-10,000 people. Those detained under this section are sent to an institutional rehabilitation center or receive community treatment and rehabilitation. In contrast, the average number of drug users detained under section 15(1) of DDA 1952 was approximately 80,000 people. The number of arrests under this section decreased to 62,318 people in 2020, likely due to the COVID-19 pandemic. Nevertheless, the number of charges under section 15(1) of DDA 1952 is 8-fold higher than section 6(1) of DDTR 1983. Hence, many people are being sentenced to prison without treatment and without dependency being assessed by a medical professional. There is also an increasing trend among enforcement agencies to charge drug users under section 39C of DDA 1952, leading to extended prison sentences.[43] From 2016 to 2019, the number of drug users detained under this section has increased six-fold from 430 to 2552. Advocates are urging the government to re-examine the high number of drug users being sent to prison in Malaysia.

4.2.5 HIV among people who inject drugs

Vicknasingam presented HIV-related data for key populations, including PWIDs.[45] An estimated 75,000 people inject drugs in Malaysia. Before 2000, PWIDs were the main driver of the HIV epidemic in Malaysia with a HIV prevalence of 80% in the population. With the introduction of MAT and NSPs, HIV prevalence among PWIDs significantly decreased to 13.5%. Still, only 34.6% participate in antiretroviral therapy (ART). Of those surveyed, 38.9% of PWIDs knew their HIV status, and 25.7% reported using a condom during their last sexual encounter. Research is ongoing regarding how to increase HIV testing and ART participation.

4.2.6 Conclusions

Vicknasingam concluded by summarizing the status of OUD management in Malaysia and offering recommendations for improvement. The existing laws concerning drug users, particularly DDA 1952, are not aligned with the current medical conceptualization of substance use disorders. Therefore, the laws and the ways they are applied need to be revised. For example, a urine sample is not sufficient to determine a person's substance use. The current laws also contribute to the high number of drug users being detained rather than offered voluntary treatment. Furthermore, detention-based institutional rehabilitation programs are costly and ineffective. It costs an estimated $15 USD per day to incarcerate an inmate whereas MMT costs less than or equal to $1 USD per day. Thus, detention-based institutional rehabilitation programs should be replaced with voluntary, evidence-based treatment programs. Malaysia also needs further expansion of MAT. People who use drugs and are in prison need more access to MAT, besides the already available methadone. For example, psychosocial interventions could be strengthened to improve treatment outcomes among methadone patients. Interventions should also be implemented to increase participation in HIV testing for the drug using population. Finally, significant institutional and systemic barriers bar ART participation among drug users with HIV. Infectious disease and psychiatry clinics should be better coordinated to increase patient enrollment in drug use treatment programs. Barriers need to be eliminated to significantly increase ART participation rates among drug users with HIV in Malaysia.

44 Vicknasingam et al 2021
45 Ministry of Health Malaysia 2020

4.3 Discussion 3 (June 15, 2021)

4.3.1 Fentanyl use in Australia and Malaysia

Scott Weiner, emergency physician and director of Brigham Comprehensive Opioid Response and Education program at Brigham and Women's Hospital, asked the panelists why Australia and Malaysia have not experienced the rise in fentanyl prevalence seen in North America, and specifically asked them to comment on the role of drug supply chains. Dietze responded that currently there is no adequate explanation for why illicit fentanyl has not infiltrated Australia, but he did expect fentanyl to become more prevalent in the future. Dietze expressed skepticism that customs officials were doing a more efficient job detecting fentanyl being smuggled into the country. Dietze added that though illicit fentanyl is not entering Australia, diversion of pharmaceutical fentanyl is a prominent cause of opioid-related deaths. Vicknasingam expressed similar puzzlement regarding the absence of fentanyl reports in Malaysia.

4.3.2 Stimulant addition and psychosocial treatments

Weiner asked the panelists how their countries have treated stimulant epidemics, given the fact that, unlike opioids, there are no analogous medications that can be used for treating stimulant addiction. Kasinather responded that psychosocial interventions are the primary treatment. Kasinather added that psychosocial treatments need to be emphasized in other treatment programs, specifically methadone and amphetamine type stimulant (ATS) treatment programs, which are primarily medication-based. Kasinather pointed out that when stable patients on methadone start to use amphetamines, they have poorer treatment outcomes. This is where psychosocial interventions can play an important role.

4.3.3 Overdose in Australian injection facilities

A participant asked Dietze about the rate of overdose in Australian injection facilities. Dietze estimated a rate of 2.2% based on 2,700 overdoses out of 120,000 injections during the first 18 months of operation at the Melbourne facility. However, of the 2,700, Dietze added that only about 10% required administration of Naloxone to reverse the overdose, which was around 0.2% of total injections. Dietze also added that, given the support staff and resuscitation resources, injection facilities are preferable locations for overdoses to occur.

4.3.4 Progression of drug use policies and laws

A participant asked Kasinather to comment on the role of scientific evidence in the advancement of government drug policies and laws. To contextualize the question, Weiner described the data-driven progression that occurs in many societies, beginning with treatment of OUD patients with methadone and buprenorphine, followed by provision of Narcan, then provision of safe injection equipment, then creation of safe and legal injection facilities, and finally the provision of full opioid agonists like hydromorphone. Weiner stated that with each advancement, societies learn more about the safety of that step and become more accepting of it.

Kasinather responded that it can be challenging to change drug policy because enforcement agencies and the scientific community approach data with different perspectives. Kasinather emphasized the necessity of long-term, continuous efforts to advocate to numerous stakeholders (e.g., individual policymakers, Malaysian parliament) for shifts in drug policy. Kasinather added that the adoption of medications (he did not clarify which) and needles in Malaysia was driven by the HIV epidemic in the early 2000s. However, these advancements were the result of policy changes, not changes to drug laws. Kasinather pointed out that enforcement agencies still rely upon drug use laws from the 1950s to incarcerate drug users. He described how opioid dependence was certified by medical practitioners during heroin epidemics because signs of physical withdrawal were visible. However, because amphetamines induce psychological rather than physical dependence, the lack of withdrawal certification by

healthcare professionals could not be used to protect amphetamine users from incarceration.

Dietze added that policy does not develop independently of the broader context in which it is created and is a nonlinear process. Dietze provided the example of the Australian prime minister creating a national drug strategy in 1985. Dietze said that the prime minister's emotional television announcement regarding his daughter's struggles with heroin humanized drug use, and this shaped the Australian strategy to be oriented toward public health. Emphasizing the nonlinear nature of policy change, Dietze pointed out that there was a 17-year period between the establishment of the first and second supervised injection centers. Similarly, despite discussion of Naloxone beginning in 1992, it was not implemented until 2012.

4.3.5 Success of safe injection facilities in Australia

Weiner asked Dietze if there have been differences in the number of overdose deaths between Sydney and Melbourne, given that Sydney approved safe injection sites much earlier than Melbourne. Dietze responded that there has not been a noticeable change because Sydney only has a single injection facility, which cannot adequately serve a population of five million. Dietze referenced Vancouver, which has created multiple facilities to accommodate the large population of at-risk individuals.

5 Delivering effective OUD treatment in Vietnam

5.1 Bringing medication-based opioid use disorder treatment to drug users in need: experiences from Vietnam

Robert Heimer, professor in the department of epidemiology of microbial diseases at Yale University School of Public Health and a professor of pharmacology at Yale University School of Medicine, discussed his personal experience that led to his involvement in bringing medication-based treatment to patients with opioid use disorder. This experience began in 2005 when he met Khuất Thấ Hấi Oanh, a participant in Yale's World AIDS Fellows program. Oanh and Heimer connected over their interest in HIV, drug use, needle-exchange programs, and the value of substitution treatment for OUD. At the time, Vietnam offered no medication-based OUD treatment, although they did offer needle exchange services. Oanh's organization worked to empower drug users to run OUD treatment organizations themselves. When Oanh returned to Vietnam, she encouraged the government to consider implementing medication-based OUD treatment. Medication-based OUD treatment in Vietnam began with methadone, and Heimer was struck by her success in demonstrating to non-clinician, non-public-health policy makers that OUD is a chronic relapsing condition for which abstinence-based treatments most often fail within 6 months. He emphasized that Oanh had helped policy makers to appreciate that persons with OUD are not weak-willed, hedonistic, or deviant. These individuals are people with medical problems who need treatment—and currently, the best available treatment is medication.

5.1.1 Transformation of Vietnam's opioid use disorder treatment policy

Heimer explained how Oanh brought about this transformation of Vietnam's OUD treatment policy. In 2006, she arranged for a series of lectures to be presented to the permanent staff[46] of Vietnam's National Assembly in Hanoi, Vietnam. Heimer participated in these efforts by presenting briefings about the effects of OUD, the chronic nature of OUD, and available OUD treatments. He also discussed other OUD and addiction-related topics with Vietnamese journalists and media. He noted the importance of media engagement, as the media ultimately shapes the public narrative by choosing which stories to cover. Heimer also met with physicians and public health officials in Vietnam's medical university. Ultimately, these advocacy efforts resulted in the production of a bill that was delivered to the desks of Vietnam's Assembly delegates. The bill, titled "Benefits of Harm Reduction Interventions in the Treatment for Drug Users," (English translation), was approved in 2006 shortly after Heimer's visit.

In 2005, methadone treatment began in Vietnam, said Heimer. This transformation did not occur in isolation or due solely to the efforts of Oanh and Heimer, however. This transformation was congruent with other changes in OUD treatment policy taking place throughout Asia. At that time, methadone-based OUD treatment scale-up had begun in Malaysia and China. Notably, China had no methadone clinics in the post-Soviet era, but within 5 years, China had established 1,000 methadone clinics. During 2005, Oanh had arranged for delegates from these Asian countries to visit Vietnam and discuss their use of methadone-based OUD treatments. Vietnam's OUD policy transformation required engagement with numerous policy makers and officials,

46 Heimer remarked that, much like in the US, Vietnam's Assembly delegates do not work full time on drafting legislation. It is the permanent staff who work full time on policy development and draft candidate policies. These staff deliver new policies to Congressional delegates, making them the best target for OUD treatment advocacy in Vietnam.

including education officials, local governments, the national congress, and corrections officials.

5.1.2 Implications of Vietnam's incarceration system

Vietnam's multi-tiered incarceration system has particular implications for persons with OUD. The country has an incarceration system that detains convicted criminals in prisons; this system is similar to the US's incarceration system. Vietnam also has a re-education system that comprises involuntary detention of drug users in detention centers. Heimer noted that similar detention systems have begun to be tested in the US,[47] and he characterized these detention facilities as "prison camps." In Vietnam, drug users are typically sent to these detention centers by concerned family members; however, the only "treatment" offered in these facilities is abstinence from drugs for the duration of detention. Upon completing their stay at these detention centers, drug users are released without any effective OUD treatment. In order to reform Vietnam's OUD treatment policies, it was necessary to show that these detention centers were not effective, as evinced by the fact that the same drug users returned to these facilities on a recurring basis. However, this proved to be a complicated matter, as these detention centers served as a source of low-cost labor for the operators of the facilities. Drug users in these facilities would be required to perform manual labor or piecework for the benefit of the facility owners without fair remuneration. Because the owners of these facilities were profiting from the labor of drug users, there was little interest in changing their approach. However, government interventions prevailed, and the complexities of the drug user detention system did not impede the legalization of methadone-based OUD treatment in Vietnam.

5.1.3 Implementation of methadone-based OUD treatment

Heimer explained that the legalization of methadone-based OUD treatment in Vietnam did not bring about immediate implementation and scale-up. In fact, the process was rather slow. The first methadone-based OUD treatment pilot program was planned for 2007 but opened in 2008 in Haiphong, a large Vietnamese port city with a substantial opioid use problem. However, the pilot program in Haiphong was small, and its success was threatened by what Heimer called "death-by-pilot" – that is, the pilot was not capable of producing the kind of evidence and acceptance that would be required to justify larger scale-up. Still, Oanh and John Hamilton were persistent in working with drug user communities and promoting awareness of the need for effective OUD treatment. By 2015, methadone-based OUD treatment was being expanded from urban centers to lower-population areas with underserved communities. In closing, Heimer expressed his gratitude for having been a part of the work to bring methadone-based OUD treatment to Vietnam.

5.2 Vietnam's drug treatment policy transformation

John Hamilton, president and CEO of Liberation Programs, discussed Vietnam's drug treatment policy transformation. He noted that the doctors and drug user associations in Vietnam were receptive and gracious throughout the transformation. Still, Vietnam's policy change did not bring about immediate change in implementation, and the transformation has been slow. For instance, take-home privileges for methadone-based OUD treatment were only granted in Vietnam in 2021, even though take-home privileges are generally considered a standard of care for methadone-based OUD treatment. He explained that heroin addiction is pervasive throughout Vietnam, and methamphetamine use has become a significant issue among young adults in Ho Chi Minh City.

5.2.1 Transitioning from compulsory detainment treatment model

The greatest challenge for Vietnam's drug policy transformation has been the prevailing view in

47 For example, the Federal Narcotic Farms in Lexington, KY and Fort Worth, TX operated between 1930 and 1974. More information is available at https://www.forbes.com/sites/claryestes/2019/11/18/the-narcotic-farm-and-the-little-known-history-americas-first-prison-for-drug-addicts/?sh=632b6377b3b4 (accessed August 6, 2021).

Vietnam that drug addiction is a moral failing, rather than a chronic illness that requires treatment. Hamilton noted that shifting this philosophy of care has been the central challenge in changing Vietnam's OUD policies. Compulsory drug treatment work camps, as described by Heimer, often detained people with drug addiction for up to 4 years. Hamilton's investigation of these camps revealed that they were initially inspired by addiction therapy approaches used in the US[48] and other countries. These outdated therapeutic models rely upon confrontation and shame-based interventions. These include degrading detainees upon arrival and then instilling in them a work ethic, supported by their peers in the work community and the long work hours required of detainees. This approach was employed throughout Vietnam, often requiring detainees to work 16 hours per day. Hamilton reiterated that the low-cost labor provided to the owners of these workcamps served as a disincentive for changes in OUD treatment policy in Vietnam. WHO and the UN encouraged Vietnam to recognize that the use of compulsory work camps to treat OUD was not an evidence-based practice. Oanh was able to implement a plan to convert 130 of Vietnam's compulsory drug rehabilitation workcamps into a voluntary drug treatment system. This shift impacted the lives of over 130,000 Vietnamese individuals who were struggling with OUD during that time. The Center for Supporting Community Development Initiatives (SCDI), of which Oanh is the executive director, was at the center of this effort.

SCDI worked in partnership with Vietnamese government agencies, Hamilton explained. Vietnam's Department of Social Evil Prevention and Control—comparable to the US Substance Abuse and Mental Health Services Administration (SAMHSA)—was a key government partner. Hamilton remarked that the name of this agency demonstrates the extent to which drug abuse is seen as a moral failure in Vietnamese culture. Hamilton described the experience of Vietnamese government officials who visited Connecticut (US), to observe how drug treatment was provided there. One of these officials realized the importance of treating persons with drug abuse problems with dignity and respect. One year later, that official had changed the name of the Department of Social Evil Prevention and Control to the Department of Social Vice Prevention and Control. Hamilton said that this is a sign of slow, but steady progress in Vietnam. The Ministry of Labor, War Invalids, and Social Affairs was another key government partner.

Hamilton explained that his work in Vietnam was supported by numerous international entities, including the Open Society Foundation, SAMHSA, SCDI, Connecticut Communities of Addiction Recovery (CCAR), and colleagues from the University of Pittsburgh, France, and Australia. Notably, Hamilton worked with Jay Jordans, who was involved in the creation of community courts for drug offenses in Australia. Through this collaboration, similar drug courts were established in Vietnam so that drug users could avoid incarceration.

Training was conducted in Vietnam to help reshape the understanding of drug use, Hamilton explained. Motivational interviewing techniques were used to help foster an attitude of dignity and respect for drug users. Cognitive behavioral therapy training was provided as an evidence-based practice. Staff and medical school trainings were provided on topics related to the biology of addiction, and much time was spent discussing best practices along the continuum of addiction treatment. These trainings included a particular focus on the use of medication-assisted treatment – eg, methadone-based OUD treatment.

5.2.2 Implementing a voluntary treatment system

Hamilton discussed the voluntary treatment system established in Vietnam. In addition to methadone-based OUD treatment, Vietnam

48 In the US, this approach is employed by Treatment Communities of America (more information about Treatment Communities of America is available at https://www.treatmentcommunitiesofamerica.org/ (accessed July 6, 2021)). Hamilton pointed out that this organization was formerly called "Therapeutic Communities of America". More information about Therapeutic Communities of America is available at http://www.tcanet.org/ (accessed July 6, 2021)), and the organization rebranded due to stigma around their approach to drug use treatment.

began offering "detoxification" services – often called "withdrawal management" in the US, as "detoxification" is a somewhat pejorative term. Outpatient services and community-based care were provided. Additionally, residential and respite care were provided in place of the compulsory workcamp facilities that were previously used in much of Vietnam. Still, the largest component of Vietnam's efforts to transform its OUD treatment policies was the national scale-up of methadone treatment for OUD patients. This transformation required targeted training programs, which were implemented throughout Vietnam. Trainings were provided at Hanoi Medical School, and a combined OUD, drug, and alcohol training was provided at Vietnam's Social Worker School. This training infused the content provided to trainees for International Counseling Standards for Alcohol and Drug Training.[49] It was also critical to provide training and education to the staff of compulsory work camps, said Hamilton. These workers were often aware that most workcamp participants returned to their drug of choice after being released from the workcamp, and these workers were eager to improve the quality and efficiency of the treatment they provided. Hamilton has presented updates to Vietnam's National Congress on numerous occasions throughout Vietnam's OUD treatment policy transformation. The Vietnamese drug users' association Vietnam Civil Society Partnership Platform on AIDS has been engaged as well, and its members are interested in learning about drug use treatment options.

5.2.2.1 Implementation challenges

Hamilton discussed some of the implementation challenges faced during Vietnam's drug treatment policy transformation. The philosophy of care was a key implementation challenge. Drug use is often seen as a moral failure in Vietnam. In order to provide the best care to drug users, however, drug use must be understood as a relapsing illness that requires treatment. Workforce availability was another implementation challenge. At the time of Vietnam's transition to a voluntary treatment system, there was no drug treatment workforce. To address this challenge, drug using individuals who were already working to help other drug users were engaged as an initial cohort of drug treatment and education workers and recovery coaches.

Vietnam's new drug treatment policies were implemented through various strategies, Hamilton explained. Best practices in implementation science were used throughout the process. Engaging champions of the project, such as provincial health leaders, was key to implementing the new policies across the country. Project champions who had brought about successful implementation in their provinces were invited to other provinces to assist in implementation. Hamilton pointed out that two such provincial champions had previously been the director and co-director of drug treatment workcamps. Because there were no existing voluntary drug treatment systems in Vietnam, key stakeholders were invited to visit successful drug treatment centers in the US. These visits afforded stakeholders the opportunity to translate successful policies into Vietnamese, adopt existing strategies, talk to healthcare professionals working within US systems, and observe counselors working with patients. The implementation utilized a recovery coach model, which was developed with Sara Evans, Phil Valentine, and Courtney Lavelle. Vietnam's new drug treatment policies were implemented using harm reduction principles rather than an abstinence-based approach.

In closing, Hamilton described one of the cultural challenges faced when implementing a voluntary drug treatment system in Vietnam. A year after implementation, one doctor reported to Hamilton that his treatment facility's 5-day detoxification protocol had been facing poor retention rates; patients were frequently leaving the detoxification after only 3 days. The doctor reported to Hamilton that they had remedied this challenge by locking patients in their rooms so that they could not leave until the detoxification protocol was complete. Hamil-

49 Hamilton explained that International Counseling Standards for Alcohol and Drug Training is a 360-hour training that takes 3 years. Due to workforce challenges, it was difficult to provide this training in Vietnam; however, much of the content from this training was integrated into Vietnam's drug policy trainings.

ton explained that this adaptation violated the principle of voluntary participation. Cultural and nuanced considerations such as these must be kept in mind when implementing harm reduction and voluntary drug treatment.

5.3 Discussion 4 (June 22, 2021)

5.3.1 Methadone regulation and provision in Vietnam

A participant asked the panelists how methadone is regulated, prescribed, and provided in Vietnam. Hamilton responded that Vietnamese prescribers have more flexibility than those in the US because there are fewer regulatory bodies. In Vietnam, methadone is administered at community health centers. However, Hamilton explained that there is less flexibility for individuals to receive methadone because take-home privileges are limited and administration is restricted to standard business hours that may conflict with inflexible work schedules. In his response, Hamilton also described how requirements in the US for take-home methadone supplies were loosened because of COVID-19, allowing stable OUD patients to receive more medication and visit clinics less frequently. Hamilton emphasized that this relaxation has not increased relapse rates, and he was hopeful that these changes would last.

5.3.2 Family involvement in OUD Solutions

A participant asked the panelists if there are aspects of Vietnamese culture and history that have been leveraged or could be leveraged to increase family involvement in OUD solutions. Heimer responded that the SCDI in Vietnam involves families in their programs aimed at giving drug users social status. Heimer described an instance where two drug users in Hanoi were given the opportunity to work in a metal shop as welders; this gave them social capital and created acceptance in their communities. Hamilton provided an example where a drug user's recovery inspired their family to bring individuals struggling with drug use into their home to provide recovery support.

5.3.3 Emergent OUD interventions in Vietnam

5.3.3.1 Buprenorphine

A participant asked about the prospect of sublingual buprenorphine for OUD treatment in Vietnam. Hamilton responded that this would be unlikely in the near future due to the cost-prohibitive nature of buprenorphine. Hamilton stated that methadone costs $3 per week on average, while the average price for buprenorphine is $80 per week. Heimer added that buprenorphine treatment is even cost-prohibitive in parts of the US that have not expanded Medicaid.

5.3.3.2 Safe injection facilities

A participant asked about the prospect of safe injection sites in Vietnam. Hamilton responded that Vietnam has a greater likelihood of adopting safe injection facilities than the US, but there has not yet been formal adoption. He added that the founder of Vancouver's first safe injection site, Liz Evans, visited Vietnam with Hamilton and believed the Vietnamese Drug Users Association would embrace this intervention.

5.3.4 Harm reduction efforts

5.3.4.1 Harm reduction in Vietnam

Brand asked the panelists to elaborate on the adoption of harm reduction in Vietnam. Hamilton described the creation of safe places for individuals who attended methamphetamine trainings while actively using methamphetamines which would protect them without requiring drug use reduction. Hamilton remarked that drug detoxification on its own is rarely effective; individuals need to be able to join communities of people in recovery that can help support strategies for safer drug use. Heimer responded by pointing out that harm reduction is an umbrella term and there are policies in Vietnam that have supported (eg, syringe exchange programs) and opposed harm reduction (eg, detention centers, drug-use criminalization). Heimer stated that harm reduction efforts should target not just individual users, but also their families and communities. Heimer also added that a century of criminalization and international precedent for viewing drug use through a criminal justice

lens has made it challenging to transition to a medicalized lens, especially since many users do not develop medical problems. Hamilton implied that because of these factors, it has been very challenging for any country to develop comprehensive harm reduction strategies.

5.3.4.2 Harm reduction in Other Asian countries

A participant asked the panelists how the adoption of harm reduction in Vietnam compares to other countries in Asia. Heimer responded that it is challenging to compare harm reduction approaches, especially given contradictions within countries. He pointed to Iran, which has had integrated HIV care, methadone administration, and needle exchanges at facilities for drug users for twenty years, despite having a repressive government regime that still enforces a law that calls for the execution of drug dealers.[50] Heimer contrasted Iran with Singapore, which has a generally liberal government but a "tremendously draconian" response to drug use. Heimer added that "you have to meet institutions where they're at" because, like people, they are not always readily amenable to change.

5.3.5 Policy advancement in the United States

A participant asked about the most important operational OUD research questions that, by being answered, could move US policy forward toward acceptance of safe injection sites, widespread use of buprenorphine, and cessation of involuntary treatment.

5.3.6 The necessity of activism

Heimer described how policies for needle and syringe access in the US were driven not by government, but by activists and drug user groups who created needle exchanges. Hamilton reported that these individuals often faced legal consequences, including imprisonment, but many were able to get their sentences lifted or minimized in court. Heimer said that he expected a similar path to acceptance of safe injection sites, given their tendency to attract strong political contention. Heimer advised activists to collaborate with the public health community so that they may gain protection in court using expert testimonies.

5.3.7 Law enforcement and judicial reform

Hamilton commented on local support for safe injection facilities in Connecticut (US) and expressed optimism based on recent developments toward increased allocation of state resources to local municipalities. Hamilton added that Connecticut has made progress toward alcohol and drug use policies that are consistent with harm reduction. Hamilton mentioned focusing on police reform and training. In his experience, law enforcement has been receptive to harm reduction actions because they are aware of the failure of the current system. Hamilton emphasized creating interventions that keep people out of the criminal justice system, such as law enforcement assisted diversion (LEAD) programs and special prosecutors that give drug offenders options for treatment instead of criminal charges. Hamilton highlighted the New England Drug Courts change of name to the New England Recovery Courts, symbolizing a shift in attitudes toward drug users and the role of the court system.

5.3.8 Successes in Vietnam and future aims

Brand asked the panelists about their greatest successes in their work, particularly their work together in Vietnam, and their primary focus for the future. Heimer responded that his greatest success was getting the National Assembly of Vietnam to legalize methadone. Hamilton responded that his greatest success was liberating nearly 100,000 people from abusive work camps. His aim going forward is to liberate the remaining 30,000 that are still imprisoned.

50 Heimer explained that this law was amended in 2017, increasing the amount of drug needed to pursue a death sentence. Under the previous law, possession of 5kg of opium or 30g of heroin were capital offenses. More information about Iran's easing of drug laws and execution policies is available at https://www.theguardian.com/world/2018/jan/10/iran-ease-drug-laws-could-halt-execution-5000-prisoners-death-row (accessed August 6, 2021).

6 COVID-19 and OUD, the state of drug use in South Africa, and a global perspective on the past, present, and future of OUD

6.1 COVID-19 as an opportunity: local response to Durban's most vulnerable

Michael Wilson, executive director of AA&D South Africa and the global harm reduction lead for AA&D, explored how COVID-19 can serve as an opportunity to strengthen local-level approaches to support people with OUD.

6.1.1 Landscape of drug use in South Africa

Wilson opened by describing the history and landscape of drug use in South Africa. Drug trafficking routes for opioids, cocaine, and amphetamines converge on South Africa, and the city of Durban is a major drug trafficking hub on the Eastern coast. As global heroin production increased, heroin (also referred to as 'Nyaope', 'whoonga', and 'sugars') infiltrated South African drug markets in the early 1990s. Heroin injection was first reported in the early 2000s, with current estimates suggesting that approximately 20% of heroin users in South Africa are injectors. More broadly, it is estimated that there are 300,000-400,000 South Africans who use opioids. The current prevalence of fentanyl use in South Africa in not known, but does not appear to be widespread.

6.1.2 HIV, hepatitis C, and tuberculosis among PWID in South Africa

A study from 2017-18 examining rates of HIV and hepatitis C in 941 PWID from Cape Town, Durban, and Pretoria, found that that 21% of participants tested positive for HIV and 45% tested positive for hepatitis C.[51] Rates of HIV and hepatitis C for five major South African cities are shown below in Table 6-1. Though there is currently no empirical data on tuberculosis in PWID, program data and rates of tuberculosis among homeless individuals in South Africa suggest rates greater than 20%.

Table 6-1. Rates of hepatitis C and HIV and availability of harm reduction services in major cities in South Africa

City	PWID (n)	HIV Prevalence	HCV Prevalence	Harm Reduction Services
Cape Town	1,500	7-8%	34-63%	NSP, OST
Durban	1,000	17%	29%	NSP, OST
Johannesburg	4,500	46%	No data	NSP, OST
Pretoria	4,500	38-56%	73-93%	NSP, OST
Port Elizabeth	500	15%	No data	NSP

Notes: PWID = people who inject drugs; NSP = needle and syringe program; OST = opioid substitution therapy
Sources: Wilson presentation, Osmand et al 2018

51 Scheibe et al 2019

6.1.3 Opioid overdose in South Africa

In addition to high rates of transmissible diseases among PWID, overdoses are also common. Unpublished results from a 2018 pilot study with 66 participants from Durban, Cape Town, and Pretoria found that 63% of participants reported having experienced an opioid overdose within the last year and 76% knew at least one person who had experienced an overdose in the last year. Among the 76% of participants who had been using drugs for more than five years, heroin was the most frequently reported drug used. Highlighting the lack of visibility for OUD solutions, this study also found that 63% of participants had never heard of Naloxone.

6.1.4 Harm reduction in South Africa

Wilson provided an overview of harm reduction in South Africa. To date, there are limited harm reduction services available for PWID in the country. Needle and syringe programs are available in Cape Town, Durban, Johannesburg, Port Elizabeth, Pretoria, and four other cities in eastern South Africa (though they were suspended in Durban from July 2018-2020). Opioid substitution therapy (OST) is the recommended treatment for OUD in South Africa; it has been shown to enhance quality of life and reduce mortality and morbidity. However, OST is only available in Cape Town, Durban, Johannesburg, and Pretoria.

6.1.4.1 Past, present, and emerging government strategies

Policies to initiate harm reduction services were first proposed in 2011 as part of the National Drug Master Plan, but harsh opposition to needle and syringe services caused harm reduction to be left out of national health and social development strategies for most of the 2010s. However, a new National Drug Master Plan was released in 2019—though its release was stalled for 2 years—and will run for the next five years. Wilson expressed optimism for the progressive nature of this plan, given the inclusion of goals to measure enrollment in needle and syringe programs and OST. Additional strategies recently developed to address drug use in South Africa include the Health Sector Master Plan (2019-2024), the South African National HIV, TB, and STI Strategic Plan (2017-2022), and the National Hepatitis Action Plan (2017-2021). The National Department of Health is also planning to present an OST implementation plan and clinical guidelines to the National Health Council by the end of 2021. Additionally, the National Essential Medicines List Committee is considering designating methadone as an essential medication for OST maintenance at the primary care level. The cost of methadone in South Africa is currently 23-fold higher than the global average and 60-fold higher than the price paid by countries receiving methadone subsidies through the global fund program (eg, Kenya, Ukraine). Reclassifying methadone as an essential medication may help reduce its exorbitant cost in South Africa.

6.1.4.2 Government-funded and community-based treatment programs

Additionally, there has been political progress to protect the rights of drug users by providing dedicated funds to programs that demonstrate impact. Currently, the majority of government funding is allocated to abstinence-based programs. Funded OST programs are largely oriented toward stimulant use, but there are some oriented toward heroin. Unfortunately, these programs are limited to a maximum of three months of drug treatment and have poor retention rates: only 22% of stimulant users and 7% of heroin users were still retained after two months.[52] In the last three years, there have also been community-based treatment programs that have been developed in collaboration with universities, non-profit organizations, and the South African government. Wilson highlighted programs in Tshwane and Durban that have generated quantitative evidence for successful retention (77% after one year), heroin use reduction, mental health improvement, and mitigation of HIV infection, as well as qualitative evidence for improved wellbeing, personal hygiene, income

52 Magidson et al 2017

generation, social cohesion, family reintegration, and interactions with law enforcement.[53]

6.1.5 Durban response to COVID-19 lockdown

6.1.5.1 Pre-lockdown

A 2016 study by the Human Sciences Research Council determined that Durban had approximately 4,000 homeless individuals, 60% of whom had a self-declared substance use problem.[54] Prior to the national COVID-19 lockdown, the Durban city council was slow to respond to the needs of homeless individuals and reports of human rights violations by police, viewed homeless individuals as anti-social, and had a prohibitionist stance on drug use. In 2018, the council closed Durban's only needle and syringe program. It was not reopened for 18 months. However, in October 2019, Belinda Scott was appointed deputy mayor and implemented a homelessness task force with representatives from local non-profit organizations, law enforcement, the local university, and the Parks and Recreation department. Scott also hosted representatives from Seattle's LEAD National Support Bureau in February 2019 to educate law enforcement on diversion and harm reduction programs.

6.1.5.2 Comprehensive homeless support during lockdown

South Africa entered a national lockdown on March 27, 2020. The platform established by Scott expedited the ability to mobilize programs for protecting and upholding the rights of homeless individuals and drug users during the lockdown. The responses emphasized harm reduction, evidence-based interventions, public health and public safety, and ensuring human rights in the context of rights limitations. When the lockdown began, 2,200 homeless individuals were registered in a central system and assigned to one of 12 government-run sites that provided a place to sleep, eat, shower, and receive comprehensive medical care and clinical supervision by a team of nurses. However, many individuals housed in these shelters would leave the sites to purchase drugs to combat withdrawal symptoms; Wilson remarked that 40-50% were experiencing moderate to severe symptoms early-on in the lockdown. In order to mitigate the risk of SARS-CoV-2 entering these shelters, drug withdrawal programs were established at two shelters. Individuals who had been clinically assessed for opioid withdrawal were voluntarily relocated to these sites to receive daily methadone treatment; those who did not want methadone treatment instead received supplies for symptom relief (termed 'whoonga' packs). In addition to OUD treatment, healthcare teams addressed other health concerns facing drug users by performing over 1,100 X-ray screens for tuberculosis, re-initiating patients on chronic medications, providing on-site HIV testing, supporting wound care, providing medicines for tuberculosis and HIV, and offering psychiatric treatments and referrals to on-call providers. Nurses were on site every day at each of the twelve shelters.

6.1.5.3 COVID-19 as a catalyst

Wilson described the positive consequences of COVID-19 in Durban, and the implications of the city's response to lockdown. The situation underscored the value of local governments acting proactively: the multidisciplinary and rapid response to such an urgent and complex crisis was only possible because of conceptualization of safe sleeping spaces and the creation of a homelessness task force prior to lockdown. Additionally, COVID-19 accelerated political processes that had been stalled, such as reopening the needle and syringe program in order to prevent further public health strains from the consequences of needle sharing. Addressing the pandemic also prompted collaboration between public safety officials, public health officials, universities, and the private sector to address the needs of homeless individuals and people who use drugs. Most importantly, COVID-19 provided an opportunity to raise awareness

53 Marks et al 2020a; Scheibe et al 2019

54 More information about Homelessness in Durban is available at http://ecommons.hsrc.ac.za/bitstream/handle/20.500.11910/10039/9353.pdf?sequence=1&isAllowed=y#:~:text=A%20total%20of%203933%20street,(see%20Figure%203%20below) (accessed August 6, 2021).

among municipal and provincial government officials and deepen their understanding of evidence-based harm reduction interventions, especially with regard to forced withdrawal programs. It also highlighted the ability of harm reduction approaches to achieve government aims quickly and effectively—such as lockdown compliance—while simultaneously respecting the human rights of vulnerable populations.

6.1.5.4 The Bellhaven Harm Reduction Centre

On June 1, 2020, South Africa entered level-three lockdown and the Bellhaven Harm Reduction Centre was opened in Durban. The Centre operates 7 days per week and represents a unique partnership between non-governmental organizations, the local university, and the city. The Centre provides supervised methadone use, though funding constraints limit administration to 15 milliliters per day. 180-200 individuals are served by Bellhaven per day, and Wilson reported that 60-70% are having their needs met by this dosage. The Centre has high retention rates, and appears to be positively impacting the transition from smoking to injecting heroin. Bellhaven also provides needle and syringe exchanges twice per week for PWID. Basic medical services from two general practitioners are also available. To address tuberculosis and HIV, which affect roughly 20% of the client population, the Centre offers testing, referral, and provision of medications for tuberculosis and HIV. A peer-based street delivery program is also available, which involves the delivery of medications for tuberculosis and HIV to individuals unable to visit the Centre by other Bellhaven clients. Additionally, the Centre provides voluntary individual and group psycho-social services and women-focused services including Pap smears, STI testing and treatment, and pregnancy monitoring. Wilson emphasized that the Centre aims to be very low threshold with almost no barriers to access and an overall mission to improve wellness.

Bellhaven has received national publicity as the featured 'Good Hood' story by the South African Cities Network, the Durban University of Technology 2020 award for Most Outstanding Community Engagement Project, the HSRC/USAF Inaugural 2020 Team Award for Excellence in the Humanities and Social Science for Responding to COVID-19, has been referenced in global talks around harm reduction during the COVID-19 lockdowns, and has received significant press coverage in media, radio, and television (including an insert in Carte Blanche).

6.1.5.4.1 Cooperation with Government and law enforcement

The Bellhaven Centre has received government support including the provision of the building premises, exemption from rates, an investment of 800,000 Rand, and 24/7 security provision. The Centre has been recognized by the Executive Council of eThekwini to be used for the purposes of a harm reduction centre. The Department of Social Development has also provided support to formally register Bellhaven as a community-based treatment centre.

Bellhaven has also positively shifted the role of law enforcement in Durban. The Centre provided a training on drug overdose for Metro police. Additionally, diversion from the criminal justice system is taking place as drug offenders are now receiving referrals for Bellhaven instead of arrests. Interviews with law enforcement members who worked at the lockdown shelters revealed that interactions with drug users shifted their views from being prohibitionist and punitive to being supportive and seeking bi-directional relationships.[55]

6.1.5.4.2 Beyond health services

Wilson emphasized Bellhaven's efforts to meet individuals where they are and to provide flexible services. As an example, he referenced accommodations during Ramadan to provide methadone doses in the evening along with a meal. The Centre has also hosted many community forums, including with family members, to discuss drug use and harm reduction. There have also been engagement events like hosting an overdose vigil on World Overdose Awareness

55 Marks et al 2020b

Day. Furthermore, the Centre has begun engaging with local businesses to promote program sustainability and connect clients with opportunities to develop skills. Wilson referenced an example with a manufacturing company, Lifestyle Republic, which provided ten Bellhaven clients with a three-month training on printmaking, business development, and other skills.

6.1.6 Key insights from Durban

Wilson highlighted six lessons learned from the Durban lockdown response (see Box 6-1) and concluded by emphasizing that the Durban response to COVID-19 presented a tremendous opportunity to showcase the highest standards of care and support for people who use drugs and to engage the government, local community, and businesses in solutions.

Box 6-1. Lessons learned from the Durban experience

- When circumstances are difficult, develop strong partnerships with government. Working with government officials to demonstrate harm reduction is incremental and effective.
- Always work alongside law enforcement. They are the greatest advocates of harm reduction.
- In eThekwini, members of law enforcement had very positive views on the needle syringe program, OST program, and overdose prevention space provided by the harm reduction center.
- Harm reduction is key to inner city and tourism renewal. It is important to receive investment from the business sector.
- It is important to mobilize capacities, resources, and skills from all state and non-state actors, including working with universities to develop a sustainable model for a harm reduction program.
- It is important for the government to invest in harm reduction at a municipal level to promote ownership and support of these services.

6.2 Opioid policy history, trends, and innovations

Steve Rolles is senior policy analyst for Transform Drug Policy Foundation, a UK based charity focused on drug policy and law reform analysis and advocacy. In his presentation, he discussed history, trends, and innovations in opioid policy in Europe.

6.2.1 History of opioid policy and use in the United Kingdom from 1868 to the present

Rolles provided an overview of opioid policy in the UK, beginning with the 1868 Pharmacy Act, which required recordkeeping for all opium sales. Forty years later, the 1908 Pharmacy Act classified opium/morphine as a poison. In 1912, the Hague Opium Convention established the first international controls of opium, which was translated into UK law in the 1920 Dangerous Drugs Act. This act established a narrative that drugs posed a threat to society that must be addressed by a punitive criminal justice response. At the same time, a 1920 report from the Rolleston Committee formalized the practice of doctors prescribing morphine and heroin to people with addictions, particularly injured World War I veterans. This medical approach within the penal framework became known internationally as the "British system."

Heroin use continued at a low level in the United Kingdom for the next 40 years, primarily by adults who were aged >30 years, middle class, and/or veterans. In the 1960s, however, heroin use began to increase and expand to other demographics, and broader drug use became more common due to the youth counterculture movement. In 1961, the United Nations Single Convention on Drugs formalized the global paradigm of punitive enforcement to prevent drug use. Throughout the 1960s, political concerns regarding use, over-prescription, and illegal selling of heroin began to grow.

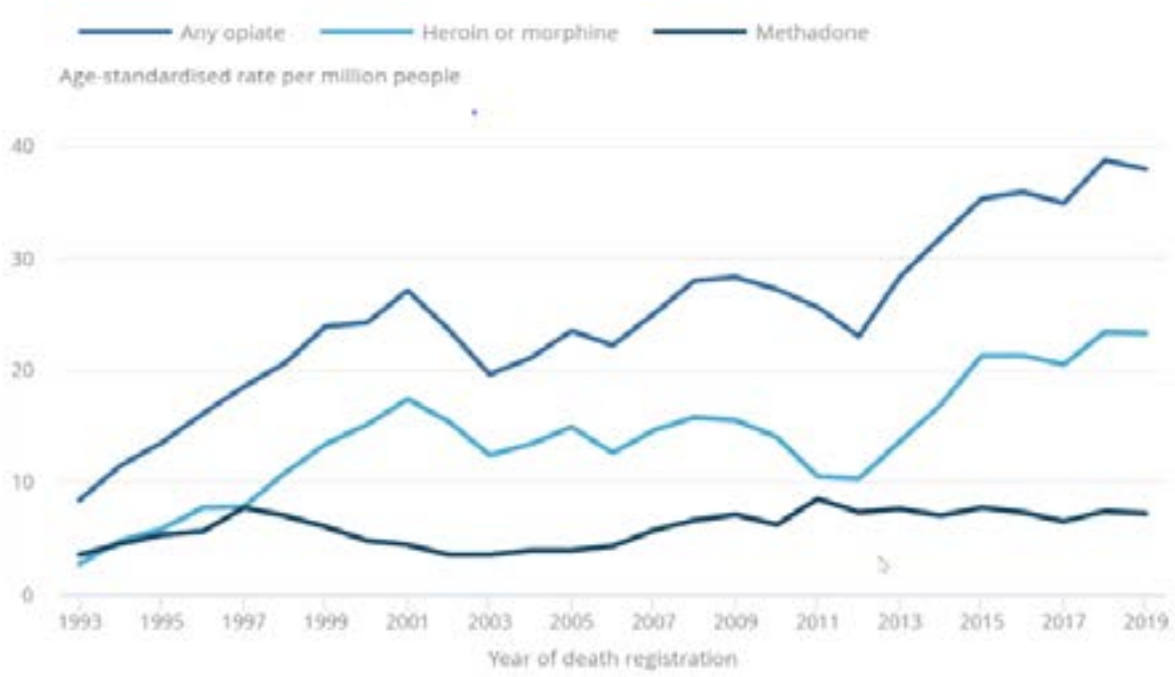
By the late 1960s and early 1970s, the British system was heavily restricted, reducing the number of people prescribed heroin from 5,000 to a few hundred. In 1971, the UK passed the Misuse of Drugs Act, which was echoed in the US by the declaration of the 'War on Drugs' by President Richard Nixon. Rolles pointed out that in the US heroin is currently classified as a schedule I drug that is completely illegal, even for medical use; however, in the UK heroin is medically available in injectable forms, as pills, and as a nasal spray for pediatric use. He added that heroin is an effective drug when used sensibly in a medically controlled environment.

Despite the sanctions on heroin under the Misuse of Drugs Act, heroin use gradually increased in the UK during the 1970s and increased by over 20-fold in the subsequent decades, reaching a quarter of a million users by the early 2000s. During the 1980s, the HIV crisis spurred rapid innovation in harm reduction initiatives like condom distribution, safe sex programs, and initiatives that specifically targeted the growing population of people who inject drugs (PWID)—for instance, through methadone prescriptions and needle syringe programs. The UK pioneered the implementation of harm reduction programs, and today the UK has low levels of bloodborne viruses among PWID compared to countries that initiated these harm reduction programs later, or have yet to initiate them.

In the late 1990s, crack cocaine penetrated the UK heroin supply networks and became popular among heroin users, Rolles explained. Among heroin and crack users, approximately 80 percent of individuals who use one of these drugs also uses the other. Mirroring the response to the HIV crisis in the 1980s, in the early 2000s there was major investment in treatment and harm reduction services. Rolles pointed out that reducing crime and criminal justice costs were the primary motivations for these initiatives, rather than compassion for drug users or public health improvement (beyond control of the HIV epidemic).

Today, opioid use in the UK remains high compared to historical levels and to other countries in the European region, though there have been marginal reductions in opioid use aligned with broader EU trends. Still, Rolles characterized the upward trend in opioid-related deaths since 2012 in England and Wales as alarming (see Figure 6-1). This trend may be driven by higher rates of death among older users who have multiple health vulnerabilities, though Rolles suggested a key contributor the trend was increasing polydrug use of opioids with stimulants, cocaine, and benzodiazepines. He also noted the low prevalence of fentanyl in the UK, which is a major cause of rising opioid mortality in North America.

Figure 6-1. Age-standardized mortality rates for registered deaths by all opiates, heroin, morphine, and methadone in England and Wales (1993-2019)

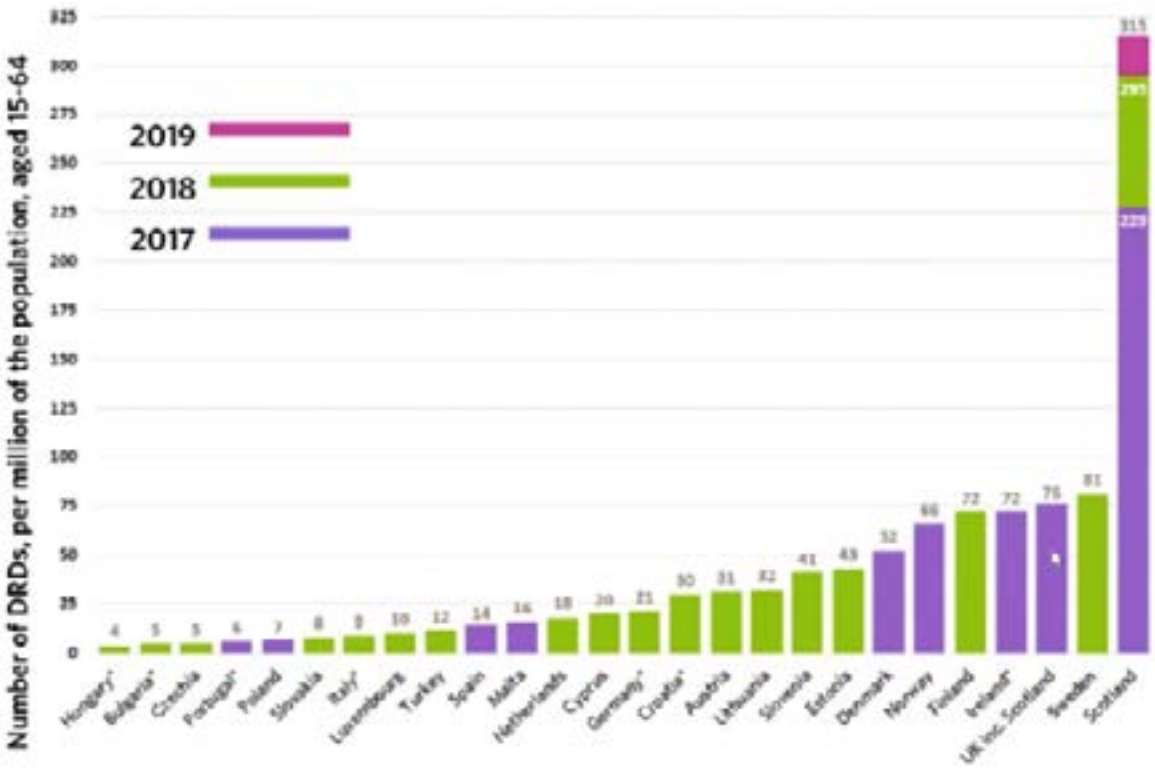


Source: Rolles presentation

6.2.2 Drug trends in Scotland

Within the UK, the worsening of drug-related deaths has been concentrated in Scotland, which has seen an increase from 244 deaths in 1996 to 1,264 in 2019. Notably, the major demographic associated with this increase was adults aged 35-54 years. Sweden and the UK follow Scotland in drug-induced deaths. The rate of drug-induced mortality in Scotland alone exceeds all other European countries by four- to five-fold (see Figure 6-2). This is largely due to increased polydrug use with heroin and methadone. Rolles noted that methadone is frequently diverted in the UK and is a major cause of opioid-related death. Much of the increase in drug-induced deaths in Scotland is related to combined use of benzodiazepines, primarily etizolam, and gabapentanoids. Since 2014, there has been a significant increase in the number of depressant-related deaths involving any benzo-type drug. For instance, etizolam is a drug trafficked from China that is incredibly inexpensive (less than $1 per pill). This drug has long-lasting effects and caters to the psychosocial needs of many opioid-users who are seeking to escape or struggling with feelings of despair. However, etizolam is particularly dangerous when used with alcohol or opioids, as the combined depressant effect on the central nervous system leads to a very high acute mortality risk. The US does not currently face the same trend of increased availability of cheap benzodiazepines, but Rolles warned that they could easily penetrate US markets due to their availability and low price. In addition to a rise in the use of depressants, there has been a dramatic increase in cocaine-related deaths in Scotland since 2015. This is attributable to cocaine becoming purer and less expensive, facilitating combined use with heroin and other drugs.

Figure 6-2. Drug-induced deaths in European countries among people aged 15-64 years, per million population (2017-2019)



Source: Rolles presentation

6.2.3 Obstacles and progress toward solutions in the UK

There have been a mix of negative and positive developments impacting drug use policies and outcomes in the UK in recent years. Rising national debt and associated austerity measures have reduced funding for drug services by 25 percent in the last five years. Rolles also pointed out an ideological focus on abstinence and recovery by the UK government and an ideological hostility to harm reduction solutions. However, there have been localized decriminalization efforts (called "diversion") to intervene prior to arrest and divert drug users away from the criminal justice system toward other interventions. Some supervised drug consumption facilities have opened, although these facilities are technically illegal and not government endorsed. Clinics have opened that provide heroin-assisted treatments and there has also been an expansion in Naloxone provision. Discussions have also focused on the prescription of benzodiazepines and stimulants to address drug use issues in Scotland. However, these treatment modalities are less developed than opioid treatments. Drug checking services that evaluate drug content and purity for individuals have also been pioneered in the UK.

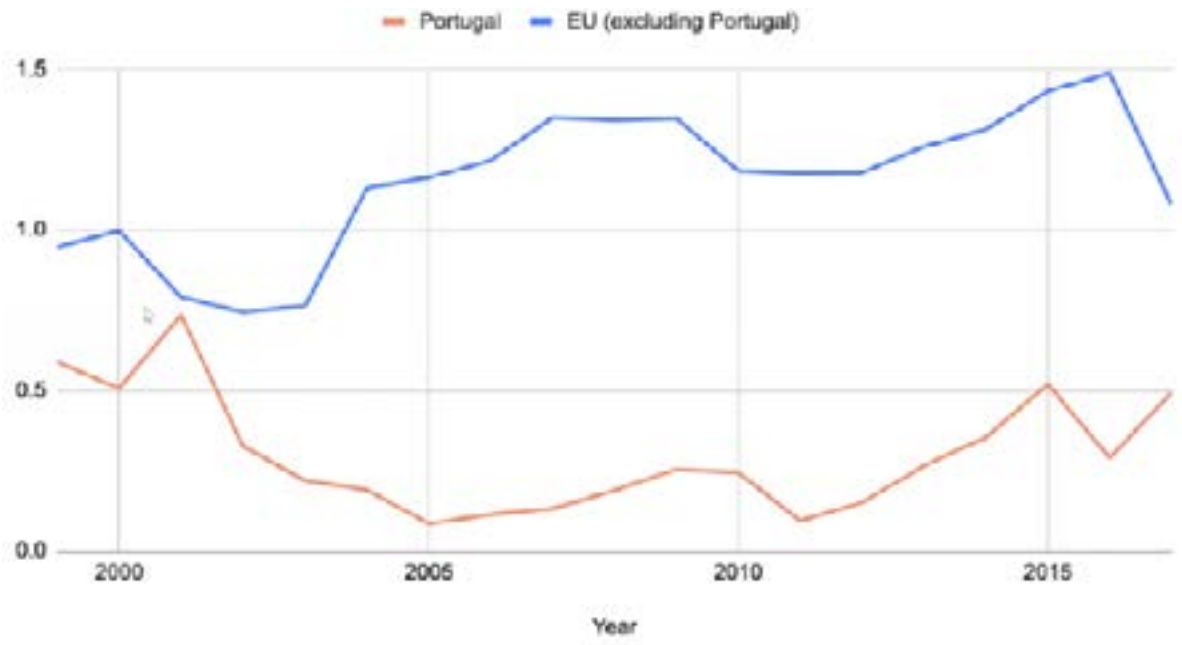
6.2.4 Decriminalization of drug use in Portugal

In 2001, Portugal decriminalized personal possession of all drugs.[56] Though Spain, Italy,

56 More information about drug decriminalization in Portugal is available at https://transformdrugs.org/blog/drug-

and several other European countries have also taken this step, Portugal has received significant attention because its legislation included the reallocation of funds away from criminal justice and toward treatment and harm reduction initiatives. This aspect of Portugal's policy is a critical enabler of reorienting policy toward a health-based approach. Despite initial hostility, there has been broad political and public support for this change and many outcomes on key metrics have been positive. Decriminalization prompted a rapid decrease in drug-related deaths in Portugal and, despite an increase during the 2010s, drug mortality remains well below the European average (see Figure 6-3). Moreover, the number of drug-related offenders in Portuguese prisons has dropped dramatically and the level of drug use in 2020 was well below other European countries. Additionally, new HIV diagnoses among PWID in Portugal has dropped from 40 percent of the EU total to virtually zero.

Figure 6-3. Drug deaths in Portugal and EU (excluding Portugal) per 100,000 population (2000-2015)



Note: Not age adjusted
Sources: Rolles presentation, EMCDDA, Eurostat 2020

6.2.5 Beyond decriminalization

As of 2019, decriminalization of drug use is supported by the WHO, UN Office on Drugs and Crime, UNICEF, and all other UN agencies. Leading UK medical authorities like the Royal College of Physicians and the Royal Society of Public Health have also called for decriminalization. Removing treatment obstacles and liberating resources for other uses have been two major reasons for unambiguous global support of decriminalization. However, Rolles emphasized that in order to see positive change, policymakers must go beyond decriminalization and provide holistic support—such as housing, employment, and mental health services—for individuals utilizing drug services. He

decriminalisation-in-portugal-setting-the-record-straight (accessed August 11, 2021).

also noted the ongoing discussions related to decriminalization, such as the threshold between personal use and supply and whether to repeal all noncriminal drug sanctions. Rolles conveyed the Transform Drug Policy Foundation's stance that there should not be any sanctions for drug possession.[57] He highlighted the importance of involving drug users in policy design and expunging drug-related criminal records as part of the decriminalization process. He concluded by emphasizing that reform does not stop at decriminalization. Much of the harm done to drug users is driven by illegal drug supply, underscoring the need for wider discourse about safe drug supplies and the regulation of all drugs.

6.3 Discussion 5 (June 29, 2021)

6.3.1 Impacts of COVID-19 on OUD in the United Kingdom and South Africa

Joji Suzuki, addiction psychiatrist at, director of the division of addiction psychiatry, and program director for Brigham Addiction Medicine Fellowship at Brigham and Women's Hospital, described how, in the US, COVID-19 caused a worsening of overdose-related deaths and substance use while simultaneously prompting policies to improve access to care. Suzuki asked the panelists to comment on how the COVID-19 pandemic impacted OUD outcomes and policies in their respective countries. Rolles replied that in the UK, the government responded to COVID-19 by spending GBP £100 million on a program to end street homelessness, which was expected to be a major vector for SARS-CoV-2 transmission. He reported that, as a consequence of this initiative, there was a shift in drug use management approaches in government-supported housing because zero-tolerance policies were not compatible with the goal to get people off the streets. Additionally, Rolles stated that in response to COVID-19, methadone regulation was relaxed such that users could receive take-home supplies instead of requiring daily supervised consumption in clinics. However, the impact of this change on mortality rates has yet to be determined. Rolles also remarked that the COVID-19 pandemic increased demand for and access to treatment services, which has created challenges for funding these services. Wilson responded that COVID-19 prompted South African city officials and law enforcement to create harm reduction programs, which had previously been operated solely by nonprofit organizations and businesses. Additionally, Wilson commented that the emergency within the healthcare system prompted a shift from deliberation to immediate action, such as the reinstatement of needle and syringe programs. Suzuki expressed optimism that the positive changes in the UK and South Africa would persist, given that many of the emergency declarations in the US have now been rescinded.

6.3.2 Methadone provision by Advance Access & Delivery

A participant asked Wilson if his program for methadone provision involved online services for drug users unable to receive doses in person. Wilson responded that all his clients must receive their medication in person, though they have taken steps to improve access by providing take-home doses for individuals who live with a person who can provide treatment support. Wilson also commented that Advance Access & Delivery has services for delivering medications to homeless individuals.

6.3.3 Fentanyl use in the United States, United Kingdom, and South Africa

Suzuki asked the panelists why illicit fentanyl has not penetrated the drug markets in their countries, given its takeover of the illicit opioid supply in the northeast US. Suzuki also asked if illicit fentanyl is anticipated to become more prevalent in the UK and South Africa. Rolles identified economic differences between drug markets as the major cause of the dissimilarities in fentanyl prevalence between the UK and US. The US

57 More insight and analysis from Transform Drug Policy Foundation is available at https://transformdrugs.org/publications (accessed August 11, 2021).

receives the majority of its drug supply from cartels in Mexico and Latin America, while heroin in the UK originates in Afghanistan. Rolles stated that efforts by the US to prevent drug trafficking pressured cartels to shift to fentanyl, which is more potent, profitable, and easier to create than heroin. Given its popularity with opioid users in the US, Rolles concluded that "simple economics" promoted the widespread use of fentanyl. He predicted that fentanyl could become more prevalent in the UK if market factors drove heroin suppliers to switch to fentanyl. Wilson responded that the reporting systems for drug overdose in South Africa are not well-developed, making it difficult to assess fentanyl use.

6.3.4 Benzodiazepine use in the United Kingdom

Rolles commented that the use of benzodiazepines in the UK mirrors fentanyl in the US, as these synthetic drugs are extremely inexpensive—costing less than GBP £1 per unit—and provides similar benefits for vulnerable individuals seeking an escape from trauma.

6.3.5 Scanning the horizon: etizolam and gabapentinoids

Suzuki referenced a graph in Rolles' presentation showing that etizolam and gabapentinoids have become the major contributors to depressant-related deaths in Scotland, and he commented that there is minor but increasing misuse of both in the US. He emphasized that though these drugs may not currently be significant, a fentanyl shortage could dramatically increase their usage.

7 References

Al Ghafri H, Hasan N, Elarabi HF, Radwan D, Shawky M, Al Mamari S, et al. The impact of family engagement in opioid assisted treatment: Results from a randomised controlled trial. *International Journal of Social Psychiatry* 2020:0020764020979026.

CDC Health Advisory. Increase in Fatal Drug Overdoses Across the United States Driven by Synthetic Opioids Before and During the COVID-19 Pandemic 2020. Available from: https://emergency.cdc.gov/han/2020/han00438.asp.

Chawarski MC, Vicknasingam B, Mazlan M, Schottenfeld RS. Lifetime ATS use and increased HIV risk among not-in-treatment opiate injectors in Malaysia. *Drug and alcohol dependence* 2012;124(1-2):177-180.

Czeisler MÉ, Lane RI, Petrosky E, Wiley JF, Christensen A, Njai R, et al. Mental health, substance use, and suicidal ideation during the COVID-19 pandemic—United States, June 24–30, 2020. *Morbidity and Mortality Weekly Report* 2020;69(32):1049.

Elarabi HF, Shawky M, Mustafa N, Radwan D, Elarasheed A, Yousif Ali A, et al. Effectiveness of incentivised adherence and abstinence monitoring in buprenorphine maintenance: a pragmatic, randomised controlled trial. *Addiction* 2021.

European Monitoring Centre for Drugs and Drug Addiction. European drug report 2021: Trends and developments: Office for Official Publications of the European Communities; 2021.

Gehring E, Saeed K. Situational analysis: regional review of the substance use Atlas 2015. *Eastern Mediterranean Health Journal* 2017;23(3).

Hedrich D, Alves P, Farrell M, Stöver H, Møller L, Mayet S. The effectiveness of opioid maintenance treatment in prison settings: a systematic review. *Addiction* 2012;107(3):501-517.

Jürgens R, Ball A, Verster A. Interventions to reduce HIV transmission related to injecting drug use in prison. *The Lancet infectious diseases* 2009;9(1):57-66.

Kerr D, Dietze P, Kelly AM. Intranasal naloxone for the treatment of suspected heroin overdose. *Addiction* 2008;103(3):379-386.

Kerr D, Kelly AM, Dietze P, Jolley D, Barger B. Randomized controlled trial comparing the effectiveness and safety of intranasal and intramuscular naloxone for the treatment of suspected heroin overdose. *Addiction* 2009;104(12):2067-2074.

Lam T, Kuhn L, Hayman J, Middleton M, Wilson J, Scott D, et al. Recent trends in heroin and pharmaceutical opioidá related harms in Victoria, Australia up to 2018. *Addiction* 2020;115(2):261-269.

Larney S, Gisev N, Farrell M, Dobbins T, Burns L, Gibson A, et al. Opioid substitution therapy as a strategy to reduce deaths in prison: retrospective cohort study. *BMJ Open* 2014;4(4):e004666-e004666. doi: 10.1136/bmjopen-2013-004666.

Lenton SR, Dietze PM, Degenhardt L, Darke S, Butler TG. Naloxone for administration by peers in cases of heroin overdose. *Medical Journal of Australia* 2009a;191(8):469.

Lenton SR, Dietze PM, Degenhardt L, Darke S, Butler TG. Now is the time to take steps to allow peer access to naloxone for heroin overdose in Australia. 2009b.

Lenton SR, Hargreaves KM. Should we conduct a trial of distributing naloxone to heroin users for peer administration to prevent fatal overdose? *Medical Journal of Australia* 2000;173(5):260-263.

Magidson JF, Gouse H, Burnhams W, Wu CY, Myers B, Joska JA, et al. Beyond methamphetamine: Documenting the implementation of the Matrix model of substance use treatment for opioid users in a South African setting. *Addict Behav* 2017;66:132-137. Epub 2016/12/13. doi: 10.1016/j.addbeh.2016.11.014.

Marks M, Scheibe A, Shelly S. High retention in an opioid agonist therapy project in Durban, South Africa: the role of best practice and social cohesion. *Harm Reduction Journal* 2020a;17(1):25. doi: 10.1186/s12954-020-00368-1.

Marks M, Wilson M, Shelly S. Police as advocates for harm reduction during COVID-19 lockdown in Durban : shifting the dominant narrative. *Acta Criminologica : African Journal of Criminology & Victimology* 2020b;33(3):54-69. doi: 10.10520/ejc-crim-v33-n3-a4.

Medically Supervised Injecting Room Review Panel. Review of the Medically Supervised Injecting Room. 2020.

Ministry of Health Malaysia. Global Aids Monitoring 2020. 2020.

Montanari L, Guarita B, Mounteney J, Zipfel N, Simon R. Cannabis use among people entering drug treatment in Europe: a growing phenomenon? *European Addiction Research* 2017;23(3):113-121.

MSIC Evaluation Committee. MSIC Evaluation Committee. (2003) Final report on the evaluation of the Sydney Medically Supervised Injecting Centre. 2003.

Olsen, McDonald, Lenton, Dietze. Independent evaluation of the "Implementing Expanded Naloxone Availability in the ACT (I-ENAACT) Program", 2011-2014; final report. 2015.

Osmand, Marr, Grasso, Isdahl, Scheibe, Lane. Brief report of the TipVal Study. An Integrated Biological Behavioral Surveillance Survey among People Who Inject Drugs. Johannesburg: Anova Health Institute, 2018.

Oviedo-Joekes E, Guh D, Marchand K, Marsh DC, Lock K, Brissette S, et al. Differential long-term outcomes for voluntary and involuntary transition from injection to oral opioid maintenance treatment. *Substance abuse treatment, prevention, and policy* 2014;9(1):1-7.

Roxburgh A, Hall WD, Gisev N, Degenhardt L. Characteristics and circumstances of heroin and pharmaceutical opioid overdose deaths: comparison across opioids. *Drug and alcohol dependence* 2019;205:107533.

Salmon AM, Van Beek I, Amin J, Kaldor J, Maher L. The impact of a supervised injecting facility on ambulance callấouts in Sydney, Australia. *Addiction* 2010;105(4):676-683.

Scheibe A, Young K, Moses L, Basson RL, Versfeld A, Spearman CW, et al. Understanding hepatitis B, hepatitis C and HIV among people who inject drugs in South Africa: findings from a three-city cross-sectional survey. *Harm Reduction Journal* 2019;16(1):28. doi: 10.1186/s12954-019-0298-2.

Stöver H, Casselman J, Hennebel L. Substitution treatment in European prisons: A study of policies and practices in 18 European countries. *International Journal of Prisoner Health* 2006.

Stöver H, Tarján A, Horváth G, Montanari L. The state of harm reduction in prisons in 30 European countries with a focus on people who inject drugs and infectious diseases. *Harm Reduction Journal* 2021;18(1):1-17.

Strang. Harm reduction: defining the concept, exploring the boundaries, and identifying operational possibilities. Third International Harm Reduction Conference, Melbourne: 1992.

Sulaiman M, Kunalan V, Yap AT, Lim WJ, Ng JJY, Loh SWX, et al. Heroin in Malaysia and Singapore. *Drug testing and analysis* 2018;10(1):109-119.

UNAIDS. The Gap Report. 2014.

UNODC. Afghan Opiate Trafficking along the Northern Route. 2018.

UNODC. World Drug Report. Market Trends: Cannabis, Opioids. 2021.

UNODC. World Drug Reprot. 2008.

Van Den Boom W, del Mar Quiroga M, Fetene DM, Agius PA, Higgs PG, Maher L, et al. The Melbourne Safe Injecting Room Attracted People Most in Need of Its Service. *American Journal of Preventive Medicine* 2021.

Vicknasingam B, Salleh NM, Ramadah R, Singh D, Kamarulzaman A, Chawarski MC. Legal challenges in providing treatment for people who use drugs (PWUDs) in Malaysia. *The International journal on drug policy* 2021;97:103311.

Wegman MP, Altice FL, Kaur S, Rajandaran V, Osornprasop S, Wilson D, et al. Relapse to opioid use in opioid-dependent individuals released from compulsory drug detention centres compared with those from voluntary methadone treatment centres in Malaysia: a two-arm, prospective observational study. *The Lancet Global Health* 2017;5(2):e198-e207.

Zimmermann Rea. Ausgewählte Ergebnisse der DRUCK-Studie für die Praxis. 2014.

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