

Nothing Succeeds Like Failure: Lessons Learned from Combating Crack Cocaine and Its Impact on Fighting the Current Opioid Epidemic

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Abstract

The opioid addiction and abuse problem in the United States has reached epidemic proportions as revealed by rising numbers of addicts and hospital emergency room visits related to prescription opioid and heroin overdoses. Public health, as well as criminal justice officials, struggles to combat this drug problem that many experts currently believe could eclipse the devastation caused by the crack cocaine epidemic of the 1980s and 1990s. While many lessons should have been learned from the past drug war that could help to inform public health and criminal justice policymakers, it seems that nothing succeeds like failure when revealing how not to effectively wage war on this generation of opioid addicts. In the final analysis, we argue that public policy recommendations from the *WHO* and the *CDC* will prove more effective in addressing this epidemic since they approach the opioid crisis as a public health concern, rather than a criminal justice issue.

Keywords: epidemic, harm reduction strategies, naloxone, overdose, opioids, public health crisis

Introduction

Opioid addiction is not only a crisis in the United States, but rather, the *World Health Organization (WHO)* (2013) has labeled it a crisis of global proportions. *WHO* reported that worldwide, opioids have caused an estimated 99,000 to 253,000 deaths. Furthermore, it estimated that between 26.4 million and 36 million people abuse opioids globally and suffer serious adverse consequences (also see *World Drug Report*, 2012). However, in the U.S., health and drug experts estimate that 2.1 million people suffer from substance abuse disorders that are directly linked to prescription opioid pain relievers. These same experts report that since 2012, there were also an estimated 467,000 people addicted to heroin (see *Substance Abuse and Mental Health Services Administration*, 2013). Moreover, recent statistics from the *Centers for Disease Control and Prevention (CDC)* (2016) reveal that the United States is experiencing an unprecedented opioid epidemic. It warns that what is more disturbing about this outbreak is the number of emergency room visits and drug overdose deaths that follow in its aftermath. Weiss and colleagues (2017) report that during the past decade, the number of hospitalizations related to opioid misuse and dependence on prescription opioids and illicit opioids, such as heroin more than doubled between 2000 and 2012 (see also Owens et al., 2014). Their study also finds that the national rate of opioid-related inpatients rose by 64.1% and emergency department visits increased by 99.4% from 2005 and 2014. At the same time, the *CDC* reports that since 2000, the rate of deaths from drug overdose has increased by 137%. It also reports that this includes a 200% increase in overdose deaths involving opioids. Similarly, the *Department of Health and Human Services (DHHS)* (2015) provides that opioid overdoses have increased in recent years, and estimates that 33,000 people died in 2015 owing to opioids, and an estimated 91 people died each day from such drugs. Health experts report that opioids are used by over 100 million Americans who suffer from chronic pain (Johannes et al., 2010; de Leon-Casasola, 2013). While many opioids are prescribed to combat moderate to severe pain, *Oxycontin* and *Vicodin* are among the most common (Mattoo, 2009).

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These drugs interact with opioid receptors on nerve cells in the brain and nervous system to produce pleasure and relieve pain (NIDA, 2015a; Mattoo, 2009). However, the synthetic modification of opioids is found in drugs such as *fentanyl*, *oxycodone*, *methadone*, *hydrocodone*, and *heroin* to only name a few. Drug experts report that these drugs have become highly misused and abused (Rudd et al., 2016). Despite this, Rosengren (2017) finds that while the media often reports and perpetuates images of young addicts who purchase illegal opioids on dangerous street corners, one harsh reality about the current opioid epidemic is that many Americans, especially those over the age of 50, use prescription pain relievers prescribed by their doctors and are becoming addicted in record numbers (Jones, Paulozzi, & Mack, 2014). In fact, health experts argue that the primary reason for the increased number of deaths is linked to prescription overdoses. Furthermore, the CDC reported that nearly 14,000 people age 45 and older died from an overdose of opioid prescriptions in 2015 that included oxycodone, hydrocodone, and methadone. Health experts report that death from these drugs have quadrupled since 1999 (CDC, 2016). Nevertheless, this current drug crisis affects both the young and old. Because of this, drug experts, and public health and criminal justice officials believe the magnitude of this epidemic is unlikely to abate in the future. Therefore, it is likely that many Americans will experience drug addiction, emergency room visits from overdosing, incarceration, removal from society, and untimely deaths owing to opioid and heroin overdoses unless aggressive actions are taken to address this drug crisis.

The purpose of this paper is fourfold. Part One presents the nature and extent of opioid abuse and premature deaths in the United States. Part Two revisits lessons learned from failed drug policies of the 1980s and 1990s. Part Three examines preventing and treating the current opioid crisis. Part Four addresses preventing opioid addiction and fatal overdoses using recommendations provided by the WHO and the CDC. They offer policy implications to effectively fight the opioid epidemic. In the final analysis, we argue that the U.S. should rely on public health, rather than criminal justice strategies to address those addicted to prescription opioids as well as heroin, especially since past criminal justice policies failed miserably at effectively fighting the crack cocaine epidemic.

Part One: The Nature and Extent of Opioid Abuse and Premature Deaths in America

Public health officials, drug experts, and epidemiologists warn that the number of opioid addicts and drug overdose cases resulting in untimely deaths has reached epidemic proportions and continues to rise in the United States. These officials also report that this crisis cuts across all demographic and socioeconomic statuses such as class, age, race/ethnicity, and gender lines (see Rudd et al., 2016a). They also report that what is more concerning is the fact that while there have not been reports of increasing pain experienced by Americans, the amount of prescription opioids made available to them has nearly quadrupled (CDC, 2016). Moreover, research reveals that from 2000 to 2015, more than a half million Americans died from drug overdoses (Rudd et al., 2016b). Furthermore, a study by Jones and colleagues (2015) finds that opioid prescription pain relievers and heroin are the primary drugs linked to overdoses. In fact, the *American Society of Addiction Medicine* (2016) revealed that 20.5 million Americans reported having a substance abuse disorder in 2015. Of that number, two million had a substance disorder that involved prescription pain relievers. Within that number, an estimated 591,000 had a substance abuse disorder involving heroin (also see *Center for Behavior Health Statistics and Quality*, 2016).

Rudd and colleagues (2016b) reported that drug overdose is the leading cause of untimely deaths in the U.S. In fact, they reveal that 52,404 deaths occurred in 2015. They find that these lethal drug overdoses are due to opioid addiction. Accordingly, they revealed that 20,101 drug overdoses were linked to prescription pain relievers, while 12,990 overdose deaths were connected to heroin use. Similarly, Paulozzi and colleagues (2011) reported that from 1999 to 2008, there were sharp increases in the number of prescription pain relievers and the rate of overdose deaths. More specifically, they revealed that the overdose death rate in 2008 was almost four times higher than the rate in 1999. They also reported that the number of prescriptions written were four times higher than the number written in 1999. SAMHSA (2013) reported in 2010 that 13,365 unintentional opioid pain reliever deaths occurred. This accounted for 82.8% of the 16,490 unintentional deaths related to prescription drugs. Moreover, in 2012, the CDC reported that 259 million prescriptions were written for opioid users. It estimated that this number of pills is enough to provide every American adult with his or her own bottle of pills. However, what is more alarming is research that reports the U.S. is the biggest consumer of hydrocodone (e.g., *Vivodin*) and oxycodone (e.g., *Percocet*) in the world (see CDC, 2014; also see; Volkow, 2014). Despite findings that suggest opioids could be easily accessed, research conducted by Cicero and colleagues (2014) revealed that opioid addicts prefer using heroin because prescription opioids are more expensive and difficult to acquire based on an addict's need.

The *Center for Behavioral Health Statistics and Quality* (2016) reports that in 2015, an estimated 276,000 adolescents were frequent nonmedical users of pain relievers, while 120,000 were addicted to prescription pain relievers. The *Center* also reported (for the same period) that an estimated 21,000 adolescents used heroin in the past year, and 5,000 reported being current users of the drug. Furthermore, an estimated 6,000 adolescents reported having a heroin use disorder dating back to 2014. A separate study by the *National Institute of Drug Abuse* (NIDA) (2015b) revealed that adolescents reported sharing their unused pain relievers with others. In fact, most who reported misusing prescription pain relievers also reported these drugs were often given to them by friends and family members. To highlight the misuse of drugs by adolescents, this avenue of getting pain relievers is routine for adolescents. To this point, the *Substance Abuse and Mental Health Services Administration* (2013) reported that 53% of persons aged 12 or older who used prescription pain relievers received them from a friend or relative, while an estimated 15% either purchased or took them from a friend or family member. Furthermore, Fortune and colleagues (2010) revealed that the prescribing rates for opioids among adolescents and young adults almost doubled from 1994 to 2007. This establishes that opioids are just as serious an issue for adolescents as they are for adults. There has also been an increase in the number of young opioid users who are now turning to heroin. Health experts argue the transition to abusing heroin can be explained by costs and accessibility.

Research on opioid abuse and addiction reports that women are more likely to experience chronic pain, receive a prescription for pain relief, receive higher dosages, and use pain relief drugs longer than their male counterparts. Moreover, research by the *CDC* (2013) reported that women are far more likely than their male counterparts to develop a dependency on pain relief prescriptions. This same research revealed that between 1999 to 2010, 4,800 women died from prescription pain reliever overdoses at an increase of more than 400% during this timeperiod compared with men who experienced a 237% increase. Similarly, Hedegarrd, Chen, & Warner's (2015) research on women's deaths due to heroin overdoses found that from 2010 through 2013, women's heroin-related overdoses increased from 0.4 to 1.2 per 100,000. Evidence also suggests that while more men die from drug overdoses than women, the number of deaths that have occurred since 1999 is greater among women, especially from opioid pain relievers which increased at a fivefold rate for women compared with a 3.6% rate for men between 1999 and 2010 (SAMHSA, 2013). Moreover, in their research examining drug overdose deaths, Rudd and colleagues (2016a) revealed that in 2014, the rate of drug overdose deaths increased significantly for both men and women, especially persons between the ages of 25 through 44 and those over 55 years old. However, non-Hispanic whites and non-Hispanic blacks living in the Northeastern, Midwestern, and Southern regions of the U.S. were more likely to be victims of drug overdose. During this same period, the rate of opioid overdose deaths increased from 7.9 per 100,000 in 2013 to 9.0 per 100,000 in 2014. Drug experts and health officials argue that this represents a 14% increase in overdose deaths.

Where prescription opioid overdose deaths are concerned, the *DHHS* (2015) reported that mortality data showed a 6% increase in drug overdose deaths between 2012 and 2013. More specifically, it reveals that 37% (16,235) of these deaths involved prescription opioids which has remained consistent since 2012. Despite this, the number of heroin overdose deaths increased from 2012 to 2013 and accounted for approximately 19% of all drug overdose deaths in 2013. The *DHHS* also reported that in 2013, the number of past year users totaled 681,000. The number grew from 2009 to 2012 from 582,000 to 669,000. Furthermore, research by Hedegarrd and colleagues (2013) was consistent with *DHHS* findings since it also reported that the number and rate of heroin-related deaths had almost tripled since 2010. These findings notwithstanding, *DHHS* (2015) also provided characteristics of those at the greatest risk of prescription opioid overdose. They include: white and American/Alaskan Natives; men (though the number of women victims is quickly increasing); people living in rural areas (those clusters in the Southeast, especially in the Appalachian region); adults aged 45 through 55 years old; those who use multiple substance prescriptions; and those who take high doses of opioid pain relievers. Similarly, research conducted by the *CDC* that examined heroin overdose death rates from 2010 through 2012, provide slightly different characteristics of those also at risk of opioid overdose that include: persons between the ages of 25 through 34; white, non-Hispanic men; and people living in the Northeastern and Midwestern regions. While the *CDC*'s characteristics are not a major departure from those presented by *DHHS*, most drug experts and health officials argue it is safe to conclude that prescription opioid overdose, as well as heroin overdose, can happen to anyone (regardless of age, race/ethnicity, or locality) who misuses either drug. However, research by Cicero and colleagues (2014) suggests that heroin has become easier to acquire, is significantly more affordable, is easier to inhale/inject, and the potency is far greater than prescription opioids.

Part Two: Revisiting Lessons Learned from Failed Drug Policies of the 1980s and 1990s

Fueled by an increasing crime rate, high levels of unemployment, and double digit inflation, advocates of the crime control movement argued that crime in general, and drug abuse in particular, were widespread in America. During the 1980s, many politicians on the local, state, and national levels (along with various media outlets) used their platforms and resources to dramatize that drugs and extreme violence were pervasive in the U.S. More specifically, politicians and the media successfully constructed images of areas in the country (e.g., streets, blocks, and entire neighborhoods) that were under siege by violent gangs that used deadly violence to control turf to sell drugs and engage in other criminal activities. Therefore, tough and punitive justice policies were created and implemented nationwide to recapture the streets, restore law and order, and protect law-abiding citizens (Blumstein and Beck, 1999). Despite this, criminal justice historians, as well as penologists, argue that many justice policies of the 1980s and 1990s that were used in the criminal justice arsenal to fight the war on drugs proved to be miserable failures in combating the crack cocaine epidemic since these did not make Americans feel safe nor did they reduce serious crime (Messner and Rosenfeld, 2007). Moreover, critics of the justice system argue that instead of viewing and treating crack cocaine as a medical problem and its users as suffering from a disease, the justice system responded by meting out punitive measures in a manner that the penal system had never seen before. In fact, scholars argue that states and the federal system meted out punishments of unparalleled measures in fighting the crack epidemic (Mauer, 1999; Blumstein and Beck, 1999). In essence, both conservative and liberal politicians responded to the fear of crime by endorsing a “gettough” approach on offenders and crime. More specifically, during the 1980s and 1990s, many legislators throughout the nation introduced and embraced crime control policies, such as placing more police on the streets, more criminal prosecutions, conservative court decisions, and the use of massive incarceration efforts to wage war on drugs and its users (Messner and Rosenfeld, 2007).

Under the “get tough” on crime platform, new laws were created that established *mandatory sentences*, “*Three Strikes and You’re Out Policies*” the use of the *death penalty* in select federal cases that altered the impact of prior sentencing guidelines and commissions used throughout the nation (Krisberg, Marchionna, & Hartney, 2015). Under mandatory-minimum sentencing policies, the justice system was dramatically transformed since offenders on both state and federal levels were sentenced in record numbers. Moreover, penologists postulate that mandatory minimums removed the use of judicial discretion that previously allowed for consideration of mitigating factors surrounding crime. These laws equipped prosecutors with the power to bring charges against offenders and punish them according to provisions found in newly formulated penal codes. Similarly, the use of *three strike policies* placed repeat offenders and police officers at serious risk since acquiring a third strike meant that an offender would be sentenced to life in prison without the possibility of parole even if the strikes were for non-serious crimes (Donzinger, 1996). Consequently, police encounters with suspects with two strikes were potentially dangerous. There was also a dramatic increase in the number of cases that went to trial because offenders were afraid that plea bargaining would quickly get them three strikes under the new legislation (Donzinger, 1996). This added to the prison population explosion.

The Road to Hell is Paved with Good Intentions

Since the 1980s and 1990s, the United States has operated under the guise that illegal drugs are linked to the escalation of dangerous and predatory crime that threatens the social fabric of American society in general, and its way of life in particular. As such, to preserve the society, drastic measures had to be taken to fight the war on drugs and the enemies of the state. In crafting its declaration of war, the *Administration of Justice* established a nexus between drug users, drug traffickers, increasing crime rates, and a diminished quality of life for the American public (Payne, Oliver, & Marion, 2016). In 1986, Congress passed the *Anti-Drug Abuse Act* to assist in the war effort. While this rationale seems plausible to some scholars, others charge that it is fundamentally flawed, classicist, and racist since the drug policies created in the 1980s targeted poor drug users whose drug of choice was crack cocaine largely because it was cheaper, easier to produce, could be distributed and sold in small quantities for personal use, and was more accessible in poor minority communities than expensive powder cocaine (Mauer, 1999). Under the federal legislation adopted by Congress in 1986, government officials did not seek to equally punish all cocaine users (Donzinger, 1996). For example, King and Mauer (2006) argued these laws targeted minority drug users and created a 100:1 sentencing disparity. Critics argued that while crack and powdered cocaine have similar molecular properties and are essentially the same (with one exception, the race of the people using them), offenders charged with possessing 1 gram of crack were given the same sentence as offenders found in possession of 100 grams of powdered cocaine.

Thus, King and Mauer report that under the mandatory-minimum sentencing guidelines, an offender convicted for selling 500 grams of powdered cocaine would receive five years, while an offender convicted for selling 5 grams of crack cocaine would also receive the same sentence. Research by Chappell and Maggard (2007) also supports this contention by revealing that during the drug wars of the 1980s and 1990s, states around the nation passed severe laws making possession of crack cocaine punishable by stiff mandatory sentences. Furthermore, since crack cocaine was cheaper and predominately used by poor minorities, especially African-Americans, it increased the likelihood that they would be sentenced under these laws. Critics of this disparity cited that under the federal law, possession of five grams of crack was a felony while possession of the same amount of powdered cocaine was a misdemeanor punishable by a maximum of one year in jail (Donziger, 1996). Moreover, Tonry (1995), reported that African-Americans living in urban areas experienced the greatest devastation caused by the war on drugs since war was waged in black communities around the country. Similarly, Miller (1996) revealed that from the offset of the drug war, African-Americans were disproportionately targeted, arrested, and imprisoned. In fact, statistics revealed that 90% of all crack cocaine arrests were of African-Americans. Furthermore, from 1989 to 1990, an estimated eight out of ten crack cocaine cases processed in the federal courts involved African-Americans, while powdered cocaine cases actually dropped by 33% (U.S. Department of Justice, 1993). As such, African-Americans were imprisoned in numbers that the American penal system had never seen (Mauer, 1999). Critics of crack laws argued that such disparate sentencing brought devastation and more destabilization to many African-American communities throughout the nation that continues to adversely impact them today, especially the absence of fathers, potential role models, registered voters, community leaders, providers, spouses, and informal social control agents that could help promote community organization (Messner and Rosenfeld, 2007).

Expansion of the Prison Population from the 1980s through the 1990s: Consequences of Punitive Policies

While an estimated 2.3 million Americans are currently incarcerated in the nation's jails, and state and federal prisons (*The Sentencing Project*, 2017), experts believe that the former policies of the crack cocaine drug war were the major catalysts that started the U.S.'s movement towards mass incarceration and social control (Mauer, 1999; Donziger, 1999). For example, penologists report that the 1980s and 1990s, witnessed massive growth and explosions in the prison population. More specifically, the *U.S. Department of Justice* (1994) reported that the prison population increased from 500,000 to 1.5 million offenders. It is important to note that this increase only represented offenders imprisoned in places of secure confinement, such as jails and prisons. However, those offenders who were sentenced to the free community under supervision totaled 2.7 percent of the American adult population, or 5 million people at the end of 1994 (*U.S. Department of Justice*, 1995). Correctional experts also reported that because of the staggering numbers of offenders that were arrested and brought into the justice system, alternatives to traditional forms of punishment were created and used to manage the influx of offenders. In many cases, entire state correctional systems were under federal court orders to desist from operating over their legal capacity (Cripe, Pearlman, & Kosiak, 2013). As such, states diverted first-time, nonviolent offenders to intermediate sanction programs such as: shock incarceration (boot camps); intensive or super-intensive programs; shock probation/parole; electronic monitoring (EM); house arrest; halfway-houses; and other diversions. These programs emerged in response to freeing bed space for serious offenders, the promise of being cost-effective, and the need to reduce recidivism rates. Shortly after these programs were implemented, some penal experts accused states of engaging in "net-widening" or unnecessarily sentencing offenders to diversion programs simply because they existed, and not because of the gravity of criminality they committed (Alarid and del Carmen, 2011; Christie, 1993). In fact, Donziger (1999) reported that penologists were alarmed that 84 percent of the increase in state and federal prisoners during the latter 1980s and early 1990s were nonviolent offenders (Donziger, 1999). As such, many experts viewed the legislative changes in the sentencing laws of the 1980s as a vehicle to flood the nation's jails and prisons with nonviolent offenders. Today, an estimated 4.5 million offenders are under some form of community supervision (*Bureau of Justice Statistics*, 2015).

Part Three: Preventing and Treating the Current Opioid Crisis

Since past failures of the criminal justice system to fight the war on drugs are well documented, the United States (and arguably the global community) would do well to use the public health approach to address the current opioid epidemic for two reasons: First, it has a proven record of success when addressing other health-related matters. Second, since opioid addiction has reached epidemic proportions, health experts argue that unlike agents in the justice system (e.g., police, courts, and corrections), epidemiologists and other health officials are professionally trained to view and treat opioid and heroin addiction as a disease that requires treatment rather than punishment.

As such, we recommend the five-step process that the public health approach uses to address problems in the community. According to Schneider (2000,p11), the five steps include: (1) defining the problem; (2) identifying the risk factors associated with the problem; (3) developing and testing community-level interventions to control or prevent the cause of the problem; (4) implementing interventions to improve the health of the population; and (5) monitoring those interventions to assess their effectiveness. For those concerned about the destructive effects of the opioid crisis, these steps seem more practical and effective at addressing the issue instead of enforcing policies that solely rely on agents of the justice system who are not trained to address public health issues. While using the public health approach to prevent and treat the opioid crisis, epidemiologists suggest that public health strategies should focus on three types of prevention: *primary*, *secondary*, and *tertiary*. First, *primary prevention* strategies are used to reduce or prevent the incidence of a disease from occurring. Next, *secondary prevention* efforts seek to screen for a health condition after its onset, but before it causes serious complication. Third, the use of *tertiary prevention* strategies focus on the therapeutic and rehabilitative measures after a disease is clearly established (Kolodny et al., 2015; also see Krug et al., 2002).

When applying the public health prevention approach to combating the opioid crisis, *primary prevention* strategies should be used because opioid addiction is debilitating, chronic, long lasting, difficult to treat, and is linked to morbidity and mortality. Therefore, experts warn that the current epidemic must be managed and controlled to prevent more cases from occurring (Kolodny et al., 2015). Research reveals that opioid use disorders are prevalent in many chronic pain patients treated with opioids. To reduce the incidence of iatrogenic opioid addiction, health experts are advised to prescribe opioids more cautiously for acute, as well as chronic, pain. Research also finds that many prescribing physicians lack knowledge about opioids' effectiveness and corresponding risks in the short-and long-term, especially addiction, fractures from falls, respiratory depression that leads to unintentional overdose deaths, and other health problems (Saunders et al., 2010). To reduce problems associated with opioid addiction, many states have passed mandatory prescribers' legislation. Others, such as the *U.S. Food and Drug Administration* (FDA), now require manufactures of extended release and long acting opioids to sponsor educational programs to prescribers (USFDA, 2011).

Secondary prevention efforts should identify and treat addicts early on so as to avoid medical complications, the risk of opioids overdose, psychological deterioration, and prevent addicts from transitioning to injecting heroin. As such, health experts suggest that contact should be made with medical professionals. This will allow for opportunities for early identification of opioid addicts (Kolodny et al., 2015). Moreover, physicians should be aware that drug addicts may be difficult to detect. However, there are warning signs that prescribers should be aware of, such as patients returning for early refills, especially in cases involving prescribed high doses of pain reliever. If addiction is suspected, prescribers should seek collateral information before prescribing more opioids. In fact, some health experts suggest that urine toxicology can be used to verify a patient's self-reported drug ingestion history (Monte et al., 2015). Furthermore, doctors should also use Prescription Drug Monitoring Programs (PDMPs) since opioid addicts often seek prescriptions from multiple providers (Thomas et al., 2014).

Where *tertiary prevention* of opioid addiction is concerned, its primary objective is to prevent overdose deaths; medical complications; psychological deterioration; transition to injection drug use, namely heroin; and injection-related infectious diseases, such as HIV/AIDS and Hepatitis C. As such, the solution requires that opioid addicts have access to affordable opioid addiction treatment (Kolodny et al., 2015). Currently, research reveals that the need for opioid treatment for many Americans is not being met as the U.S. Senate struggles to pass a health bill that allocates enough resources to address the opioid crisis. Despite this, help is needed for known opioid addicts, heroin addicts, and opioid-addicted pain patients (SAMHSA, 2011). Moreover, to effectively address this crisis, it will require substantial resources since treatment for opioid addiction maybe for the long term and will require pharmacotherapy and psychosocial approaches including residential treatment, mutual-help programs, such as *Narcotics Anonymous* and *12 Step* treatment programs. These resources may be used individually or in combination. Reif and colleagues (2014) argue that psychological opioid addiction treatment strategies should be used and viewed as important treatment options. Furthermore, experts who recommend pharmacotherapies for opioid addiction suggest that the use of methadone and partial-agonist maintenance with buprenorphine and antagonist treatment with naltrexone (to be injected monthly). These drugs should reduce cravings and prevent opioid addicts from feeling the effects of opioids. These health experts caution that naltrexone should not be given to every patient, but instead, to select patients because of its link to elevated risk of overdose deaths (Diginston et al., 2004).

It is also important to note that *tertiary prevention* efforts include harm reduction approaches, especially in efforts designed to reduce overdose deaths among opioid and heroin users. For example, Des Jalais and colleagues (2007) research that used a subset of opioid addicts who also injected heroin found that having access to syringe exchange programs helped to prevent the spread of HIV infections. However, less success has been found among access to syringes and preventing the spread of hepatitis C infections (also see Hagan et al., 2010). Nevertheless, health experts argue that exchange programs can be helpful. Moreover, medical experts believe the use of naloxone (an opioid overdose antidote) should be expanded since the drug reverses life-threatening respiratory depression. In fact, evidence exists that reveals when properly trained to use naloxone, clients of syringe exchange programs successfully used the drug to save their peers who had overdose (Seal et al., 2005).

Part Four: Preventing Opioid Addiction and Fatal Overdose Using Harm Reduction Strategies by the *World Health Organization* (WHO) and Recommendations from the *Centers for Disease Control and Prevention* (CDC)

Health experts reveal that the number of opioid addicts and suicides associated with the current opioid crisis is not equally distributed with respect to geography. In fact, research by Sarasohn (2017) shows that the numbers are higher among people living in nonurban areas compared with those who live in urban areas. Her findings, as well as other studies, suggest that this disparity is due in part to limited access to a range of healthcare treatment options and greater social isolation (also see Stoltz et al., 2007). Nevertheless, we argue that the adoption of strategies from the WHO and recommendations from the CDC can be used to successfully reduce opioid addiction and untimely deaths caused by fatal overdoses that are linked to heroin found in both urban, as well as other areas.

We fully support harm reduction efforts since these intervention strategies are rooted in the public health approach that views drug use as a reality for many drug users worldwide. As such, this approach aims to reduce the negative health consequences associated with drug use since experts argue that drug use can invariably lead to: addiction; the spread of HIV/AIDS, hepatitis C; loss of productivity; arrests; and long-term incarceration to only name a few (Wilson et al., 2015; Ritter and Cameron, 2006; Marlatt, 1996). Moreover, harm reduction efforts should be implemented to help minimize the morbidity and mortality rates associated with opioid abuse and dependency, especially when used to educate the public on drug overdose prevention. This public health approach to addressing the opioid crisis is justified since criminal justice and drug experts warn that increased arrests, along with severe punishment for drug-related offenses do not serve as an effective deterrent, but rather, has an established inverse relationship. More specifically, Friedman and colleagues (2006) report that when drug users and sellers are criminalized, it increases the risk of fatal overdoses and diseases (linked to intravenous drug use), increases social stigma that discourages users from seeking treatment, along with health and harm reduction interventions. As such, while some mainstream drug experts consider harm reduction approaches controversial, the conventional wisdom in the health community is that to effectively address the opioid crisis and prevent addiction and fatal overdoses, the role of the criminal justice system must be reduced, and the scope of the health system enhanced since addiction is a public health, rather than a criminal justice or moral issue.

As stated earlier, opioid addiction is not simply a U.S. problem, but instead is a global crisis with dire consequences. According to the WHO, only an estimated 42% of all countries provide opioid addicts with access to effective treatment. Fewer than 10% of addicts worldwide receive treatment for opioid dependence. Unfortunately, the U.S. is included among these grim and discouraging statistics (WHO, 2010). Therefore, to prevent and treat opioid addiction and fatal overdoses, WHO recommends a twofold approach be adopted by all nations affected by the current opioid pandemic. First, provide opioid addicts with access to effective treatment. More specifically, WHO suggests that one proven long-term strategy to prevent overdose among heroin addicts and those addicted to other opioids is the use of opioid agonist maintenance treatment, such as methadone or buprenorphine. In fact, drug experts argue that the former drug increases tolerance to opioids. Thus reducing the effect of continued use. Moreover, research reveals that methadone maintenance treatment should be used since it reduces the likelihood of opioid overdose sixfold (WHO, 2010). Similarly, the latter drug, buprenorphine, also reduces the likelihood of overdose since it partially blocks opioid receptors. Either way, drug experts advise that opioid agonist treatment is effective when addicts are given higher doses for extended periods of time (Auriacombe et al., 2004). The WHO further suggests that communities with a high prevalence of intravenous drug users should provide outreach programs (e.g., needle-syringe programs) created to provide sterilized injection equipment, information, healthcare, and access to drug treatment programs (WHO, 2010).

More specifically, these programs should provide intravenous drug users with sterilized needles, information on overdose prevention, access to testing and counseling for HIV/AIDS and hepatitis C, thereby preventing the spread of communicable diseases (WHO, 2010). Hence, reducing the level of harm associated with injecting drugs.

Second, WHO strongly encourages the use of naloxone since it reverses the effect of opioid overdose and lasts between 20 to 90 minutes which allows the user to seek medical assistance (Hawk et al., 2015). WHO (2010) reports that while naloxone has traditionally been used by medical personnel to treat opioid overdose, the drug is currently distributed globally by medical staff to first responders (e.g., all levels of emergency medical services (EMS) and emergency medical technicians (EMT), and also to police officers, fire fighters, those dependent on opioids, as well as their peers and family members who often witness first-hand drug overdoses. However, the WHO emphasizes that in programs that are charged with making naloxone available to first responders, officials should provide them with overdose prevention education to ensure a successful outcome. Moreover, WHO suggests that in some cases, naloxone should be prescribed to opioid users, but to be given only to someone they trust will properly administer it when needed.

While the idea of making naloxone available to first responders may seem drastic or extreme to those uninformed, research finds that the practice has been used experimentally in at least 12 countries including the U.S., Canada, the United Kingdom, Ukraine, Australia and others (WHO, 2010; also see U.S. PEPEAR, 2010). With respect to its effectiveness in the U.S., research shows that this harm reduction approach has been successful. For example, Walley and colleagues (2013) reported that from 2005 until 2011, New York City used overdose programs that revealed a 22% decline in the unintentional drug poisoning mortality rate, and a 27% decline in the conventional heroin poisoning mortality rate, respectively. Similarly, success was found in Massachusetts where nongovernmental organizations distributed naloxone. Follow-up investigations found that overdose rates in areas where bystanders were trained to recognize and appropriately respond to overdose use with naloxone experienced significant declines compared with areas that did not make naloxone available to addicts or bystanders (Walley et al., 2013). In addition, thousands of successful overdose reversal cases have been documented. Consequently, drug experts contend that these results speak to the need to continue and expand the use of naloxone programs. They agree that success is contingent on the education provided to the users of this overdose reversal drug. Some research even suggests that naloxone should be prescribed to high risk populations of drug users (e.g., those typically given high doses of opioids, those with a history of a nonfatal opioid overdose, and newly released prisoners or those released from inpatient treatment). Moreover, research suggests that reducing the risk for addiction and fatal overdose is highly contingent on a combination of preventions, treatments, and harm reduction efforts (see Marlatt, 1996; Hawk et al., 2015).

When preventing and treating opioid addiction and making efforts to reduce or eliminate drug overdose, the CDC recommends a four-layered approach that enlists the help of the federal and state governments healthcare providers, as well as the lay public. Where the latter group is concerned, public health officials rely on strategies that include massive educational campaigns that are delivered in part via public service announcements by radio broadcasts, television programming, billboards, and other methods of communication that not only reveal the harsh reality of opioid addiction and drug overdose, but also provide information on prevention and where treatment can be sought. The CDC believes that the public health approach is effective at reaching captive audiences of people who regularly listen to radio programming, view television, and travel from one place to another. Health experts believe that these efforts can inform and educate millions of Americans. Notwithstanding, the CDC suggests using a multi-layered approach to address the current opioid crisis and the collateral devastation that follows. First, the CDC recommends that the federal government provides educational training to healthcare providers to better inform them about the dangers associated with short and long-term opioid use, especially painkillers (CDC, 2017). CDC officials believe that this will invariably lead to better guidelines for prescribing addictive pain medication. It is also hoped that this effort will lead to centralized monitoring created by electronic databases that can be used to track the amount of medication that patients receive. Because nationally, the level of surveillance is dismal, this will alert prescribers to those patients and communities that abuse the system.

The CDC also recommends that the federal government make a variety of substance abuse treatment services available under the *Affordable Health Act*. This may require that Congress either protect monies that are currently allocated for opioid addictions or work towards earmarking monies in a national health policy to treat the millions of Americans who suffer from opioid addiction. In fact, President Trump's *Opioid Commission* recently declared a national emergency citing the fact that an estimated 142 Americans die each day because of the opioid epidemic.

The Commission has called for aggressive federal action to be taken immediately (i.e., allocating more resources) to improve treatment and better data gathering. President Trump agreed with the recommendation and has declared the opioid issue a national emergency. Furthermore, the CDC, like WHO, recommends the use of naloxone to reduce prescription opioid painkillers and heroin overdose deaths.

Second, where states are concerned, the CDC recommends that they target the strongest risk factors related to heroin addiction which stems from prescription opioid use (CDC, 2017). The CDC warns that in the course of monitoring prescription drug programs, providers must be vigilant when examining patients' prescription drug histories. This is required in order to make informed decisions about prescribing opioid painkillers. Therefore, the CDC recommends that states examine all existing data and practices of state Medicaid and Workers Compensation programs to effectively identify and reduce excessive and inappropriate opioid prescribing (CDC, 2017).

The CDC (2017) argues that to successfully prevent and treat opioid addiction, states must increase access to substance abuse treatment services (including medication-associated treatment) for opioid addictions; expand access to training those charged with administering naloxone to reduce opioid overdose deaths; take care that access to integrative prevention services are provided (this includes sterile injection equipment); and implement effective drug treatment programs in communities that need them most.

Third, the CDC recommends that healthcare providers use established best practices when prescribing opioids. This should also include the use of the FDA's approved medication assistance treatment (e.g., methadone, buprenorphine, and naltrexone in patients addicted to prescription opioid painkillers or heroin). The CDC fully encourages the use of medical alternatives to heroin, especially methadone. It also suggests that drug monitoring programs should be used before prescriptions are written to patients. Most importantly, the CDC suggests that doctors who write prescriptions for patients should always meet with them to discuss their alcohol and drug use histories. When possible, doctors should prescribe patients the lowest effective level and only the quantity needed. They should also work diligently to link patients with substance use disorders to effective substance abuse treatment services (CDC, 2017).

Fourth, the CDC recommends that everyone in America learns about the dangers associated with drugs in general, but opioids and overdose in particular. It deems this as vitally important since the U.S. is facing an opioid epidemic that brings dire consequences, such as the estimated 142 deaths that occur each day. As stated earlier, the CDC (2017) believes that through massive educational campaigns that highlight the harm associated with opioids and information regarding where treatment can be sought, the public will be informed regarding its danger.

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