

**Committee:** World Health Organization (WHO)

**Topic:** The rise of Opioid and Prescription Drug Addiction

**Student Officer:** Ann Marie Martinou

**Position:** Deputy President

---

## Personal Introduction

Honorable Delegates,

My name is Ann Marie Martinou, I am 16 years old and I am a student at the American Community Schools of Athens. It is my utmost pleasure to cordially welcome you to the World Health Organization committee in the 8<sup>th</sup> Campion School MUN. Before you read this study guide and rigorously prepare for the conference, I would like to introduce myself.

The inception of my MUN journey began when I followed one of my friends to the school library. My friend was printing about 15 papers worth of information, and I wondered why so many papers were needed, since I was unaware that we were given any assignment of such magnitude. My friend explained that they were for the MUN club, a club that encompasses diplomacy and public speaking. I was fascinated by the idea at the time, although my target of entering the MUN school team seemed far out of reach at that moment.

Less than a year later, after utilizing large amounts of my free time into preparing for the MUN club tryouts, I was anxiously scanning the paper which showed the results regarding who had made the MUN school team. I soon realized that my name was boldly printed on the paper. I was elated, since this officially marked the beginning of my MUN journey.

Through MUN, I have become more confident in my public speaking skills, and this has allowed me to effectively communicate with everyone around me. Furthermore, I have always been passionate about health and nutrition, which is one of the few reasons that I feel ecstatic to serve as the Deputy President in the World Health Organization. I firmly believe this committee amplifies my strengths, allowing me to make your time in



this committee worthwhile. I look forward to meeting you all in October and I wish you a constructive debate during the conference!

Yours truly,

Ann Marie Martinou

You can contact me [here](#)

## Topic Introduction

In 3,400 BC, a flower was first cultivated in lower Mesopotamia, a region which is commonly known as Southeast Asia. This miracle flower was used for its ability to induce pleasure and reduce pain.<sup>1</sup> Today, the substance produced from this plant is referred to as opium, which is the extract of the poppy flower. Although opium was first introduced as an effective painkiller, it also serves as the foundation of the opioid crisis today. Opioids are a group of drugs that are derived from opium, and they include the illicit drug heroin, as well as a group of licit prescription pain relievers: oxycodone, hydrocodone, codeine, morphine, and fentanyl.<sup>2</sup>

In today's society, the repeated misuse of opioids is posing devastating effects on populations, and is considered a major threat to the world. The opioid epidemic as a whole is characterized as the "overuse or misuse of addictive opioid drugs with significant medical, social and economic consequences."<sup>3</sup> Needless to say, this drug crisis has major negative implications not only on people's health, but there is also a wide array of negative social, economic, and political factors that are directly correlated with the rise of opioid and prescription drug addiction.

<sup>1</sup> TEDEducation, director. *What Causes Opioid Addiction, and Why Is It so Tough to Combat?* - Mike Davis. *YouTube*, YouTube, 7 May 2020, [www.youtube.com/watch?v=V0CdS128-q4](http://www.youtube.com/watch?v=V0CdS128-q4).

<sup>2</sup> "Opioid Addiction 2016 Facts & Figures." *Asam.org*, [www.asam.org/docs/default-source/advocacy/opioid-addiction-disease-facts-figures.pdf](http://www.asam.org/docs/default-source/advocacy/opioid-addiction-disease-facts-figures.pdf).

<sup>3</sup> "Opioid Epidemic." *Wikipedia*, Wikimedia Foundation, 22 June 2020, [en.wikipedia.org/wiki/Opioid\\_epidemic](https://en.wikipedia.org/wiki/Opioid_epidemic).



## Definition of key terms

### Epidemic

A widespread occurrence of a disease in a community at a particular time.<sup>4</sup>

### Addiction

A complex condition; a brain disorder manifested by compulsive engagement in rewarding stimuli, despite the possible negative effects of this behavior.

### Receptors

Protein or assembly of several proteins found in a cell membrane that a molecule can bind to.

### Opium

Extract of the opium poppy, which can induce pleasure and reduce pain.

### Opiates

Typically a term used in pharmacology, describes a drug derived from the opium poppy.<sup>5</sup>

### Opioids

An umbrella term used to describe substances, made from the opium poppy, either natural or synthetic, that bind to opioid receptors in the brain. Includes oxycodone, hydrocodone, codeine, morphine, fentanyl, inter alia.<sup>6</sup>

### Illicit

Not permitted; unlawful.<sup>7</sup>

### Licit

<sup>4</sup> “Epidemic: Definition of Epidemic by Oxford Dictionary on Lexico.com Also Meaning of Epidemic.” *Lexico Dictionaries | English*, Lexico Dictionaries, [www.lexico.com/en/definition/epidemic](http://www.lexico.com/en/definition/epidemic).

<sup>5</sup> “Opiate.” *Wikipedia*, Wikimedia Foundation, 21 June 2020, [en.wikipedia.org/wiki/Opiate](http://en.wikipedia.org/wiki/Opiate).

<sup>6</sup> National Institute on Drug Abuse. “Opioids.” *National Institute on Drug Abuse*, 11 June 2020, [www.drugabuse.gov/drug-topics/opioids](http://www.drugabuse.gov/drug-topics/opioids).

<sup>7</sup> “Illicit.” *Merriam-Webster*, Merriam-Webster, [www.merriam-webster.com/dictionary/illicit](http://www.merriam-webster.com/dictionary/illicit).



Not forbidden; lawful.<sup>8</sup>

### Endorphins

Hormones produced by the body to relieve stress and ease pain.<sup>9</sup>

### Dopamine

A hormone and neurotransmitter that plays several roles in the brain and body, sometimes referred to as the “feel-good neurotransmitter” or the “happy hormone,” due to its ability to regulate our mood and make us happier.

### Noradrenaline

A substance released in the body in order to treat hypotension (life-threateningly low blood pressure), sometimes referred to as norepinephrine.

### Naloxone

A medication used to block the effects of opioids, may be combined with an opioid to decrease the risk of opioid misuse.<sup>10</sup>

### Tramadol

An opioid pain medication which is used to treat moderate to severe pain. The onset of pain relief when a person consumes tramadol usually begins within an hour.<sup>11</sup>

## Background Information

When considering solutions needed in order to tackle the issue of opioid and prescription drug addiction, all parties involved must possess a holistic view on the topic. Therefore, it is paramount that not only governments and world leaders, but also youth and change makers, understand the implications of opioids, the history of opioids, the rise of opioids and opioid addiction, as well as the effects of opioids on society and how abusing opioids and prescription drugs containing opioids leads to addiction.

<sup>8</sup> “Licit: Definition of Licit by Oxford Dictionary on Lexico.com Also Meaning of Licit.” *Lexico Dictionaries / English*, Lexico Dictionaries, [www.lexico.com/en/definition/licit](http://www.lexico.com/en/definition/licit).

<sup>9</sup> “Endorphins: Effects and How to Boost Them.” *Medical News Today*, MediLexicon International, [www.medicalnewstoday.com/articles/320839](http://www.medicalnewstoday.com/articles/320839).

<sup>10</sup> *Opioid Use Disorder*, [www.psychiatry.org/patients-families/addiction/opioid-use-disorder/opioid-use-disorder](http://www.psychiatry.org/patients-families/addiction/opioid-use-disorder/opioid-use-disorder).

<sup>11</sup> “Tramadol : Uses, Side Effects, Dosage, Warnings.” *Drugs.com*, [www.drugs.com/tramadol.html](http://www.drugs.com/tramadol.html).



## Health Implications

Once a person consumes opioids or abuses prescription drugs that contain opioids as active ingredients, the body will build a tolerance for these opioids over time. Thus, it is easier to become addicted to these substances, since the body constantly requires a larger dosage to feel the same soothing effects as it did with smaller dosages.<sup>12</sup> Some symptoms of opioid addiction include uncontrollable cravings, drowsiness, weight loss, lack of hygiene, financial difficulties due to excessive money spent on opioids, and, finally, the inability to control opioid use.<sup>13</sup> As a result of opioid addiction, basic bodily functions are severely altered, which jeopardizes the individual's health.

## Social Implications

Opioid painkiller prescriptions are becoming closely regulated, yet cases of addiction and opioid overdose are continuing to increase, especially among young people. This poses social implications, since young people that become addicted to these drugs may experience changes in mood and behaviour, which in turn will damage their relationships with others, including friends and family.

Apart from young people, there is a link between heavy opioid users and increased crime rates. Crime and drug use are interconnected as one influences the other. Therefore, the ongoing drug problem and opioid crisis may create more dangerous societies, and it should be advised that society's treatment of drug-using criminals needs to encompass both rehabilitation from drug use and the deterring of crime.<sup>14</sup>

Not only this, but when opioid consumers, whether young or old, decide to receive treatment and quit consuming drugs, the withdrawal period may lead to intense symptoms, such as stomach aches, fevers, and vomiting. This may lead the former drug user to act in a violent or dangerous manner. This is a threat to society and serves as a

<sup>12</sup> TEDEducation, director. *What Causes Opioid Addiction, and Why Is It so Tough to Combat?* - Mike Davis. *YouTube*, YouTube, 7 May 2020, [www.youtube.com/watch?v=V0CdS128-q4](http://www.youtube.com/watch?v=V0CdS128-q4).

<sup>13</sup> Butanis, Benjamin. *Signs of Opioid Abuse*, 27 Aug. 2018, [www.hopkinsmedicine.org/opioids/signs-of-opioid-abuse.html](http://www.hopkinsmedicine.org/opioids/signs-of-opioid-abuse.html).

<sup>14</sup> JB;, Hammersley R;Forsyth A;Morrison V;Davies. "The Relationship between Crime and Opioid Use." *British Journal of Addiction*, U.S. National Library of Medicine, [pubmed.ncbi.nlm.nih.gov/2790266/](http://pubmed.ncbi.nlm.nih.gov/2790266/).



social implication, since it endangers not only the individual, but also others surrounding the individual.<sup>15</sup>

Overall, it is evident that overdosing on drugs or excessively consuming opioids affects inter-human relations. Drug use has been linked to an increase in interpersonal problems. Furthermore, it has been found that there is a shift in priorities when a person decides to ingest drugs, especially over a prolonged period of time. As a result, this restrains active drug users from engaging in and maintaining their social relationships, which can add a strain on their relationships, particularly among the individual and their parents, family, friends, or significant other.<sup>16</sup>

## Political Implications

In the United Kingdom, opioid prescriptions more than doubled between 1998 to 2018.<sup>17</sup> Therefore, the UK and other countries involved in the crisis, such as the United States, Iran, and Pakistan, must make efforts to ensure that prescription dosages are safer, particularly in drugs containing opioids. Such efforts can be observed in the United States, which, under President Donald Trump, has implemented the Safer Prescribing Plan: a plan aiming to safely prescribe drugs containing opioids and thus bring the opioid crisis to a halt.<sup>18</sup> If such efforts are not made, the government will suffer economically, which will result in negative repercussions.

<sup>15</sup> “Withdrawal Management.” *Clinical Guidelines for Withdrawal Management and Treatment of Drug Dependence in Closed Settings.*, U.S. National Library of Medicine, 1 Jan. 1970, [www.ncbi.nlm.nih.gov/books/NBK310652/](http://www.ncbi.nlm.nih.gov/books/NBK310652/).

<sup>16</sup>[https://www.researchgate.net/publication/283381133\\_Interpersonal\\_relationships\\_during\\_drug\\_use\\_and\\_addiction\\_treatment\\_from\\_the\\_perspective\\_of\\_clients\\_in\\_a\\_therapeutic\\_community](https://www.researchgate.net/publication/283381133_Interpersonal_relationships_during_drug_use_and_addiction_treatment_from_the_perspective_of_clients_in_a_therapeutic_community)

<sup>17</sup> *NHS Choices*, NHS, [www.england.nhs.uk/south/info-professional/safe-use-of-controlled-drugs/opioids/](http://www.england.nhs.uk/south/info-professional/safe-use-of-controlled-drugs/opioids/).

<sup>18</sup> “President Donald J. Trump's Initiative to Stop Opioid Abuse and Reduce Drug Supply and Demand.” *The White House*, The United States Government, [www.whitehouse.gov/briefings-statements/president-donald-j-trumps-initiative-stop-opioid-abuse-reduce-drug-supply-demand/](http://www.whitehouse.gov/briefings-statements/president-donald-j-trumps-initiative-stop-opioid-abuse-reduce-drug-supply-demand/).



## Economic Implications

The opioid crisis yields multiple tangible examples of economic devastation due to individuals misusing opioids or prescription drugs containing opioids. In the United States, the Council of Economic Advisers (CEA) estimates that the opioid crisis cost the nation \$696 billion in 2018, representing 3.4% of the US' gross domestic product (GDP). This immense figure measures the full cost of the crisis, by taking into consideration the value of lost lives, increases in healthcare costs, and reductions in productivity throughout the nation. Furthermore, the figure clearly illustrates the magnitude of this epidemic and the toll it has taken on the economy of one of the major nations involved.<sup>19</sup>

## Historical Background

### Opium Wars

The Opium Wars were two armed conflicts between the forces of Western countries and the Chinese Qing Dynasty, which ruled China from 1644-1912. The first Opium War occurred in 1839-1842 and the second Opium War occurred in 1856-1860.

The Opium Wars emerged due to China's attempts to suppress the trade of opium. British foreign traders had been illegally exporting opium from India to China since the 18th century, and that trade grew dramatically from 1820. As a result, opioid addiction was widespread, and this caused social and economic disruption. After hostilities broke out, the war ended, resulting in the Treaty of Nanjing, which outlined the number of treaty ports where the British could trade and reside from.

During the second Opium War, negotiations led to the legalization of opium trade in Shanghai.<sup>20</sup>

### Civil War and post-Civil War era

During the United States' Civil War, morphine was utilized as a battlefield anesthetic. Furthermore, physicians prescribed opium gum, laudanum, or morphine to soldiers in order to ease the pain from gunshot wounds. As a result, a number of soldiers

<sup>19</sup> "The Full Cost of the Opioid Crisis: \$2.5 Trillion Over Four Years." *The White House*, The United States Government, 30 Oct. 2019, [www.whitehouse.gov/articles/full-cost-opioid-crisis-2-5-trillion-four-years/](http://www.whitehouse.gov/articles/full-cost-opioid-crisis-2-5-trillion-four-years/).

<sup>20</sup> Pletcher, Kenneth. "Opium Wars." *Encyclopædia Britannica*, Encyclopædia Britannica, Inc., 5 Feb. 2020, [www.britannica.com/topic/Opium-Wars](http://www.britannica.com/topic/Opium-Wars).



developed morphine dependency.<sup>21</sup> Following the Civil War, American doctors began widely prescribing morphine. During this postwar period, morphine became a common way to consume opiates, since it was an efficient painkiller.<sup>22</sup>

## Rise of opioid addiction in the modern era

The opioid epidemic began when pharmaceutical companies in the United States began prescribing vast amounts of medication containing opioids in the 1990s. They falsely informed both the public and the medical community that the medications were safe and not addictive. Thus, opioids were prescribed at an alarming rate.<sup>23</sup>

Several years later, the number of drug overdose deaths decreased by 4% from 2017 to 2018. However, the number of drug overdose deaths was still four times higher in 2018 than it was in 1999. In addition, nearly 70% of the 67,367 drug-related deaths in 2018 involved an opioid. From 1999-2018, almost 450,000 people died from an overdose involving any opioid. With these figures in mind, the rise in opioid overdose deaths can be clearly outlined in three distinct waves.

<sup>21</sup> “Timeline of the Opioid Crisis.” *Column Health*, [columnhealth.com/blog\\_posts/timeline-of-the-opioid-crisis/](https://columnhealth.com/blog_posts/timeline-of-the-opioid-crisis/).

<sup>22</sup> Micale, Jennifer. “Civil War on Drugs: Doctoral Candidate Explores the Nation's First Opioid Epidemic - Binghamton News.” *News - Binghamton University*, 4 May 2020, [www.binghamton.edu/news/story/2405/civil-war-on-drugs-doctoral-candidate-explores-the-nations-first-opioid-epidemic](http://www.binghamton.edu/news/story/2405/civil-war-on-drugs-doctoral-candidate-explores-the-nations-first-opioid-epidemic).

<sup>23</sup> “An Inside Look at the Opioid Epidemic: Three Waves Analysis.” *ATSI Rehab*, [atsirehab.com/2019/11/an-inside-look-at-the-opioid-epidemic-3-waves-analysis/](https://atsirehab.com/2019/11/an-inside-look-at-the-opioid-epidemic-3-waves-analysis/).



### 3 Waves of the Rise in Opioid Overdose Deaths

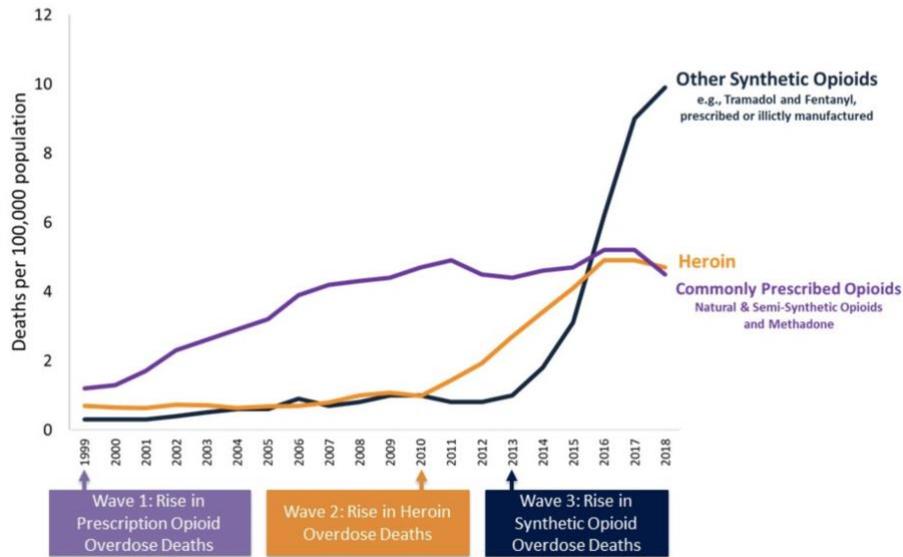


Figure 1- Graph illustrating the three distinct waves of the opioid crisis<sup>24</sup>

#### Wave 1 (1990)

In the first wave of the opioid epidemic, pharmaceutical companies in the United States extensively marketed opioid painkillers. Pharmaceutical companies were downplaying the addictive effects of opioids to both the public and to the medical community, which resulted in a spike of prescriptions. As a result, there was an increase in overdose deaths involving prescription opioids, which included natural and semi-synthetic opioids, as well as methadone.

#### Wave 2 (2010)

In the second wave of the opioid epidemic, there were rapid increases in overdose deaths involving heroin. Heroin is illegal and highly addictive, and nearly all people that abuse heroin also use at least 1 other drug. A heroin overdose can cause changes in

<sup>24</sup> “Understanding the Epidemic.” *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, 19 Mar. 2020, [www.cdc.gov/drugoverdose/epidemic/index.html](http://www.cdc.gov/drugoverdose/epidemic/index.html).



breathing, and may result in a coma or even death.<sup>25</sup> In the United States, more than 115,000 people died from heroin-related overdoses between 2010-2018.<sup>26</sup>

### Wave 3 (2013)

In the third wave of the opioid epidemic, there were significant increases in overdose deaths involving synthetic opioids, particularly illicitly manufactured fentanyl.<sup>27</sup> Fentanyl is 50-100 times more potent than morphine, meaning the risk of overdose when a user consumes fentanyl is significantly higher than when a user consumes morphine. Furthermore, most recent cases of fentanyl-related harm in the United States are directly linked to illicitly produced fentanyl.<sup>28</sup>

<sup>25</sup> “Heroin.” *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, 19 Mar. 2020, [www.cdc.gov/drugoverdose/opioids/heroin.html](http://www.cdc.gov/drugoverdose/opioids/heroin.html).

<sup>26</sup> “Vital Signs: Demographic and Substance Use Trends Among Heroin Users - United States, 2002–2013.” *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, [www.cdc.gov/mmwr/preview/mmwrhtml/mm6426a3.htm?s\\_cid=mm6426a3\\_w](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6426a3.htm?s_cid=mm6426a3_w).

<sup>27</sup> “Understanding the Epidemic.” *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, 19 Mar. 2020, [www.cdc.gov/drugoverdose/epidemic/index.html](http://www.cdc.gov/drugoverdose/epidemic/index.html).

<sup>28</sup> “Fentanyl.” *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, 19 Mar. 2020, [www.cdc.gov/drugoverdose/opioids/fentanyl.html](http://www.cdc.gov/drugoverdose/opioids/fentanyl.html).



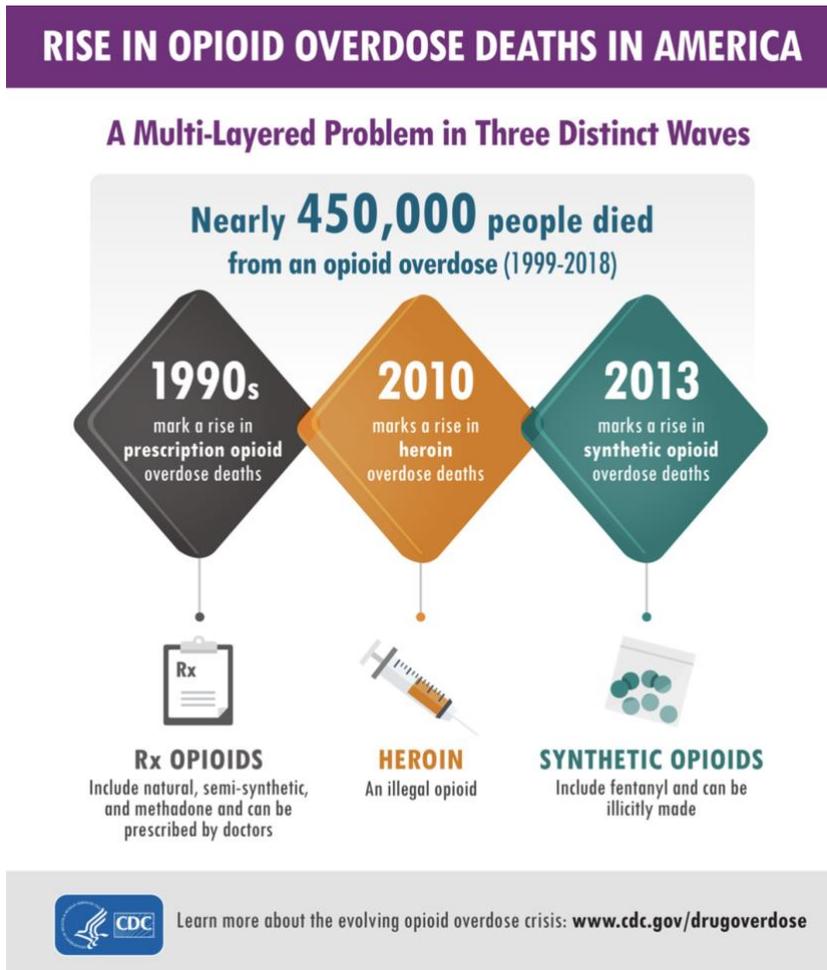


Figure 2- Infographic illustrating overdose deaths in America during the three respective waves of the opioid crisis<sup>29</sup>

## How our body becomes addicted

Once a person has consumed opioids, over a prolonged period of time, the body starts to develop a tolerance for these substances. Thus, the body may decrease the number of opioid receptors, or the receptors simply become less responsive. As a result, in order for a person to experience the same release of dopamine and the same numbing effects, a person must consume a larger amount of opioids, which leads to addiction. Once someone is dependent on opioids, noradrenaline levels become lower, which does

<sup>29</sup> “Opioid Data Analysis and Resources.” *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, 19 Mar. 2020, [www.cdc.gov/drugoverdose/data/analysis.html](http://www.cdc.gov/drugoverdose/data/analysis.html).



not allow the body to function normally. The body then increases the number of noradrenaline receptors, which increases the body's sensitivity to noradrenaline, which then allows the body to continue to function normally. Since this is now considered the new normal for the body, the body is dependent on the opioids to function properly and maintain a balance. When someone who is dependent on opioids quits taking them abruptly, the balance is therefore disrupted. Noradrenaline levels can increase a day after quitting opioid use, however, the body takes longer to get rid of the extra noradrenaline receptors it previously created. Following this, the oversensitivity to noradrenaline causes withdrawal symptoms, which include but are not limited to: muscle aches, stomach aches, fever, and vomiting. Withdrawal symptoms are one of the prime reasons why it is so difficult for someone to quit opioid consumption. Not only is the withdrawal period uncomfortable for the individual, but the individual may also pose a risk to society and others around them if they become violent due to withdrawal symptoms.<sup>30</sup>

## Effects on Less Economically Developed Countries (LEDCs)

Referred to as “the other opioid crisis” by the United Nations, an epidemic featured in fewer headlines than its American counterpart, this crisis devastates LEDCs. In particular, mass abuse of the opioid tramadol occurs in a number of continents and countries, including India, Africa and the Middle East. This abuse has created international havoc, and experts believe that the loophole in narcotics regulation and miscalculation of opioids' and tramadol's danger are to blame for these epidemics. Unlike other opioids, tramadol is not closely regulated, and, as a result, flows freely around the world, “unburdened by international controls that track most dangerous drugs.”<sup>31</sup>

### The public health dilemma

Grunenthal, the German company which first synthesized tramadol, argues that illicit counterfeit drugs are to blame for the epidemic and the devastating effects of the opioid crisis. The company argues that implementing international regulations make medications difficult to access, especially in countries with disorganized health systems,

<sup>30</sup> TEDEducation, director. *What Causes Opioid Addiction, and Why Is It so Tough to Combat?* - Mike Davis. YouTube, YouTube, 7 May 2020, [www.youtube.com/watch?v=V0CdS128-q4](https://www.youtube.com/watch?v=V0CdS128-q4).

<sup>31</sup> “Far from U.S. Epidemic, 'the Other Opioid Crisis' Rages in Vulnerable Countries.” *Los Angeles Times*, Los Angeles Times, 13 Dec. 2019, [www.latimes.com/world-nation/story/2019-12-13/safer-opioid-has-sparked-a-crisis-in-vulnerable-countries](https://www.latimes.com/world-nation/story/2019-12-13/safer-opioid-has-sparked-a-crisis-in-vulnerable-countries).



and adding tramadol to this regulation list would deprive patients of access to any opioid, which may be needed to ease pain. In addition, tramadol is available in war zones and impoverished nations due to the fact that it is unregulated. However, it is abused for the same reason. As Dr. Gilles Forte, the secretary of the World Health Organization's committee that recommends how drugs should be regulated, has noted, "this is a huge public health dilemma."<sup>32</sup>

## Major countries and organizations involved

### United States of America

In 2017, the US Department of Health and Human Services (HHS) declared the opioid crisis a public health emergency, indicating that the magnitude of this crisis is larger than previously thought.<sup>33</sup> Efforts have been made by president Donald J. Trump to bring the crisis to a halt, and examples include the implementation of the Safer Prescribing Plan, a plan aiming to make opioid prescriptions safer and thus decrease levels of prescription drug addiction.

### United Kingdom

Although the crisis in the UK is not as severe as that in the US, it is still referred to as an opioid epidemic. The harm of opioid overprescription has been understood, and the government is making efforts to regulate opioid prescriptions. In order to tackle the issue, the Health Secretary has requested that the Medicines and Healthcare products Regulatory Agency (MHRA)<sup>34</sup> explores the possibility of opioid medication to carry clear warnings on its packaging, indicating the addictive nature of the substance, similar to what is seen in cigarette packet labels.<sup>35</sup>

<sup>32</sup> *ABC News*, ABC News Network, [abcnews.go.com/Health/wireStory/opioid-billed-safer-abused-widely-world-67715304](https://abcnews.go.com/Health/wireStory/opioid-billed-safer-abused-widely-world-67715304).

<sup>33</sup> Assistant Secretary of Public Affairs (ASPA). "What Is the U.S. Opioid Epidemic?" *HHS.gov*, <https://plus.google.com/+HHS>, [www.hhs.gov/opioids/about-the-epidemic/index.html](https://www.hhs.gov/opioids/about-the-epidemic/index.html).

<sup>34</sup> "Medicines and Healthcare Products Regulatory Agency." *GOV.UK*, [www.gov.uk/government/organisations/medicines-and-healthcare-products-regulatory-agency](https://www.gov.uk/government/organisations/medicines-and-healthcare-products-regulatory-agency).

<sup>35</sup> *NHS Choices*, NHS, [www.england.nhs.uk/south/info-professional/safe-use-of-controlled-drugs/opioids/](https://www.england.nhs.uk/south/info-professional/safe-use-of-controlled-drugs/opioids/).



## Mexico

Mexico is becoming a major transit and production destination for the fentanyl trade. Mexican traffickers appear to play an increasingly important role in distributing fentanyl across the US, inherently worsening the US' opioid crisis.<sup>36</sup> Since misuse of prescription opioids in Mexico is low, the government has not implemented any measures so as to tackle the issue of opioid addiction. As a result, other countries, such as the US, may suffer the repercussions of opioid production and trade in Mexico.<sup>37</sup>

## India

India is one of the world's top producers of opium for the legal global market. However, in India, cancer and terminal illnesses are on the rise, seeing as 1 million cases of cancer were diagnosed in 2014. Yet, patients in India are still denied access to pain relief, which include opioids such as morphine and codeine. This drives patients into opting for illicitly produced opioids. Since harmful ingredients may be included in the manufacturing of illicitly produced opioids, this may be one reason the nation has seen such a vast increase in cancer cases, since it is impossible to track and regulate substances added to illicitly produced opioids.<sup>38</sup> The Indian Health Service (IHS) has created an Opioid Strategy aiming to eliminate stigma regarding addiction and giving patients the adequate help they need. Since this initiative is governmental, it is clear that the Indian government is working on tackling the ongoing issue of the rise of opioid and prescription drug addiction.<sup>39</sup>

## Iran

Iran ranked first in the world for largest annual prevalence of opiate use in 2015, which means it had the highest number of opioid addicts, per capita, in the world. One reason for this may be the cost of opium, which is actually cheaper to buy than beer. In

<sup>36</sup> "Mexico's Role in the Deadly Rise of Fentanyl." *Wilson Center*, [www.wilsoncenter.org/publication/mexicos-role-the-deadly-rise-fentanyl](http://www.wilsoncenter.org/publication/mexicos-role-the-deadly-rise-fentanyl).

<sup>37</sup> Goodman-Meza, David, et al. "Where Is the Opioid Use Epidemic in Mexico? A Cautionary Tale for Policymakers South of the US-Mexico Border." *American Journal of Public Health*, American Public Health Association, Jan. 2019, [www.ncbi.nlm.nih.gov/pmc/articles/PMC6301408/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC6301408/).

<sup>38</sup> "The Hidden Opioid Crisis." *Healthpovertyaction.org*, John Campbell, [www.healthpovertyaction.org/wp-content/uploads/2019/02/India-opioid-crisis-briefing-WEB.pdf](http://www.healthpovertyaction.org/wp-content/uploads/2019/02/India-opioid-crisis-briefing-WEB.pdf).

<sup>39</sup> "Indian Health Service (IHS)." *Opioids*, [www.ihs.gov/opioids/](http://www.ihs.gov/opioids/).



Zahedan, an Iranian town, 3 grams of opium can be purchased for the equivalent of 1 USD.<sup>40</sup> Furthermore, according to a national household survey in 2011, 1,325,000 people aged 15-65 years, had used an illicit substance in the previous 12 months.<sup>41</sup> The Iranian government intercepts only a tiny proportion out of the thousands of tonnes of opium that are trafficked through Iran each year. Therefore, the Iranian government should make additional efforts in tackling the issue of the rise of opioid and prescription drug addiction.

## Afghanistan

Afghanistan has been the world's leading illicit opium producer since 2001, posing as a great drug and crime threat. In 2007, 93% of the non-pharmaceutical opiates on the world market were traced back and had originated in Afghanistan. Consequently, a dedicated project was established in 2008 to help monitor and achieve a holistic understanding of the global impact of Afghanistan based opiates. "The Afghan Opiate Trade Project (AOTP) aims to address the need for systematic, comprehensive and consolidated analytical information about trends in the global illicit Afghan opiate trade."<sup>42</sup>

## Myanmar

Between February and April of 2020, an anti-narcotics operation took place in Myanmar. The largest quantity of synthetic drugs in the history of Southeast Asia were uncovered, and substantial evidence of fentanyl production in the region was found. Police found 3,700 liters of liquid fentanyl, around 193 million methamphetamine pills, over 163,000 liters of chemicals, drug-making equipment, and weapons.<sup>43</sup> Despite this, the government has made efforts to eradicate narcotics by inviting neighboring countries, such as Thailand, Laos, and China, to collaborate with each other and implement a plan that will reduce narcotic drug and opioid production.<sup>44</sup>

<sup>40</sup> "Opium in Iran." *Wikipedia*, Wikimedia Foundation, 11 May 2019, en.wikipedia.org/wiki/Opium\_in\_Iran.

<sup>41</sup> Ghane, Talat, et al. *Who.int*, [www.who.int/bulletin/volumes/96/3/17-196287.pdf?ua=1](http://www.who.int/bulletin/volumes/96/3/17-196287.pdf?ua=1).

<sup>42</sup> "The Afghan Opiate Trade Project (AOTP)." *United Nations : Office on Drugs and Crime*, [www.unodc.org/unodc/en/data-and-analysis/aotp.html](http://www.unodc.org/unodc/en/data-and-analysis/aotp.html).

<sup>43</sup> Gagné-Acoulon, Sandrine. "Biggest Ever Asian Synthetic Drug Seizure in Myanmar." *OCCRP*, [www.occrp.org/en/daily/12378-biggest-ever-asian-synthetic-drug-seizure-in-myanmar](http://www.occrp.org/en/daily/12378-biggest-ever-asian-synthetic-drug-seizure-in-myanmar).

<sup>44</sup> National Institute on Drug Abuse. "Myanmar's Efforts To Eradicate Narcotic Drugs." *National Institute on Drug Abuse*, 23 Nov. 2019, [www.drugabuse.gov/international/abstracts/myanmars-efforts-to-eradicate-narcotic-drugs](http://www.drugabuse.gov/international/abstracts/myanmars-efforts-to-eradicate-narcotic-drugs).



## Mali

Despite the fact that Mali is gripped by war and terrorism, the opioid crisis and the misuse of tramadol remains a prominent issue throughout the nation. In 2017, the first administrative region of Mali seized 200,000 tablets of tramadol, and made around 50 arrests.<sup>45</sup> It is evident that the illegal trade and abuse of tramadol in Mali must be tackled in order to ensure the safety of people living in Mali. Unfortunately, no known efforts have been made by the Malian government to tackle the rise of opioid and prescription drug addiction.

## Nigeria

In Nigeria, the situation regarding tramadol drug abuse is extremely serious. At this point, Nigerians living with a drug use disorder have outnumbered people suffering from HIV or AIDS.<sup>46</sup> Out of 200 million people, the United Nations Office on Drugs and Crime (UNODC) found that over 14% of Nigerians aged between 15-64 abused drugs. This percentage is more than twice the global average, which is 5.6%. Although cannabis is the most abused narcotic, tramadol is causing the biggest societal issues in the country. The government is trying to tackle the issue, however, Nigerian law enforcement have reportedly not played their part in addressing and fixing this problem.<sup>47</sup>

## Egypt

In Egypt, the National Survey states that the prevalence of tramadol dependence in 2015 among participants was 2.4%. Cannabis, which was the most prevalent substance, was only 0.01% more prevalent than tramadol; prevalence of cannabis dependence among the participants was 2.5%. The study also showed that tramadol is “the most prevalent opioid that causes dependence, with a significantly higher ratio than heroin.” Not only this, but it was found that tramadol was abused by schoolchildren and

<sup>45</sup> Written by CENOZO. “Tramadol Trafficking and Consumption in Tombouctou: Two Scourges Gaining Ground.” *Cenozo*, 15 Mar. 2019, [cenozo.org/en/articles/142-tramadol-trafficking-and-consumption-in-tombouctou-two-scourges-gaining-ground](http://cenozo.org/en/articles/142-tramadol-trafficking-and-consumption-in-tombouctou-two-scourges-gaining-ground).

<sup>46</sup> Sylvester.ater. “United Nations Office on Drugs and Crime.” *Key Findings of UNODC Study on Tramadol Trafficking in West Africa Discussed at Regional Meeting*, [www.unodc.org/nigeria/en/key-findings-of-unodc-study-on-tramadol-trafficking-in-west-africa-discussed-at-regional-meeting.html](http://www.unodc.org/nigeria/en/key-findings-of-unodc-study-on-tramadol-trafficking-in-west-africa-discussed-at-regional-meeting.html).

<sup>47</sup> Al Jazeera. “West Africa's Opioid Crisis.” *Africa | Al Jazeera*, Al Jazeera, 29 Aug. 2019, [www.aljazeera.com/programmes/peopleandpower/2019/08/west-africa-opioid-crisis-190827135612104.html](http://www.aljazeera.com/programmes/peopleandpower/2019/08/west-africa-opioid-crisis-190827135612104.html).



university students, with studies suggesting that 12.3% of university students, mostly males, abuse tramadol.<sup>48</sup> Fortunately, the government has taken a few steps in order to tackle the issue of the rise of opioid and prescription drug addiction. Currently, Egypt does not provide patients with substitution maintenance therapy of opioid dependence. However, it does provide inpatients and outpatients with medical detoxification.<sup>49</sup>

## China

Historically, China has suffered from opioid abuse and addiction. In the 1980s, the issue of the widespread abuse of opioid prescription drugs re-emerged. In 2004, the number of registered addicts was 1.14 million, and roughly three fourths of them were heroin addicts. Currently, opioid dependence is being treated with clonidine or lofexidine, which are both non-opiate medications. Apart from this, Chinese herbal medicine and traditional medication has been used in order to tackle the rise of opioid and prescription drug addiction in the country.<sup>50</sup>

## United Nations Office on Drugs and Crime (UNODC)

The UNODC is the global leader in the fight against illicit drugs. It aims to educate people regarding the dangers of drug abuse and to strengthen international action against illicit drug production and trafficking drug-related crime. “To achieve those aims, UNODC has launched a range of initiatives, including alternatives in the area of illicit drug crop cultivation, monitoring of illicit crops and the implementation of projects against money laundering.”<sup>51</sup>

## United States Department of Health and Human Services (HHS)

The HHS is a cabinet-level executive branch of the US federal government, which aims to protect the health of all Americans and provide essential human services to

48 Elhabiby, Dr. Mahmoud. “NON-MEDICAL USE OF TRAMADOL IN EGYPT.” *Who.int*, [www.who.int/medicines/news/2018/8Egypt.pdf?ua=1](http://www.who.int/medicines/news/2018/8Egypt.pdf?ua=1).

49 “ATLAS of Substance Use Disorders Resources for the Prevention and Treatment of Substance Use Disorders (SUD).” *Who.int*, [www.who.int/substance\\_abuse/publications/atlas\\_report/profiles/egypt.pdf?ua=1](http://www.who.int/substance_abuse/publications/atlas_report/profiles/egypt.pdf?ua=1).

50 JF;, Tang YL;Zhao D;Zhao C;Cubells. “Opiate Addiction in China: Current Situation and Treatments.” *Addiction (Abingdon, England)*, U.S. National Library of Medicine, [pubmed.ncbi.nlm.nih.gov/16669899/](http://pubmed.ncbi.nlm.nih.gov/16669899/).

51 Christopher.bayne. “UNOV.” *The United Nations Office on Drugs and Crime*, [www.unov.org/unov/en/unodc.html](http://www.unov.org/unov/en/unodc.html).



anyone that needs them. In 2017, the HHS declared the opioid crisis a public health emergency, and announced a 5-point strategy to combat the opioid crisis.<sup>52</sup>

## The American Society of Addiction Medicine (ASAM)

The American Society of Addiction Medicine (ASAM) is an organization which aims to address the addiction problem through advocacy, education, and treatment. In order to tackle the issue of addiction holistically, the organization has implemented a set of criteria in order to create a psychological assessment of an individual, so they can receive the best treatment possible. The criteria include 6 dimensions, and they are as follows: (1) withdrawal potential, (2) biomedical conditions and complications, (3) emotional, behavioral or cognitive conditions and complications, (4) readiness to change, (5) relapse, continued use, or continued problem potential, and (6) recovery or living environment. On the ASAM website, a user is encouraged to find a physician so as to communicate with and receive help from an expert, or to read articles created by physicians and approved by the latest findings in science.<sup>53</sup>

## Centers for Disease Control and Prevention (CDC)

The U.S. Centers for Disease Control and Prevention (CDC) is a federal agency mandated with protecting the health of Americans. It works by conducting research and acting as a first responder in crises or outbreaks, such as COVID-19.<sup>54</sup> On its website, there are numerous articles pertaining to the opioid crisis. They include statistics on the opioid crisis, extensive information, as well as resources to contact if someone is struggling with addiction.

<sup>52</sup> Assistant Secretary of Public Affairs (ASPA). “What Is the U.S. Opioid Epidemic?” *HHS.gov*, [https://plus.google.com/+HHS, www.hhs.gov/opioids/about-the-epidemic/index.html](https://plus.google.com/+HHS/www.hhs.gov/opioids/about-the-epidemic/index.html).

<sup>53</sup> “American Society of Addiction Medicine.” *ASAM Home Page*, [www.asam.org/asam-home-page](http://www.asam.org/asam-home-page).

<sup>54</sup> “What Does the CDC Do?” *Council on Foreign Relations*, Council on Foreign Relations, [www.cfr.org/backgrounder/what-does-cdc-do](http://www.cfr.org/backgrounder/what-does-cdc-do).



## Timeline of Events

3,400 BC	The opium poppy is first cultivated in lower Mesopotamia, which today is referred to as Southwest Asia.
1820	Illegal trade of opium by British traders grows dramatically, resulting in widespread opioid addiction in China.
1839	The Opium Wars begin in Guangzhou, China. 1839 marks the beginning of the first Opium Wars.
1842	The first Opium War comes to an end, resulting in the Treaty of Nanjing.
1856	The second Opium War takes place.
1860	The second Opium War ends after China signs the Beijing Convention.
1898	Heroin is first introduced for commercial distribution in the United States by the same company that produces Aspirin.
1924	The Anti-Heroin act in the United States bans the production and sale of heroin nationwide.
1961	Single Convention of Narcotic Drugs takes place.
1977	The United Nations Office on Drugs and Crime is established.
1971	Convention on Psychotropic Substances takes place.
1980	“Addiction Rare in Patients with Narcotics” is published in the New England Journal of



	Medicine. This was an exploratory article which became proof that narcotics were safe treatment for chronic pain.
1990	1990 marks a rise in prescription opioid overdose deaths, referred to as the first wave of the opioid epidemic in the US.
1995	OxyContin is introduced in the United States: “a longer acting iteration of oxycodone.” It is marketed as completely safe by pharmaceutical companies, such as Purdue Pharma. <sup>55</sup>
2010	2010 marks a rise in heroin overdose deaths, referred to as the second wave of the opioid epidemic in the US.
2011	A household survey is held in Iran, in which it was found that 1,325,000 people aged 15-65 years had used an illicit substance in the previous 12 months.
2013	2013 marks a rise in synthetic opioid overdose deaths, referred to as the third wave of the opioid epidemic in the US.
2017	President of the United States, Donald Trump, as well as the HHS, declare the opioid epidemic a national health crisis. <sup>56</sup>
2020	An anti-narcotics operation occurs in Myanmar, in which the largest quantity of synthetic drugs in the history of Southeast Asia is uncovered.

<sup>55</sup> “Timeline of the Opioid Crisis.” *Column Health*, [columnhealth.com/blog\\_posts/timeline-of-the-opioid-crisis/](https://columnhealth.com/blog_posts/timeline-of-the-opioid-crisis/).

<sup>56</sup> “Timeline of the Opioid Crisis.” *Column Health*, [columnhealth.com/blog\\_posts/timeline-of-the-opioid-crisis/](https://columnhealth.com/blog_posts/timeline-of-the-opioid-crisis/).



## Previous attempts to solve the issue

### HHS

After declaring the opioid crisis a public health emergency in 2017, the HHS has made tangible and multiple attempts to solve the issue. One example includes their 5-point strategy, which consists of the following points: improving access to treatment and recovery services; promoting use of overdose-reversing drugs; strengthening understanding of the opioid crisis through improved public health surveillance; providing support for cutting edge research on pain and addiction; and advancing better practices for pain management.<sup>57</sup> This strategy aims to empower local communities on the frontlines of the opioid epidemic. As a result, efforts to expand treatment are succeeding, seeing as 1.27 million Americans are receiving medication-assisted treatment, out of the approximate 2 million Americans suffering with opioid disorder.<sup>58</sup>

### ASAM

The American Society of Addiction Medicine (ASAM) has made efforts to solve the opioid crisis by publishing papers aiming to raise awareness to anyone that has access to their website. Furthermore, on their website, an opioid addiction treatment guide for patients, families, and friends has been published. It is a comprehensive guide which includes the definition of addiction, treatment overview, medication overview, and a set of questions for a patient to ask their clinician. This has been effective, since it has raised awareness on the matter of the opioid crisis and has helped thousands of Americans receive the adequate help they require to win the battle against opioid addiction.<sup>59</sup>

### CDC

<sup>57</sup> “Secretary Price Announces HHS Strategy for Fighting Opioid Crisis.” *HHS.gov*, 7 Mar. 2018, [www.hhs.gov/about/leadership/secretary/speeches/2017-speeches/secretary-price-announces-hhs-strategy-for-fighting-opioid-crisis/index.html](http://www.hhs.gov/about/leadership/secretary/speeches/2017-speeches/secretary-price-announces-hhs-strategy-for-fighting-opioid-crisis/index.html).

<sup>58</sup> U.S. Department of Health and Human Services. “Trump Administration Announces \$1.8 Billion in Funding to States to Continue Combating Opioid Crisis.” *HHS.gov*, US Department of Health and Human Services, 11 Sept. 2019, [www.hhs.gov/about/news/2019/09/04/trump-administration-announces-1-8-billion-funding-states-combating-opioid.html](http://www.hhs.gov/about/news/2019/09/04/trump-administration-announces-1-8-billion-funding-states-combating-opioid.html).

<sup>59</sup> “Opioid Addiction Treatment.” *Asam.org*, Opioid Addiction Treatment.



Efforts have been made by the Centers for Disease Control and Prevention (CDC) to tackle the opioid crisis. On their website, there is information regarding the three waves of the opioid crisis, which aims to educate the public. Furthermore, their website includes resources on topics such as opioid basics, overdose prevention, information for patients, information for providers, and state information. This has likely been effective, since it is a practical form of educating the public regarding the opioid crisis.<sup>60</sup>

## NHS

Apart from the efforts of US-based organizations, England's National Health Service (NHS) provides multiple resources, including guidance resources regarding efficient ways to receive treatment, on their website.<sup>61</sup> This has likely been deemed effective in raising awareness in the United Kingdom, since the NHS website includes statistics and hotlines relevant to the UK, which would be valuable resources for someone suffering with opioid or prescription drug addiction in the UK.

## Relevant UN Resolutions, Events, Treaties and Legislation

### World Health Organization (WHO)

The WHO provides an extensive information sheet on their website, which outlines key facts, risk factors, emergency responses, prevention, and recommendations in regards to opioid overdose.<sup>62</sup> Previous attempts to solve the issue have generally involved conventions, strategies highlighting key points which need to be addressed, and raising awareness on the issue.

### Single Convention on Narcotic Drugs of 1961

This convention was initiated by the United Nations. It is an international treaty which prohibits the production and supply of specific drugs, with the exceptions of drugs used for medical purposes. It aims to combat drug abuse via coordinated international action.<sup>63</sup>

<sup>60</sup> "Opioid Overdose." *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, 5 May 2020, [www.cdc.gov/drugoverdose/index.html](http://www.cdc.gov/drugoverdose/index.html).

<sup>61</sup> *NHS Choices*, NHS, [www.england.nhs.uk/south/info-professional/safe-use-of-controlled-drugs/opioids/](http://www.england.nhs.uk/south/info-professional/safe-use-of-controlled-drugs/opioids/).

<sup>62</sup> "Information Sheet on Opioid Overdose." *World Health Organization*, World Health Organization, 21 Aug. 2018, [www.who.int/substance\\_abuse/information-sheet/en/](http://www.who.int/substance_abuse/information-sheet/en/).

<sup>63</sup> "Single Convention on Narcotic Drugs." *United Nations : Office on Drugs and Crime*



## United Nations Convention against illicit traffic in narcotic drugs and psychotropic substances of 1988

This convention provides additional legal mechanisms for enforcing the 1961 Single Convention on Narcotic Drugs and the 1971 Convention on Psychotropic Substances. It also provides “comprehensive measures against drug trafficking, including provisions against money laundering and the diversion of precursor chemicals.”<sup>64</sup> Finally, it promotes international cooperation so as to tackle the issue of the rise of opioid and prescription drug addiction.

## Resolution 74/178- International cooperation to address and counter the world drug problem

This resolution adopted by the General Assembly of the United Nations, aims to holistically address and counter the world drug problem. It encompasses any possible problem regarding drugs and provides the reader with clever and tangible solutions, such as cooperation of Member States. It also stresses the importance of the reinforcement of international collaboration, conducting research and sharing scientific findings, raising awareness and educating the public, as well as recognizing drug dependence as a complex and multifaceted issue rather than a simple problem.

## Possible solutions

### Breaking the stigma of mental health awareness

When considering solutions for solving the issue of the rise of opioid and prescription drug addiction, it is essential to think of ways in which this problem can be tackled as holistically as possible. Since there is often a positive correlation between people that struggle with opioid addiction and people that may struggle with mental health issues, the first step in preventing addiction is addressing the mental health condition which may be present. This includes encouraging mental health discussions in schools or in the workplace, and raising awareness on mental health in order for it to become a less taboo topic. Furthermore, resources such as guidance counsellors in schools and utilizing a strong human resource department in the workplace are essential to ensuring that people remain mentally healthy, and have a certified expert available to them if needed.

### Opioid maintenance programs

<sup>64</sup> “Convention against the Illicit Traffic in Narcotic Drugs and Psychotropic Substances.” *United Nations : Office on Drugs and Crime*, [www.unodc.org/unodc/en/treaties/illicit-trafficking.html?ref=menuaside](http://www.unodc.org/unodc/en/treaties/illicit-trafficking.html?ref=menuaside).



If the aim is not to prevent but rather treat patients with opioid addiction, the importance of opioid maintenance programs should be emphasized. Unlike inpatient and outpatient programs which focus on psychotherapy and provide patients with medication, which can be expensive, affordable options may seem like a viable solution. However, affordable options have long waiting lists, and often require complete detoxification from opioids before beginning treatment, thus creating a withdrawal period for the patient, which may put an individual at risk of losing their job, due to the extreme side effects of withdrawal. Therefore, the most logical solution is an opioid maintenance program that is accessible to the majority in terms of pricing, in order to prevent a socioeconomic gap in opioid addiction treatment. This opioid maintenance program would aim to combat opioid addiction using a combination of medication and behavior therapy, which manages to avoid withdrawal symptoms and the psychoactive effects of painkillers. As a result, the patient would remain satisfied, and society would be safer, since former drug users would not have to undergo the painful and dangerous process of drug withdrawal.

### Naloxone

Naloxone, a drug that binds to opioid receptors but does not activate them, blocks other opioids from binding to these receptors and even knocks them off from receptors to prevent an overdose. The utilization of this drug is a promising solution for addressing opioid overdoses.

### Abuse-Deterrent Formulations (ADF)

Abuse-deterrent formulations utilize technologies that are designed to prevent the misuse and abuse of opioids. Large pharmaceutical companies that distribute opioid products to pharmacies, such as Big Pharma in the United States, should include ADF in every opioid prescription product, with the primary aim that no patient will misuse or abuse these substances. Legislation should be passed stating that pharmaceutical companies must include agonist or antagonist combinations in prescription drugs containing opioids, since this would counteract the drug effect from being released if the drug is misused by a patient. As a result, even if there was an attempt to misuse an opioid containing prescription drugs, overdose and addiction would be virtually impossible due to the presence of the agonist or antagonist substances.<sup>65</sup>

### Database for opioid containing prescription drugs

<sup>65</sup> National Institute on Drug Abuse. “How Can Prescription Drug Misuse Be Prevented?” *National Institute on Drug Abuse*, 3 June 2020, [www.drugabuse.gov/publications/research-reports/misuse-prescription-drugs/how-can-prescription-drug-misuse-be-prevented](http://www.drugabuse.gov/publications/research-reports/misuse-prescription-drugs/how-can-prescription-drug-misuse-be-prevented).



If other solutions fail, then the creation of a database for opioid containing prescription drugs is promising. This database would be used by doctors and pharmacists to ensure that a patient has not abused their prescription. On the database, the name of a patient that was prescribed an opioid-containing drug would be written, and a doctor would prescribe the drug online. Once the patient wishes to buy the medicine in a pharmacy, the pharmacist would then receive an online notification via the database, and the pharmacist would then have to cross the patient's name off the database. This would indicate that the patient has bought the quantity of medicine necessary, according to his or her doctor, and therefore the risk of excessively buying an opioid-containing product will decrease drastically. For this measure to work, legislation must be passed stating that all pharmacists and doctors must utilize this database, so as to lessen opioid and prescription drug addiction.

#### Keeping individuals and countries safe

On a global scale, there needs to be a focus on keeping individuals as well as communities and countries safe, without encouraging the rise of a black market. For this reason, it is paramount that delegates consider reliable solutions that will tackle the public health dilemma, address and solve the issue of opioid and prescription drug addiction, yet still provide patients with painkiller medication when needed.



## Bibliography

TEDEducation, director. *What Causes Opioid Addiction, and Why Is It so Tough to Combat?* - Mike Davis. YouTube, YouTube, 7 May 2020, [www.youtube.com/watch?v=V0CdS128-q4](https://www.youtube.com/watch?v=V0CdS128-q4).

“Opioid Addiction 2016 Facts & Figures.” Asam.org, [www.asam.org/docs/default-source/advocacy/opioid-addiction-disease-facts-figures.pdf](https://www.asam.org/docs/default-source/advocacy/opioid-addiction-disease-facts-figures.pdf).



“Opioid Epidemic.” *Wikipedia*, Wikimedia Foundation, 22 June 2020, [en.wikipedia.org/wiki/Opioid\\_epidemic](https://en.wikipedia.org/wiki/Opioid_epidemic).

TEDEducation, director. *What Causes Opioid Addiction, and Why Is It so Tough to Combat? - Mike Davis*. YouTube, YouTube, 7 May 2020, [www.youtube.com/watch?v=V0CdS128-q4](https://www.youtube.com/watch?v=V0CdS128-q4).

“Withdrawal Management.” *Clinical Guidelines for Withdrawal Management and Treatment of Drug Dependence in Closed Settings.*, U.S. National Library of Medicine, 1 Jan. 1970, [www.ncbi.nlm.nih.gov/books/NBK310652/](https://www.ncbi.nlm.nih.gov/books/NBK310652/).

*NHS Choices*, NHS, [www.england.nhs.uk/south/info-professional/safe-use-of-controlled-drugs/opioids/](https://www.england.nhs.uk/south/info-professional/safe-use-of-controlled-drugs/opioids/).

“President Donald J. Trump's Initiative to Stop Opioid Abuse and Reduce Drug Supply and Demand.” *The White House*, The United States Government, [www.whitehouse.gov/briefings-statements/president-donald-j-trumps-initiative-stop-opioid-abuse-reduce-drug-supply-demand/](https://www.whitehouse.gov/briefings-statements/president-donald-j-trumps-initiative-stop-opioid-abuse-reduce-drug-supply-demand/).

“The Full Cost of the Opioid Crisis: \$2.5 Trillion Over Four Years.” *The White House*, The United States Government, 30 Oct. 2019, [www.whitehouse.gov/articles/full-cost-opioid-crisis-2-5-trillion-four-years/](https://www.whitehouse.gov/articles/full-cost-opioid-crisis-2-5-trillion-four-years/).

“Epidemic: Definition of Epidemic by Oxford Dictionary on Lexico.com Also Meaning of Epidemic.” *Lexico Dictionaries | English*, Lexico Dictionaries, [www.lexico.com/en/definition/epidemic](https://www.lexico.com/en/definition/epidemic).

“Opiate.” *Wikipedia*, Wikimedia Foundation, 21 June 2020, [en.wikipedia.org/wiki/Opiate](https://en.wikipedia.org/wiki/Opiate).

National Institute on Drug Abuse. “Opioids.” *National Institute on Drug Abuse*, 11 June 2020, [www.drugabuse.gov/drug-topics/opioids](https://www.drugabuse.gov/drug-topics/opioids).

“Illicit.” *Merriam-Webster*, Merriam-Webster, [www.merriam-webster.com/dictionary/illicit](https://www.merriam-webster.com/dictionary/illicit).

“Licit: Definition of Licit by Oxford Dictionary on Lexico.com Also Meaning of Licit.” *Lexico Dictionaries | English*, Lexico Dictionaries, [www.lexico.com/en/definition/licit](https://www.lexico.com/en/definition/licit).

“Endorphins: Effects and How to Boost Them.” *Medical News Today*, MediLexicon International, [www.medicalnewstoday.com/articles/320839](https://www.medicalnewstoday.com/articles/320839).

*Opioid Use Disorder*, [www.psychiatry.org/patients-families/addiction/opioid-use-disorder/opioid-use-disorder](https://www.psychiatry.org/patients-families/addiction/opioid-use-disorder/opioid-use-disorder).

“Tramadol : Uses, Side Effects, Dosage, Warnings.” *Drugs.com*, [www.drugs.com/tramadol.html](https://www.drugs.com/tramadol.html).

Pletcher, Kenneth. “Opium Wars.” *Encyclopædia Britannica*, Encyclopædia Britannica, Inc., 5 Feb. 2020, [www.britannica.com/topic/Opium-Wars](https://www.britannica.com/topic/Opium-Wars).

“Timeline of the Opioid Crisis.” *Column Health*, [columnhealth.com/blog\\_posts/timeline-of-the-opioid-crisis/](https://columnhealth.com/blog_posts/timeline-of-the-opioid-crisis/).

Micale, Jennifer. “Civil War on Drugs: Doctoral Candidate Explores the Nation's First Opioid Epidemic - Binghamton News.” *News - Binghamton University*, 4 May 2020, [www.binghamton.edu/news/story/2405/civil-war-on-drugs-doctoral-candidate-explores-the-nations-first-opioid-epidemic](https://www.binghamton.edu/news/story/2405/civil-war-on-drugs-doctoral-candidate-explores-the-nations-first-opioid-epidemic).



“An Inside Look at the Opioid Epidemic: Three Waves Analysis.” *ATSI Rehab*, [atsirehab.com/2019/11/an-inside-look-at-the-opioid-epidemic-3-waves-analysis/](https://atsirehab.com/2019/11/an-inside-look-at-the-opioid-epidemic-3-waves-analysis/).

“Understanding the Epidemic.” *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, 19 Mar. 2020, [www.cdc.gov/drugoverdose/epidemic/index.html](https://www.cdc.gov/drugoverdose/epidemic/index.html).

“Understanding the Epidemic.” *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, 19 Mar. 2020, [www.cdc.gov/drugoverdose/epidemic/index.html](https://www.cdc.gov/drugoverdose/epidemic/index.html).

“Opioid Data Analysis and Resources.” *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, 19 Mar. 2020, [www.cdc.gov/drugoverdose/data/analysis.html](https://www.cdc.gov/drugoverdose/data/analysis.html).

TEEducation, director. *What Causes Opioid Addiction, and Why Is It so Tough to Combat?* - Mike Davis. YouTube, YouTube, 7 May 2020, [www.youtube.com/watch?v=V0CdS128-q4](https://www.youtube.com/watch?v=V0CdS128-q4).

“Far from U.S. Epidemic, 'the Other Opioid Crisis' Rages in Vulnerable Countries.” *Los Angeles Times*, Los Angeles Times, 13 Dec. 2019, [www.latimes.com/world-nation/story/2019-12-13/safer-opioid-has-sparked-a-crisis-in-vulnerable-countries](https://www.latimes.com/world-nation/story/2019-12-13/safer-opioid-has-sparked-a-crisis-in-vulnerable-countries).

Sylvester.ater. “United Nations Office on Drugs and Crime.” *Key Findings of UNODC Study on Tramadol Trafficking in West Africa Discussed at Regional Meeting*, [www.unodc.org/nigeria/en/key-findings-of-unodc-study-on-tramadol-trafficking-in-west-africa-discussed-at-regional-meeting.html](https://www.unodc.org/nigeria/en/key-findings-of-unodc-study-on-tramadol-trafficking-in-west-africa-discussed-at-regional-meeting.html).

Al Jazeera. “West Africa's Opioid Crisis.” *Africa | Al Jazeera*, Al Jazeera, 29 Aug. 2019, [www.aljazeera.com/programmes/peopleandpower/2019/08/west-africa-opioid-crisis-190827135612104.html](https://www.aljazeera.com/programmes/peopleandpower/2019/08/west-africa-opioid-crisis-190827135612104.html).

Elhabiby, Dr. Mahmoud. “NON-MEDICAL USE OF TRAMADOL IN EGYPT.” *Who.int*, [www.who.int/medicines/news/2018/8Egypt.pdf?ua=1](https://www.who.int/medicines/news/2018/8Egypt.pdf?ua=1).

Assistant Secretary of Public Affairs (ASPA). “What Is the U.S. Opioid Epidemic?” *HHS.gov*, <https://plus.google.com/+HHS>, [www.hhs.gov/opioids/about-the-epidemic/index.html](https://www.hhs.gov/opioids/about-the-epidemic/index.html).

“Medicines and Healthcare Products Regulatory Agency.” *GOV.UK*, [www.gov.uk/government/organisations/medicines-and-healthcare-products-regulatory-agency](https://www.gov.uk/government/organisations/medicines-and-healthcare-products-regulatory-agency).

*NHS Choices*, NHS, [www.england.nhs.uk/south/info-professional/safe-use-of-controlled-drugs/opioids/](https://www.england.nhs.uk/south/info-professional/safe-use-of-controlled-drugs/opioids/).

“Mexico's Role in the Deadly Rise of Fentanyl.” *Wilson Center*, [www.wilsoncenter.org/publication/mexicos-role-the-deadly-rise-fentanyl](https://www.wilsoncenter.org/publication/mexicos-role-the-deadly-rise-fentanyl).

“The Hidden Opioid Crisis.” *Healthpovertyaction.org*, John Campbell, [www.healthpovertyaction.org/wp-content/uploads/2019/02/India-opioid-crisis-briefing-WEB.pdf](https://www.healthpovertyaction.org/wp-content/uploads/2019/02/India-opioid-crisis-briefing-WEB.pdf).

“Opium in Iran.” *Wikipedia*, Wikimedia Foundation, 11 May 2019, [en.wikipedia.org/wiki/Opium\\_in\\_Iran](https://en.wikipedia.org/wiki/Opium_in_Iran).

Ghane, Talat, et al. “Lead Poisoning Outbreak among Opium Users in the Islamic Republic of Iran, 2016–2017.” *Who.int*, [www.who.int/bulletin/volumes/96/3/17-196287.pdf?ua=1](https://www.who.int/bulletin/volumes/96/3/17-196287.pdf?ua=1).

“The Afghan Opiate Trade Project (AOTP).” *United Nations : Office on Drugs and Crime*, [www.unodc.org/unodc/en/data-and-analysis/aotp.html](https://www.unodc.org/unodc/en/data-and-analysis/aotp.html).



Gagné-Acoulon, Sandrine. "Biggest Ever Asian Synthetic Drug Seizure in Myanmar." *OCCRP*, [www.occrp.org/en/daily/12378-biggest-ever-asian-synthetic-drug-seizure-in-myanmar](http://www.occrp.org/en/daily/12378-biggest-ever-asian-synthetic-drug-seizure-in-myanmar).

National Institute on Drug Abuse. "Myanmar's Efforts To Eradicate Narcotic Drugs." *National Institute on Drug Abuse*, 23 Nov. 2019, [www.drugabuse.gov/international/abstracts/myanmars-efforts-to-eradicate-narcotic-drugs](http://www.drugabuse.gov/international/abstracts/myanmars-efforts-to-eradicate-narcotic-drugs).

Christopher.bayne. "UNOV." *The United Nations Office on Drugs and Crime*, [www.unov.org/unov/en/unodc.html](http://www.unov.org/unov/en/unodc.html).

Assistant Secretary of Public Affairs (ASPA). "What Is the U.S. Opioid Epidemic?" *HHS.gov*, <https://plus.google.com/+HHS>, [www.hhs.gov/opioids/about-the-epidemic/index.html](http://www.hhs.gov/opioids/about-the-epidemic/index.html).

"Timeline of the Opioid Crisis." *Column Health*, [columnhealth.com/blog\\_posts/timeline-of-the-opioid-crisis/](http://columnhealth.com/blog_posts/timeline-of-the-opioid-crisis/).

"Single Convention on Narcotic Drugs." *United Nations : Office on Drugs and Crime*, [www.unodc.org/unodc/en/treaties/single-convention.html](http://www.unodc.org/unodc/en/treaties/single-convention.html).

"Convention on Psychotropic Substances." *Wikipedia*, Wikimedia Foundation, 29 Apr. 2020, [en.wikipedia.org/wiki/Convention\\_on\\_Psychotropic\\_Substances](https://en.wikipedia.org/wiki/Convention_on_Psychotropic_Substances).

"Secretary Price Announces HHS Strategy for Fighting Opioid Crisis." *HHS.gov*, 7 Mar. 2018, [www.hhs.gov/about/leadership/secretary/speeches/2017-speeches/secretary-price-announces-hhs-strategy-for-fighting-opioid-crisis/index.html](http://www.hhs.gov/about/leadership/secretary/speeches/2017-speeches/secretary-price-announces-hhs-strategy-for-fighting-opioid-crisis/index.html).

*NHS Choices*, NHS, [www.england.nhs.uk/south/info-professional/safe-use-of-controlled-drugs/opioids/](http://www.england.nhs.uk/south/info-professional/safe-use-of-controlled-drugs/opioids/).

"Information Sheet on Opioid Overdose." *World Health Organization*, World Health Organization, 21 Aug. 2018, [www.who.int/substance\\_abuse/information-sheet/en/](http://www.who.int/substance_abuse/information-sheet/en/).

"Convention against the Illicit Traffic in Narcotic Drugs and Psychotropic Substances." *United Nations : Office on Drugs and Crime*, [www.unodc.org/unodc/en/treaties/illicit-trafficking.html?ref=menuaside](http://www.unodc.org/unodc/en/treaties/illicit-trafficking.html?ref=menuaside).

"Resolution 55/7." *Unodc.org*, [www.unodc.org/documents/commissions/CND/Drug\\_Resolutions/2010-2019/2012/CND\\_Res-55-7.pdf](http://www.unodc.org/documents/commissions/CND/Drug_Resolutions/2010-2019/2012/CND_Res-55-7.pdf).

"Opioid Overdose: Preventing and Reducing Opioid Overdose Mortality." *World Health Organization*, World Health Organization, 27 May 2014, [www.who.int/hiv/pub/idu/opioid\\_overdose/en/](http://www.who.int/hiv/pub/idu/opioid_overdose/en/).

"Timeline of the Opioid Crisis." *Column Health*, [columnhealth.com/blog\\_posts/timeline-of-the-opioid-crisis/](http://columnhealth.com/blog_posts/timeline-of-the-opioid-crisis/).

Butanis, Benjamin. *Signs of Opioid Abuse*, 27 Aug. 2018, [www.hopkinsmedicine.org/opioids/signs-of-opioid-abuse.html](http://www.hopkinsmedicine.org/opioids/signs-of-opioid-abuse.html).

"Vital Signs: Demographic and Substance Use Trends Among Heroin Users - United States, 2002–2013." *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, [www.cdc.gov/mmwr/preview/mmwrhtml/mm6426a3.htm?s\\_cid=mm6426a3\\_w](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6426a3.htm?s_cid=mm6426a3_w).

"Fentanyl." *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, 19 Mar. 2020, [www.cdc.gov/drugoverdose/opioids/fentanyl.html](http://www.cdc.gov/drugoverdose/opioids/fentanyl.html).



JF;, Tang YL;Zhao D;Zhao C;Cubells. “Opiate Addiction in China: Current Situation and Treatments.” *Addiction (Abingdon, England)*, U.S. National Library of Medicine, pubmed.ncbi.nlm.nih.gov/16669899/.

Goodman-Meza, David, et al. “Where Is the Opioid Use Epidemic in Mexico? A Cautionary Tale for Policymakers South of the US-Mexico Border.” *American Journal of Public Health*, American Public Health Association, Jan. 2019, [www.ncbi.nlm.nih.gov/pmc/articles/PMC6301408/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC6301408/).

“American Society of Addiction Medicine.” *ASAM Home Page*, [www.asam.org/asam-home-page](http://www.asam.org/asam-home-page).

“What Does the CDC Do?” *Council on Foreign Relations*, Council on Foreign Relations, [www.cfr.org/backgrounder/what-does-cdc-do](http://www.cfr.org/backgrounder/what-does-cdc-do).

“Indian Health Service (IHS).” *Opioids*, [www.ihs.gov/opioids/](http://www.ihs.gov/opioids/).

National Institute on Drug Abuse. “How Can Prescription Drug Misuse Be Prevented?” *National Institute on Drug Abuse*, 3 June 2020, [www.drugabuse.gov/publications/research-reports/misuse-prescription-drugs/how-can-prescription-drug-misuse-be-prevented](http://www.drugabuse.gov/publications/research-reports/misuse-prescription-drugs/how-can-prescription-drug-misuse-be-prevented)

