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Fentanyl in the Global Market:
Examining the New Opioid Epidemic at an International Level

A Thesis
Presented to
The Faculty and the Honors Program
Of the University of San Diego

By
Katherine Rejer
International Relations & Business Administration
2022

Abstract:

Drug use and subsequent addiction is a major global health concern that transcends culture, borders, and generations. The production of synthetic opioids, particularly fentanyl, has exacerbated the worldwide opioid epidemic that is endangering public health, economic output, and national security. The ease of manufacture of synthetic opioids facilitates clandestine production and trafficking, while their higher potency leads to higher rates of overdose. This research seeks to analyze the dramatic increase in opioid overdoses around the world and explain the transnational variation of the epidemic. In particular, this study aims to compare the epidemic in the U.S and Estonia in contrast to Mexico and Poland. Although the causes of addiction epidemics are complex, this research argues that at least one reason for the increase in deaths from opioid overdoses is the availability and affordability of opioids in certain countries has generated an opioid epidemic, wherein the inelastic demand has been exploited and exacerbated by criminals providing a dangerous supply of synthetic alternatives. While demand cannot be solved without eliminating addiction, the severity of fatalities can be mitigated by increasing access to naloxone, providing rehabilitation services, and increasing educational resources on the dangers of drugs.

Literature Review:

Often overlapping in certain aspects, various schools of thought emphasize different aspects of politics and markets to explain drug use and abuse across centuries. Most analyses of the fentanyl epidemic focus on understanding drug addiction at the individual and state level. International dimensions of the epidemic focus on global players contributing to the epidemic in terms of supply and transport, but the literature is missing a comparative case that analyzes the drastic increase of opioid overdose deaths in some countries, and lack thereof in others.

From an economic perspective, fentanyl revolutionizes the illicit drug market. Reuter, Pardo, and Taylor examine the consequences of synthetic opioids replacing heroin. Forecasting a future dominated by fentanyl, they conclude that heroin traffickers will lose significant revenues, while retailer revenues will rise. Consequently, heroin's market share of illegal opioids will decline.¹

At the state level, fentanyl accounts for the current wave of opioid overdoses in the US.. Felter gives background on the U.S. opioid epidemic and its impact on public health and national security. The crisis is becoming increasingly severe, and has negative impacts on public health, the economy, and national security by increasing the death rate, contributing to a declining labor force, and funding violent drug cartels.² Ciccarone examines the impact of fentanyl in the US heroin supply. His research concludes that fentanyl adulteration is likely to become the new norm, highlighting the importance of toxicological surveillance, harm-reduction interventions, and supervised injection programs.³

At the international level, there are many players contributing to the opioid crisis, Felbab-Brown explains China's critical role as a producer of synthetic drugs. Her report explains how despite China's imposition of fentanyl regulations, enforcement measures have failed and China remains the principal source of synthetic opioids.⁴ Humphreys, Caulkins, and Felbab-Brown offer recommendations for preventing the opioid epidemic from taking place in other countries. They suggest opioid policies spend more on addiction treatment, develop stringent regulations,

¹ Reuter, Peter, et al. "Imagining a Fentanyl Future: Some Consequences of Synthetic Opioids Replacing Heroin." *International Journal of Drug Policy*, vol. 94, Aug. 2021, p. N.PAG. EBSCOhost,

² Felter, Claire. 2021. "The U.S. Opioid Epidemic". Council on Foreign Relations.

³ Ciccarone, "Fenatnyl in the US heroin supply: A rapidly changing risk environment". *International Journal of Drug Policy*, Volume 46. 2017

⁴ Felbab-Brown, Vanda. 2022. "China and synthetic drugs: Geopolitics trumps counternarcotics cooperation". *Brookings*.

and provide health and social services. The new dangers presented by synthetic opioids necessitate the need for international cooperation to prevent a global pandemic.⁵

Mapping the geopolitical implications of synthetic opioids is still in its infancy. Specifically, the literature is missing a reason for comparing opioid epidemics internationally. While there is moderate drug use in all countries, there are significant differences in the explanatory narrative of drug use and the extent of addiction within each country. Understanding this connection is critical to protecting global health within the international community, particularly in the context of innovation, globalization, and changing illicit markets.

Methodology

This analysis is based on comparative case studies that describe the causal links of an emerging phenomenon and its relevance to the world order. The U.S. and Estonia are selected to compare the development of a fentanyl epidemic, while Mexico and Poland serve as contrasting cases where fentanyl failed to take root. This research draws on existing literature regarding the development of drug epidemics, reports on the current drug situation, and statistics relating to drug use and abuse. These academic articles, journals, and databases were identified through academic search engines and cross-referencing of bibliographies.

Hypothesis:

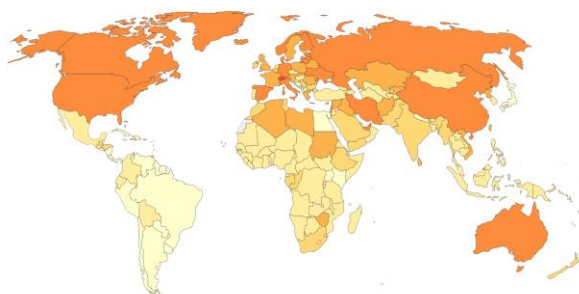
In any given market, the flooding of opiates increases the affordability and availability of these drugs; these low barriers prompt initial use of opiates, which, due to opioids' highly addictive nature, evolves into an opioid dependence epidemic. The addiction and demand for

⁵ Humphreys, Keith, Jonathan P. Caulkins, and Vanda Felbab-Brown. "Opioids of the Masses: Stopping an American Epidemic From Going Global." *Foreign Affairs* 97, no. 3 (2018): 118–29. <http://www.jstor.org/stable/44822149>.

narcotics is exploited by cartels, supplying cheaper and more powerful alternatives through the illicit production and distribution of synthetic opioids, whose dangerous strength leads to an increase in opioid overdose fatalities. In the US and Estonia, the abundance of pharmaceutical opiates supplied by the pharmaceutical industry and heroin supplied by the Taliban, respectively, created an opioid epidemic that served as fertile ground for drug trafficking and the integration of fentanyl. On the other hand, in Mexico and Poland, despite their position as transit countries along drug trafficking routes, the inaccessibility of narcotic drugs meant less use, less addiction, and a smaller market for drug traffickers to distribute synthetic opioids.

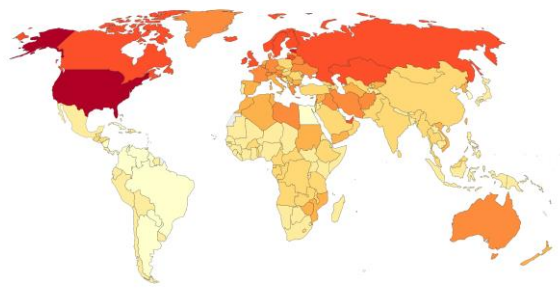
Death rate from opioid overdoses, 1990

Death rates from opioid use disorders are measured as the number of deaths per 100,000 individuals.



Death rate from opioid overdoses, 2019

Death rates from opioid use disorders are measured as the number of deaths per 100,000 individuals.



Fentanyl:

Innovation has changed the landscape of both supply and demand of the illicit opioid market, which has evolved from raw poppy material to synthetic chemicals. Opioids have gone through numerous evolutions in the pursuit of pain relief, pleasure, and profit. From the Opium Wars in China to the abuse of prescription opioids, the prevalence of opioids has touched nearly every country. Despite the multiple instances of inescapable dependency, there exists a belief that some form of opiate can be used to heal without creating addiction. Accordingly, the pharmaceutical and chemical industry have poured endless resources into researching and developing new forms of opiates with the use of synthetic precursors. Most notably, fentanyl is

50 times more potent than heroin, and has caused opioid overdoses to increase around the world.⁶

Fentanyl's analgesic effects of relaxation and euphoria have proved attractive for non-pharmaceutical use. Fentanyl appears on the market in two different ways: either laced into other drugs or as an alternative to pharmaceutical opioids or heroin. Many individuals are under the impression that fentanyl is too strong to be considered a replacement drug for oxycodone or heroin and is therefore laced in heroin, cocaine, or counterfeit drugs to boost the potency and increase the likelihood of addiction. However, fentanyl is being increasingly used as a substitute for heroin for addicts, such as Mr. Bejarano, who confirms, "Heroin no longer gets me high and [fentanyl] is much stronger and cheaper. Fentanyl is pure rush and that's what we look for."⁷ It is important to note that fentanyl's extreme potency increases the number of deaths among users, but not necessarily the number of users. While the severity of the epidemic has worsened, the reach of the epidemic has not necessarily expanded.

Synthetic opioids were co-opted from their pharmaceutical purpose to strengthen the drug trafficking industry and have changed the landscape of illicit drug supply. Fentanyl originates in China, where the unregulated chemical and pharmaceutical industries provide opportunities for illicit production and distribution. China manufactures both the fentanyl precursors that are exported for further manufacture, as well as finished products in the form of pills or powder, simultaneously serving as an upstream provider and direct supplier. These can be ordered from anywhere via the darknet and transported everywhere via postal services such as USPS, creating distance between the producer and consumer.⁸ The regulation of fentanyl has served as a key

⁶ Felter, Claire. 2021. "The U.S. Opioid Epidemic". *Council on Foreign Relations*.

⁷ Webber, Jude. 2021. "Mexican drug cartels see big profits in fentanyl". *Financial Times*.

⁸ Ho, Jessica Y. "The Contemporary American Drug Overdose Epidemic in International Perspective." *Population & Development Review* 45, no. 1 (March 2019): 7–40. doi:10.1111/padr.12228.

provision in diplomatic agreements, yet the Chinese ban on fentanyl production in 2019 did little to stem the flows, as China lacks adequate enforcement measures and vendors have discovered ways to circumvent these regulations. New strategies include employing online networks that allow for the marketing of illicit substances as ‘products for research chemicals’, establishing sophisticated shipping methods that prevent screening detection, and disguising synthetic opioids within lawful bulk cargo. Moreover, shifting production from finished opioids to precursors helps conceal clandestine production.⁹

Beyond China, synthetic opioids provide larger profit margins to drug trafficking at all levels. Former Chief of International Operations for the US DEA, Mike Vigil, claims that for cartels, “the biggest profits now come from methamphetamines and fentanyl”.¹⁰ Synthetic opioids can be produced without cultivating opium poppies, which eliminates the overhead costs of land, farming, and labor. The increased potency-to-weight ratio of fentanyl and its analogues mean that higher volumes can be smuggled with greater ease across borders. In addition, risk management incorporates changing weather conditions, regulation of cultivation, and seizures relating to opium poppy. Rather than trying to hide illegal farms of poppies, precursors can be sourced from China and developed in clandestine laboratories. Overall, production of synthetic opioids is cheaper, easier, and produces higher yields, which makes them attractive products for drug trafficking organizations.¹¹

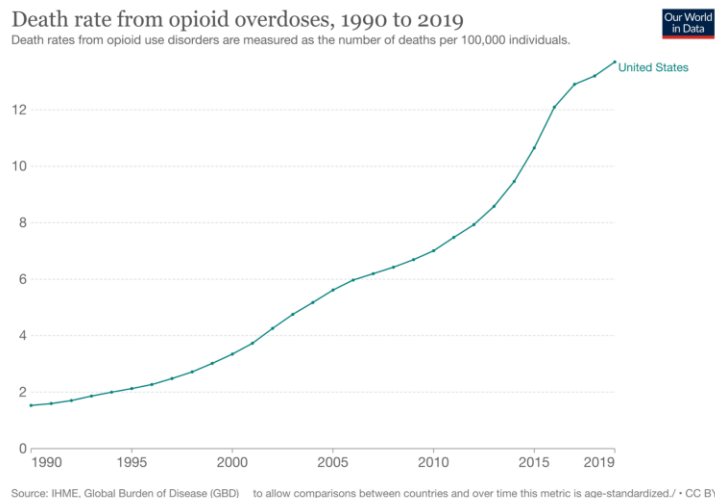
Market in the United States

⁹ Feng, Emily. 2020. ‘We are Shipping to the U.S.’: Inside China’s Online Synthetic Drug Networks. *National Public Radio*. September 17, 2020.

¹⁰ Webber, Jude. 2021. “Mexican drug cartels see big profits in fentanyl”. *Financial Times*.

¹¹ Pardo, Bryce. Taylor, Jirka, Caulkins, Jonathan P. Kilmer, Beau. Reuter, Peter. Stein, Bradley D.

The opioid epidemic in the U.S. is the worst in the world and the death rate has increased from 1.53 deaths per 100,000 people in 1990 to 13.69 deaths per 100,000 people in 2019. The U.S. has the biggest drug problem in the world, and this is true across all drugs. However, opioid use poses the biggest threat; in comparison, there were 1.27 deaths per 100,000 people from amphetamine overdoses and 2.31 deaths per 100,000 people from cocaine overdoses.¹²



Drug use in America is hardly a new phenomenon, but has plagued the country for centuries. During the Civil War, soldiers' army injuries were treated with opium and heroin. Opioids were easily accessible, physicians and department stores were equipped with hypodermic syringes, and the country saw a proliferation of opioid habits among Civil War veterans.¹³ During the Vietnam War, 20% of soldiers developed opioid dependence after being exposed to strong heroin. Upon returning home, veterans did not show signs of opioid dependence, but switched to other drugs that were more available.¹⁴ Thus, drug use shows the

¹² Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2019 (GBD 2019) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2021.

¹³ Little, Becky. "How Civil War Medicine Led to America's First Opioid Crisis". History.

¹⁴ Lee N. Robins, Darlene H. Davis, Donald W. Goodwin, Drug Use By U.S. Army Enlisted Men In Vietnam: A Follow-Up On Their Return Home, American Journal of Epidemiology, Volume 99, Issue 4, April 1974, Pages 235–249,

same patterns throughout history, but the latest iteration of the opioid epidemic is distinct in the severity and prevalence that has heightened highs from use, profits from trafficking, and deaths from overdoses.

In the United States, the pharmaceutical industry flooded markets with prescription opioids to maximize profit. In the 1890s, Bayer embarked on the never-ending challenge of relieving pain and brought Aspirin to the market. Although the Aspirin was both successful and profitable, it wasn't enough, and scientists turned to the next progression: heroin.¹⁵ Heroin was synthesized and sold for cheap in the form of lozenges, salts, and pastilles to cure the coughs caused by tuberculosis and pneumonia.¹⁶ A century later, in the 1990s, Purdue Pharma, created a parallel situation by promoting strong opioids as medication. Oxycodone and hydrocodone, otherwise referred to by their brand names, Oxycontin and Vicodin, respectively, were easily accessible for free through friends or family or from a legally prescribed prescription. Big Pharma launched aggressive marketing campaigns and tactics that positioned painkillers as healthy and beneficial, clouded the addictive nature of these drugs, and incentivized doctors to prescribe opioids in place of physical therapy for fast and effective relief.¹⁷ The former U.S. Surgeon General in the U.S. Department of Health and Human Service, Vivek H. Murthy explains, "Opioids appeared on the scene almost as a panacea, and so what you saw was a combination of that lack of training and education to clinicians combined with this increased emphasis on treating pain aggressively".¹⁸ The overprescription of pharmaceutical medications and lure of immediate pain-relief created the situation in which the slightest pain was

¹⁵ McCauley, Kevin. 2017. "Advertising Forged Success of Bayer's Heroin Remedy. O'Dwyer Company.

¹⁶ "From cough medicine to deadly addiction, a century of heroin and drug-abuse policy". 1999. Yale School of Medicine.

¹⁷ Felter, Claire. 2021. "The U.S. Opioid Epidemic". *Council on Foreign Relations*.

¹⁸ Dentzer, Susan. Vivek H. Murthy, Susan Sherman, Alan G. White. "Understanding the Opioid Epidemic. *Council on Foreign Relations*.

immediately treated with disproportionately strong narcotics. Given that price and obstacles to obtaining prescription drugs were minimal, strong opioids were easily accessible, and both patients and nonpatients took opioids without restraint and became dependent on the analgesic effects.

When the government realized the severity of the opioid epidemic and stepped in to restrain the lethal pharmaceutical practices, the decreased availability of prescription opioids, but inelastic demands of opioid addiction, created a market opportunity for crime and illicit drug trafficking. Once their prescriptions ran out, users turned to drug dealers or illegitimate doctors. When opioids became unaffordable, addicts turned to heroin, which was most often cheaper, but more fatal. The turn to heroin represented the ‘second’ wave of the opioid epidemic as more and more people were unable to escape the throes of addiction. Synthetic opioids, such as fentanyl, now represent the ‘third’ wave as they are even cheaper and easier to access than heroin.

Supply to the United States

U.S. markets are primarily supplied by China through the darknet and Mexico through cartels.



Mexican drug cartels took advantage of the large drug market and established effective systems of production and elaborate trafficking distribution networks. Large and powerful cartels, most notably the Jalisco New Generation Cartel and, to a lesser extent, the Sinaloa

Cartel, have come to dominate narco-trafficking and create lucrative enterprises. These cartels smuggle drugs into the U.S. through corridors along the Southwest Border in Tijuana, Juarez, and Nuevo Laredo. Mexican cartels entered the heroin markets, organized opium poppy cultivation and heroin processing centers, and were able to supply black tar and brown powder heroin to areas west of the Mississippi River, and white powder heroin to areas east of the Mississippi River.¹⁹ With customers already dependent on opioids, drug traffickers had steady demand and were able to maximize revenues by controlling the process from production through distribution.²⁰ Later, the sizable profit margin from the manufacture of fentanyl provides strong economic incentive for criminal organizations and drug manufacturers to shift from heroin to synthetic opioids.²¹

Office of Field Operations Nationwide Drug Seizures

Numbers below reflect FY 2015 - FY 2021 to date (TD).

Fiscal Year 2021 runs October 01, 2020 - September 30, 2021.

	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
Cocaine	38,346	52,838	62,415	51,592	89,485	42,645
Heroin	6,023	4,224	3,398	5,205	5,417	5,222
Marijuana	602,821	516,122	366,627	299,419	289,517	324,973
Methamphetamine ⁵	25,495	33,086	46,247	57,440	127,497	156,901
Fentanyl	70	596	1,875	1,895	2,575	3,967

*weights are in pounds (lb)

The larger profit margin incentivized cartels to shift production and distribution to synthetic drugs, as demonstrated through the increase in seizures of fentanyl from FY 2015 - FY

¹⁹ “United States: Areas of Influence of Major Mexican Transnational Criminal Organizations”, 2015. DEA Intelligence Report.

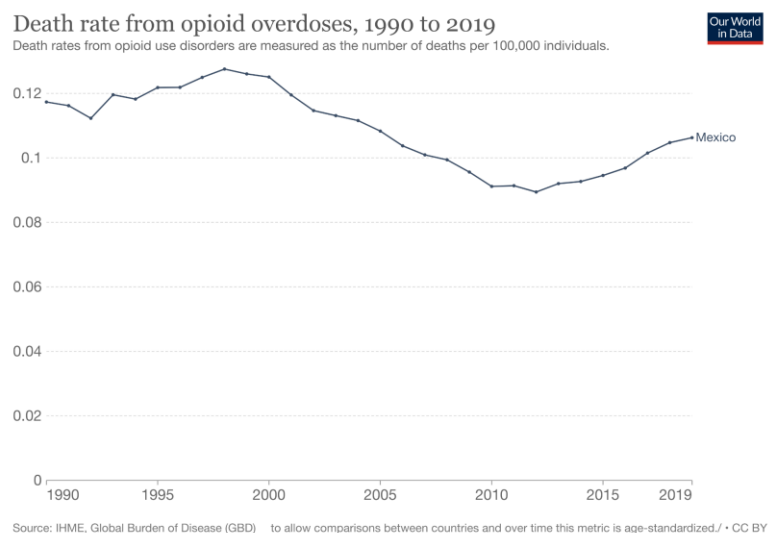
²⁰ Perkins, Kevin L. and Anthony P. Placido. “Testimony: Drug Trafficking Violence in Mexico: Implications for the United States”. The Federal Bureau of Investigation.

²¹ Felbab-Brown, Vanda. 2022. “China and synthetic drugs: Geopolitics trumps counternarcotics cooperation”. *Brookings*.

2020. The increase in narcotics supply makes drugs more accessible, reinforces the inelastic demand of addiction, and perpetuates profit opportunity.

Market in Mexico

In Mexico, the opioid epidemic stayed mostly stable, with 0.12 deaths from opioid overdoses per 100,000 people in 1990 to 0.11 deaths per 100,000 people in 2019. In comparison, deaths from amphetamine overdoses have not changed significantly from 0.03 deaths in 1990 to 0.04 in 2019, and deaths from cocaine overdoses are similarly unchanged from 0.20 deaths in 1990 to 0.21 in 2019.²²



Drug abuse is not so much of a problem as alcohol abuse is, despite the high number of Mexican cartels producing and trafficking narcotics northwards. Unlike in the United States, there was no specific phenomenon or explicit exposure to create a unique opioid epidemic. Rather, alcohol, being much more accessible and affordable, is the substance of choice. Thus, opioid use rates are moderate and comparable to the global average. Drug trafficking originally

²² Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2019 (GBD 2019) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2021.

emerged to supply the U.S. market, so supplying to Mexico is unnecessary. As a whole, there was no impetus to generate an epidemic of addiction, so cartels focus efforts in America where there are much better profit opportunities.

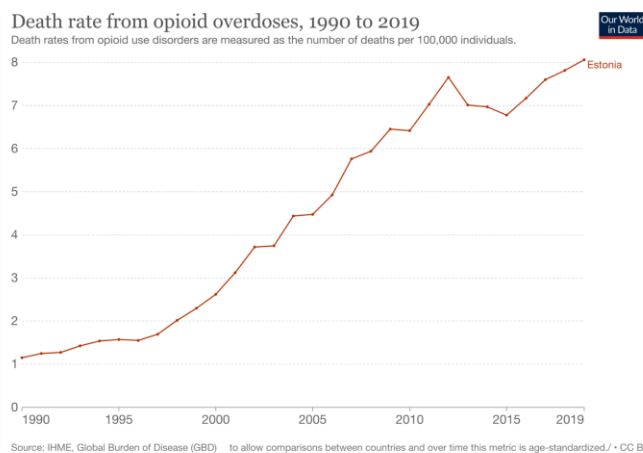
However, the highest drug rates occur at the border region, where traffickers sell off any potential excess supply, creating a localized market. The Chief of the Chihuahua State Police Commission in Juarez explains, “Criminals need money. They need to make a profit, to recover the investment they made in acquiring their drugs. If they don’t cross them, they sell them here”.²³ Thus, the importance of flooding of opiates in generating drug demand holds true in the case of Mexico, but is limited to a localized region.

Market in Estonia

The opioid epidemic in Estonia is the second worst in the world and the worst in Europe. The death rate has increased from 1.15 deaths per 100,000 people in 1990 to 8.06 deaths per 100,000 people in 2019. In comparison, deaths from amphetamine overdose have also increased, yet not as drastically as fatalities from opioid overdoses, from 0.07 deaths per 100,000 individuals in 2019 to 0.68 deaths per 100,000 individuals. In contrast, the death rate from cocaine overdoses has only increased slightly with 0.06 deaths per 100,000 individuals in 2019 to 0.31 in 2019.²⁴

²³ Resendiz, Julian. 2020. “Cartels flood borders with synthetic drugs, exacerbating addiction and homicide rates”. The Border Report.

²⁴ Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2019 (GBD 2019) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2021.



The opioid epidemic in Estonia is framed by its transition from a socialist to capitalist economy. The decriminalization of drugs led to a demand for new substances, while the opening of markets led to an influx of drugs that were previously prohibited. Socially, independence from Soviet Russia presented an opportunity for Estonia to break free from the constraints of Soviet culture, explore an Estonian identity, and embrace Western modernization.²⁵ However, the inefficiencies of the licit market were supplemented by clandestine activities; because “the legal market economy [had] failed to fulfill its promises, the opening of borders and the liberalization of trade have triggered a veritable boom of illegal markets”.²⁶ After the collapse of the Soviet Union, the loosened borders and liberalized trade opened Estonia’s markets to illicit drugs and created an illegal market. Opium exports from Afghanistan passed through porous Central Asian borders along the ‘Silk Road’ to reach final consumers in Europe. The increased availability of Afghan heroin remained unrestricted as the economic restructuring of the state had compromised the replacement of social policy, and the previous norms that had stigmatized crimes and drug use were no longer relevant. The pouring of Afghan heroin to a new market created opioid

²⁵ Allaste, Airi-Alina, and Mikko Lagerspetz. 2006 “Taking Control by Losing Control?: Patterns of Heroin Addiction in Estonia.” *Nordic Studies on Alcohol and Drugs*, vol. 23, no. 1., pp. 77–96

²⁶ Paoli, Letizia. “The Development Of An Illegal Market: Drug Consumption and Trade in Post-Soviet Russia.” *The British Journal of Criminology*, vol. 42, no. 1, 2002, pp. 21–39,

epidemics across the Baltic States, Russia, and the Commonwealth of Independent States. Following this increased availability, heroin prices fell and became cheaper relative to other drugs. Across Europe in 2015, Estonia had the lowest unadjusted and adjusted prices per gram of heroin, but the third-highest unadjusted price for cocaine.²⁷ Thus, the affordability of heroin in Estonia helps explain the extent of the opiate demand.

Supply to Estonia

The flooding of Afghan heroin was not unique to Estonia, but displayed similar trends across Eastern Europe and Central Asia. However, the Taliban banned opium production in 2000, causing supply shocks to heroin.²⁸ The Taliban masked the ban under the pretense that drug production was against sharía law, but really stopped production because overproduction had caused opium prices to drop from \$600 to \$30 per kilogram. However, the ban brought opium prices back up to \$650 per kilogram in 2003, and the Taliban resumed production and sales.²⁹

Across the Baltic region, users adapted to the opium ban by fueling their addiction with alternative drugs. These substitutes varied by country, which led to differences in opioid overdose deaths. In some states, heroin was replaced with uppers, such as Cathinones in Hungary and Methamphetamine in Slovakia.³⁰ Other states chose synthetic opioids: Norwegians turned to buprenorphine, Georgians started producing homemade mixtures, and Bulgarians started using a

²⁷ Groshkova, Teodora, Andrew Cunningham, Luis Royuela, Nicola Singleton, Tony Siggers, and Roumen Sedefov. 2018. "Drug Affordability-Potential Tool for Comparing Illicit Drug Markets." *International Journal of Drug Policy*, June, 187–96.

²⁸ Rashid, Ahmed. "Descent into Chaos: Pakistan, Afghanistan, and the Threat to Global Security". 2008. Penguin.

²⁹ Rashid, Ahmed

³⁰ Ronalds-Hannon, Eliza. "Heroin Shortages Drive Deadly Alternatives". *Organized Crime and Corruption Reporting Project*. 28 March 2013

mysterious ‘white heroin’ mixture. Unfortunately, Estonian drug users sought to fuel their addiction with fentanyl. Fentanyl’s potency relative to the alternatives chosen by neighboring countries was much higher and explains the relative increase in opioid overdoses and fatalities. Synthetic drugs filled the void that heroin had left, causing fentanyl to replace heroin on the drug market. Even when the Taliban reintroduced heroin into the market in 2003, fentanyl had taken such a strong hold that there was no demand for heroin.

The supply of synthetic opioids to Estonia is similar to the U.S., with powder and pills coming from Chinese, Russian, and Estonian laboratories.

In the 1990s, Russian-based organized crime groups battled to conquer the Estonian market. Together, the collapse of the Soviet Union and the war in Yugoslavia ended strict border demarcations and disrupted traditional drug routes, opening opportunities for drug syndicates in Eastern Europe. The inadequacy of the Soviet narcotics market and lack of a drug distribution system meant that users were isolated from these illicit flows. Following these new developments, Eastern Europe served as a new target market for drug trafficking organizations.³¹ Having been isolated from drug markets, Communist countries were “woefully unprepared, handicapped by inadequate laws, a lack of experience and paltry resources” to prevent the rise of addiction.³² Russian organized crime were able to exploit this opportunity with exceptional organizational skills, international links, and an economic safety net that made it difficult for police to penetrate organized crime networks. Although Mexican drug cartels are much more sophisticated and have better distribution networks, Russian drug trafficking operations operate

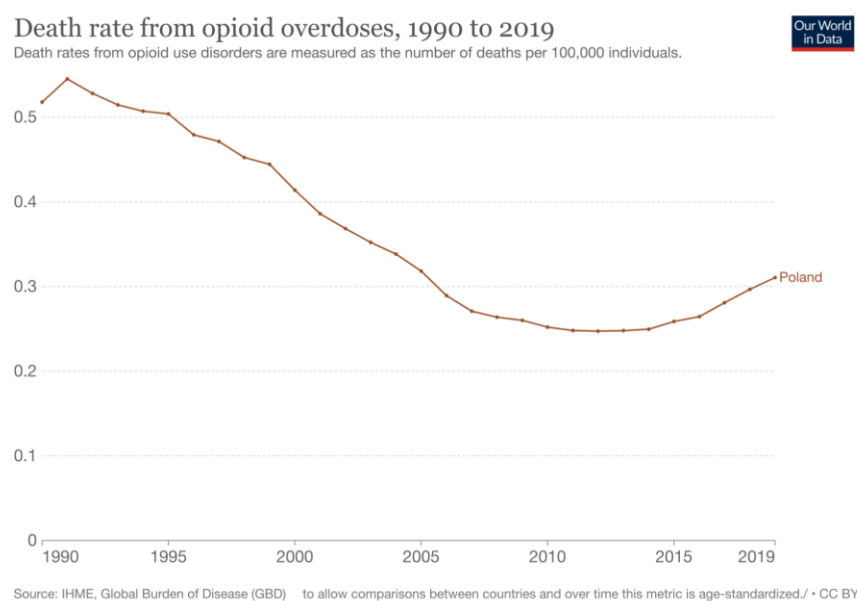
³¹ Paoli, Letizia. “The Development Of An Illegal Market: Drug Consumption and Trade in Post-Soviet Russia.” *The British Journal of Criminology*, vol. 42, no. 1, 2002, pp. 21–39

³² Bonner, Raymond. “Poland Becomes a Major Conduit for Drug Traffic”. 1993, *The New York Times*.

in a similar manner. However, the inefficiencies of Russian drug trafficking create opportunities for small-scale domestic production in Estonia more than the U.S.

Market in Poland

From 1990 to 2019, Poland's death rate from opioid overdose had decreased from 0.52 deaths per 100,000 individuals to 0.31 deaths per 100,000 individuals. Similarly, deaths from amphetamine and cocaine overdoses have not changed within that time period, remaining at .04 and .02 deaths per 100,000 individuals, respectively.³³



Poland serves as a contrasting example to the opioid epidemic in Estonia. Although it was also a socialist country that experienced similar economic turmoil to Estonia and is positioned on the Balkan trade route that supplies heroin from Afghanistan to Western Europe, the country has been able to steer clear of a national opioid crisis. Afghan heroin was relatively expensive to other drugs, rendering opiates unaffordable and unavailable.

³³ Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2019 (GBD 2019) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2021.

Historically, Poland's resistance to the global opioid crisis can be attributed to isolation from the international illicit drug market. Poppy straw had been cultivated for centuries, could be found in any field or farm, and was primarily used for cooking and baking.³⁴ In the 1970s, one medical student reinvented the poppy to create 'Polish heroin' or 'kompot' before the influx of heroin from Afghanistan. Although the process produced toxic by-products, the method was relatively simple, cheap, and didn't require specialized knowledge or equipment. However, 'kompot' was produced and distributed exclusively by and to addicts, creating a system of mutual societies operating according to reciprocity rather than creating a professional and profit-oriented black market. Although the capitalist transition and market liberalization of the 1990s opened Poland's market to the drug trade, heroin had no appeal as it was already produced by addicts.

More importantly, heroin's high price made it largely unaffordable. While 'kompot' was \$5 per gram, 'brown sugar' heroin was 20 times more expensive at \$80 per gram.³⁵ Poland has averted a crisis because of the availability of cheaper alternatives to heroin whose appeal was constrained to a small, stigmatized portion of the population. In 2017, one gram of heroin cost between 35 and 58 EUR, and cocaine cost between 51 and 58 EUR, while the average price of vodka was 5.6 EUR per 500 milliliters.³⁶ Thus, heroin, and other drugs, were largely absent from the market because their high price restricted their availability. In contrast, alcohol was a cheap and easily accessible alternative, and the majority of substance abuse can be attributed to alcohol dependence.

Conclusion:

³⁴ Krajewski, Krzysztof. "Polish Drug Policies: Between 'Hard' and 'Soft' Prohibition." 2004. *Journal of Drug Issues* 34 (3): 587–622.

³⁵ Krajewski, Krzysztof. "Polish Drug Policies: Between 'Hard' and 'Soft' Prohibition."

³⁶ Krajewski, Krzysztof. "Polish Drug Policies: Between 'Hard' and 'Soft' Prohibition."

Fentanyl and other synthetic opioids exacerbate existing opioid addictions that were brought about through availability of drugs. In certain countries, easy access to drugs has led to high rates of addiction, which created easy sales for drug trafficking organizations. The introduction of synthetic opioids increases both profits and rates of overdose, ultimately serving to widen the gap in death rate from opioid overdose between different countries.

Although the opioid epidemic was caused by increased supply, the solution to the problem lies in curbing demand. No policy or law will eliminate drug addiction as lucrative profits will always entice criminal organizations to supply illicit substances. However, the death rate can be mitigated by increasing access to naloxone and narcan. More structural changes can be made by using media to end the stigma around drug addiction and providing therapy and rehabilitation services to those suffering from dependency. Most importantly, moving forward, investing in education on the dangers of drugs in the new context of synthetics, the often-overlooked extent of the problem, and the negative ramifications of drug addiction to one's personal life could serve to inspire generational change.

Works Cited

- Aasland, Aadne, and Tone Fløtten. 2001. "Ethnicity and Social Exclusion in Estonia and Latvia." *Europe-Asia Studies* 53 (7): 1023–49. doi:10.1080/09668130120085029.
- Abel-Ollo, Katri. 2007. "Report on the Drug Situation in Estonia 2007." Tallinn: National Institute for Health Development
- Allaste, Airi-Alina, and Mikko Lagerspetz. 2006 "Taking Control by Losing Control?: Patterns of Heroin Addiction in Estonia." *Nordic Studies on Alcohol and Drugs*, vol. 23, no. 1., pp. 77–96, doi:10.1177/145507250602301S12.
- Anneli Uusküla, Ave Talu, Sigrid Vorobjov, Maris Salekešin, Jürgen Rannap, Liis Lemsalu, Don Des Jarlais. "The fentanyl epidemic in Estonia: factors in its evolution and opportunities for a comprehensive public health response, a scoping review". *International Journal of Drug Policy*, Volume 81.
- Ayoo, Kennedy. 2020. "The opioid crisis in North America: facts and future lessons for Europe." *Anestezjologia Intensywna Terapia*.
- Bonner, Raymond. 1993. "Poland Becomes a Major Conduit for Drug Traffic", *The New York Times*.
- Ceccato, Vânia. 2008. "Expressive Crimes in Post-Socialist States of Estonia, Latvia and Lithuania". *Journal of Scandinavian Studies in Criminology & Crime Prevention*.
- Ciccarone, "Fentanyl in the US heroin supply: A rapidly changing risk environment". *International Journal of Drug Policy*, Volume 46. 2017
- "Combating the Opioid Crisis". 2021. *US Immigration and Customs Enforcement*.
- Dentzer, Susan. Vivek H. Murthy, Susan Sherman, Alan G. White. "Understanding the Opioid

Epidemic. *Council on Foreign Relations*.

Downes, Paul. 2003. "Living with Heroin: Identity, Social Exclusion and HIV among the Russian-speaking Minorities in Estonia and Latvia". *Tallinn, Estonia: Legal Information Centre for Human Rights*.

Edwards, Adam. Peter. 2003. "Transnational Organized Crime: Perspectives on global security". *Routledge*.

Felter, Claire. 2021. "The U.S. Opioid Epidemic". *Council on Foreign Relations*.

Feng, Emily. 2020. 'We are Shipping to the U.S.': Inside China's Online Synthetic Drug Networks. *National Public Radio*. September 17, 2020.
<https://www.npr.org/2020/11/17/916890880/we-are-shipping-to-the-u-s-china-s-fentanyl-sellers-find-new-routes-to-drug-user>

Felbab-Brown, Vanda. 2022. "China and synthetic drugs: Geopolitics trumps counternarcotics cooperation". *Brookings*. <https://www.brookings.edu/blog/order-from-chaos/2022/03/07/china-and-synthetic-drugs-geopolitics-trumps-counternarcotics-cooperation/>

"From cough medicine to deadly addiction, a century of heroin and drug-abuse policy". 1999. *Yale School of Medicine*.

Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2019 (GBD 2019) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2021.

"Globalized Crime Index 2021". *Global Initiative Against Transnational Organized Crime*.

Glenny, Misha. "Recent Developments in Global Criminal Industries." In *The Quest for*

- Security: Protection Without Protectionism and the Challenge of Global Governance, edited by Joseph E. Stiglitz and Mary Kaldor, 143–54. *Columbia University Press*, 2013. <http://www.jstor.org/stable/10.7312/stig15686.13>.
- Groshkova, Teodora, Andrew Cunningham, Luis Royuela, Nicola Singleton, Tony Sagggers, and Roumen Sedefov. 2018. “Drug Affordability-Potential Tool for Comparing Illicit Drug Markets.” *International Journal of Drug Policy*, June, 187–96. doi:10.1016/j.drugpo.2018.01.021.
- Harro, Jaanus, Kaire Aadamsoo, Ly Rootslane, Ott Laius, Aet O’Leary, Virginija Adomaitiene, Biruta Kupca, et al. 2020. “Comparison of Psychotropic Medication Use in the Baltic Countries.” *Nordic Journal of Psychiatry* 74 (4): 301–6. doi:10.1080/08039488.2019.1707283.
- Ho, Jessica Y. “The Contemporary American Drug Overdose Epidemic in International Perspective.” *Population & Development Review* 45, no. 1 (March 2019): 7–40. doi:10.1111/padr.12228.
- Humphreys, Keith, Jonathan P. Caulkins, and Vanda Felbab-Brown. “Opioids of the Masses: Stopping an American Epidemic From Going Global.” *Foreign Affairs* 97, no. 3 (2018): 118–29. <http://www.jstor.org/stable/44822149>.
- “In Case You Haven’t Heard.” *Alcoholism & Drug Abuse Weekly*, vol. 28, no. 26, June 2016, p.
- Krajewski, Krzysztof. 2004. “Polish Drug Policies: Between ‘Hard’ and ‘Soft’ Prohibition.” *Journal of Drug Issues* 34 (3): 587–622. doi:10.1177/002204260403400307.
- Lagerspetz, Mikko, and Jacek Moskalewicz. 2002. “Drugs in the Postsocialist Transitions of Estonia, Latvia, Lithuania and Poland.” *European Addiction Research* 8 (4): 177–83. doi:10.1159/000066137.

- Lee N. Robins, Darlene H. Davis, Donald W. Goodwin, Drug Use By U.S. Army Enlisted Men In Vietnam: A Follow-Up On Their Return Home, *American Journal of Epidemiology*, Volume 99, Issue 4, April 1974, Pages 235–249,
- Lieven, Anatol. “Building on Ruins: The Recreation of the Baltic States.” *The Baltic Revolution: Estonia, Latvia, Lithuania and the Path to Independence*, Yale University Press, 1993, pp. 316–73, <http://www.jstor.org/stable/j.ctt1cc2kwj.16>. Accessed 10 Apr. 2022.
- Little, Becky. “How Civil War Medicine Led to America’s First Opioid Crisis”. *History*.
- Malczewski, Artur. 2019. “Opioid-related problems in Baltic States and Poland: Has the turning point Come?”. *Lisbon Addictions, European Conference on Addictive Behaviors and Dependencies*.
- McCauley, Kevin. 2017. “Advertising Forged Success of Bayer’s Heroin Remedy. *O’Dwyer Company*.
- “Mexican cartels are turning to meth and fentanyl production”. 2021. *National Public Radio*. 21 December
- “Mexico’s Long War: Drugs, Crime, and the Cartels”. 2021. *Council on Foreign Relations*.
- Pardo, Bryce. Taylor, Jirka, Caulkins, Jonathan P. Kilmer, Beau. Reuter, Peter. Stein, Bradley D. “The Future of Fentanyl and Other Synthetic Opioids”. RAND Corporation. 2019
- Paoli, Letizia. “The Development Of An Illegal Market: Drug Consumption and Trade in Post-Soviet Russia.” *The British Journal of Criminology*, vol. 42, no. 1, 2002, pp. 21–39, <http://www.jstor.org/stable/23638758>.
- Perkins, Kevin L. and Anthony P. Placido. “Testimony: Drug Trafficking Violence in Mexico: Implications for the United States”. *The Federal Bureau of Investigation*.
- Rashid, Ahmed. 2008. “Descent into Chaos: Pakistan, Afghanistan, and the Threat to global

Security”. *Penguin*.

Realuyo, Celina B. “The New Opium War: A National Emergency.” *PRISM* 8, no. 1 (2019): 132–42. <https://www.jstor.org/stable/26597315>.

Reuter, Peter, et al. “Imagining a Fentanyl Future: Some Consequences of Synthetic Opioids Replacing Heroin.” *International Journal of Drug Policy*, vol. 94, Aug. 2021, p. N.PAG. *EBSCOhost*, <https://doi-org.sandiego.idm.oclc.org/10.1016/j.drugpo.2020.103086>.

Resendiz, Julian. 2020. “Cartels flood border with synthetic drugs, exacerbating addiction and homicide rates”. *The Border Report*.

Ronalds-Hannon, Eliza. “Heroin Shortages Drive Deadly Alternatives”. *Organized Crime and Corruption Reporting Project*. 28 March 2013

<https://www.occrp.org/en/investigations/1901-heroin-shortages-drive-users-to-deadly-alternatives>

Rosner, Bastian, et al. “Opioid Prescription Patterns in Germany and the Global Opioid Epidemic: Systematic Review of Available Evidence.” *PLoS ONE*, vol. 14, no. 8, Aug. 2019, pp. 1–20. *EBSCOhost*, <https://doi-org.sandiego.idm.oclc.org/10.1371/journal.pone.0221153>.

Socías, M Eugenia, and Evan Wood. “Epidemic of Deaths from Fentanyl Overdose.” *BMJ: British Medical Journal* 358 (2017). <https://www.jstor.org/stable/26941800>.

“United States: Areas of Influence of Major Mexican Transnational Criminal Organizations”, 2015. *DEA Intelligence Report*.

Webber, Jude. 2021. “Mexican drug cartels see big profits in fentanyl”. *Financial Times*.

World Health Organization. “Annex 5: Opioid Analgesics And International Conventions.” *Who Guidelines For The Pharmacological And Radiotherapeutic Management Of Cancer Pain*

In Adults And Adolescents. World Health Organization, 2018.

<http://www.jstor.org/stable/resrep27916.19>.