

Fentanyl, COVID-19, and Public Health

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COVID-19 temporarily severed the production and the supply chains for fentanyl, a synthetic narcotic responsible for over 30,000 deaths in the United States in 2018. Much fentanyl was produced in Wuhan, China, the source of the epidemic. Fentanyl was previously sold directly to American consumers through online websites and was also supplied by Mexican drug traffickers, who produced the drug from precursor chemicals purchased from China. With the advent of the pandemic, websites from Wuhan-based sellers reported that the drugs were not being produced or shipped. Moreover, Mexican drug traffickers were deprived of the precursor chemicals to produce this highly potent opioid. Despite the reduced entry of illicit fentanyl to the United States, enough was stockpiled by drug traffickers perpetuating a very serious problem of illegal fentanyl abuse. Deaths have increased since the start of the COVID epidemic, as the problems of drug abuse have not stopped and access to treatment and medical services are diminished. Moreover, isolation and lack of social support compound the problem. The initial data on increased deaths from illegal fentanyl consumption are consistent with the overall picture of the impact of the COVID epidemic. Those who are most vulnerable are suffering disproportionately from the drug trade.

Before the COVID-19 pandemic, one of the major killers of Americans who abused narcotics was illegal fentanyl. In recent years, there has been an exponential growth of deaths from consumption of nonmedically prescribed fentanyl. In 2016, synthetic opioids (primarily illegal fentanyl) were responsible for over 19,000 deaths, up from around 3,000 in 2010 (Han et al., **2019**; National Institute on Drug Abuse, **2018**). In 2018, there were more than 31,000 Americans deaths that were attributable to the consumption of synthetic opioids, a total that included increased deaths from illegally procured fentanyl (Centers for Disease Control and Prevention, **2020b**).

As a consequence of the ready availability of this potent drug in the past, the “opioid epidemic” in 2018 was killing, on average, 85 Americans daily (Centers for Disease Control and Prevention, **2020a**). Most of these deaths were attributable to illegal fentanyl (Centers for Disease Control and Prevention, **2020a**). Although the supply chains for illegally produced fentanyl have been interrupted by the pandemic as the main source of production is China, the American Medical Association (AMA) reported in early June, “The AMA is greatly concerned by an increasing number of reports from national, state and local media suggesting increases in opioid-related mortality—particularly from illicitly manufactured fentanyl and fentanyl analogs. At least 30 states have reported increases in opioid-related mortality” (Alter & Yeager, **2020**; American Medical Association, **2020**). But this ongoing problem has been overshadowed by the massive and rapid loss of life caused by the spread of COVID-19.

The ongoing pandemic has created a situation in which life is more difficult for the most vulnerable in our society. The problems of depression and mental health issues that are often correlated with drug abuse have been intensified. Job loss and fears of the future have made it more difficult to avoid drug abuse. The difficulties of staying drug free have been made more difficult for those with drug abuse problems as there is reduced access to health and counseling services as well as treatment for drug addiction (Silva & Kelly, [2020](#)). The economic and racial disparities revealed by the pandemic are also evident in drug-related fatalities. In Cook County, Illinois, African Americans represent more than half of the confirmed opioid-related deaths thus far in 2020 (Nesoff, Branas, & Martins, [2020](#)), whereas they represent less than a quarter of county residents (Sanchez & Eldeib, [2020](#)) exacerbating a previously observed pattern. At the same time that individuals face acute difficulties in maintaining a drug-free life, drug traffickers in the United States are still able to provide drugs to those with drug addictions. Ironically, as one addiction specialist stated, overdoses increase when supply goes down (Parshley, [2020](#)). Exacerbating this problem is those needed to administer Narcan, the only medicine available to counter the effects of an opioid overdose, are not readily available in the pandemic (Sanchez & Eldeib, [2020](#)).

1 Methodology

The analysis in this paper draws on a research project initiated in Fall 2018 to understand the sources of fentanyl consumed in the United States and the supply chains relevant to its entry and distribution within the country. Across the internet, hundreds of websites advertise illegal fentanyl, its analogues, and other illicit drugs. These websites generate significant revenues. A 2015 study estimated that revenue from online illicit drug sales was between \$150 and 180 million in 2015 (Soska & Christin, [2015](#), p. 46) for anonymous marketplaces, and these sales have likely experienced accelerated growth to present. A 2015 study on safe pharmaceuticals identified 2,000 to 3,000 websites selling opioids illegally online but only a subset are directly selling illegal fentanyl (LegitScript, [2018](#)).

The focus of this research was not on the overall illicit drug market but on the sale of nonmedical fentanyl to American and other markets directly from websites based in China that advertise in English to Western consumers. Websites based in the United States will only sell fentanyl on the dark web because of law enforcement vigilance in tracking the sale of these illegal drugs, but platforms that host illicit drugs outside the United States cannot be taken down. These websites were found by doing web searches through the Chinese search engine, Baidu.

Researchers at TraCCC (Terrorism, Crime, and Corruption Center) scraped data from over 350 English-language websites advertising fentanyl on open-web Chinese hosted web platforms. Between early Fall 2018 and late Spring 2019, there were few changes in the number or the identity of the websites, indicating that they were not subject to disruption by Chinese authorities.

Our research identified the registration information of the Chinese companies advertising on these websites. One producer advertising on the web was even a state-run Chinese prison. We then worked to identify the countries where fentanyl products were shipped and key hubs for fentanyl export in the United States and Mexico. Such analysis was possible because 40 percent of the websites advertising illicit fentanyl were tied to officially registered Chinese companies, contradicting frequently expressed statements that illegal fentanyl is produced primarily by rogue producers in China, and organized crime (Dudley et al., [2019](#)).

The use of online advertisements for analysis posed some challenges. Many of the companies listed in these advertisements are front companies, but the use of electronic identifiers and broader economic context enables their successful identification to registered pharmaceutical companies. Not surprisingly, these registered entities were overwhelmingly chemical and pharmaceutical companies. Using this information, the researchers were able to map and identify the global trade relationships of these chemical and pharmaceutical companies, which spanned 75 countries. One of the prime networks identified through this research was the Yuancheng Group, a Chinese chemical company based in Wuhan, China. The Yuancheng Group is comprised of at least 34 companies in China and Hong Kong. Linking identifiers from these companies to DNS records reveals that this group of companies have posted classified advertisements for fentanyl and have registered at least 112 websites, including some devoted to the advertisement and sale of steroids

including [rawroids.com](#), [supplysteriods.com](#), [peptidesteroids.com](#), and [pharmchemsteroid.com](#). Analyzing the trade network of this organization reveals that the Yuancheng Group has shipped to 43 countries across North America, South America, Europe, Africa, Asia, and Australia. Our research independently confirmed the conclusion of Ben Westhoff, an investigative journalist, who named the Wuhan-based Yuancheng Group as the key hub of fentanyl precursor production. In testimony provided to the United States–China Economic Security Review Commission, a congressional research body, Westhoff stated that the Yuancheng group had sold “huge quantities” of fentanyl precursors to clients around the globe including, “Mexican cartels, American drug dealers, and many others” (Westhoff, [2019a](#)).

The combined data analytics of TraCCC revealed that the Yuancheng Group was responsible for over \$3 million worth of chemical exports from China between August 2017 and September 2019. This figure may severely underrepresent the trade as their fentanyl advertisements claimed the company accepted Bitcoin, for which there was a significant market in China and extensive use overseas, often for illicit use (Li, [2019](#)). Therefore, as Bitcoin is also used for drug purchases on both the open web and dark web, our analysis only captured a share of the revenue generated by this trade (Chainanalysis, [2020](#); Popper, [2020](#)).

1.1 Supply Chains for Illicit Drug Supplies

Attention has been paid since the onset of the COVID-19 pandemic to the disruption of criminal supply chains from Mexico that have not been able to obtain precursor chemicals from China for the production of both fentanyl and methamphetamine. Therefore, it is hardly surprising that statements from Mexican drug traffickers and the DEA reveal that there has been a serious disruption of supply for all drugs (Kamp, [2020](#)), and a fentanyl seizure from a tunnel on the Mexican-U.S. border in late March 2020 only contained two pounds of fentanyl produced by Mexican crime groups (Kamp, [2020](#); Vigdor, [2020](#)). Unfortunately, the reduction of drug movements across the Southern border has not eliminated the problem of deaths from illegally produced fentanyl in the United States. This paper explores the reasons that deaths from illegal fentanyl consumption have continued despite the temporary cessation of production in parts of China and the absence of shipments from China to Mexico and the United States.

The “fentanyl epidemic” that preceded the COVID-19 pandemic is different from other supply chains for illicit drug consumption in the United States. Previously, drugs in the United States were imported and distributed by criminal networks (Pardo et al., [2019](#)). The illegal fentanyl trade represented an important transition in the drug trade in the United States from criminal networks to legally registered companies in China for production and distribution. Illegal fentanyl distributed in the United States comes from three primary sources: the open web, the dark web, and the Mexican-assembled product using precursor chemicals obtained from labs in China (Pardo et al., [2019](#)). Despite the growing role of Mexican traffickers, the majority of the illegally obtained fentanyl consumed in the United States appears to be ordered directly by individual Americans, who purchase the drugs on the open web directly from China, and delivered to their homes via the U.S. Postal Service primarily (United States Postal Service Office of Inspector General, [2018](#)). This explains why there has not been such a disruption of markets, although there has been a collapse of the Mexican element of the supply chain.

The dark web is also used to distribute fentanyl, but its sale there is primarily for the illegal wholesale market (LegitScript, [2018](#)). It is this wholesale market that may have stockpiled illicit fentanyl and/or precursor chemicals. This explains how even with limitations on import, 120,000 glassine envelopes of suspected heroin/fentanyl were seized in New York City during the COVID-19 pandemic, appropriately stamped “Coronavirus” (DEA, [2020](#)).

Mexican organized crime groups have shifted to the sale of synthetic drugs, particularly fentanyl, because of the lower cost, greater potency, and the increased dependability of a nonagricultural crop. Even though Canada has a serious problem with fentanyl abuse, there has not been much-detected flow from Canada to the United States. Pressed illegal fentanyl pills arrive from Canada in limited supply (Pardo et al., [2019](#), pp. 2–3). Although a very serious illicit fentanyl problem exists in western Canada and has been linked to powerful politically connected Chinese

transnational criminal organizations (Cooper, Bell, & Russell, [2018](#)), at the present time, the Canadian border is not a major supply route for this nonmedicinal fentanyl to the United States.

The COVID-19 pandemic provides an unprecedented situation in which both the production of an illegal drug and its shipment have been disrupted. Illegally produced fentanyl, a synthetic opioid, is imported into the United States in a prepared form or as a precursor chemical. Prior to the pandemic, it arrived directly from China or transshipped through Mexico (Pardo et al., [2019](#); Westhoff, [2019b](#)). A major production center of fentanyl is Wuhan, China (Westhoff, [2019b](#)), which is also the source of COVID-19. The production and shipment of this deadly drug were suspended in recent months as factory production was closed down while Wuhan was under lockdown. Online advertisements for illegal fentanyl in February 2020 reported that there was no supply or shipment available, although contact could be made with suppliers for the time when production and shipment would resume. In mid-April, as Wuhan in Hubei reopened, online advertisements for illegal fentanyl from Hubei-based companies again reported fulfillment of online orders.

In the period, in which Chinese production was disrupted by COVID-19, a major alternative production source in the conflict-ridden Shan State in Myanmar was subjected to repeated raids between February and April 2020 (Beech & Nang, [2020](#)). This is an area that has been of great concern to the UNODC (United Nations Office on Drugs and Crime) for Southeast Asia that receives program support from the Chinese government (NATO, [2019](#)). Between February and April 2020, 44 raids were conducted netting 200 million methamphetamine tablets and 990 gallons of methyl fentanyl as well as other drugs, helping disrupt, at least temporarily, an alternative supply chain to China (Beech & Nang, [2020](#)).

Efforts in the past to disrupt supply chains for narcotics by American law enforcement have been of limited effect as they have only managed to confiscate a small percentage of the drugs that enter the United States. Analyses in the early 2000s indicated that interdiction and domestic law enforcement practices have reduced drug supply and contributed to prices rising in particular drugs (Rhodes, Johnston, Han, McMullen, & Hozik, [2002](#)). This phenomenon has been observed subsequently but there has never been a supply chain disruption comparable to the present.

Mexican criminal organizations have reputedly turned to territorially based crimes during the COVID-19 epidemic, such as extortion and gas siphoning (Muggah, [2020](#)), in the absence of the availability of chemicals needed for the production of synthetic drugs. This is evidence that like many legitimate producers, Mexican drug traffickers did not plan for disruption of supply chains. Therefore, they failed to stockpile chemicals. In contrast, the continued presence of illegal fentanyl in American markets at the present time suggests that there was stockpiling of drugs by U.S.-based drug traffickers. Since the start of the pandemic, there are, however, reports of decreased availability of drugs (Kamp, [2020](#)), especially fentanyl (Bonello, [2020](#); Mustian &

Bleiberg, [2020](#)). Therefore, while there is a limited supply of illicit fentanyl pills that represent a greater concentration of the illegal drug, there are still many deaths resulting from the dilution of other drugs with small but still deadly amounts of fentanyl.

2 Conclusion

The COVID-19 pandemic has overshadowed another major cause of death in the United States—illegal fentanyl consumption. The already high mortality rates appear to have increased further in this period because of conditions that have made the lives of the vulnerable more precarious. The isolation and absence of social interactions during the shutdowns and social distancing have been very hard on individuals with drug abuse problems who rely on human support to control their addictions. Increased economic difficulties have compounded stress and increased consumption in neighborhoods and communities with limited resources to survive the pandemic.

This analysis reveals how the illicit trade in fentanyl, because of its dependency on global supply chains, is just as vulnerable to disruption as are illicit supply chains during this pandemic. Yet the interruption of supply for a significant time period during the COVID-19 epidemic reduced but did not eliminate the availability of illicit fentanyl. By reducing the sources of supply, operations to interdict supply and sale could be more successfully implemented, thereby raising prices. But without a concomitant program to assist the vulnerable and isolated, the fatalities from illicit fentanyl sales have continued even in the absence of large-scale supply. One of the key lessons of the dynamics of the fentanyl trade during the COVID-19 pandemic is that reduction of supply is not sufficient to curb illegal fentanyl-related drug fatalities. Interventions to cut supply must be combined with accessible medical and psychological services as well as greater economic and social well-being to reduce the deaths of the most vulnerable in our society.

Notes

Conflicts of interest: None declared.

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Biography

- Louise Shelley, PhD, is the Omer L. and Nancy Hirst Endowed Chair and Director of the Terrorism, Transnational Crime and Corruption Center (TraCCC) at George Mason University's Schar School of Policy and Government. She is at the School of Policy, Government and International Affairs, George Mason University, 3351 Fairfax Dr., Arlington, Virginia, United States.

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