

Addressing the U.S. Opioid Crisis: Using an Integrated Systems-Based Approach

Addendum

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Addressing the U.S. Opioid Crisis: Using an Integrated Systems-Based Approach

Testimony of Bradley D. Stein¹
The RAND Corporation²

Addendum to testimony before the Senate Judiciary Committee
United States Senate

Submitted January 21, 2020

Following the hearing on December 17, 2019, the congressional committee sought additional information and requested answers to the questions in this document. The answers were submitted for the record.

Questions from Ranking Member Dianne Feinstein

Question 1

Do you believe the federal government is focusing disproportionately on one substance, as opposed to all drugs of abuse? Is this strategy short-sighted?

Answer

The federal government should not focus the vast majority of efforts on just opioids, or on any other single substance, for a number of reasons.

Much of the focus on opioids is in response to the hundreds of thousands of deaths resulting from opioid overdose over the last two decades. Overdose deaths are an important metric and one to which we have paid substantial attention, as opioids are the leading cause of drug overdose deaths, accounting for 68 percent of such deaths.³ However, overdose deaths involving

¹ The opinions and conclusions expressed in this addendum are the author's alone and should not be interpreted as representing those of the RAND Corporation or any of the sponsors of its research.

² The RAND Corporation is a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. RAND is nonprofit, nonpartisan, and committed to the public interest.

³ L. Scholl, P. Seth, M. Kariisa, N. Wilson, and G. Baldwin, "Drug and Opioid-Involved Overdose Deaths—United States, 2013–2017," *Morbidity and Mortality Weekly Report*, Vol. 67, No. 5152, January 4, 2018, pp. 1419–1427.

opioids often involve multiple classes of drugs.⁴ Moreover, opioid deaths are just one measure of harm, and we likely pay insufficient attention to other drug-use related harms, including a substantial increase in children involved in the child welfare system, violence and other criminal behaviors, such medical consequences as infections, and absenteeism and other effects on the workforce. Many of these additional harms also do not arise solely from opioid use but are complicated by the misuse of other drugs, requiring a broader response. Individuals misusing drugs often misuse more than one type of drug, either concurrently or over the course of their drug-using career. This is something that we have seen over the course of the opioid crisis, with other drugs, such as benzodiazepines and such stimulants as methamphetamine, often being used concurrently by individuals misusing opioids. As a result, efforts to prevent the misuse of these other drugs and enhance the availability of effective treatment are important adjuncts to the focus on opioids.

More generally, problems linked to specific drugs often ebb and flow, but overall drug-related deaths have consistently increased over many decades, even though the specific drugs implicated in these deaths change.⁵ One perspective beyond focusing on “drugs of abuse” is considering the conditions that might contribute to people seeking out substances. The cyclical nature of drug epidemics might involve a loss of social memory around the danger of drugs. Furthermore, underlying conditions can attenuate or amplify harms related to drug use.⁶ In the United States, these include access to and quality of treatment for individuals with substance use disorders, healthcare coverage and access to quality treatment for mental health disorders that are often comorbid with substance use disorders, and such socioenvironmental conditions as local employment.⁷ Addressing these underlying issues is not easy, but doing so is important when it comes to building a community’s resiliency to drugs of abuse.

Question 2

What steps can the federal government take to slow down or prevent the spread of emerging drug trends as soon as they appear?

Answer

Understanding evolving drug problems, rapidly responding, and evaluating the effectiveness of interventions to address new and emerging drug trends require us to identify and track

⁴ C. J. Ruhm, “Drug Involvement in Fatal Overdoses,” *SSM Population Health*, Vol. 3, December 2017, pp. 219–226; H. Hedegaard, B. A. Bastian, J. P. Trinidad, M. Spencer, and M. Warner, “Drugs Most Frequently Involved in Drug Overdose Deaths: United States, 2011–2016,” *National Vital Statistics Reports*, Vol. 67, No. 9, December 2018, pp. 1–14.

⁵ H. Jalal, J. M. Buchanich, M. S. Roberts, L. C. Balmert, K. Zhang, and D. S. Burke, “Changing Dynamics of the Drug Overdose Epidemic in the United States from 1979 Through 2016,” *Science*, Vol. 361, No. 6408, September 21, 2018.

⁶ David Musto, *The American Disease: Origins of Narcotic Control*, New York: Oxford University Press, 1999.

⁷ A. S. Venkataramani, E. F. Bair, R. L. O’Brien, and A. C. Tsai, “Association Between Automotive Assembly Plant Closures and Opioid Overdose Mortality in the United States: A Difference-in-Differences Analysis,” *JAMA Internal Medicine*, December 30, 2019.

developing drug use patterns. The federal government spends tens of millions of dollars each year supporting self-report surveys, such as the National Survey on Drug Use and Health and Monitoring the Future. They are helpful for understanding commonly used substances, such as alcohol, nicotine, and cannabis, but they are not very useful for understanding the use of less widely used drugs like methamphetamines, heroin, and emerging new drugs (like synthetic opioids and other novel psychoactives).⁸ Indeed, many people who are using fentanyl did not ask for it and did not know it was mixed with their heroin or in their counterfeit pills, so they might not accurately identify themselves as using fentanyl in a survey.

We therefore need to augment these self-reported sources of information with other sources that will help us better understand emerging drug trends. As I mentioned in my testimony, the federal government used to support the Arrestee Drug Abuse Monitoring (ADAM) program, which collected rich information from interviews with arrestees about methamphetamine, heroin, and other drug use and market transactions, complemented by a urine drug test for research purposes. These data were crucial for understanding drug markets, and the urine tests helped verify self-reports and could be used to track the use of novel drugs. At its peak in the early 2000s, this program cost about \$10 million annually to administer, but it was unfortunately discontinued by the National Institute of Justice after 2003, brought back by the Office of Drug Control Policy in 2007, and then defunded after 2013. The federal government should strongly consider resurrecting and expanding some version of ADAM, especially given the ongoing evolution of the drug market and the growth in the use of such synthetic agents as fentanyl and methamphetamine.

As also noted in my testimony, wastewater testing can be used to collect objective information about a range of substances being used in a community; this information could complement information available from other sources. Although not widely used in the United States, wastewater testing for illicit drugs has now been piloted in more than 70 cities in 20 countries, and detecting a range of opioids, including fentanyl, is now a routine component of Australia's ongoing National Wastewater Drug Monitoring Program. The technology is still evolving, but, given its potential to enhance rapid detection of shifts in use of opioids and illicit drugs, Congress could consider funding several pilot efforts in communities where the existing infrastructure can support wastewater testing.

These data collection efforts can serve as early warning systems, allowing public health and safety agencies to immediately notify the community when new substances are detected and (in the case of potent synthetic opioids) mobilize efforts to make sure naloxone is more readily

⁸ Beau Kilmer, Susan S. Sohler Everingham, Jonathan P. Caulkins, Gregory Midgette, Rosalie Liccardo Pacula, Peter Reuter, Rachel M. Burns, Bing Han, and Russell Lundberg, *What America's Users Spend on Illegal Drugs, 2000–2010*, Santa Monica, Calif.: RAND Corporation, RR-534-ONDCP, 2014; J. P. Caulkins, B. Kilmer, P. H. Reuter, and G. Midgette, "Cocaine's Fall and Marijuana's Rise: Questions and Insights Based on New Estimates of Consumption and Expenditures in US Drug Markets," *Addiction*, Vol. 110, No. 5, May 2015, pp. 728–736.

available. This information can also be used to help law enforcement agencies prioritize their efforts.

With respect to synthetic drugs, the federal government could also consider new approaches to disrupting supply. As my coauthors and I noted in our recent RAND Corporation book, *The Future of Fentanyl and Other Synthetic Opioids*:

The transition to fentanyl and other synthetic opioids is driven by suppliers, so it makes sense to consider supply reduction as one piece of a comprehensive effort. Even if supply cannot be eliminated altogether, delaying the entrenchment of fentanyl in a market by even a few years could save hundreds, if not thousands, of lives. Yet, there is a deserved rejection of some excesses of the recent past. There is little reason to believe that tougher sentences, including drug-induced homicide laws for low-level retailers and easily replaced functionaries (e.g., couriers), will make a positive difference [. . .] There is also little reason to believe that synthetic opioid production, which occurs mostly in China, could be curtailed in the short run. . . . However, just as there are many types of harm reduction, there are many types of supply reduction—each with its own costs and benefits. Targeting importers and wholesalers of nearly pure fentanyl from China is very different from punishing street-level retailers, who might not know the exact chemicals or purity in what they sell.

Efforts are already under way to improve technologies for detecting small shipments through the mail and parcel services (such as UPS or FedEx). USPS might improve its knowledge of the patterns of dispatch by Chinese suppliers and use its monitoring capacities more efficiently. Although inventing technologies and reporting protocols that help detect fentanyl in parcels is clearly innovative and could be of great value, the longer history of drug interdiction involves an arms race of constant technological adaptation by both sides. Improved detection leads smugglers to find new importation methods to blunt the effectiveness of the new interdiction methods. Guerrero Castro . . . refers to the “co-evolution of technology” by smugglers and interdictors.

The resulting multiplicity of smuggling modes is impressive: Tunnels, drones, submarines, and concealment in frozen fruit shipments are just some of the means used to smuggle drugs. Furthermore, synthetic opioids’ extreme potency and resulting small volumes help smugglers and challenge interdictors.

There could be other approaches to interdiction besides accelerating that arms race of detection and evasion technologies. Efforts could be made higher up in the supply chain to target importers and distributors who often use the internet to obtain and distribute fentanyl. For example, the [Drug Enforcement Administration] DEA or another federal agency could set up phony drug selling websites similar to what the Dutch police did with the Hansa network, to which many users migrated after the Alpha Bay cryptomarket website was shut down Some sites could make controlled deliveries to buyers who import and are likely to be dealers themselves, so they could be arrested in “reverse stings.” Other DEA operated counterfeit sites could promise—but not deliver—synthetic opioids, sending either nothing or inert powders. Even if purchasers do not face arrest, the failure of some sites to fulfill orders might lead to wariness of online procurement generally that would reduce the demand for actual fentanyl sellers.

It is hard to determine how dealers would adapt to these supply-side efforts, but the fact that some of these individuals use the internet to transact sales offers law enforcement unique insights and opportunities. Higher-level producers and distributors might move away from the surface web to the dark web if authorities continue to be successful in shutting down or seizing websites. However, it remains to be seen if dark web marketplace administrators will allow listings for fentanyl or more-potent synthetic opioids.⁹

Question 2a

Given the low cost of production, do you anticipate that drug trafficking organizations will shift to exclusively producing synthetic drugs?

Answer

Synthetic opioids like fentanyl are relatively cheap to produce and, given their potency-to-weight ratio, inexpensive to smuggle. However, before I consider the question about production, it is important to make several observations. First, fentanyl can be imported by anyone with an internet connection, pressed into tablets in a basement or apartment, and distributed on the streets. Individuals involved in this form of supply are very different than what we normally consider a traditional transnational drug trafficking organization. Fentanyl is well suited for distribution in the internet age because a small amount can be mailed just about anywhere; exclusively focusing on traditional transnational drug trafficking organizations overlooks this new vector of supply. Fentanyl will likely increase profits to traditional drug traffickers because of its cost-cutting advantage, but much of the increase in profits could go to distributors and retailers closer to end markets. As a result, the answer to the question about drug trafficking organizations shifting exclusively to producing synthetic drugs is that there will probably be a substantial shift to synthetic drugs, although perhaps not exclusively; it depends on context and the type of organization.

Additionally, in *Future of Fentanyl*, we envision possible scenarios in which heroin and fentanyl coexist in separate markets or together in new drug mixtures. The latest seizure data analyzed by my colleagues suggest that the ratio of fentanyl to heroin seizures could have stabilized in such hard-hit markets as Ohio and New Hampshire.¹⁰ Granted, there are limitations in using these data, but there was virtually no change in the numbers from 2017 to 2018. So some heroin markets might remain unpenetrated by fentanyl (unlikely, but possible), or there is a synergistic relationship between heroin and fentanyl in markets where some individuals are seeking out that specific drug combination. If the latter is true, then heroin might remain on the market, albeit in a diminished fashion. But on the whole, markets have trended away from heroin toward fentanyl. For example, in New Hampshire, fentanyl seizures outnumber heroin seizures by a factor of ten.

⁹ Bryce Pardo, Jirka Taylor, Jonathan P. Caulkins, Beau Kilmer, Peter Reuter, and Bradley D. Stein, *The Future of Fentanyl and Other Synthetic Opioids*, Santa Monica, Calif.: RAND Corporation, RR-3117-RC, 2019, pp. 161–162.

¹⁰ Pardo et al., 2019.

We should expect to see an increasing move toward synthetics for various reasons, such as economic advantages and climate change. Synthetic drugs do not suffer from blight, drought, or migratory labor shortages. However, chemical innovation might come not from drug trafficking groups but from semilegal firms in China, India, or other countries with robust but lightly regulated pharmaceutical industries. That said, cocaine will remain important for Mexican traffickers, so they are unlikely to ever exclusively deal in synthetic drugs.