

Research on the Opioid and Drug Dosage Crisis in the Community

Prastik Mohanraj, The Pill Server

Introduction

The opioid crisis is taking heavier and heavier tolls on people in the community over the past few months and years. Through major pharmaceutical developments targeted towards business and profitability, and through stronger drugs that induce addictions or psychological problems in easier ways, drug dosage problems, both taking too much or too few of drugs, arise more and more frequently. Research studies and analyses have shown the scientific, legal, and societal consequences of opioid addictions and drug dosage dilemmas. The time has come to address these issues using a revolutionary design: The Pill Server.

This paper will address the research behind the need for such a revolutionary innovation on existing products, and will examine the causes and consequences of drug dosage issues in the Connecticut community, centering specifically around New Haven residents.

Scientific Effects

Numerous studies have expounded on the effects of drug dosage problems on human beings. Opioids act as a synthetic painkiller based on the chemical morphine, and on pleasure-inducing hormones called endorphins, short for endogenous morphines. These can be very addictive if not used in moderation, but the aspect of moderation is controversial one, as moderation varies from person to person and can induce psychological consequences of various intensities in different individuals.

Most doctors are not fully educated on how to manage a patient's pain, especially when it is significantly high and requires massive doses of pain-killer medication. The conflict arises from the humanitarian aspect of reducing pain, and the health-related effect of damaging one's body or effectively killing someone through high doses of opioid drugs. Most doctors are uncomfortable with the scenario, and do not know exactly how much to prescribe safely for certain situations. This leads to unintentional over-prescriptions that take lives due to a lack in substantial education. This education is not the main cause, though, as the reason for such deficiencies is a lack in research on the matter.

Moderation of drugs must be controlled by the amount and frequency of dosages given to individuals, but this cannot be controlled by an individual once he/she has become psychologically or physiologically addicted to the drug. Thus, a product must be designed that targets the dosage issue at the consumer level, where the consumer is fully restricted from accessing an inappropriate amount of drugs, and must take them at the appropriate time.

Societal Consequences and Statistics

The consequences and effects of drug overdoses are staggering in the local community, state, and throughout the entire nation. Chronologically, 257 state residents had died from heroin overdose in CT during the year of 2013, approximately 47% more than the death rate in 2012. Throughout the first half of 2014, 117 people in the Greater New Haven area, measuring around 11 different cities, had died from overdosing on drugs, most of them being prescription synthetic opioid drugs. In 2015, CT saw a death rate of 6.1 per 100,000 residents, the majority due to heroin, up from 2.7 in CT during 2014. CT saw 917 fatal overdoses in 2016, and the rate

continues to grow at a near exponential rate with an approximate doubling in the overdose death rate annually. In 2016, CT had a rate of 25 deaths per 100,000 residents, significantly above the national average of 19 deaths per 100,000 residents. In the past year of 2017, death rates had spiked. During the first half of 2017, 20 New haven residents had opioid overdoses, and 17 of them had died. This is a rate of 1.30 deaths per 10,000 residents, an astoundingly high rate. New Haven now ranks 5th in the state for the overdose rate in terms of the number of people overdosing on drugs. Their rank in the death rate is not far behind, around 7th place across the state of CT.

These deaths occurred from a variety of drugs, including an important and controversial drug called fentanyl. Fentanyl is one of the most conflicted opioid drugs because of its placement as a legal prescription pain-killer drug. Fentanyl-related deaths climbed nationally from 8% in 2010 to 18% in 2015. CT is at the top of this surge in prescription-drug overdose deaths caused by fentanyl. Overdose deaths are expected to breach 1,000 deaths in this year, because of the increased usage of fentanyl outside of legal ability and within the confines of prescribing such drugs legally. Another major drug whose effects are being learned about is carfentanil, which is stronger than fentanyl by a factor of 100, and caused 4 overdose deaths in New Haven during the first half of the year of 2017. The only drug whose death rate is reducing in is oxycodone, whose death rate has reduced by 25% in the past year. Nevertheless, the total cumulative rate increases near exponentially, fueled by prescription drugs that act destructively to individuals taking them.

Many people are conflicted over the prescription of fentanyl for certain pain-killer needs. In fact, New Haven had sued Purdue Pharma in late 2017 for the increased prescription

of fentanyl, through deceptive marketing of opioid pharmaceuticals. Prescription drugs are shown to be taking a significant amount of lives of youth and elderly people, the two most affected populations in the community from prescription drug overdoses. This has come to the point where companies worry about liability issues, and have taken action to enforce “pain contracts” or “narcotic substance agreements” that must be signed by patients when requesting opioid medications to act as pain-killer agents.

Targeting the elderly population, fentanyl and other synthetic opioid drugs are being overly prescribed for treating pain and inflections, but it has become increasingly difficult to limit the amount of such drugs being prescribed. New legislation is being passed nationwide and in the local community to act as a hindrance to prescribing such drugs, but such legislative acts are being blocked by significant lobbying on the part of these companies. The only other route is to limit the effect that such high prescriptions have on the people they are given to.

Centering on the Elderly Community

The elderly community is being prescribed at least 5 prescription drugs to be taken daily or more frequently, on average, as cited by many statistical reports and studies. Many of these are opioid drugs, which offer significant pain relief and offer support that mimics natural endorphins in pleasurable sensations. It is no wonder that people, especially elderly individuals, who generally have deteriorating neural systems and conscious decision-making ability, are become addicted to these drugs at an increasing rate.

This rate is fueled in two parts: the increased prescription rate, and the increased ability for such drugs to cause addiction. Neither of these afflictions can be prevented by

pharmaceutical companies working to gain a profit, but they significantly affect the elderly disproportionately. Fentanyl and other drugs are the most controversial of these reasons, where such chemicals can become attributed to unintentional overdosing without understanding the consequences.

Better consumer education must be provided for the elderly community, but this cannot work most effectively to prevent overdosing or underdosing, as the neurological systems and conditions that these individuals entertain act as the major inhibiting factor. The only possible method is to forcibly restrict access to medications like fentanyl or other prescription opioids.

Moreover, underdosing is primarily acting upon the elderly community. Multiple research studies and news reports have concluded that the deaths caused by underdosing are surging at likely a faster rate than overdosing, with a near 50% increase within the first half of 2017. These are also caused by opioid prescription drugs, specifically when such drugs cause mental deterioration to the extent that one cannot consciously identify or recognize the need to take drugs at a specific time. This has been scientifically and statistically shown to be because conscious ability overrides addictive reasoning in the primary wealth of instances, which causes underdosing to be skyrocketing in many cases given the added power of prescription opioid drugs.

Centering on the Teenage Community

In the teenage community, the forgetfulness of elderly people or mental instability of such afflictions is not tremendously existent, so the problem of underdosing is not particularly relevant to address in this community. However, the overdosing problem is major in this

community, as access to drugs without understanding the full mental responsibility required in taking such prescription medications promotes ill decision-making, which can be overly dangerous when concerning artificial synthetic chemicals entering the body.

Several studies have approximated the teenage death rate as making up at least 25% of the average death rate from opioid drug dosage afflictions, specifically uncontrolled instability in overdosing. Some experts estimate the death rate of teenagers to constitute a full 50% of the total death rate. Such a small community making up a huge aspect of the overdose death rate shows the consequences of mental disability and immaturity in the decision making required to understand the effects of taking drugs. Opioid control is especially important here, where mental immaturity exists and cognitive reasoning is impaired due to youthfulness.

Consumer education is especially important for this community, as it can address such problems at the cognitive level, as opposed to the elderly community, which would require external intervention to reduce the effects of cognitive impairment on drug dosage problems.

Conclusion

The underlying points discussed in this paper point to the extensive need of consumer education and promoting better behavioral habits in taking drugs, specifically opioid chemicals. Nevertheless, the intervention of the community at the level of access to drugs is an important cause of drug dosage problems, and can help solve or inhibit the growth of these problems. Removing the accessibility of extra medication at any time would solve overdosing, and ensuring the proper amount of medication is taken at any time would inhibit the growth of

underdosing in the elderly community, which would perform underdosing without consciously being aware of it occurring or being aware of its consequences.

Bibliography

1. Altimari, Dave. "Fentanyl Fueling Connecticut's Overdose Crisis." *Hartford Courant*. Hartford Courant, 24 Feb. 2017. Web.
2. Chau, Diane. "Opiates and Elderly: Use and Side Effects." *Clinical Interventions in Aging* Volume 3 (2008): 273-78. Web.
3. Drugs.com. "Fentanyl Injection." *Drugs.com*. Drugs.com, 3 Jan. 2018. Web.
4. Esposito, Lisa. "Silent Epidemic: Seniors and Addiction." *U.S. News*. U.S. News, 2 Dec. 2015. Web.
5. Falbo-Sosnovich, Jean. "Heroin, opiate use soars in Valley, Greater New Haven as part of epidemic across Connecticut." *New Haven Register*. Hearst Media Services Connecticut, LLC., 12 May 2014. Web.
6. Goslee, Kaitlin. "News study revealing the opioid crisis impact in northwest CT." *Fox61*. WTIC, 16 Aug. 2017. Web.
7. Harmon, Katherine. "Prescription Drug Deaths Increase Dramatically." *Scientific American*. Scientific American, 6 Apr. 2010. Web.
8. Lowry, Fran. "Prescription Opioid Abuse in the Elderly an Urgent Concern." *Medscape*. WebMD LLC., 13 Dec. 2012. Web.
9. McDonald, Elyse. "CT opioid crisis more deadly than guns, auto accidents combined." *Viewpoints: Perspectives on Connecticut*. CT Mirror, 23 June 2017. Web.

10. MD Magazine. "How Many Pills Do Your Elderly Patients Take Each Day?" *MD Magazine*. MD Magazine, 4 Oct. 2010. Web.
11. National Institute on Drug Abuse. "Opioid Overdose Crisis." *NIDA*. National Institute of Health, Jan. 2018. Web.
12. Newkirk, Vann R. "What Can't Medical Marijuana Do?" *The Atlantic*. The Atlantic Monthly Group, 18 July 2016. Web.
13. Odhayani, Abdulaziz Al et al. "Potentially Inappropriate Medications Prescribed for Elderly Patients through Family Physicians." *Saudi Journal of Biological Sciences* 24.1 (2017): 200-07. Web.
14. Park, Alice. "Narcan Is Now Sold at Walgreens. What's That?" *Time*. Time Inc., 26 Oct. 2017. Web.
15. Pierce, Kent. "Statistics show drug crisis worsening with Connecticut overdoses above national average." *WTNH News 8*. NexStar Broadcasting Inc., 11 Aug. 2017. Web.
16. Psychology Today. "Elderly Persons Disorders Psychiatrists in New Haven, CT." *Psychology Today Treatment Centers*. Sussex Directors, Inc., 2018. Web.
17. ---. "Elderly Persons Disorders Treatment Centers in Connecticut." *Psychology Today Treatment Centers*. Sussex Directors, Inc., 2018. Web.
18. Rondinone, Nicholas. "CDC: Connecticut Second In Percent Increase Of Synthetic Opioid Deaths Rate." *Hartford Courant*. Hartford Courant, 6 Jan. 2017. Web.
19. ---. "Opioid Crisis Continuing As Overdose Deaths Jump 25 Percent In 2016." *Hartford Courant*. Hartford Courant, 23 Feb. 2017. Web.

20. Schott, Paul. "New Haven sues Purdue Pharma, others over opioid crisis." *New Haven Register*. Hearst Media Services Connecticut, LLC., 7 Nov. 2017. Web.
21. Scinto, Rich. "17 New Haven Residents Died Of Overdoses In First Half Of 2017." *Patch.com*. Patch Media, 4 Sept. 2017. Web.
22. ---. "44 New Haven Residents Died of Overdose Deaths in 2016." *Patch.com*. Patch Media, 4 Mar. 2017. Web.
23. ---. "CT On Pace For 1,000+ Overdose Deaths In 2017." *Patch.com*. Patch Media, 28 Aug. 2017. Web.
24. ---. "CT Opioid Crisis 2017: Interactive Map of Deaths by Town." *Patch.com*. Patch Media, 1 Sept. 2017. Web.
25. The Fault Lines Digital Team. "Doctor: Seniors Have 'highest Rate of Drug Overdose Death'." *Al Jazeera America*. Al Jazeera, 26 Aug. 2015. Web.
26. Von Moltke, Lisa L. et al. "Cognitive Toxicity of Drugs Used in the Elderly." *Dialogues in Clinical Neuroscience* 3.3 (2001): 181–190. Print.
27. Walton, Alice G. "Why Fentanyl is So Much More Deadly Than Heroin." *Forbes*. Forbes Media LLC., 24 Jan. 2018. Web.