

Opioid Crisis in New York City:

Problems and Solutions

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Spring 2019

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Abstract

Opioid overdose deaths in New York City have increased in the past ten years. Opioid in New York city are the largest portion of overall deaths in New York State. The reasons behind this are people are abusing opioids for the feeling of euphoria it causes, and doctors are too lenient in giving out prescription opioids. Our solution to this problem is to equipping New York City police officers with naloxone spray.

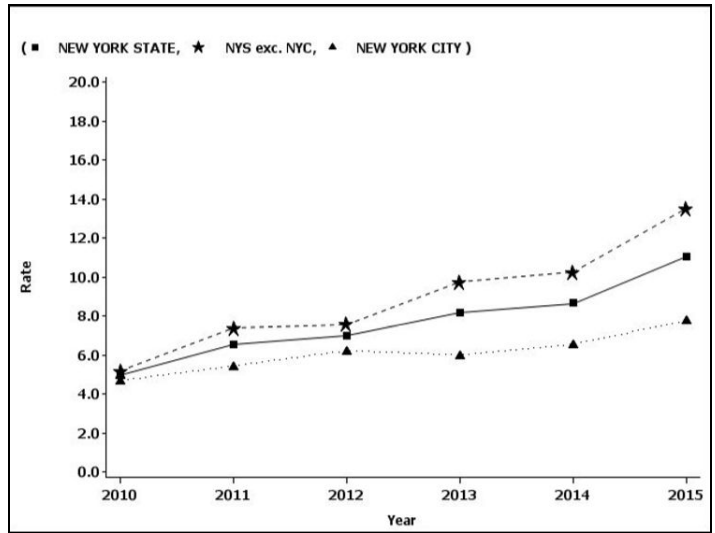
Introduction

Opioids are a class of drugs that are used for pain relief [1]. The function of all opioids are similar; they interact with the opioid receptors in the spinal cord and the brain to block pain messages [2]. Although opioids are an effective pain killer, opioids are also extremely addictive, and can be fatal in high doses [2]. Generally, opioids are safe when the patient takes it for a short amount of time [1]. However, people tend to abuse opioids for the feeling of euphoria it causes, which can make you “high.” [1] The problem is that doctors are too lenient in giving out prescription opioids for chronic non-cancer pain [3]. Opioids should only be used in severe cases, but the accessibility of them has led to the opioid crisis. Furthermore, pharmaceutical companies have been pushing opioid use through marketing campaigns that “trivialize the risks of opioids while overstating the benefits of using them for chronic pain.” [3]

Table 1. Overdose Death Involving Any Opioid, New York City, 2016

Region	Death	Population	Crude Death Rate
Bronx	266	1,455,720	18.3
Brooklyn	270	2,629,150	10.3
Manhattan	200	1,643,743	12.2
Queens	191	2,333,054	8.2
Staten Island	106	476,015	22.3
New York City	1,033	8,537,667	12.1

Figure 2. New York State Overdose deaths involving any opioid (2010-2015)



[4]

Prescription opioid deaths in New York City are gradually rising [4]. This increase is consistent with the rest of New York State. Prescription opioid deaths in New York City are the largest portion of overall deaths in New York State [4]. In a report published by the government

of New York City, the program HealingNYC states, “More than 52,404 people died from drug overdose in the U.S. in 2015, an increase of about 15 percent since 2014” [5]. There were more deaths as a consequence of opioid overdose than from car accidents or homicide. This is evident that the opioid epidemic is only amplifying, so to combat this issue HealingNYC directed their fundings in efforts to reduce overall opioid overdose deaths by 35% over the next 5 years [5]. The substantial amount of funding is evidence that the opioid crisis is a growing dilemma in New York City specifically.

Naloxone is a drug that can immediately reduce the effects of an opioid overdose. It causes the aforementioned opioid receptors to be blocked. If injected or sprayed, a person that is overdosing can return to normal within seconds [6]. As a result, our policy is to equip all New York City police officers with naloxone sprays. We chose sprays rather than injections, as it will be cheaper and just as effective. We believe that public figures need to be prepared for an opioid overdose in the same way that schools are prepared with EpiPens in case of an asthma attack. Someone who is showing signs of an overdose might not have time to go to an emergency room, or may not be able to afford it, whereas a single police officer can be more efficient.

Plan of Work

The first step of our plan of work is to work with organizations to lobby for new legislation. We will have a larger voice if we contact specific local headquarters. For example, the organization Physicians for Responsible Opioid Prescribing (PROP) is a New York-based organization that has been requesting for medical centers to remove pain-related surveys. This is key for removing added pressure, and encouraging responsible opioid prescription. They are a potential associate. We can also contact the Heroin Epidemic Relief Organization (HERO), who

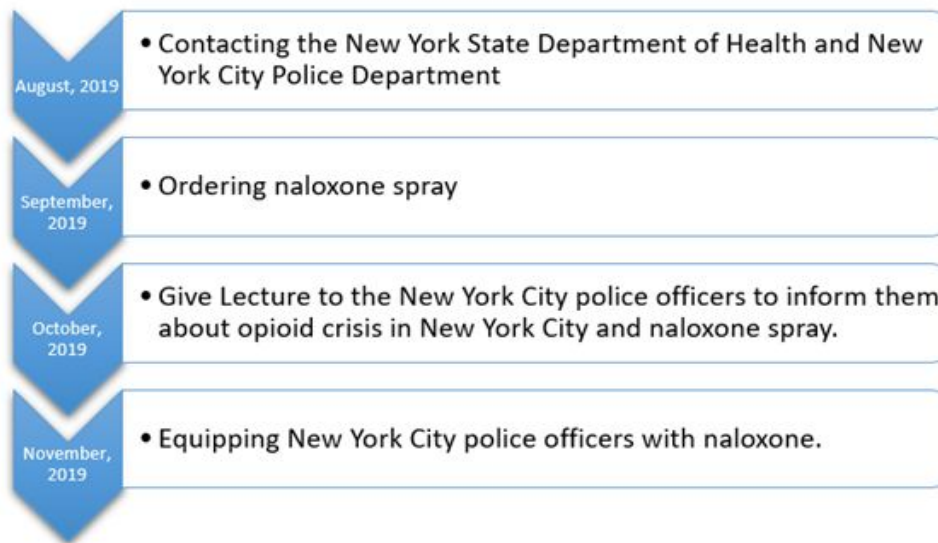
are notable for their media influence and for providing family support/counseling for those who have lost a loved one to opioids.

Next, we will contact specific people that are in charge of implementing legislation. Notably — Dr. Howard A. Zucker, the Commissioner of Health Department; Terence Monahan, the Chief of the New York City Police Department; and Bill De Blasio, the New York City Mayor. Our policy requires the Health Department and the Police Department to be working closely together.

Timeline

This project will be carried out by reaching to the New York State Department of Health and New York City Police Department to gain approval for equipping New York City police officers with naloxone spray. After the departments have approved and received money from the city, naloxone sprays will order from Adapt Pharma. Adapt Pharma is a private company that aim to make naloxone more accessible to low-income communities, as well as “progressing [the] pipeline of opioid overdose and addiction treatments.”

Lectures will be given to the New York City police officers to educate them about opioid crisis and naloxone. These lectures include information about the effects of naloxone and how to use a naloxone spray. These lectures are important, as naloxone is traditionally used by trained police officers. If our policy is implemented—and more police officers carry naloxone as a result—each police officer will need to attend these information sessions to safely administer the drug. Naloxone spray will only be given to New York City police officers after they attend these lectures.



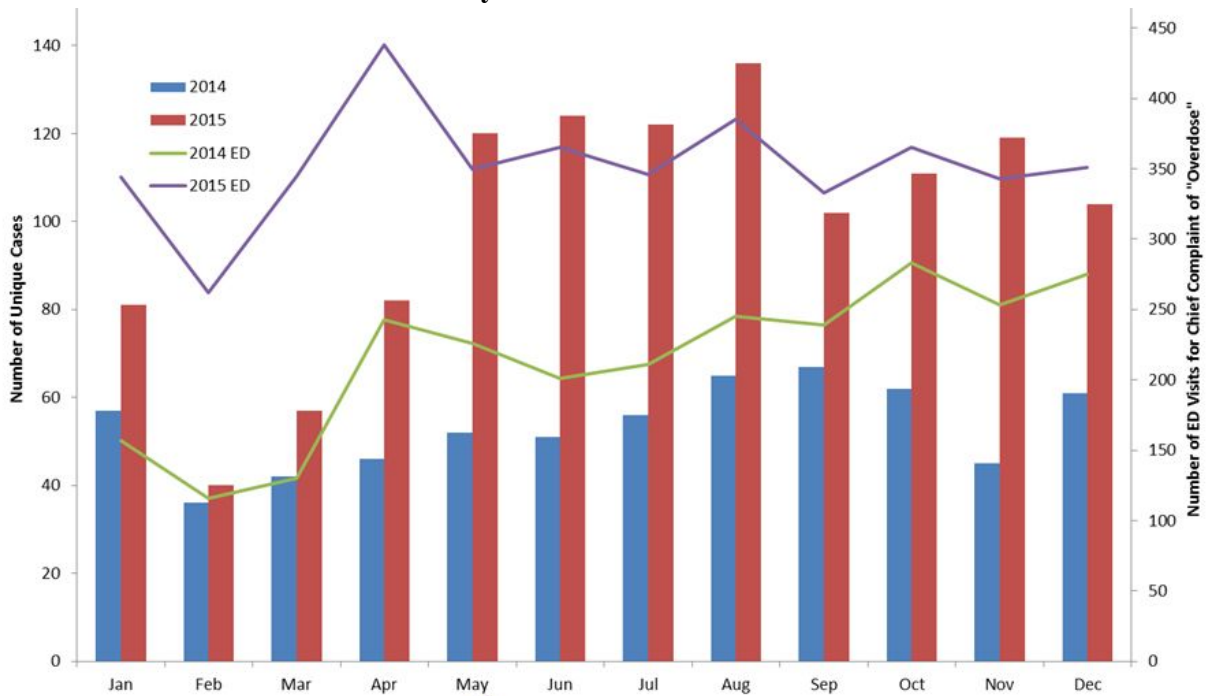
Budget

There are approximately 36,000 police officers in New York City [8]. The cost of one naloxone spray is \$150 [9]. If we multiply these two numbers, we get a total of \$5,400,000. We then allocated \$10,000 for training/information sessions, and \$150,000 for maintenance (for example, providing an officer with more naloxone if his supply is used). The cost of maintenance was developed by multiplying the cost of one naloxone spray (\$150) by the average opioid-related death rate (1,000 a year).. The total cost will be \$5,560,000. Although this may seem like a large number, it is important to keep in mind that the New York City budget is around \$92.2 billion. This means that the cost of equipping police officers with naloxone sprays would only be 0.006% of the total budget. History has shown that New York City is willing to spend this amount of money on lowering opioid-related deaths. Last year, Mayor Bill de Blasio invested \$38 million in hopes to reduce opioid deaths by 35% annually. “The opioid epidemic is a growing crisis that affects not only users, but also their loved ones,” said Mayor Bill de Blasio [7].

Table 3. Cost of Equipping New York City Police Officers with Naloxone, 2019

Amount of police officers in NYC	36,000
Cost of one naloxone spray	\$150
Training	\$10,000
Maintenance	\$150,000
Cost of equipping NYC officers	\$5,560,000
NYC budget (2019)	\$92.2 billion
% of NYC budget	0.006%

Figure 4. Monthly Naloxone Administration by New York EMS, January 2014 to December 2015



Qualifications

1. MingYang Zhang, **Pharmacist**. He finished his B.S. degree in Pharmaceutical Sciences at Massachusetts College of Pharmacy and Health Sciences. Moreover, he earned his Pharm.D. degree at University of California San Francisco. He worked as a researcher at NIDA, a United States federal research institute on Drug Abuse, studying opioid overdose crisis in the United States. He is currently working at Adapt Pharma.
2. Mizan Uddin, **Addiction Specialist**. He finished a B.S. degree in Psychology at Columbia University in New York City. He has done studies on drugs along with pharmacists to study the causes of addiction. His best study on opioids was published in the New York Times.
3. Endi Trimi, works with **Physicians for Responsible Opioid Prescribing (PROP)** to reduce access to prescription opioids. He finished a B.S. degree in Biology at the City College of New York.

Reference List

- [1] National Institute on Drug Abuse, “Opioids,” *NIDA*. [Online]. Available: <https://www.drugabuse.gov/drugs-abuse/opioids#summary-of-the-issue>. [Accessed: 09-May-2019].
- [2] “What Are Opioids? - When Seconds Count,” *When Seconds Count | Anesthesia, Pain Management & Surgery*. [Online]. Available: <https://www.asahq.org/whensecondscount/pain-management/opioid-treatment/what-are-opioids/>. [Accessed: 09-May-2019].
- [3] C. A. Thiels, S. S. Anderson, D. S. Ubl, K. T. Hanson, W. J. Bergquist, R. J. Gray, H. M. Gazelka, R. R. Cima, and E. B. Habermann, “Wide Variation and Overprescription of Opioids After Elective Surgery,” *Annals of surgery*, Oct-2017. [Online]. Available: <https://www.ncbi.nlm.nih.gov/pubmed/28697049>. [Accessed: 09-May-2019].
- [4] “Department of Health,” *Opioid-related Data in New York State*. [Online]. Available: <https://www.health.ny.gov/statistics/opioid/>. [Accessed: 09-May-2019].
- [5] “Increases in Drug and Opioid-Involved Overdose Deaths - United States, 2010–2015 | MMWR,” *Centers for Disease Control and Prevention*. [Online]. Available: <https://www.cdc.gov/mmwr/volumes/65/wr/mm655051e1.htm>. [Accessed: 09-May-2019].
- [6] “Opioid Overdose Reversal with Naloxone,” [Online]. Available: <https://www.drugabuse.gov/related-topics/opioid-overdose-reversal-naloxone-narcan-evzio>. [Accessed: 09-May-2019].

[7] *healingnyc*. [Online]. Available:

<https://www1.nyc.gov/site/doh/about/press/pr2017/healingnyc.page>. [Accessed: 09-May-2019].

[8] “About NYPD,” [Online].

<https://www1.nyc.gov/site/nypd/about/about-nypd/about-nypd-landing.page>. [Accessed: 09-May-2019].

[9] “The Costs of Heroin and Naloxone,” [Online].

<https://www.statnews.com/2018/11/08/costs-heroin-naloxone-tragic-snapshot-opioid-crisis/>. [Accessed: 09-May-2019].