Youth Opioid Abuse: Addressing The Crisis Through Education

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Executive Summary

Maryland communities are threatened by the rapidly increasing prevalence of addiction. Opioid addiction is a problem that is currently plaguing Maryland, and it is one that has been prioritized since Governor Hogan declared a State of Emergency; Maryland is ranked among the top five states displaying the highest rates of opioid-related overdose deaths. In particular, opioid addiction, abuse, and overdoses are affecting our youth, and it is critical that we address the problem. Current efforts include the Student Assistance Program and the Before It's Too Late campaign.

We have developed three recommendations: the administration of naloxone training in high schools as a requirement to graduate, the implementation of medication assisted treatment (MAT) and substance use counseling, and school Safe Stations. These recommendations will work collectively to educate Marylanders on the importance of substance abuse, while encouraging strong mental health and rewarding contributions to communities. These policy recommendations would provide for a more comprehensive opioid abuse and addiction defense, starting with the future of Maryland.

Introduction
Substance abuse is a key issue that plagues the United States, but Maryland in particular. In 2017, Governor Larry Hogan declared a State of Emergency in regards to the opioid, fentanyl, and heroin crisis that had, and continues to, beleaguer the State. According to the 2017 National Survey on Drug Use and Health, 19.7 million people in the United States, aged 12 and older, struggled with a substance use disorder.\(^1\) This nationwide statistic illustrates the magnitude of the issue of substance abuse, which is even more alarming when looking specifically at rates of substance abuse in the state of Maryland. The National Institute on Drug Abuse observes: “the [opioid addiction death rate] in Maryland has consistently been above the national average since 1999, ranging from roughly 1.5 to 3 times the average rate”.\(^2\) While there are several programs and policies in place to combat this epidemic, it still persists to be a key issue that must be addressed. Education, awareness, and treatment are key if we are to create a permanent solution. We also need to target our youth to ensure the crisis stops with them. Providing education on and implementing practices such as Naloxone and Medication Assisted Treatment (MAT), and offering support to those more susceptible to drug use based upon external factors, are all ways in which the State of Maryland can effectively end the substance use epidemic once and for all.

Problem Definition

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For a state to achieve primary goals of security, peace, and prosperity, it must first build and support a thriving population. Maryland communities are threatened by the rapidly increasing prevalence of addiction.

Maryland is ranked among the top five states displaying the highest rates of opioid-related overdose deaths. In a 2018 report, the Opioid Operational Command Center (OOCC), which is responsible for monitoring program measures, highlighted significant declines in the amount of heroin-related and prescription opioid-related deaths. This positive trend fails to capture the harsh reality that drug overdoses are still continuing to increase across the state. The number of unintentional intoxication deaths, from all types of drugs and alcohol, increased by 4.5% from 2017 to 2018, with 2,385 deaths reported. Of this statistic, 2,114, or 88.6% of all deaths were attributed to opioids. This is the second year in a row where opioid-related fatalities have surpassed 2,000.

Fentanyl and its analogs account for a significant majority of these deaths, at 1,866 in 2018, showcasing an increase of 17.1% fentanyl-related deaths in the past year (see Figure 1). Fentanyl, a substance that is fifty times more powerful than heroin, cannot be seen, smelled, or tasted, which makes it nearly impossible to know if it is contained in powder or pills. As it comprises 88.3% of all opioid-related deaths, fentanyl is dangerously finding its way into many different drugs, most notably into cocaine. There were a total of 784 deaths related to cocaine in 2018, a 27.9% increase over the last year, making it the third year in a row that featured an increase in cocaine deaths. The vast majority of these fatalities, 88.7%, were in combination with fentanyl.

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3 Ibid
4 Ibid
5 Ibid
6 Ibid
Figure 1. A spike in fentanyl-related deaths can be seen in 2017; there was a 2,748.3% increase from 58 in 2013 to 1,594 in 2017\(^7\).

Opioid and other drug abuse in Maryland is most prominent in Baltimore City. The Concerted Care group explains that: “According to SAMHSA and the State of Maryland, there are an estimated 47,000-53,000 individuals in Baltimore City annually who need but do not receive treatment for addiction [and not everyone was polled]....It is not unreasonable to think the number of addicted individuals in Baltimore, which has an overall population of about 600,000, could be double the estimate.”\(^8\) Concurrently, the Concerted Care group data statistics point to nearly 10% of the Baltimore population in need of treatment.

\(^7\) Ibid
Findings by the Concerted Care group are supported in the 2018 annual report by the OOCC, which depict Baltimore’s significantly high number of opioid-related deaths; these numbers can be found in Table 1. This report demonstrates that Baltimore City, Baltimore County and Anne Arundel County suffered from the highest number of deaths, collectively comprising 64.5% of all fatalities statewide.\(^9\) However, it is vital that constituents know that every jurisdiction experienced opioid-related fatalities in 2018. Often times, individuals have a tendency to believe resolving this crisis should be the onus of medical professionals and street law enforcement, however this is an issue that affects us all.

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<th>Jurisdiction</th>
<th>Opioid-Related Intoxication Deaths:</th>
<th>2017</th>
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\(^9\) Opioid Operational Command Center Annual Report 2018
\(^10\) Ibid

Table 1. This table depicts the number of opioid-related intoxication deaths in 2017 and 2018. While several jurisdictions have shown great improvement, such as Prince George’s County and Montgomery county, other jurisdictions are still struggling to decrease opioid-related intoxication deaths. Some counties have even seen an increase in opioid-related deaths, and, overall, the state of Maryland saw a 105 death increase.\(^10\)
The first quarter data for 2019 on drug usage showed some improvements, particularly in terms of fatal overdoses. From January to March of 2019, there were 577 total overdoses, with 515 (89%) of these overdoses due to opioids. 92% of opioid overdoses were attributed to fentanyl.\textsuperscript{11} The opioid overdose rate is down 14.3% from the same period last year. There was also a decrease (8%) in fentanyl-related deaths than the same period last year. Other drug-related fatal overdoses also saw a decline as well.\textsuperscript{12} However, that there has been a recent increase in cocaine-related deaths, as a result of cocaine being combined with opioids; opioids have been found in 89% of cocaine related deaths in 2019. It remains to be seen if the rest of 2019 experiences improvements such as those found so far in fatal overdoses in Maryland.

**Problem Origin**

The opioid epidemic not only affects adults, but also youth, from ages 12-17. In a survey done in the Heroin and Opioid Awareness and Prevention Toolkit, it was found that 1 in 4 teens have reported misusing a prescription drug, with the vast majority of these drugs being opioids.\textsuperscript{13} Prescription opioids are even more of a crisis than heroin in our youth; “Nearly half of young people who inject heroin surveyed in three recent studies reported abusing prescription opioids before starting to use heroin”.\textsuperscript{14} In 2015, it was reported, nationally, that an estimated 276,000 adolescents were current, regular nonmedical users of prescription pain relievers, and 122,000 of these individuals were addicted. More than 6 million individuals, aged 12 and older, had used a prescription drug non-medically within the past month of the survey.\textsuperscript{15}

\textsuperscript{11} Opioid Operational Command Center Annual Report, Quarter 1 2019, report, Opioid Operational Command Center
\textsuperscript{12} Ibid
\textsuperscript{13} Karen B. Salmon, Andrew Smarick, and Larry Hogan, Heroin and Opioid Awareness and Prevention Toolkit, report, Maryland State Department of Education.
\textsuperscript{14} Karen B. Salmon, Andrew Smarick, and Larry Hogan, Heroin and Opioid Awareness and Prevention Toolkit
\textsuperscript{15} Karen B. Salmon, Andrew Smarick, and Larry Hogan, Heroin and Opioid Awareness and Prevention Toolkit
Maryland has been trending towards the state with the highest rate of prescription users, so it is crucial to reach and educate local youth. About half of all new drug users are under the age of 18. The majority of adults who currently abuse opioids or have an opioid addiction report they first started experimenting before the age of 21. While not every individual who tries prescription drugs recreationally becomes addicted, it is still important to educate adolescents on the dangers of opioids and opioid addiction; experimentation is inevitable, but being informed isn’t always a given. Looking at the national numbers, and Maryland’s status as a high rate opioid addiction and overdose state, it isn’t impossible to believe that Maryland students are abusing opioids at an alarming number.

Education is crucial in ensuring the opioid crisis among our youth does not escalate any more than it already has. Education has been proven to promote healthy decision making, goal-setting, communicating, and providing access to updated, accurate information, all key in addressing opioid use and addiction and providing accurate, helpful education that could prevent further abuse. Maryland has education programs in effect right now, however, it has been shown that short term education programs are not effective in long-term substance abuse prevention\textsuperscript{16}; Maryland public schools are only required to provide opioid education once between third and fifth grade, once between sixth and eighth grade, and once between ninth and 12\textsuperscript{th} grade.\textsuperscript{17} While certainly helpful, it is not enough. More proactive steps must be taken to ensure that opioid use ends with the education and training of our youth.

\textbf{Current Efforts}

There are several programs that Maryland has put in place in an effort to combat substance abuse in our youth. One such program is the Student Assistance Program. The Student Assistance Program provides valuable training and implementation support to schools throughout Maryland. The program was designed to aid school systems in identifying key risk factors and responding to youth who are at risk for substance abuse and substance use disorders. School staff who participate in the program are trained via the Botvin Life Skills Substance Use Prevention curriculum, and they then share the corresponding curriculum with their students, at both the middle school and high school levels. School counselors and school nurses also receive Screening Brief Intervention and Referral to Treatment (SBIRT) training, a three step program that involves screening individuals for risk, performing a brief intervention with those who are at risk, and providing a referral to treatment, if necessary. The third aspect of the Student Assistance Program ensures that psychiatrists and local health providers in the area receive telepsychiatry consultations, support, and training on how to provide opioid use disorder services. There is limited, recent data on the effectiveness of this program, which calls into question whether or not schools have continued to implement the program.

The Before It's Too Late campaign is another program that the state has enacted in an effort to increase awareness of the rapidly accelerating problem of opioids, fentanyl, and heroin in Maryland. After signing an Executive Order in response to the previously declared State of Emergency, both Governor Hogan and his Lieutenant Governor, Boyd Rutherford, announced the allocation of 50 million in new funding to address the crisis. Part of this money went to funding the Before It’s Too Late campaign. The campaign desires to combat the opioid crisis through prevention, education, treatment, interdiction, and recovery. Reducing stigma and

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18 Kathleen Rebbert-Franklin and Marian Bland, *Maryland’s Behavioral Health System: An Overview of Prevention, Treatment, and Recovery Efforts to Address the Opioid Epidemic*, issue brief, Maryland Department of Health
increasing patient, youth, and general public knowledge about opioid risks is extremely important in reducing the drug crisis.\textsuperscript{19}

In terms of youth education, the campaign’s workgroup monitors youth opportunities from year to year, hoping to see an increase in programming offered. In 2017, 2,390 Juvenile Service-involved youth received prevention education, and in 2018, there was a 3\% increase in programming. In 2017, 22 school systems reported implementing substance use or behavioral health programs and activities. This number increased to 24, which is full participation, in 2018. As a result of measures taken by the campaign and workgroup, school systems reported a 340\% increase (from 5 to 22 students) in the identification and provision of support of students who use substances. The campaign endorses several “best practices,” including youth and school programming, such as evidence-based substance abuse addiction and prevention in and out of school curriculums and programs. The campaign recommends that the different Maryland jurisdictions implement as many as possible. While almost all jurisdictions offer substance use programming and identification and support programs, very few of these offer youth impact programming or safe disposal programs, which encourage disposal of prescription medications, which are critical in youth education.\textsuperscript{20}

On a national level, the Center for Disease Control reports that the ability to prescribe medication, in formats such as Medication Assisted Treatment (MAT), or with drugs like naloxone are extremely effective in treating individuals with substance use disorders.\textsuperscript{21} There are many national programs that attempt to educate youth on the risks of substance abuse. Many of


\textsuperscript{20} Opioid Operational Command Center Annual Report 2018

\textsuperscript{21} Jennifer J. Carroll, Traci C. Green, and Rita K. Noonan, Evidence-Based Strategies for Preventing Opioid Overdose: What’s Working in the United States, report, Center for Disease Control.
these educational programs, like the Drug Abuse Resistance Education (D.A.R.E) program, preach zero-tolerance in terms of all substance use. D.A.R.E is “the most widely implemented universal prevention initiative in US schools and targets all substance use,” yet, “no large-scale evaluations have found evidence that it works to prevent the use or abuse of alcohol or any other substance.” While it is encouraging that D.A.R.E, and many similar programs are no longer publicly funded, they are still privately funded and widespread across America, emphasizing the need for alternative, informative education programs.\textsuperscript{22}

\textbf{Policy Alternatives}

While Maryland has been making an effort to decrease substance abuse and improve education, there is significant room for improvement, particularly amongst our youth.

\textbf{Naloxone}

Naloxone is a medication that blocks, or reverses, the effects of narcotics such as opioids. When an opioid overdose occurs, people are at risk of dying because the narcotic binds to and disrupts receptors in the body that are associated with breathing. Naloxone displaces “the opiate from the receptors that are on the nerve cells that control respiration,” making it hard to breathe.\textsuperscript{23} However, the victim is often quickly revived and their life saved\textsuperscript{24}. The drug was formulated in 1961, and was included in many drug kits throughout the nation in the early 1990’s (CDC). The most popular brand name of the drug is Narcan, and has been made available in many local pharmacies. Since then, “from [about] 1996 to 2014, at least 26,500 opioid overdoses in the U.S. were reversed by laypersons using naloxone”.\textsuperscript{25} The drug is gaining popularity due to

\begin{itemize}
\item \textsuperscript{22} Clayton Neighbors et al., “Harm Reduction and Individually Focused Alcohol Prevention”
\item \textsuperscript{24} NCHRC. “Naloxone 101.” \textit{Naloxone, Narcan}, www.nchrc.org/programs-and-services/naloxone-101/.
\end{itemize}
its effectiveness, and has been made available without prescription in 48 states. The drug is available, but awareness must be spread in order to save lives.

The drug is administered in three ways: intramuscularly, intravenously (in the vein), or intranasally (through the nose)\textsuperscript{26}. While intravenously, as with most drugs, is the most effective measure, only intranasally and intramuscularly are available methods for public use.\textsuperscript{27} Studies show that Naloxone “acts in 2-5 minutes. If the person doesn’t wake up in 5 minutes, bystanders should give a second dose”.\textsuperscript{28} An added benefit of the drug is that it is not harmful to someone who is not going through an overdose. This drug is truly a lifesaver, and in states where opioid use is severe, large efforts should be made to promote the drug.

We strongly believe in education as a tool to rid the nation of the opioid epidemic. As students of the public schooling system, we see the benefit of organized programs to teach children about the risks of opioids in an effort to combat future possible use. In the long-term, we would like to see government programs issued throughout the state promoting drug-free living and the dangers of opioid use, however we believe the issue is too modern to plan for the future. People are dying every day from the effects of opioids, and we, as public leaders, need to do something to decrease those deaths before we can focus on long term plans.

We strongly believe in the power of Narcan in saving lives, and we hope to spread this belief. It has become largely affordable with the help of State legislature, and is extremely easy to administer. While Maryland currently offers classes that people can voluntarily sign up for, we think the matter is too severe for opioid education to be optional. Children, in our minds, are the prime targets for naloxone education, and high schools will be our tools to do so. We envision

\textsuperscript{26} “Naloxone Opioid Overdose Reversal Medication.” \textit{CVS Health}, cvshealth.com/thought-leadership/naloxone-opioid-overdose-reversal-medication.

\textsuperscript{27} “The Overdose Response Program.” \textit{Home}, bha.health.maryland.gov/NALOXONE/Pages/Home.aspx.

\textsuperscript{28} NCHRC. “Naloxone 101.”
Naloxone education to be paired with CPR training in Maryland high schools as a requirement for education, to ensure that our states youth are fully prepared and knowledgeable about the opioid crisis and how to save victims from harmful narcotics.

Highschoolers or peers of friends using opioids are most likely to know who is at risk of an overdose and where to find them. In terms of heart attacks, “Each year nationwide, more than 350,000 people suffer a cardiac arrest outside of a hospital”. Imagine what the number would be for overdoses. The issue is that many of these victims overdose without others being aware of their location. If anyone was to know, it would be their peers, at least more so than an EMT. If we can teach highschoolers proper overdose treatment, then we could very well save hundreds of lives. We believe this program is highly implementable, cost efficient, and a way to combat the immediate effects of the opioid crisis.

It is important that the State of Maryland does everything in its power to ensure that schools remain a safe area for students so that they can learn and prosper. With this philosophy in mind, we believe that nurses should be equipped with naloxone emergency kits in their offices. Having naloxone in a nurse’s office not only can save a life should a student overdose on the school premises, but it also becomes a familiar spot that students will recognize as a naloxone supplier. If a student knew of someone overdosing on the premise, whether it be in the bathroom or playground, or even outside of school, they should know how, and that is safe, to alert others, particularly school officials concerned with their well-being, that there is naloxone in the nurse's office.

With such remarkable effects, we think this drug should never be one someone has to actively look for, but rather available at numerous locations when needed, one place being at

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schools. Students should be able to have easy access to the drug in order to save their family/friends should an overdose occur. What we value most is knowledge; about the drug, how to administer it, and where to find it. Maryland offers online services that have a “store locator” feature where one can find an accessible source of naloxone. However, one must act quickly when dealing with someone overdosing, and sometimes trying to look for a source is too late. Also, expecting people to look up areas prior to a figurative overdose is impractical. The state should have disclosed areas that are communicated to people- one way being through the youth. Whether it be in the nurse's office, town hall, or ensured availability at a local pharmacy is crucial to save as many lives as possible.

**Medication Assisted Treatment and Substance Use Counseling**

One strategy that has proven very effective in addressing and treating substance use disorder within the corrections and criminal justice systems of Maryland is medication assisted treatment. Medication-Assisted Treatment (MAT) is the use of medications, in combination with counseling and behavioral therapies, to provide a patient-focused approach to the treatment of substance use disorders. This is a program that focuses on the intersection and intricate relationship between mental health and substance use. According to the Substance Abuse and Mental Health Services Administration, MAT has proved to be clinically effective and to significantly reduce the need for inpatient detoxification services.\(^{30}\) MAT is primarily used for the treatment of addiction to opioids such as heroin and prescription pain relievers that contain opiates. The prescribed medication operates to normalize brain chemistry, block the euphoric effects of alcohol and opioids, relieve physiological cravings, and normalize body functions without the negative effects of the abused drug. Medications used in MAT are approved by the

Food and Drug Administration (FDA), and MAT programs are clinically driven and tailored to meet each patient’s needs. Under federal law, MAT patients, in addition to medication, must also receive counseling, which could include different forms of behavioral therapy. These services are required along with medical, vocational, educational, and other assessment and treatment services.\(^{31}\)

Medications used in MAT relieve the withdrawal symptoms and psychological cravings that cause chemical imbalances in the body. These medications include methadone, buprenorphine, and naltrexone which are all used to treat opioid dependence and addiction to short-acting opioids such as heroin, morphine, and codeine, as well as semi-synthetic opioids like oxycodone and hydrocodone. Methadone is a medication that tricks the brain into thinking it’s still getting the abused drug. In fact, the person is not getting high from it and feels normal, so withdrawal doesn’t occur. Like methadone, buprenorphine suppresses and reduces cravings for the abused drug. It can come in a pill form or sublingual tablet that is placed under the tongue. Naltrexone works differently than methadone and buprenorphine in the treatment of opioid dependency. If a person using naltrexone relapses and uses the abused drug, naltrexone blocks the euphoric and sedative effects of the abused drug and prevents feelings of euphoria. As mentioned, MAT is designed to meet the individual needs of each patient and therefore the variety of drugs used offer options that can be tailored to each individual.

People may safely take medications used in MAT for months, years, several years, or even a lifetime. MAT programs provide a safe and controlled level of medication to overcome the use of an abused opioid. And research has shown that when provided at the proper dose, medications used in MAT have no adverse effects on a person’s intelligence, mental capability, 

\(^{31}\) Ibid
physical functioning, or employability. According to the US Department of Health & Human Services, a combination of medication and therapy can successfully treat these disorders, and for some people struggling with addiction, MAT can help sustain recovery.32

Safe Stations

Anne Arundel County, MD has spearheaded an innovative program that is seeking to “shift [the] barriers to treatment to [people] who are eager to recover from a drug addiction”. This program, called Safe Stations, offers immediate assistance to any individual who desires treatment for addiction and visits any police station or fire station throughout the county. Maryland already operates under a “Good Samaritan” law, and has many programs for safe disposal of drugs and drug paraphernalia, all of which the Safe Station embraces. At any time of day or night, station employees will respond by disposing of any paraphernalia, and finding access to care. Participants will undergo a medical evaluation upon their arrival to assess urgency, and if immediate, the individual will be transported to an appropriate medical facility and the station will notify the Crisis Response Team. If the participant is not in an urgent medical state, the Crisis Response Team will still be brought to the station to assist in identifying treatment options. The Safe Stations program understands the barriers to seeking help and creates an unparalleled resource to lead those battling addiction to treatment and recovery.33

Analysis and Recommendations

Taking into consideration the current efforts of the State of Maryland and policy alternatives that could beneficially alter the state of substance abuse and mental health in Maryland, we have a few recommendations.

32 Ibid
Policy #1: Implementing Naloxone Education in Schools

While easy to obtain, the issue with naloxone is its cost. Time magazine writes, “generic naloxone [costs] between $20 and $40 per dose, while Narcan [costs] around $130 to $140 for [two doses]”. Fortunately, understanding the impact the opioid crisis can have on the nation, “most insurance plans cover naloxone, and many community-based organizations or public health programs provide the drug for free”. This is a trend and effort that must be encouraged and supported in legislation.

As mentioned before, we hope to see Narcan education become a requirement for highschool graduation. The American Heart Association states “Overall, 38 states plus Washington, D.C., have passed laws or adopted curriculum requiring hands-on, guidelines-based CPR training for students to graduate high school” - and Maryland is one of those states. We think that like the CPR courses that are already in place for Maryland highschools, an opioid first-aid program should accompany these programs, since Maryland is so heavily affected by the epidemic. Like with CPR dummies, a “dud” Narcan nasal inhaler can be used in training, as well as education on what happens during an overdose. An overdose requires much of the same first aid as a heart attack or unconscious victim requires, and we think such a program is complementary to CPR training.

Policy #2: Implementing Medication Assisted Treatment (MAT) in Educational Systems and Schools

There are currently over twenty state-funded MAT programs in twelve counties within Maryland implemented through a variety of agencies including county detention centers, county

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36 “American Heart Association,” Www.heart.org,
health departments, county sheriff’s offices, the Maryland Department of Health and state correctional facilities. However, MAT has never been implemented through an educational institution or even a juvenile justice system and according to the Department of Health & Human Services, MAT is greatly underused throughout the country. As alluded to earlier, MAT provides a more comprehensive, individually tailored program of medication and behavioral therapy and can be extremely adaptable, versatile, and resourceful. Being implemented throughout such a variety of institutions across our state, this program offers us a great blueprint and starting point for implementing MAT in our educational systems to treat youth affected by substance use disorders. Unfortunately, medications used in MAT can be dangerous to young children therefore participation in any such program is not recommended for any individual under the age of 12 and thus would likely only be administered in high schools.

In his recommendations to educators and academic institutions on how to fight substance use disorders within our schools, the United States surgeon general lists “access to FDA-approved medications” as a key component of care and recommends that educational institutions comprehensively “provide treatment and recovery support”. Medication Assisted Treatment can be effectively implemented in our schools if the right steps are taken.

Many of the policies needed to implement MAT are already in place. Therefore, our first recommendation is that these policies be used and built upon. For example, MAT requires that a licensed health care professional prescribe the aforementioned medications. Under Maryland state law, each school system is already required by the Code of Maryland Regulations (COMAR 13A.05.05.04. 04) to provide school psychological services and guidance.

counselors.\(^{38}\) In addition, Maryland school systems are mandated to have a licensed school health services professional. The school health services professional is defined in COMAR as a physician, certified nurse practitioner, or registered nurse, with experience and or training in working with children or school health programs.\(^{39}\) Physicians and certified nurse practitioners are licensed to prescribe medication and with training and/or experience could participate in administering MAT to youth in need. While registered nurses are not licensed to prescribe, they can provide diagnoses and referrals to a certified prescriber. Under the Drug Addiction Treatment Act, in order to prescribe the medications used in MAT the only requirement is that physicians and licensed nurse practitioners complete an 8 hour training and apply for a waiver to prescribe.\(^{40}\) With the mental health professionals and licensed health services professionals already in place in each school system within Maryland, the combination of therapy, counseling and medication that is used in MAT could be efficiently implemented.

Another recommendation for the implementation of MAT in schools is that the initial medications used in the program be buprenorphine and naltrexone, not methadone. Federal regulations prohibit most methadone programs from admitting patients younger than 18 years. However, in 2002, the US Food and Drug Administration approved the use of buprenorphine for patients 16 years and older and studies have shown that naltrexone may be a good therapeutic option for adolescents and young adults.\(^{41}\) Unlike methadone treatment, which must be performed in a highly structured clinic, buprenorphine is permitted to be prescribed or dispensed in physician offices, significantly increasing treatment access, and making it easily prescribable.

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\(^{39}\) “School Psychological Services,” Maryland State Department of Education.


\(^{41}\) Ibid
in a school office environment. With buprenorphine and naltrexone being the most-researched and clinically proven medications for youth, we recommend that these two be the focus of the MAT program. An expansive body of research has shown the effectiveness of buprenorphine and naltrexone for treating opioid use disorders, and 2 randomized controlled trials have examined the therapeutic efficacy of buprenorphine combined with substance use counseling in adolescents and young adults. One study found that adolescents 13 to 18 years of age who received 2 weeks of buprenorphine treatment were more likely to continue medical care compared with those who received other medications for the same period of time. A second trial compared 2 detoxification regimens among adolescents and young adults 15 to 21 years of age. One group received 8 weeks of buprenorphine before tapering, and the second group received 2 weeks. Adolescents who received 8 weeks had lower rates of illicit opioid use while they were taking buprenorphine, and the differences quickly disappeared once the medication was discontinued. The findings concluded that there is no obvious reason to stop medications in adolescent patients who are doing well on buprenorphine. A third study found that continued buprenorphine compliance is associated with an increase in treatment and can help adolescents achieve long-term sobriety.42

Our third recommendation for the implementation of MAT within the educational system is that access to treatment with clinically-proven safe medications be significantly improved. According to the National Institutes of Health, only 2.4% of adolescents in treatment for heroin addiction received medication-assisted treatment, as compared to 26.3% of adults. This underscores the urgent need to improve medication-assisted treatment access for youth. Though further safety data regarding the use of MAT among youth is warranted, due to the lethality and multiple harms associated with substance use disorders, the benefits of MAT are likely to be

42 Ibid
greater than risks associated with the treatment. This means that there should be a widespread, mandated training program for school health care providers to certify their prescribing ability, similar to the 8 hour American Academy of Pediatrics endorsed training. The state funds similar substance use disorder trainings for law enforcement and corrections facilities such as the Naloxone Initiative and the Treatment Program for Juveniles that are low-cost and time-efficient.

**Policy #3: School Safe Stations**

The Safe Stations program, featured in Anne Arundel County, MD, is a valuable tool for leading those individuals struggling with addiction to treatment and recovery. We suggest furthering this program by expanding it into the state education system. Schools are already equipped with counselors that offer counseling services, and if nurses are trained in naloxone administration and MAT, schools can function in the same way that police stations and fire stations do, but for a more targeted audience of students. Youth who may be battling addiction may face additional barriers to treatment through a lack of accessible transportation. By incorporating Safe Stations into schools, a place that is attended on a daily basis, students will not have to worry about how to get to treatment centers.

**Implementation Issues**

While we believe strongly in the recommendations we have made, we acknowledge that there may be some barriers to implementation, the most obvious being creating the programs. We believe education is the best tool to build a drug free generation, as well as leaders to help combat opioid use and save lives. The issue becomes structuring a program that is both informative, but able to be received by a younger population; it needs to be relatable, and

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students have to be able to connect with the information they are receiving. This would require the gathering of research, artistic design of the program, and the administering of supplies and education to schools across the state.

**School-based Naloxone Training and Administration**

While CPR is often taught through Phs. Ed. teachers, this program would then allow these teachers to learn about Naloxone and opioids themselves. Hiring a separate instructor designated to this program would be cost ineffective, and could cause conflict with the students’ already tightly structured academic schedules. “False” Naloxone inhalers would also have to be obtained or created either by partnering with producers of Narcan, or simply obtaining the product individually for the lecture. We hope that relations could be made with organizations such as the Red Cross to partner with or sponsor the initiative where naloxone treatment is included in their educational programs, however such pairings of agencies are hard to come by. Another fear is that such a program would act as an enabler for students using opioids, knowing they can be brought back to life by nurses and students. However the lives saved would outweigh the amount of students whose condition is prolonged by this program.

**School-based Medication Assisted Treatment**

Inevitably, one issue that arises with a program such as MAT is the cost of the service and whether the benefits of medication to the patient and overall community outweigh the expense. In a cost-benefit analysis completed by the National Institute on Drug Abuse, research found that administering buprenorphine to a single individual over the course of the year cost slightly over $5,000 per patient. However, the analysis also took into account all of the costs associated with untreated opioid use, including criminal justice costs, babies born with opioid addiction, transmission of infectious diseases, treating overdoses, injuries associated with
intoxication and lost productivity and employment. The analysis found that the amount paid for
treatment of substance use disorders is only a small portion of the costs these disorders impose
on society, finding that the total costs of opioid use disorders and overdoses in the United States
was $78 billion per year. Of that, only 3.6 percent was for treatment. Therefore, it is evident that
MAT programs have the opportunity to produce a net benefit to the community. With that being
said, finding a source of funding for this treatment option present a barrier to implementation.
The state of Maryland currently restricts MAT programs from being funded directly by state
revenue. However, MAT programs in our correctional facilities, holding centers and other
locations are currently funded by a series of grants that the state offers. Through federal and
special grants such as RSAT and BJAG grants, the state awards over $200,000 for Medication
Assisted Treatment programs within correctional facilities, local detention centers and
community health departments. Through the use of these grants alone, that would be enough to
treat approximately 50 students and youth struggling with opioid addiction across our state each
year. That's 50 young lives saved each year, allowing for 50 bright futures to be reimagined and
working towards a stronger Maryland.

**School Safe Stations**

While there should not be any issues with cost when implementing school Safe Stations
at a basic level, there could be other issues, such as the fact that firefighters and police officers
are more highly trained than teachers. This policy is contingent on narcan and MAT training;
these are programs that would allow teachers to provide similar services to that of the fire
stations and police departments, and without them, it would be hard to provide a complete,
robust Safe Station in school. There are also school policies to deal with. Safe Stations provide
safe disposal tactics, which would involve bringing drugs to school. This is another issue that would have to be addressed.

**Conclusion**

We firmly believe our policy recommendations will not only increase awareness and education, but will provide the State of Maryland with effective solutions to the opioid epidemic gripping the state. We believe that educating our youth is the most effective way to develop a new generation of life savers. We realize that opioids can reach the nation’s youth, and by spreading awareness of the dangers of opioids, and more importantly implementing the method of delivering Naloxone and MAT, the State will help save lives. While we hope our plan in the long term eradicates this issue, the fact remains the same that people are dying every day. This issue is too prevalent, and requires immediate attention. Educating people within our school system is an effective approach that has not been expanded upon enough, and is necessary if we are to end the drug epidemic that plagues the State.
Bibliography


