Master Capstone Project

How Can School Districts Respond to Opioid Impacted Students?

Ariel Violet Williams

Submitted to the

Graduate School of Education

City University of Seattle

In Partial Fulfillment of the Requirements

For the Degree of Master in Teaching

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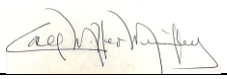
Submitted by		2/9/2021
	Candidate's Name	Date
Approved by		2/10/2021
	Corll Miller Morrissey, M.Ed.	Date
Approved by		
	Vicki Butler, PhD.	Date

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Acknowledgements

This study is solely dedicated to my adopted son, Ryley. You are my halo of inspiration and my drive to seek answers that I hope to benefit you. Although you were born in a different way to a different woman, you have given my heart a new purpose that will forever be looking for ways to make your life extraordinary. Thank you for all the nights that you slept soundly that allowed me to write these thousands of words, I love you.

I want to also thank my research mentor Corll Morrissey for giving me the most thorough feedback on my writing that I have ever received in my academic career, the encouragement to study a subject that is both sensitive and personal, and the motivation to simply just keep going. Additionally, thank you to the social workers and school counselors that gave me their time when I had a lengthy list of questions to ask them!

Abstract

The purpose of this study was to discover how school districts can respond to opioid impacted students. This research is relevant because the opioid crisis is now approaching its fourth decade within history and the issue continues to grow. The number of children impacted either in-utero or through family ties is ever present and is projected to see a future influx as the crisis reaches into every class, race, gender, and geographical context. This was an issue-focused design-based study that used action research protocol to propose a design specific to the learning context of the researcher. The context which prompted the inquiry of this study was based in Snohomish County, Washington, which contains a large proportion of the state opioid overdoses, children in foster care due to opioids, and infants born exposed. The themes guiding this study were: the background knowledge surrounding the rise of the epidemic, the effects that opioids have on children from infancy to middle childhood (developmentally, behaviorally, academically), and a closer examination of what is and is not working within school districts to accommodate opioid exposed children that may have a vast array of additional needs. Through an analysis of the dilemma and a review of the literature the researcher proposes that school districts require staff members to be trained on the opioid crisis and the effects on children. Additionally, a proposal is suggested for school districts to organize an intervention program for opioid impacted students that is designed in a similar fashion as other pull-out services. The desired outcomes are to have knowledgeable staff members, and a program that addresses impacted students' well-being in the hopes of assisting them with their emotional, behavioral, and academic needs.

Introduction

This study was conducted because the researcher observed that there was a severe lack of appropriate or suitable services available to opioid impacted students in a local school district. Following this observation, the researcher sought out information from community social workers, school counselors, and other local school districts to understand what services they were offering impacted students. A general consensus exposed that both locally and nationally, there is not a standard or growing intervention program for these students. This realization became of interest considering the significance of the growing opioid epidemic in the United States. In particular, the number of children born exposed to opioids, and the number of children placed in foster care due to opioids within the past decade. Furthermore, this study sought to discover what services can or could be offered to impacted students and proposes a solution for school districts to adopt as an intervention program.

Rationale

The importance of understanding the problem of apparent lack of services available in school districts is the possible influx of opioid impacted students. Currently in the community in which this study was built upon, approximately 1 out of every 5 opioid overdoses that occur in the state of Washington is happening in this local context. Additionally, the number of opioid users has quadrupled within the past decade. (Snohomish County Washington, 2020). This is relevant within students' lives because those individuals that have overdosed, or those that are still using opioids may be the parents of a child within our school. Recent data finds that every 25 minutes a baby is born in the U.S. with opioid withdrawal symptoms, which is a number that has tripled over the past decade (Heller, 2018). Opioid exposure in-utero has lasting impacts developmentally, which later showcase themselves behaviorally and academically in our schools. Furthermore, within the local context that this research was focused on, there were 525 children placed into foster care in 2017 alone (Rowe, 2018). Whether children are born exposed or impacted later through their family ties, these are children that will eventually become students. This problem is more than relevant in students' lives and as the trend continues upward, school districts may seek options to assist their current opioid impacted students and those that are to come.

Analysis of the Problem

My desire to analyze the opioid epidemic and the children that are impacted by it is rooted in my personal experience. I am the adoptive mother of a young man who was born addicted to opioids. I have watched him flourish despite his early challenges. I live in a community that has been overwhelmed by opioids and I am part of a family that has been severely impacted generationally. As a community member, a mother, and an educator, I feel inclined to analyze this issue because I know that my son and future students will unwillingly feel the impacts of this epidemic. Therefore, it is my job to analyze this issue as thoroughly as I can to prepare for my son's future and the future students that will walk through the door of my classroom. What can I do to help them? What can I do to understand their developmental process, behavior issues, academic setbacks? What services are offered to them? What is being done to prepare for a possible future influx of them? These are the guiding questions that have inspired this study.

The impact of the growing opioid epidemic on children and families is of increasing concern, with recent data suggesting that the risks associated with maternal opioid use during pregnancy likely extends beyond neonatal abstinence syndrome (NAS) and other neonatal complications (Lee et al, 2019). One of the most concerning and heartbreaking aspects of the epidemic is recent data finding that every 25 minutes a baby is born with NAS because they have been exposed to opioids in-utero, which is a number that has tripled over the past decade (Heller, 2018). NAS is a withdrawal syndrome that exposed infants experience and is commonly caused by exposure to opioids or other addictive substances in pregnant women. It is commonly characterized by a variety of symptoms depending on the degree of exposure. Characteristics can include irritability, excessive high-pitched crying, muscle rigidity, tremors, feeding difficulty, vomiting, diarrhea, seizures, heart defects, and respiratory problems (Stanford Children's Health,

2020). Not only is this a public health crisis, it is also a financial burden considering that babies born with NAS are typically treated in the neonatal intensive care unit (NICU), where treatment costs are approximately five times more than the cost of treating other newborn babies (Heller, 2018).

Researchers Baldacchino and colleagues (2014) found that children born to opioid dependent mothers will have impaired developmental setbacks and poorer outcomes as a consequence of continuous exposure to opioids in-utero. Within the scope of this study, opioids refer to heroin, methadone, or Fentanyl. This analysis is focused on three primary areas: the background knowledge surrounding the rise of the epidemic, the effects that opioids have on children from infancy to middle childhood (developmentally, behaviorally, academically), and a closer examination of what is and is not working within school districts to accommodate opioid exposed children that may have a vast array of additional needs. The community in which this study was built upon currently contains approximately 1 out of every 5 overdoses that happen within the state (Snohomish County Washington, 2020). Therefore, it has been observed that the issue exists. However, when analysis of the problem first began, it became apparent that there are minimal services offered to students that are specific to the diagnosis of being opioid effected, either personally through exposure in-utero, or through family ties. The findings within this analysis are limited due to the lack of longitudinal research that would display longer term effects for opioid exposed children. However, as the opioid crisis continues to escalate yearly, as data shows that the overdose death rate in 2008 was nearly four times the 1999 rate, it is assumed that this will become a pivotal subject within the world of research as the needs will become too great to be ignored.

The Three Waves of the Opioid Crisis

In order to understand the opioid epidemic, it may be useful to provide history and context through its three waves. The CDC (2020) has categorized the opioid epidemic in three waves: prescription opioids, heroin, and synthetic opioids such as Fentanyl. The first wave began in 1991 as the increase in opioid prescription medications for the treatment of pain were heavily prescribed. Dr. Richard Sackler, a member of the family that founded Purdue Pharma, started selling its prescription opioid painkiller OxyContin. Sackler has since been credited as being the mastermind behind a strategy that intentionally changed the way the medical profession viewed opioid prescribing (Maryland Attorney General, 2019). Purdue Pharma is currently facing approximately 2,000 lawsuits due to the family business pushing a message that medical professionals should prescribe more opioids to treat chronic pain while reducing concerns about the risks associated with opioids and promoting their product as safe and effective for long-term use (Maryland Attorney General, 2019). Health professionals received assurance from pharmaceutical companies that the risk of addiction to prescription opioids was low (Liu et al, 2020). During this same time period, pharmaceutical companies started to promote opioid use in patients with non-cancer related pain even though there was a lack of data regarding the risks and benefits (Liu et al, 2020). Poison Control's (2018) data revealed that by 1999, 86% of patients that were originally prescribed opioid medication by their doctor legally, were no longer using them exclusively for the pain that initiated their original prescription, but rather because they were now addicted.

The second wave of the opioid epidemic began approximately around 2010, largely as a result of the problems initiated from the first wave. According to Liu et al (2020), in 2010 there was an increase in deaths related to heroin abuse which led those working in the medical field to

become more hesitant to quickly prescribe opioids considering the destruction brought on by the first wave. The term ‘opiophobia’ was used to describe doctors that were now unwilling to prescribe opioids to patients because of their fear of being blamed for addiction or being accused of unsafe medical practices which could jeopardize their medical license (Bennett & Carr, 2002). Opioids were being used as a first-line therapy to patients that were claiming to have chronic non-cancer related pain. The National Institute on Drug Abuse (2020) highlights that the federal government launched an initiative in 2015 toward reducing opioid misuse and overdoses by promoting more cautious and responsible prescribing of opioids. During this same time period, the CDC (2020) published its CDC Guideline for Prescribing Opioids for Chronic Pain to establish standards for safe prescribing of opioids. Prescription opioids became more difficult to obtain as efforts to decrease opioid prescribing began to happen, and many prescription opioid users turned to heroin, which was both cheaper and more widely available. Because of this shift from prescription opioids to heroin, the use of heroin increased in both genders, in the majority of age brackets, and all socioeconomic backgrounds (Liu et al, 2020). The National Capitol Poison Center states that “deaths due to heroin-related overdoses increased by 286% from 2002 to 2013, with approximately 80% of heroin users admitting to misusing prescription opioids before turning to heroin” (NCPC, 2018, p.1). Not only did this second wave create more street drug users, it also increased the risk for injection related diseases such as HIV/AIDS, Hepatitis B and C, skin infections, bloodstream infections, and infections of the heart (Liu et al, 2020).

The third wave, which continues to present day, began in 2013 as the number of deaths increased due to synthetic opioids such as Fentanyl. Fentanyl is 80-100 times stronger than morphine, making it a highly potent drug (United States Drug Enforcement Agency (DEA), 2020). Liu et al’s (2020) research discovered a relationship between drug related deaths in 2016

and the 20,000 deaths caused from Fentanyl. According to the National Institute on Drug Abuse (NIDA) (2018), the increase in Fentanyl related deaths is due to illegally manufactured Fentanyl which is used to increase the potency, or be disguised as highly potent heroin. There is suggestion that users do not exclusively buy Fentanyl, but rather other substances that have been laced with Fentanyl without their knowledge, which often results in overdose deaths (DEA, 2020). Because of the intensity of the drug and how unregulated it is, overdoses are commonplace because users are unaware of the lacing and the intensity they are injecting. Data sourced from NIDA (2018) revealed that every week there are over 900 opiate-related deaths due in part to heroin and other drugs that have been laced with Fentanyl. The Centers for Disease Control and Prevention state that “Fentanyl is 100 times more potent than heroin, and because of its potency, it is becoming more prevalent in every drug sold in America. Both knowingly and unknowingly, drug addicts are using Fentanyl in record numbers” (CDC, p.1, 2020).

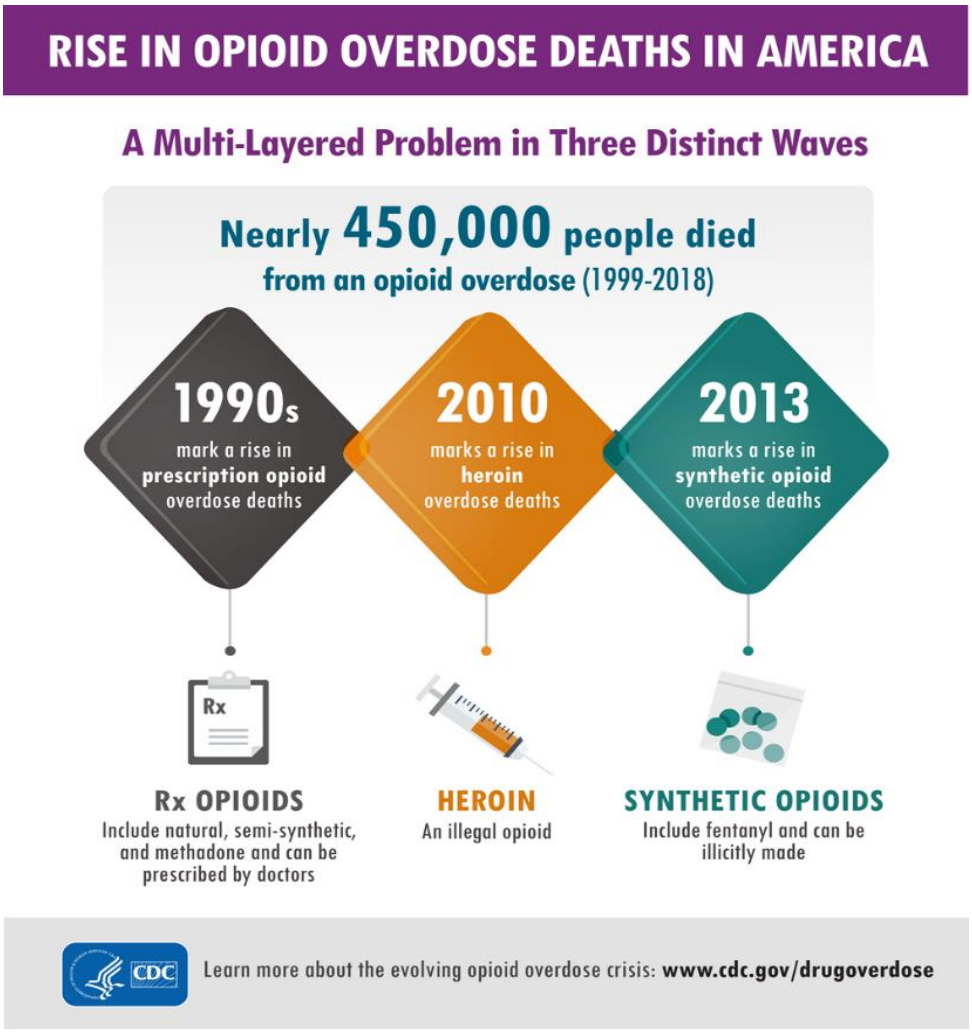

Figure 1: (CDC, 2020)

Women and Opioids

The three waves of the opioid epidemic describe the increase in the number of individuals abusing opioids (CDC, 2020). However, one of the reasons this information is relevant to this study is because of the number of women, more specifically pregnant women, using opioids increased during those three waves (Baldacchino, 2014). According to the National Survey on Drug Use and Health (NSDUH), in 2016 approximately 948,000 Americans reported using heroin in the past year, which is a number that has been on the rise since 2007 and is largely driven by young adults aged 18-25 (NSDUH, 2020). The American Society of Addiction

Medicine (2016, p.40) finds that women are more likely to have chronic pain, be prescribed prescription pain relievers at higher doses from their doctors, and use them for longer periods of time, in comparison to men. Baldacchino (2014) suggests that women that are being prescribed prescription pain relievers may become dependent on them, which could lead to future heroin use as prescriptions become more difficult to obtain. Heroin overdoses among women tripled from 2010-2013, which is an increase from 0.4 to 1.2 per 100,000 (American Society of Addition Medicine, 2016).

Manchikanti and colleagues' (2010) research on the waves of opioid use over several decades found a relationship between an increase in problem pregnancies and women's opioid use. This is a newer phenomenon considering that in past decades, opioid abuse was seen as a predominately male problem. The term 'problem pregnancies' describes that when a woman is pregnant and abusing drugs, those drugs will cross the placenta and milk barriers, which can directly affect the fetus (Manchikanti et al, 2010). However, the effects, in particular the long-term effects, have been difficult for researchers to measure because there are various aspects that are worthy of consideration that can be equally as impactful on child outcomes. For instance, the quality of care that a child receives, or the environment they are exposed to throughout their childhood, both of which are difficult to account for in short-term studies. According to Baldacchino (2014), much of the research done thus far regarding child outcomes and opioid exposure during pregnancy have either lacked longitudinal data, or a well-balanced research study that studies various aspects of an individual's growth process.

National Context

Within a national context, Americans, which constitute approximately 5% of the world's population, consume more than 80% of the global opioid supply (McGreal, 2018). Although

there is indication that opioid use crosses communities across geography, economic status, age, and gender, there are some parts of the country that have borne the brunt of the recent increases. The epidemic hit areas such as Appalachia, the Midwest, and New England the hardest as they contain the five states with the highest overdose death rates per year: West Virginia, Ohio, New Hampshire, Pennsylvania, and Kentucky (Kneebone & Allard, 2017). However, the opioid epidemic is also diverse and reaches much farther than these five states. Researchers Kneebone & Allard (2017) from the Brookings Institute performed an analysis discovering that more than three-fourths of counties in the United States had one in 10,000 people overdose just in 2015 alone. This follows a similar dialogue from reporter Chris McGreal (2018) who recently wrote a book titled *American Overdose*, which highlights in detail the three waves of the opioid epidemic. McGreal (2018) claims that overdoses are now the leading killer of people under the age of fifty, which has brought down life expectancy in the United States, a phenomenon that is quite unique in the developed world.

One area of the United States that has seen exponential growth in the number of newborns addicted to opioids is Eastern Kentucky. In 2001, the number of exposed infants was 67, in comparison to 2014 which was 1,015. This is a 16-fold increase over that 13-year time period (Bada, 2014). More recent data shows that there is now a 24-fold increase from 2001 to 2019, suggesting that numbers have continued to steadily increase (Lexington Herald, 2019). Kentucky has one of the highest rates of pregnant women that are using opioids in the United States (Kentucky Chamber Work Force Center (KCWFC), 2019). Data from the CDC (2018) reported that in Kentucky during 2014, there were 19.3 births per 1,000 of infants born exposed to opioids in-utero. That number increased to 20.0 births per 1,000 in 2015. This data shows a steady increase in a 12-month time period, which led to legislators enacting priority access to substance

abuse treatment for pregnant women in the hopes of decreasing opioid use rather than letting the numbers rise (CDC, 2018).

Running parallel to the rising number of opioid exposed births are the number of children from opioid impacted families in the foster care system in Kentucky. The Kentucky Chamber Work Force Center's (2019, p.1) report on the opioid crisis within their state stated "In 2011, 6,659 children were in foster care; by April of 2019, the number had risen more than 46% to 9,739". This collection of data implies that the opioid crisis in Kentucky is continuing to rise. In response to that growth, Kentucky law makers are attempting to expand the definition of child abuse to include NAS, the withdrawal condition that opioid exposed infants experience after birth. This means that pregnant women that are exposing their un-born babies to opioids in-utero would face criminal charges of child abuse once the baby has been born and tested positive for opioids (Lexington Herald, 2019). However, there is disapproval of this approach from some in the medical and public health community. They argue that this new law could hurt a mother's chances of receiving successful treatment because it could amplify the stigma of substance use during pregnancy and intensify fears of being punished for seeking treatment. Therefore, the counterargument to this new law is that it is ineffective and potentially harmful to both the mother and her fetus (Lexington Herald, 2019).

Local Context

Although Washington State is not on the list of the top five states with the highest rates of opioid overdoses each year, the issue is still prevalent. The Washington State Department of Health's (DOH) (2020, p.1) data show that "approximately 700 individuals die each year from an opioid overdose in our state. Each day about two people die of an opioid-related overdose in Washington and thousands more struggle with addiction". Similar to other states in the country,

this is an issue that has only continued to grow. The number of infants diagnosed in Washington with NAS increased from 1.2 per 1,000 births in 2000 to 3.3 per 1,000 births in 2008 (American College of Obstetricians and Gynecologists, 2012). The most recent data available from the National Institute on Drug Abuse (2020) reveals that the incidence rate of NAS in Washington state in 2017 has risen to 9.7 cases per 1,000 births. The highest rates were reported among American Indians and White Non-Hispanic individuals (National Institute on Drug Abuse, 2020). Additionally, the areas where this issue is predominately found is in Western Washington, more specifically in Everett, Tacoma, and the Olympic Peninsula (Washington State Health Services, 2016).

In an attempt to offer opioid treatment services to pregnant opioid users, Washington state has implemented a pilot project that focuses on the special needs of pregnant women with opioid use disorder. This pilot is organized by the Federal Medicaid Transformation Process and is being implemented in select areas around the country with identified opioid problems (Sightline Institute, 2018). The primary focus is to provide optimal care coordination for women in the hopes of getting them the treatment they need and the best possible start for their growing family. Care coordination for these women will include helping them attend medical appointments, getting their prescriptions filled, assisting them with housing, transportation, food, longer term reproductive care such as IUDs and implants, or mental health counseling. Overall, the ideal is to help opioid dependent mothers so that their unborn child, or children they might already have, can have a better outcome in the future. The guiding principle is that healthy mothers equal healthy babies (Sightline Institute, 2018).

The Effects of Opioid Exposure on Children

Developmental Effects

Although prenatal opioid exposure (POE) is a growing health problem, according to Yeoh and colleagues' (2019) meta-analysis of the literature on neurological effects of opioid exposed infants, there has been minimal research to the long-term neurologic and physical development effects. However, there is research available in this area revealing the short-term effects from infancy to approximately 9.5 years old with neurodevelopmental difficulties. One study in particular studied opioid exposed infants from birth to 4.5 years old and discovered that these children had an increased risk of visual-motor and cognitive setbacks (Lee et al, 2019). Lester & Lagasse's (2010) research suggests that cognitive setbacks may be due to opioid exposed children having smaller intracranial and brain volumes due to exposure during pregnancy, even if the mother used for a short time period. Cognitive deficits were present in executive functioning, such as cognitive flexibility, strategic planning, and decision making (Hunt et al, 2008). This is supported by further research which found that these children also have head circumferences that are smaller, brain volumes that are lower, particularly the basal ganglia and cerebellum, in comparison to non-exposed children. These changes have been found to persist throughout adolescence (Yeoh et al, 2019). Hunt et al's (2008) research studied opioid exposed children from 3-6 years old, and their data revealed that these children had significantly lower IQ scores, which included verbal, performance, and full-scale scores, in comparison to a control group of children. This aligns with Yeoh et al's (2019) meta-analysis, which confirmed that smaller brain volumes are typically associated with lower intelligence and cognitive skills.

Nevertheless, prenatal opioid exposure can differ in how the effects present themselves developmentally in various ways at different ages for every child. Additionally, their

developmental outcomes may improve or worsen over time (Konijnenberg & Melinder, 2011). However, developmental effects and outcomes are not exclusively related to opioid exposure during pregnancy. The presence of multiple, inter-related and equally relevant variables is associated to developmental effects in these children. For instance, the degree of support in the home environment, exposure to a drug exposed lifestyle, or socioeconomic status are all risk factors that are worthy of consideration in addition to opioid exposure that can predict and influence poor developmental outcomes.

Behavioral Effects

Sherman et al's (2018) research on behavioral effects of opioid exposed children found that they are more likely to be diagnosed with development delays, anxiety, emotional disturbances, aggression, rejection behaviors, and autistic disorders, in comparison to children that were not born exposed. Hunt et al (2009) studied a group of opioid exposed children and a group of non-exposed children at the age of five. During the testing session, the opioid exposed children were noticeably "more active, energetic, immature, and showed more task irrelevant activity during the testing session" (Hunt et al, 2008, p.5). When the participants were tested on their overall behavior, exposed children scored lower in multiple areas including, their sense of well-being, responsibility, self-control, empathy, and social maturity index (Hunt et al, 2008). More recent research on behavioral effects of opioid exposed children suggest that behavior may worsen as these children get older (Sherman et al, 2018). Research on behavioral effects in school found that as children grow closer to their teenage years, they naturally become more challenged and are expected to pay more attention while they are in school. They are expected to sit still, control their behavior, become more responsible for themselves (Sherman et al, 2018). Opioid exposed children may struggle with those skills, either because they are dealing with

ADHD, or because of cognitive setbacks that may make it difficult for them to control themselves.

Lester & Lagasse (2010) conducted a longitudinal follow-up study to Hunt et al's (2008) study and found that as the exposed children got older there was a noticeable relationship between behavior problems in school that led to increased psychiatric referrals in relation to maternal opiate use. However, the key finding within Lester & Lagasse's (2010) research was the relationship they found between opioid exposed children and their likeliness to have attention-deficit hyperactivity disorder (ADHD). Their research revealed that children born to opioid dependent parents had a high rate of ADHD, including the children that were adopted into other families. However, the highest rates of ADHD appeared in children that were born to mothers that were opioid dependent and continued to be raised at home, rather than adopted (Lester & Lagasse, 2010).

Academic Effects

Children born to opioid dependent mothers are at an increased risk for a variety of developmental difficulties. Those mentioned ranged from cognitive, visual-motor, attention, and behavioral domains, but may extend beyond those. The findings mentioned thus far raise concerns about the possible long-term effects that these children will encounter, especially as they transition into school.

Lee et al's (2019) research tested 100 exposed and 110 non-exposed children that were all approximately 9.5 years old using a standard Woodcock Johnson-III Test of Achievement (WJ-III). They discovered that exposed children on average, had acquired fewer reading skills, such as decoding, fluency, and comprehension skills. Additionally, they had acquired fewer mathematics skills, such as basic calculation, mathematical fluency, and problem-solving skills.

However, researchers found that there were smaller differences in reading and mathematics when exposed children had been adopted into average socioeconomic status (SES) families (Lee et al, 2019). This may suggest that growing up in a more stable environment with an average or more advantaged family may potentially decrease the negative impacts of prenatal opioid exposure on children's academic achievement. This research concluded that opioid exposed children were approximately 4 times more likely to have a reading and mathematics delay (Lee et al, 2019). The concluding comparative average for their study found that exposed children experienced approximately a 57% educational delay and overall performed at below expected levels, in comparison to non-exposed children that had approximately a 15% educational delay (Lee et al, 2019). Exposed children have been found to be more than 12-months behind their same-age peers on all of the primary curriculum domains: reading, mathematics, written and spoken language, art, and technology (Lee et al, 2019). Overall, opioid exposed children are three times more likely to have severe intellectual setbacks and/or disabilities (Yeoh et al, 2019).

According to Yeoh et al (2019), one reason for concern is that school underachievement is reported to lead to higher dropout rates due to students not being able to meet graduation requirements, therefore finishing school with poorer qualifications. Yeoh et al (2019) suggests that this may lead to receiving lower wages in the future, a higher likelihood of unemployment, youth delinquency, and alcohol and/or substance abuse. Higher criminal rates and substance abuse can further affect public expenditure through the justice system, or police and public health care expenses.

School District and Community Response

As the U.S. Department of Health and Human Services (HHS) states, the opioid epidemic is now classified as a national public health emergency (HHS, 2017). As a result, teachers are now

seeking additional training in learning how to help students that have either been exposed to opioids in-utero, or those who are impacted through family ties (Collins, 2018). Not only are teachers asking for help with assisting these students academically, but also the behavior issues that these young children display in the classroom.

Currently, it is common for opioid exposed students to qualify for special education services within their school, as they are approximately four times more likely to receive special education support in comparison to non-exposed children (36% > 9%), which reflect their more complex educational and learning support needs (Fill et al, 2018). Researchers Fill and colleagues (2018) conducted research that was supported by the CDC to examine a group of opioid exposed and non-exposed children aged 3 to 8 in Tennessee to understand the extent to which special educational services will be needed in years to come. Their study discovered that opioid exposed children were more likely than non-exposed children to be evaluated for special education services, and more likely to be diagnosed with autism, developmental delay, specific learning disability, and speech and language impairments. When considering the growing numbers associated with the opioid crisis, special education services were projected to rise in the following decade(s) (Fill et al, 2018).

According to Lee et al's (2019) research using the WJ-III test on exposed and non-exposed children, approximately 21% of students that were reported as having educational delays due to opioid exposure were not receiving any special education support. This could showcase the large proportion of additional academic and behavioral needs that are not being detected and intervened upon (Lee et al, 2019). According to OSPI (2020), in order for a student to be eligible for special education services, the student must meet all three of the following criteria:

1. The student must have a disability or disabilities.

2. The student's disability/disabilities adversely affect educational performance.
3. The student's unique needs cannot be addressed throughout education in general education classes alone- with or without individual accommodations and requires specially designed instruction (SDI).

   The student must have a disability or disabilities.

Although opioid exposure in-utero is not labeled as a disability, it has proven to be the cause of various setbacks that could be addressed by special education services. One aspect to consider in regard to exposure being un-detected is that parents do not legally have to share with their child's school district that their child was exposed in-utero. Therefore, any developmental, behavioral, or academic setbacks that their child experiences and may need special education services for would be detected purely through observation rather than shared information from parents. This leaves one to question if this is an issue that is only going to expand, which may call for school districts to plan for the future influx of opioid exposed and impacted children.

According to the latest CDC (2020) data, drug overdoses led to almost 64,000 deaths in 2016, with opioids being the leading cause. The CDC (2020) predicts that approximately 650,000 more people will die from opioid overdoses in the next decade, which is a number that has doubled since 2000. Roughly half of those opioid overdoses will be individuals aged between 25-44 years old, which could leave children that have lost a parent or other family member with a huge emotional burden to carry (CDC, 2020). Therefore, the opioid epidemic is not simply just an issue of drug prevention, particularly to those that are using while pregnant, but it is also an issue that will inevitably harm young children, which are future students.

Local School District Plans

Through numerous attempts, the researcher sought out expertise from those in the behavior and prevention fields. The information that was sought out was in regard to local articulated plans in school districts for children that have been exposed to opioids. There was a consistent absence of information and plans available. Experts in the behavior and prevention fields acknowledged the lack of structure, guidance, and services in schools that have opioid exposed students with developmental, behavioral, and academic setbacks. The only service mentioned that is available to these children was special education services. As mentioned previously, it is common for exposed children to be placed in special education services. However, their needs are not always detected and intervened upon. Furthermore, a structured guidance plan for these children that is sufficient to meet their needs does not exist locally. This is concerning considering that within the local context that this research was focused on, there was 525 children removed from their homes shared with their addicted parents and placed into foster care in 2017 alone (Rowe, 2018). In neighboring communities, this number reached up to 1,000 children being removed from their homes and into foster care in 2017 (Rowe, 2018). Based on those figures, it is apparent that opioid exposed children are already present in the local schools, the same schools that acknowledged their lack of a concrete plan for these students and their needs. Therefore, the overarching question still remains, what can schools do for these children?

Early in 2018, Governor Jay Inslee of Washington state proposed spending $20 million on a bill that would combat opioid addiction. Although the bill never moved forward for a full vote, there was $1.7 million that was targeted for youth that did receive funding (Rowe, 2018). Although this is a positive step forward that children will benefit from, the flaw within that proposed bill is that it did not contain any element that addressed the prevention of opioid use.

Kevin Haggerty, a professor from the University of Washington and one of the few researchers to conduct a study that tracks life outcomes for opioid exposed children, warns that ignoring that aspect of the opioid epidemic will ensure future problems for children of opioid addicts as they grow into adulthood (Haggerty & Hawkins, 2019). Haggerty (2019) studied 151 elementary and middle-school children in Washington state in the early 1990's that were growing up either with opioid-addicted parents, or who had been exposed to opioids themselves in-utero. After researching these children for fifteen years, he identified that 33% of them had become high school dropouts, the majority had become addicts themselves, half had criminal records, and only 2% had received a college education (Haggerty & Hawkins, 2019). These figures imply that being a child of opioid-addicted parents or being exposed to opioids yourself will have astounding impacts on future outcomes. Additionally, it confirms the need to continue addressing the issue and find resolution.

Analysis Summary

In summary, at the time of this writing the plans locally are not in evidence or readily available. Therefore, they are insufficient to meet the needs of opioid affected students and their families. Undoubtedly this is more to be learned in this area, and as students continue to be exposed to opioids either in-utero or within their current home environment, there are proposals that can be made to my local school district.

Literature Review

School District Implementations Nationally

In the eastern part of the United States, where there are higher rates of opioid users and infants born exposed, school districts have been forced to confront the epidemic because the issue has become difficult to ignore (National Institute on Drug Abuse, 2020). Therefore, eastern states have had a head start on addressing the opioid epidemic and how to help impacted students and their families. Two different models will be discussed in relation to school districts nationally that have addressed the opioid epidemic and its impact on students. These models serve as practices that are applicable to both students that were exposed to opioids in-utero, or students that are living with opioid addicted parents. Additionally, they are examples of what appears to be working and making a difference in students' lives, therefore best practices.

Model 1:

A school district located in West Virginia is intervening with students that have been impacted by the opioid crisis by creating a trauma focused school environment. The primary goals are to create meaningful relationships with students and provide them with an environment that they feel safe in. By focusing on relationships and safety, it is believed that a child's limbic system will become regulated which will allow for connections to be made to the prefrontal cortex so that learning can occur (Collins, 2018). Children exposed to opioids have slowed activity in their prefrontal cortex, which impacts their ability to have impulse control and may be labelled as a cause of problematic behavior (Lester & Lagasse, 2010).

Within this trauma focused school environment, teachers are trained to approach their classroom and behavior management through a trauma lens, which in turn helps them to understand their students' behavior. Training for teachers is focused on assessment of Adverse Childhood Experiences (ACE). An ACE score is a tally of different types of abuse, neglect,

trauma, and other adverse experiences that occur in childhood. A higher ACE score indicates a higher risk for poor mental and physical health, future substance abuse, and personal challenges later in life (Center on the Developing Child, 2020). All educators and school counselors within this district are required to learn trauma-focused techniques and use ACE as a baseline as to where a student may present on a scale of mild to extreme trauma. Additionally, the policies within this school district for discipline and truancy are viewed within a trauma lens. Students are not punished as they may traditionally be for misbehavior because educators and school administrators have been trained on the issues that students may be going through and how this is impacting their positive engagement with school. This wraps around to relationship building and knowing what a student may be experiencing once they leave school.

In addition, mentorship and afterschool programs are offered to opioid impacted families. Mental health counselors and therapist consultations are available for families to utilize. School administrators try to foster relationships between educators, students, and their families by frequently making home visits. Home visits have shown to reduce child abuse and neglect that may be linked to opioid use within the household (Collins, 2018). Home visits consist of school administrators assisting parents in filling out Medicaid forms, welfare paperwork, or job applications. Although these extra forms of assistance are not typical within a staff members job requirement, the goal is to create more meaningful relationships with both students and their families in the hopes of benefiting the child. Because of the environment that this school district has created, their trauma treatment has produced successful outcomes. At the beginning of the intervention, 71% of students met the criteria for various emotional disorders such as Post-Traumatic Stress Disorder (PTSD), depression, and anxiety, in comparison to one year later where 11% of students met the same criteria (Mannarino et al, 2012). Therefore, emotional

disorders have decreased significantly, which in turn has allowed students to become more successful learners (Collins, 2018).

The design for this district's trauma-focused school environment intervention was created using the Martinsburg Initiative as a set of guiding principles and accountability assessment. This initiative is local to West Virginia and is promoted as being an innovative and holistic school, community, and law enforcement partnership program. The program is focused on ACE scores and works to create a trauma informed community that strives to build resilience in children that are affected by the opioid crisis (Berkeley County Schools, 2020). The design of the Initiative was based on a CDC-Kaiser Permanente (2020) control study titled Adverse Childhood Experiences, which showed that ACEs have a negative impact on a child's cognitive and social development, physical and mental health, and their ability to function in society. The study was conducted from 1995 to 1997 and was one of the largest investigations of childhood abuse, neglect, and household challenges that impact an individual's health and well-being later in life, with over 17,000 participants (CDC, 2020).

The rationale supporting this implementation was based upon the NAS rates within their state. West Virginia has the highest rate of NAS within the United States, with an average of 5% of infants born exposed to opioids, which is six times the national average (Kids Count, 2018). Therefore, school districts across the state were seeking options to combat this growing issue that their students were experiencing. School districts that implement the Martinsburg Initiative within their school participate in trauma-sensitive trainings that are designed to inform them of the toxic effects that ACEs have on children and what they can do to successfully help students (Berkeley County Schools, 2020).

Model 2:

The second model takes place in New Hampshire in a school district that is located within a community that has been severely impacted by the opioid epidemic. This district received $100,000 in additional funding from the US Department of Health and Human Services to assist them in intervening with opioid impacted students through school-based mental health treatments (Laconia School District, n.d.). The goal within this district's intervention was to prioritize students' emotional well-being by providing extra support into the daily routines of the classroom environment. Extra support ranges from 5 minute check-ins at the beginning of each day with students, lessons in relaxation and mindfulness, weekly support group meetings (group meetings for students and also group meetings for staff members to express the emotions they are experiencing as a result of their students' trauma). The topics discussed within the weekly support group meetings for students vary depending on their emotional needs. However, the topics usually range from friendship, self-advocacy, and communication. Staff members report that weekly support group meetings are the only time within the entire school calendar in which a student has never needed to be reprimanded. Teachers concluded that students do not misbehave during these groups because they look forward to them and are enjoying them. The additional funding received by this district has employed a full-time school social worker, multiple behavior specialists, guidance counselors, and psychologists. The rationale behind employing all of these extra staff members is to thoroughly investigate what is happening in students' lives that have been impacted by opioids (Rowe, 2018).

The design for this district's school-based mental health treatments was assessed using the guidelines from Project AWARE, which is a professional development project funded by the US Department of Health and Human Services. This is a program solely focused on increasing

the awareness and support of youth that are experiencing mental health issues, substance use exposure, or living in crisis. Individuals, such as the school staff members mentioned in this model are trained as Youth Mental Health First Aid (YMHFA). This is accomplished through training that focuses on mental health issues among school aged children. The criteria upon which Project AWARE is assessed on is based on three measurable goals and standards:

1. Implement individuals trained as YMHFA into the school and/or community to detect and respond to youth in mental health crisis.
2. Maintain trained YMHFA individuals, let their implementation be consistent rather than temporary.
3. Plan and implement Project AWARE grant initiatives in an effort to coordinate with other states and other child serving systems

   (Laconia School District, n.d.).

The rationale for introducing school-based mental health treatments was based on the increase in absenteeism, tardiness, behavior problems linked to trauma, students in foster care, and the number of students in the community that were opioid impacted (National Center on Safe Supportive Learning Environments (NCSSLE), 2018). Each of these upward trends was causing an overload of opioid impacted students in the special education program, therefore the district sought out alternative options to use as an intervention to address these students and the student body as a whole (NCSSLE, 2018). The district worked to seek out additional funding to support the employment of additional staff members and the extensive training process centered around mindfulness and how to teach this to students. Ryan & Riva (2015) report results from their meta-analysis in which children that self-regulated were found to have greater academic success than those who could not self-regulate. Mindfulness was beneficial and had positive

effects in helping children to self-regulate and reset when their trauma overpowers their ability to function. Additionally, funding was provided for training that focused on teaching students about brain science, such as how the brain works, or how trauma affects brain development. The theory of change is that by helping students to become self-aware of their trauma, they can then be taught mindfulness techniques in order to improve their knowledge of essential life skills and self-regulation (NCSSLE, 2018).

Since the district instilled changes and prioritized student well-being, the small but significant changes changed both the working environment and students' academic success. Since the changes began, New Hampshire state testing results show that 58% of students improved on language arts and 42% improved in math. Additionally, from 2013-2018, disciplinary problems have decreased by 79% (Rowe, 2018). These results show substantial progress and imply that this school district could be used as a benchmark for success for other school districts that may be seeking intervention options for their opioid impacted students.

Adaptable Models

While considering that the CDC (2020) has labeled the opioid crisis as an official epidemic for approximately three decades, now going into the fourth decade, there is little evidence of widespread adoption of school-based models specific to opioid-affected students. However, there is a large body of information, trainings, and research available on comparative epidemics that have impacted children's development. The opioid epidemic is now carrying the legacy of past epidemics and the impact of exposure upon children, such as fetal alcohol syndrome (FAS), or prenatal cocaine exposure (PCE), which is commonly given the derogatory term as "crack babies" (Broder, n.d.). Historical information gathered from the last quarter of the 20th century reveals the discovery of FAS in the early 1970's, and the crack-cocaine epidemic of

the 1980's and 1990's, both of which are prominent and widely recognizable moments in history. Throughout the following, both epidemics will serve as examples of interventions or best practices that school districts have adopted for students from those comparative epidemics. It may illuminate the present concerns regarding children exposed to opioids in-utero and what school districts can learn and do now that are seeking to adopt interventions.

Fetal Alcohol Syndrome

Fetal alcohol syndrome (FAS) is a condition in a child resulting from exposure to alcohol during pregnancy. FAS can cause irreversible brain damage, growth problems and nervous system anomalies such as mental retardation and impaired motor skills (Mayo Clinic, 2020). Additionally, children with FAS have a distinctive set of facial abnormalities including drooping eyes, thin upper lips, and flattened face structures (Broder, n.d.). FAS was first recognized as a syndrome in the early 1970's by a Seattle physician, Christy Ulleland, as she began to take notice of similar abnormal symptoms occurring in newborns (Armstrong & Abel, 2000). Ulleland received funding to conduct an 18-month study that confirmed the relationship between prenatal alcohol exposure and adverse outcomes in infants. More recently, Ramo and colleagues (2002) conducted a study examining FAS children that had been exposed to a minimum of ten alcoholic beverages per week in the first, second, or third trimester of their mothers pregnancy and discovered that all of the children who participated in the study were found to exhibit cognitive deficits. These results display the severity of FAS and the potential need for interventions later in childhood. The most recent data from CDC (2020) which was analyzed from medical records, found that 6 to 9 children out of every 1,000 have FAS.

The current school district best practices for children with FAS are primarily sourced from guidelines organized by the CDC, which was funded by the U.S. Department of Health and

Human Services. One of the most common intervention plans used is from the National Organization on Fetal Alcohol Syndrome (NOFAS), which is in partnership with the CDC. They have developed a K-12 FAS education curriculum for teachers to implement with FAS students. The curriculum contains grade and age level appropriate information about the consequences of alcohol, the impact on human development, how to distinguish between harmful and healthy substances, and encouragement to be accepting of individuals regardless of their disability (NOFAS, 2020). Additionally, the curriculum provides teachers with information describing FAS, how to recognize children that might have the condition, and approaches to enhancing their performance in school. The materials within the curriculum need to be purchased by the school district, but because they are funded by a national source they are allowed to be reproduced without permission because they are in the public domain. The curriculum fills the needs for FAS education materials because it can be used in any general education classroom without intensive training. Lessons are available within the curriculum for teachers to use accessibly with FAS students, even if they do not have extensive knowledge on the topic. Attempts to find grounded research for this curriculum in order to evaluate its effectiveness have not yet been accessible. Therefore, evidence has not been found as to evaluation.

Prenatal Cocaine Exposure

Prenatal cocaine exposure (PCE) occurs when a child has been exposed to cocaine in utero by the pregnant mother (MGH Center, 2015). The effects on children are primarily related to behavioral and social setbacks. This is based on PCE research which finds that there are significant negative associations with sustained attention and self-regulation of behavior because of the amygdala-frontal pathway in the brain (Ackerman et al, 2010). Damage and disruptions in connectivity to the amygdala-frontal pathway is specific to children with PCE, which was

discovered during Ackerman et al's (2010) research that studied brain imaging of infants with PCE. This area of the brain plays a vital role in mood regulation, which commonly underlines frequent behavioral dysregulation. Impulsive and violent behavior are common in PCE children, in addition to be highly distractible, hyperactive, disorganized, and disruptive. Their social skills are hindered due to their inability to set boundaries or recognize appropriate social cues in speech and behavior. Behavior dysregulation is also a common symptom of opioid exposed children, as they similarly show symptoms of ADHD in terms of distractibility and hyperactivity (Ackerman et al, 2010). During the peak of the cocaine epidemic in the 1980's and 1990's, research conducted by ASCD (1993) found that teachers primarily struggled to control these students' behavior because PCE children could not comprehend cause and effect, both in academic lessons and social relationships. PCE and opioid exposed children are both impacted cognitively, which may influence their behavioral challenges.

As the crack/cocaine epidemic became more prevalent in the late 1980's, the Los Angeles Unified School District (LAUSD) was among the first to begin a pilot program for PCE children. The pilot consisted of creating Intervention Classrooms that were specifically designated for elementary aged PCE students. At the time of the onset of the pilot in 1987, the LAUSD would typically spend $4,000 per child per year to educate a student in a regular classroom. In comparison to the Intervention Classrooms which would cost $18,000 per child per year (Lumsden, 1990). Therefore, the pilot was a heavy financial investment. ASCD (1993) suggests that the earlier intervention occurs for PCE students, the more impact it can have on future outcomes. This pilot was for elementary aged children, who would spend a total of 1-3 years in the Intervention Classroom before being integrated into general education classrooms. According

to LAUSD (1989), attention was given to the following areas while creating the Intervention Classrooms which aimed to promote optimal development among PCE children:

- An appropriate teacher/student ratio that promotes attachment in order to provide adequate nurturing and an example of healthy relationships.
- A highly predictable schedule with daily routines. Avoidance of unexpectedness within reason. Teachers are instructed to use one teaching modality to create consistency.
- An organized environment with materials and equipment that can easily be removed to reduce stimuli.
- Special care and attention to transition time throughout the day because transitional periods can assist children in learning how to deal with changes in their lives.
- High attention to student's language, social, emotional, cognitive, and motor development.

The LAUSD chose to use this pilot program in the hopes of assisting their PCE impacted students. The success of the pilot program has allowed for it to be a permanent program within the LAUSD and led staff members that worked in the Intervention Classrooms to systematically document the strategies they found to be effective. Their effective strategies have significantly influenced the field of those working with children prenatally exposed to drugs and has now been published as a practical guide titled *Today's Challenge: Teaching Strategies for Working with Young People Pre-Natally Exposed to Drugs/Alcohol*. It is now used by many other programs nationally as a model demonstrating best practices (Brady et al, 1994). Attempts to find grounded numerical research data for this curriculum in order to evaluate its effectiveness have proven difficult. Evidence has not yet been found as to evaluation measures. Nonetheless,

the design may be inspiring and applicable for school districts to examine while in pursuit of interventions for their opioid impacted students.

School Social Work

Alternative intervention models for opioid impacted students can be utilized by school social workers. A school social worker is a trained mental health professional who assist students with mental or behavioral health issues, classroom support, consulting with teachers or parents, in addition to providing individual or group counseling (School Social Work Association of America (SSWAA), 2020). They are hired by school districts to assist in home, school and community collaboration with the students' best interest in mind.

Individualized Education Program (IEP)

During two informal interviews with social work practitioners in Washington state school districts, it was repeatedly suggested that the most common and widely used intervention for opioid impacted students, or any student affected by drugs and/or alcohol is to create an IEP. A school social worker may be the person to observe and suggest that a student may need an IEP. After a student has been identified as struggling in ways such as academically, behaviorally, emotionally, or in other ways, an IEP is designed to meet their unique needs. This is a written legal document that consists of a plan of necessary programs and services that will help meet the students' needs in order for them to succeed and thrive in school (Understood, 2020). IEP's are covered by special education law, called the Individuals with Disabilities Education Act (IDEA). The federal and state guidelines for school social workers that work with students with IEP's are as follows:

- Collecting a social or developmental history on the child.
- Group or individual counseling with the child and their family members.

- Working collectively with family members regarding the child's living situation that may be affecting their ability to function in the school environment.
- Assembling school and community resources to assist the child in learning as effectively as possible.
- Developing positive behavioral intervention strategies.

(IDEA, 2020).

IEP's are relevant to the conversation regarding opioid impacted children for a number of reasons: Opioid exposed children are at an increased risk of exhibiting cognitive or behavioral impairments such as ADHD, in addition to speech and language impairments which can result in disabilities that require special education. Statistically, they are 1.3 to 1.4 times more likely to meet the criteria for exhibiting disabilities that require either an IEP or other special education services (Fill et al, 2018). It is estimated that in a single school year a school district will spend approximately $1,651, 548 on the special education services used by opioid exposed children specifically (Fill et al, 2018). School social workers may realize that there is an increase of opioid impacted children but IEP's are currently the only tool they have available to work with.

Communities that Care

Another intervention model that is applicable to opioid impacted students is Communities that Care (CTC). CTC is a social development strategy that coaches communities nationally through a strong evidence-based prevention science process that minimizes youth problems (CTC, 2020). It is an attempt to analyze the community as a whole and wonder what can be done collectively to help its children thrive. A diverse group of community members such as principals, school social workers, business owners, pastors, or other community leaders band

together to collectively invest in young people to provide them with opportunities and skills that protect them from health and behavior problems (CTC, 2020).

The CTC online platform openly provides data for those wishing to evaluate this strategy before implementing it into their community. Originally, CTC was tested in a randomized control trial consisting of 24 communities in 7 different states, which equaled 4,407 students that were observed from grade 5 to 8. Communities were randomly assigned to either receive CTC or to serve as a control community. By the end of 8th grade, students that were from the communities that had implemented CTC showed the following data:

- 25% less likely to be involved in violent and delinquent behavior.
- 32% less likely to use alcohol.
- 33% less likely to use cigarettes.

(CTC, 2020).

The following behaviors were sustained through 10th grade, which was over a year after the intervention trial had been completed. CTC is applicable to opioid exposed students specifically because it addresses two areas of concern that these children have shown to digress into from childhood to adulthood. For example, opioid exposed children are twice as likely to exhibit problematic behaviors in comparison to non-exposed children (Larson et al, 2019). Additionally, they have a predisposition to addiction as they are more than twice as likely than non-exposed children to develop a drug use disorder in adulthood (Oei, 2018). Both of these behaviors are addressed in the CTC strategy; therefore, it may be suggested to be a viable option to school districts and communities to invest in for their opioid impacted students.

Discussion

After reviewing the literature, there were aspects from a number of promising solutions that addressed the issue of opioid exposed children and school district plans that may be applicable in my community.

There were commonalities within the interventions from Model 1 and Model 2 that may be relevant, realistic, and worthy of consideration within my community. Both of the school districts from Model 1 and 2 found success in the interventions that were implemented within their schools to address the growing number of students that were opioid impacted. First, both districts acknowledged their unusual financial positions that allowed them to employ extra mental health staff members due to the additional federal and state funding that they had received. Many school districts that are seeking options for their opioid impacted students will not have extra funding to spend on employing additional staff members to assist these students. However, both school districts utilized Medicaid to provide students and their families with counseling support provided by local mental health centers. Many families in compromised positions may not be comfortable seeking support through their child's school, as they might fear the social stigma and shame attached to their life circumstances. Nevertheless, providing families with alternative options such as counseling and support provided by Medicaid may be more realistic and obtainable for opioid impacted families. 57% of students enrolled in my school district qualify as low-income status, therefore Medicaid may be obtainable already (OSPI, 2020). Introducing parents in the community to the idea of free counseling support for themselves or as an entire family unit may benefit their opioid exposed child.

Secondly, both districts were fixated on meaningful relationship building with students. This was displayed either through classroom management designed with a trauma lens (Model 1), or

weekly support group meetings for students (Model 2). One interesting and innovative design that was implemented in Model 2 was the pull-out support. In any school, including the ones in my community, it is common for students to be pulled out of their general education classroom to receive additional services provided by the school. These can range from English language learners, occupational therapy, speech, or special education. However, the district mentioned in Model 2 chose to schedule support group meetings for students in a similar fashion as they would for any pull-out support. Originally, the students participating in support group meetings were those that were opioid impacted, but eventually the service became available for the entire student body because it acknowledged the social emotional learning curriculum and was beneficial to all students. Therefore, every student in the entirety of the district is pulled out of their classroom at least once a week to participate in their support group meeting. This is an achievable goal that any school district could introduce that has a desire to implement social emotional wellness among their students, particularly those that have experienced trauma or are opioid impacted.

I believe this solution specifically could be implemented in the school district in my community, although additional time for organization and training would be needed. Many students are already receiving pull-out services for various reasons, therefore the organization of group meetings for students that are the most in need could be realistic. Similar to the school district in Model 2, implementation for group meetings was slow and selective. Only students that were desperately in need of intervention were originally using services. However, after it became obvious that students were benefiting from the meetings, even enjoying them, the entire student body eventually began to use this service. My school district has both school counselors and school social workers on staff, both of which could be utilized for this service.

Moreover, after reviewing the past and present interventions that were discussed for FAS and PCE students, it appears as if much can be learned from previous drug epidemics and how school districts chose to accommodate impacted students. Considering budget restrictions, it may be intimidating for districts to contemplate implementing any intervention that may be costly. However, seeing as the opioid epidemic is continuing to grow, the initial investment of designing and implementing an intervention plan may outweigh the future costs to opioid affected students. The current worries surrounding opioid affected students align with the worries that existed for FAS students in the 1970's and PCE students in the 1980's and 1990's. Strong intervention plans were not in place for a few decades, although information and training is now readily accessible. While the opioid epidemic continues to rise and more students become affected, it may be worthy for school districts to examine what educators did for drug impacted students during past drug epidemics.

Lastly, the strong evaluation data provided by CTC shows that this strategy is highly successful in the communities that it has been tested and completed integrated into. Although this strategy would require an investment from community members beyond the school district, I believe the investment would be beneficial to everyone in my community that is impacted by the opioid epidemic, beyond just students. Addressing the adults in the community that are the root of the issue regarding opioid usage, which in turns end up affecting the children in our community, would acknowledge the source of the problem and those that it trickles down to. As a member of my community for over 30 years, I have personally seen the slow downfall of the area that I live in and watched as the opioid crisis has unfolded over the past few decades into the present. Therefore, I have confidence that leaders in my community would at the very least take in interest in the strategy that CTC has to offer.

Conclusions/Implications

Within the instructional context that this study was originally designed for, it may be realistic to suggest a design that contains pull-out services for opioid impacted students. A suggestion for analysis of sufficient personnel could seek out staff members such as school counselors or school social workers that could meet with these students weekly or daily. Or, educators could be trained on skills to efficiently meet with students. A focus on student well-being, as shown in other research designs, was shown to greatly improve students' mental health which later translated to academic growth.

While attempting to conclude the array of strategies that school districts nationally and locally have attempted to implement, it appears as if one-on-one interventions may be best suited for impacted students, rather than immediately creating an IEP, or placing impacted students in a designated classroom together. I believe the old ways of accommodating these students are not working, they are not applicable impactions for the future where there is projected to be a future influx of opioid impacted students. The long-term and overarching goal for accommodating these students needs to be more progressive and capable of addressing them in a more in-depth and intensive manner. As mentioned, one-on-one interventions may be most suitable. Using school employees that are already staffed by the district seems like a realistic beginning point for intensive interventions. Over the next decade, if the amount of opioid impacted students continues to grow, school districts may consider seeking federal grants for additional staff members that may be experts in this area. This aligns with The Comprehensive Guidance and Counseling Plan which calls for greater staffing of counseling and social workers in schools. These professions have been advocating for an increase in personnel in these areas as the need for them has become more significant.

Limitations

As the opioid epidemic reaches into its fourth decade and the issue has continued to escalate, the children impacted are only now becoming a focal point. While researching the background of the opioid epidemic and the affects that it has on children developmentally, behaviorally, and academically, there were limitations within the longitudinal data that was available. The majority of data within this study did not extend beyond middle childhood. As the issue is becoming too large to ignore, researchers may consider focusing on the longer-term impacts on opioid exposed children and how they will be affected in various ways into adulthood.

Recommendations

Recommendations for improvements in re-designing this study would be to conduct a full examination of the problem. This study was more specifically focused on how children are impacted and what it is that school districts currently do for them or could consider doing. However, there are various additional elements that could be considered while examining the problem. For instance, rather than solely focus on the impacts of opioid exposure in-utero, consider widening the scope of that conversation by including socioeconomic issues, the quality of care that a child may be receiving, ACEs, the environment and the individuals that they are exposed to, or various aspects of an individual's growth process. Including these elements that are equally as worthy of consideration may add to the growing body of research. Additionally, a research study that encompasses all of those elements may allow for school districts that are pondering this problem to gain a better understanding of the complete problem, rather than certain elements of it as this study contained.

Question

What can school districts do to include or improve services for their opioid impacted students considering there may be a future influx of them?

Proposed Design

The proposed design for this research study will be discussed through a 2-step process for both short and long-term goals. The design is inspired by the CTC framework, which consisted of 5 cohesive steps that communities work through as they collaboratively work together to invest in their community. This design involves a 2-step process that school districts can adopt if they are wishing to implement an intervention plan for their opioid exposed students. Districts may feel inclined to invest in an intervention plan after learning that the most recent data from the National Institute on Drug Abuse (2020) finds that the incidence rate of infants born exposed to opioids has more than doubled in the past decade, a number that is projected to continue growing (9.7 cases per 1,000 births).

Step 1- Short Term Goal:

The goal within Step 1 is to have knowledgeable staff members on both the opioid crisis and how it impacts children. Therefore, the recommended first step is required professional development on the opioid crisis for all educators and staff members working with the student body. The focus of training is on the impact of the opioid crisis on young children. This could include pre-and post-training questions to assess learner knowledge. Modules could include:

- A general overview of addiction and the current status of the opioid epidemic. Including data that shows overdose rates locally, foster care rates, incidence rates of behavior challenges, and academic scores of impacted children.

- An outline of brain development for individuals exposed to opioids in-utero, with both short and long term affects. Additionally, a summary of developmental outcomes of prenatal exposure, such as Neonatal Abstinence Syndrome (NAS).
- Strategies to work with exposed children in the classroom, including trauma-informed care, behavior strategies, and intensive therapies.
- In-person interviews with experts, foster families, or recovered families that could provide testimony of effective strategies to use with exposed children. Scenarios from personal experiences could be use as examples. Generally, this could provide a review of family systems and their impact on students' behaviors. Additionally, experts and families could also provide strategies for interacting with parents and students.
- Strategies for teachers to use for their own self-care to assist with classroom management and help to prevent teacher burnout as it applies to the opioid epidemic.

Step 2- Long Term Goal

After Step 1 is completed in this proposal and staff members are knowledgeable on both the opioid crisis and how it impacts children, Step 2 will begin and contains long-term goals for implementation. This step is inspired by Model 2 mentioned in the literature review which discussed the school district in New Hampshire that provided school-based mental health services for their opioid impacted students, which later became part of their essential school structure. Step 2 will contain the following:

- A daily or weekly pull-out service for opioid impacted students once they are identified or suspected of opioid exposure. Daily services will be provided to students with the most extreme emotional and behavioral needs, and weekly services will be provided to those that are less severe, but still impacted.

- This pull-out service will be organized in a similar fashion as any other service that students utilize, such as speech, physical therapy, ELL, etc.
- The service will be a one-on-one support meeting with the student and a school social worker and/or behavior specialist. School districts may not have the funding for these additional staff members in their budget. There are federal substance-abuse, mental-health and justice department grants available to school districts in need of these employees.
- Meetings will last for 30 minutes, as does any other pull-out service. Students that are of higher concern can choose to also do a 10 minute "check in" at the beginning of the day to set goals for their day, and a 10 minute "check out" to review how their day went.
- Topics discussed during these meetings can range from emotional support, family support (adjusting to a new foster family, incarcerated parents, neglectful parents, siblings that are separated), friendship matters, self-advocacy, communication skills, or collaborative behavior strategies where the student has an input in how they feel they could better control their behavior. Teachers will now be knowledgeable of the signs to look for in opioid exposed students and may feel confident in suggesting they utilize this service.

In summary, schools offer the most efficient hope for stemming students out of our opioid crisis through these small but significant changes. The goal within Step-1 is to create a team of knowledgeable educators so that moving forward, educators will have the ability to understand, identify and assist these students. The goal within Step-2 is to place a higher value on student well-being. Weaving extra support into the fabric of each school day may allow opioid impacted students to flourish. They are not psychologically ready to learn because they are

suffering from cognitive and developmental problems. They cannot be expected to sit quietly, memorize their lessons, and manage their basic frustrations associated with learning. The overarching goal is to identify them and prioritize their well-being in order for learning and healing to follow.

Purpose

The purpose of this design is to improve and/or include services for opioid impacted students in schools through (1) requiring training for educators on the impacts of the opioid crisis on students; (2) placing impacted students in daily or weekly support group meetings; (3) increasing student well-being in the hopes of increasing their academic abilities.

Outcomes

- **Short-Term Outcomes:** Having all staff members that work with the student body to be knowledgeable on the opioid crisis and how it affects students developmentally, behaviorally, and academically. This may allow for educators to have a new level of compassion, understanding, and confidence in identifying and assisting these students. Training is a short-term practice that will be applicable to long-term outcomes.
- **Long-Term Outcomes:** To have a well established and long-term program within the school district that prioritizes student well-being. The design of this program may look different initially than it does after it has been tailored to student needs, schedules, and available staff members. However, the overarching goal is to have a program in place and have impacted students utilizing it.

Theory of Change

In order to address the growing number of children impacted by the opioid crisis, it is my belief that if school districts adopt an ongoing intervention program for opioid impacted students to address their developmental, emotional and behavioral needs, it will increase their mental well-being, academic achievement and better serve their needs. It is believed that a once a child's trauma is addressed through relationship building and gaining a sense of security, their limbic system becomes calmed and regulated. In turn, this allows for connections to be made to the prefrontal cortex, which allows learning to occur.

Structure

- Training for school staff members on the opioid crisis. Staff have one-year to complete a training program that the district provides for them. This can be part of their required ongoing education credits.
- Implementation of daily or weekly support meetings for impacted students. Personnel required are school counselor(s) and school social worker(s).

Differentiation

Depending on the severity of the impacted student, support meetings can be daily or weekly. This will be based on their individual needs. More extreme cases may call for daily meetings. Less extreme cases may call for only weekly meetings.

Assessment Options

Assessment #1: Pre- and post-training evaluations. Before staff members participate in a training session focused on opioid impacted students, they will be evaluated by a trainer to gauge their current level of understanding in the crisis. This can be done individually or

collectively as a group of participants. Furthermore, after training is completed, educators will be evaluated again to re-cap on the issues discussed and how students can be identified and assisted.

Assessment #2: Identification from IEP's. To measure the number of students receiving accommodation for opioid impacts, IEP's will be referred to in order to identify who these students are that will be need support group services. Once identified and placed in daily/weekly support meetings, students will be evaluated based on their ACE scores. This will gauge their level of severity based on emotional and behavioral needs. This will take place before meetings have begun.

Assessment #3: Support Group Meeting Evaluations. Evaluations will measure students' behavioral and academic record before meetings begin and then monthly (or bi-monthly) once students are participating in groups. Behavioral records will identify any behavioral discrepancies that have taken place. Academic records will note students' academic progress since participating in the support program.

References

Ackerman, J., Riggins, T. & Black, M. (2010). *A review of the effects of prenatal cocaine exposure among school-aged children.* https://pubmed.ncbi.nlm.nih.gov/20142293/

American College of Obstetricians and Gynecologists (2012). *Maternal drug use and its effects on neonates.* https://www.researchgate.net/figure/Trends-in-prenatal-drug-exposure-and-neonatal-abstinence-syndrome-in-Washington-State-and_fig1_224825213

American Society of Addition Medicine (2016). *Opioid addiction: 2016 facts and figures.* https://www.asam.org/docs/default-source/advocacy/opioid-addiction-disease-facts-figures.pdf

Armstrong, E. & Abel, E. (2000). *Fetal alcohol syndrome: The origins of a moral panic.* https://academic.oup.com/alcalc/article/35/3/276/208920

ASCD (1993). *Helping crack-affected children succeed.* http://www.ascd.org/publications/educational_leadership/dec92/vol50/num04/Helping_Crack-Affected_Children_Succeed.aspx

Bada, H. (2014). *Neurodevelopmental outcomes of children with prenatal opiate exposure.* https://www.azdhs.gov/documents/prevention/womens-childrens-health/injury-prevention/prescription-drugs/short-and-long-term-outcomes-bada.pdf

Baldacchino, A., Arbuckle, K., Petrie, D., & McCowan, C. (2014). Neurobehavioral consequences of chronic intrauterine opioid exposure in infants and preschool children: A systematic review and meta-analysis. *BMC Psychiatry 14*(104), 1-13. https://bmcpsychiatry.biomedcentral.com/articles/10.1186/1471-244X-14-104

Bennett, D. & Carr, D. (2002). *Opiophobia as a barrier to the treatment of pain.* https://pubmed.ncbi.nlm.nih.gov/14650454/

Berkeley County Schools (2020). *The Martinsburg initiative.* https://www.berkeleycountyschools.org/domain/5783

Brady, J., Posner, M., Lang, C., & Rosati, M. (1994). *The implications of prenatal exposure to alcohol and other drugs.* https://aspe.hhs.gov/basic-report/risk-and-reality-implications-prenatal-exposure-alcohol-and-other-drugs

Broder, E. (n.d.). *Pregnancy and substance use: Alcohol, crack cocaine, and opioids in medicine, culture, and women's lives.* https://projects.iq.harvard.edu/files/historyopioidepidemic/files/emma_broder_paper_june_15.pdf

Brown, P., Corrigan, M., & Higgins-D'Allesandro, A. (2012). *Handbook of prosocial education.* Rowman & Littlefield Publishers.

Center on the Developing Child (2020). *Take the ace quiz and learn what it does and doesn't mean.* https://developingchild.harvard.edu/media-coverage/take-the-ace-quiz-and-learn-what-it-does-and-doesnt-mean/#:~:text=An%20ACE%20score%20is%20a,health%20problems%20later%20in%20life.

Centers for Disease Control and Prevention (CDC) (2018). *Opioid use disorder documented at delivery hospitalization- United States- 1999-2014.* https://www.cdc.gov/mmwr/volumes/67/wr/mm6731a1.htm

Centers for Disease Control and Prevention (CDC) (2020). *Fentanyl.* https://www.cdc.gov/drugoverdose/opioids/fentanyl.html

Centers for Diseases Control and Prevention (CDC) (2020). *Adverse childhood experiences.* https://www.cdc.gov/violenceprevention/aces/index.html

Centers for Disease Control and Prevention (CDC) (2020). *Drug overdose deaths.* https://www.cdc.gov/drugoverdose/data/statedeaths.html

Centers for Disease Control and Preventions (CDC) (2020). *Fetal alcohol spectrum disorders.* https://www.cdc.gov/ncbddd/fasd/data.html#:~:text=The%20most%20recent%20CDC%20study,to%209%20years%20of%20age.&text=Studies%20using%20in%2Dperson%20assessment,9%20out%20of%201%2C000%20children.

Centers for Disease Control and Prevention (CDC) (2020). *Opioid data analysis and resources.* https://www.cdc.gov/drugoverdose/data/analysis.html

Collins, C. (2018). *The opioid crisis.* https://www.tolerance.org/magazine/summer-2018/the-opioid-crisis

Communities That Care (2020). *Social development strategy.* https://www.communitiesthatcare.net/how-ctc-works/social-development-strategy/

Double ARC Center for FASD (2020). *Triumph through the challenges of FAS.* http://www.doublearc.org/facilitator-training/

Education Commission of the States (2019). *Education policy responses to the opioid crisis.* https://www.ecs.org/wp-content/uploads/Education-Policy-Responses-to-the-Opioid-Crisis.pdf

Fill, M., Miller, A., Wilkinson, R., Warren, M., Dunn, J., Schaffer, W. & Jones, T. (2018). *Educational disabilities among children born with neonatal abstinence syndrome.* https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6947655/

Haggerty, K. & Hawkins, D. (2019). *To make more progress on fighting opioid addiction, communities should start with youth early in proven programs that prevent misuse of*

drugs. https://www.seattletimes.com/opinion/invest-in-proven-prevention-programs-to-stem-addiction-epidemic/

Heller, D. (2018). United States: Heller helps introduce bill to support treatment for babies exposed to opioids. *MENA Report*, *24*(1), 1-3. https://search-proquest-com.proxy.cityu.edu/docview/2058353105/fulltext/3E79EF4730894F38PQ/1?accountid=1230

Hunt, R., Tzioumi, D., Collins, E. & Jeffery, H. (2008). A*dverse neurodevelopmental outcome of infants exposed to opiate in-utero.* https://www.sciencedirect.com/science/article/abs/pii/S0378378207000278

Individuals with Disabilities Education Act (IDEA) (2020). *Sec. 300.34 related services.* https://sites.ed.gov/idea/regs/b/a/300.34

Kids Count (2018). *Neonatal abstinence syndrome.* https://wvkidscount.org/wp-content/uploads/2019/06/NAS_29480-Kingery-Kids-Count-Brief.pdf

Kentucky Chamber Work Force Center (2019). *Opioid abuse in Kentucky: The business community's perspective.* https://www.kychamber.com/sites/default/files/pdfs/Opioid%20Abuse%20in%20Kentucky%202019%20-%20website.pdf

Kneebone, E. & Allard, S. (2017). *A nation in overdose peril: Pinpointing the most impacted communities and the local gaps in care.* https://www.brookings.edu/research/pinpointing-opioid-in-most-impacted-communities/.

Konijnenberg, C. & Melinder, A. (2011). Prenatal exposure to methadone and buprenorphine: a review of the potential effects on cognitive development. *Child Neuropsychology*, *17*(5), 495-515. https://pubmed.ncbi.nlm.nih.gov/21480011/.

Laconia School District (n.d.). *Project AWARE laconia youth mental health first aid.* https://laconiaschoolwellness.weebly.com/project-aware.html

Larson, J., Graham, D., Singer, L., Beckwith, A., Terplan, M., Davis, J., Martinez, J., & Bada, H. (2019). *Cognitive and behavioral impact on children exposed to opioids during pregnancy.* https://pediatrics.aappublications.org/content/144/2/e20190514

Lee, S., Woodward, L., & Henderson, J. (2019). Educational achievement at age 9.5 years of children born to mothers maintained on methadone during pregnancy. *PLoS One, 14*(10), 1-13. DOI:10.1371/journal.pone.0223685.

Lester, B. & Lagasse, L. (2010). Children of addicted women. *PMC, 29*(10), 259-276. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4451952/.

Lexington Herald Leader (2019). *New Kentucky law puts newborns exposed to opioids at risk by punishing pregnant women*. https://www.kentucky.com/opinion/op-ed/article230218569.html

Liu, L., Pei, D., & Soto, P. (2020). *History of the opioid epidemic: How did we get here?* https://www.poison.org/articles/opioid-epidemic-history-and-prescribing-patterns-182#:~:text=The%20Full%20Story&text=The%20first%20wave%20began%20in,for%20the%20treatment%20of%20pain.

Los Angeles Unified School District (1989). *Today's challenge: Teaching strategies for working with young children prenatally exposed to drug/alcohol.* https://www.ericdigests.org/pre-9216/drug.htm

Lumsden, L. (1990). *Meeting the special needs of drug-affected children.* https://www.ericdigests.org/pre-9216/drug.htm

Manchikanti, L., Fellows, B., Ailinani, H., & Pampati, V. (2010). Therapeutic use, abuse, and nonmedical use of opioids: a ten-year perspective. *Pain Physician, 13*(5), 401-435. pubmed.ncbi.nlm.nih.gov/20859312/.

Mannarino, A., Cohen, J., & Deblinger, J. (2012). *Trauma focused cognitive behavioral therapy for children: Sustained impact of treatment 6 to 12 months later.* https://journals.sagepub.com/doi/10.1177/1077559512451787

Maryland Attorney General (2019). *Consumer protection division of the office of the attorney general.*https://www.marylandattorneygeneral.gov/News%20Documents/052919_Purdue_Pharma_Amended_SOC.pdf

Mayo Clinic (2020). *Fetal alcohol syndrome.* https://www.mayoclinic.org/diseases-conditions/fetal-alcohol-syndrome/symptoms-causes/syc-20352901#:~:text=Fetal%20alcohol%20syndrome%20is%20a,alcohol%20syndrome%20are%20not%20reversible.

McGreal, C. (2018). *American overdose: The opioid tragedy in three acts.* Faber.

MGH Center (2015). *Prenatal cocaine exposure and its affects on the developing brain.* https://womensmentalhealth.org/posts/prenatal-cocaine-exposure-and-its-effect-on-the-developing-brain/

Morgan, P. & Wang, Y. (2019). *Deaths, dollars, and diverted resources.* https://www.ajmc.com/view/opioid-epidemic-neonatal-abstinence-syndrome-estimated-costs-special-education-services

National Center on Safe Supportive Learning Environments (2018). *The opioid crisis and K-12 schools: Impact and response webinar.*

https://safesupportivelearning.ed.gov/sites/default/files/icons/NCSSLE_Opioid%20Webinar_QA_FINAL_6-25-18.pdf

National Institute on Drug Abuse (2020). *Heroin research report.* https://www.drugabuse.gov/publications/research-reports/heroin/scope-heroin-use-in-united-states

National Institute on Drug Abuse (2020). *Washington: Opioid involved deaths and related harms.* https://www.drugabuse.gov/drug-topics/opioids/opioid-summaries-by-state/washington-opioid-involved-deaths-related-harms

National Institute on Drug Abuse (2018). *Overdose death rates.* https://www.drugabuse.gov/drug-topics/trends-statistics/overdose-death-rates

National Organization for Fetal Alcohol Syndrome (2020). *Tools for parents and caregivers.* http://www.nofas.org/parents/

New Hampshire Department of Education (2020). *Bureau of student wellness.* https://www.education.nh.gov/who-we-are/division-of-learner-support/bureau-of-student-wellness

Oei, J. (2018). *Adult consequences of prenatal drug exposure.* https://onlinelibrary.wiley.com/doi/10.1111/imj.13658

O'Neil, P. (n.d.) *4 reasons behind fentanyl's deadly rise in popularity.* https://www.castcenters.com/blog/4-reasons-behind-fentanyls-deadly-rise-in-popularity.

OSPI (2020). *Eligibility for special education.* https://www.k12.wa.us/student-success/special-education/guidance-families-special-education-washington-state/eligibility-special-education

Owens, V. (2016). *Shephard becomes partner in the martinsburg initiative.* https://www.shepherd.edu/news/shepherd-becomes-partner-in-the-martinsburg-initiative/

Poison Control (2018). *History of the Opioid Epidemic.* https://www.poison.org/articles/opioid-epidemic-history-and-prescribing-patterns-182

Ramo, I., Autti, T., Korkman, M., Kettunen, S., Salonen, O. & Valanne, L. (2002). *MRI findings in children with school problems who had been exposed prenatally to alcohol.* https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.1469-8749.2002.tb00294.x

Rowe, C. (2018). *The nation's opioid crisis is taking its toll on children across the Puget Sound region: Here's how schools could offer hope.* https://www.seattletimes.com/education-lab/in-opioid-crisis-schools-are-on-the-front-lines-but-slow-to-get-help/

Rowe, C. (2018). *The opioid crisis comes to the classroom as soaring numbers of children born in drug withdrawal reach school age.* https://www.seattletimes.com/education-lab/the-littlest-children-of-opioid-addicts-are-throwing-schools-into-unprecedented-turmoil-heres-what-new-hampshire-is-doing-about-it/

Ryan, T. & Riva, S. (2015). *Effects of self-regulating behavior on young children's academic success.* https://www.researchgate.net/publication/282744852_Effect_of_Self-Regulating_Behaviour_on_Young_Children's_Academic_Success

School Social Work Association of America (2020). *Role of school social worker.* https://www.sswaa.org/school-social-work

Sherman, L., Mutter, R. & Larson, J. (2018). *Mental disorders among children born with neonatal abstinence syndrome.* https://ps.psychiatryonline.org/doi/full/10.1176/appi.ps.201800341

Sightline Institute (2018). *Almost 1 percent of Washington newborns go through withdrawal from opioids*. https://www.sightline.org/2018/05/22/almost-1-percent-of-washington-newborns-go-through-withdrawal-from-opioids/#:~:text=In%20Washington%20alone%2C%20the%20number,a%20prescribed%20medication%20like%20methadone.

Snohomish County Washington (2020). *The Opioid Crisis.* https://snohomishcountywa.gov/3948/The-Opioid-Crisis

Stanford Children's Health (2020). *Neonatal Abstinence Syndrome.* https://www.stanfordchildrens.org/en/topic/default?id=neonatal-abstinence-syndrome-90-P02387.

Understood (2020). *What is an IEP?* https://www.understood.org/en/school-learning/special-services/ieps/what-is-an-iep

United States Department of Health and Human Services (HHS) (2017). *HHS acting secretary declares public health emergency to address national opioid crisis.* https://www.hhs.gov/about/news/2017/10/26/hhs-acting-secretary-declares-public-health-emergency-address-national-opioid-crisis.html

United States Drug Enforcement Administration (DEA) (2020). *Fentanyl.* https://www.dea.gov/factsheets/fentanyl

Waller, M. (1993). *Survey of teachers of crack affected children.* http://www.ascd.org/publications/educational_leadership/dec92/vol50/num04/Helping_Crack-Affected_Children_Succeed.aspx

Washington State Health Services (2016). *Maternal and Newborn Inpatient Stays with a Substance Use or Use-Related Diagnosis.*

https://www.ofm.wa.gov/sites/default/files/public/legacy/researchbriefs/2016/brief075.pdf

Yeoh, S., Eastwood, J., & Wright, I. (2019). Cognitive and motor outcomes of children with prenatal opioid exposure: A systematic review and meta-analysis. *JAMA*, *2*(7), 197-205. https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2737902.

Author's Note

Having an interest in the opioid epidemic is a newfound passion for me. Last year I unexpectedly began to care for my nephew because he was born severely addicted to opioids. I am now in the process of adopting him and have felt the weight of motherhood and the responsibility to seek a great future for my son. While deliberating over a topic to write about for my research project in order to obtain my Master's degree, this subject seemed like the perfect topic for me to invest my energy into. The information has been hard to digest because as I am learning, the information I have been gaining has been applicable to my present life. Particularly the withdrawal symptoms. I live in a community and am part of a family that has been harshly impacted by the opioid epidemic, therefore the information I have gained from this research has been helpful to me in better understanding my environment and the story of my family. I hope to become an advocate for children like my son that are born exposed to opioids and continue to seek a hopeful future for them that is accommodating to their needs. As a community member, a mother, and a future educator, this study has been one of the more enriching moments in my life and I hope to use the things that I have learned to become a better version of myself in all of those titles that define me.