Joining the Fight Against the Opioid Epidemic through the Head Start Program in Lowell, MA

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Abstract:

The Head Start Program is a nationwide, federally funded program that promotes school readiness and family well-being. The program has felt the impact of the worsening opioid epidemic and have identified their unique role in identifying families with members suffering from substance use disorders. They have partnered with UMass Medical School in the hopes to connect members of their community to evidence-based treatment options. In order to do this, two medical students have identified through literature review that effective treatment includes medication-assisted therapies, physician supervision, and recovery services that include behavioral therapy. Information regarding local and statewide treatment options are gathered together and included in an informational pamphlet. The pamphlet is given to families who have disclosed to Head Start Administration that one of their members is struggling with a substance use disorder. The pamphlet is written in layman’s terms and offers more than one option for treatment.

Introduction:

One morning at the Head Start Program in Lowell, Massachusetts, a woman was found unconscious in the bathroom on the basement floor. The mother had overdosed on opiates she had administered to herself. Thankfully, the site director was well-trained and had the appropriate rescue medication readily available. She began to resuscitate the patient until emergency services arrived.

The Head Start program is a federally funded program of the United States Department of Health and Human Services that promotes school readiness and family well-being in children from birth to age five who meet specific criteria. The criteria include living at or below the poverty line, living in foster care, homelessness, receiving public assistance, and living with a disability. The Head Start program provides early childhood education, health, nutrition, and parent involvement services. (Office of Head Start Services, 2020). This successful program has recognized their unique position in identifying families affected by substance use disorders in the city of Lowell where fatal overdoses have been rising since 2014 (Commonwealth of Massachusetts, 2020). Head Start Administrators have decided to join the fight against the opioid epidemic. The Head Start administrators are creating a survey that will better investigate which families need help to overcome the effects of substance use. They are passionate about their mission to help each child that is enrolled in Head Start and recognize a safe and healthy environment at home is essential for each of their students. However, the program does not provide direct services to families affected by substance abuse, it is within the scope of the Head Start Performances Standards to collaborate with programs that do provide these services (Collins & Anderson, 1991). As such, we aim to forge collaborations with existing facilities close to Head Start in Lowell.

It was determined that an informational pamphlet be created with details about substance use disorder services in Lowell and nearby towns. Ideally, as families make their situations
known to the Head Start directors, the pamphlet with essential information can be given to each member of the family. The pamphlet details the most common signs and symptoms of substance use disorders. Through this resource, each member is made aware of the “warning” signs, how to administer Narcan®, and which pre-existing services can be utilized by family members and the patient who is suffering from an addiction.

Of note, the COVID-19 pandemic has shifted the focus of many of the public health officials in the area while simultaneously temporarily postponing many outpatient services. For example, the current Field Officer for Emergency Medical Services offered by Trinity EMS (the ambulance company that responds to all emergency medical calls made in Lowell) who provided information regarding safe needle drop-off sites throughout Lowell, MA is no longer able to focus attention on networking with Head Start Administrators. Project goals were adjusted to accommodate unforeseen changes including concentration on the completion of the systematic review of literature and consolidation of local, existing addiction services found online.

The goals for the project include a thorough literature review of evidence-based methods to decrease opioid use in Lowell, MA; a review of the prevalence and incidence of opioid use in Lowell, MA; and creation of an informational pamphlet with essential information of families enrolled in Head Start in Lowell. The goal for the pamphlet is to detail the telltale signs and symptoms of a substance use disorder and to consolidate local, pre-existing addiction services with appropriate contact information.

Methods

1. Data Collection and Resource Gathering

Starting at Google.com, “Lowell, MA Opiate use statistics” was searched. The top three public health links used to provide current data on incidence and prevalence of opiate use and fatal opiate overdoses in Lowell, MA. Pubmed® searched to identify peer review articles regarding treatment and prevention of substance use disorders, including search terms: “prevention substance use disorder”, “substance use disorder”, and “addiction services”. A search of publications in the public domain was conducted to scrutinize relatively up-to-date data and strategies on combating substance use and opioid addiction. A google search was completed to identify Lowell area services, including search items: “Needle-drop off Lowell, MA”, “addiction services in Lowell”, “counseling for substance use disorders Lowell”, “Opiate use disorder in Lowell”, and “Opioid epidemic collaboratives in Lowell”. Finally, a simple “UpToDate” entry of “signs and symptoms of substance use disorder” and “opioid overdose” was performed. The articles cited by the “UpToDate” page were used as references for the common signs and symptoms.

2. Pamphlet Creation

The information gathered was directly integrated to create an informational pamphlet (appendix A) by the two authors of this paper. Within Microsoft Word, a blank document was
formatted into three columns. The first page of the document (the outside of the pamphlet) detailed what substances qualify as addictive and tolerance-forming, the signs of an overdose, when to administer Narcan®, and the telltale signs of substance use disorders. The second page of the document (the inside of the pamphlet) detailed what pre-existing services are available in Lowell, MA and nationally. Each service was separated into categories: prevention services, treatment facilities, detoxification services, support groups, virtual education, Narcan® pickup, medication disposal sites, needle drop-off sites, and hotline services. Each service was listed by title with the best way to reach each facility (mostly by phone number). The document was made into a blue background. The UMass Medical School logo and Head Start logo were added to the top left and right corners. Finally, logos for each of the facilities were added to their corresponding names.

Results:

Review of Available Data, Literature and Resources

The first-time fentanyl was documented in Lowell was on July 20, 2007. Since then, opioid use disorder has become more commonplace. In 2016, 687 confirmed opiate overdose cases occurred with 62 confirmed fatalities. In 2018, 64 people died due to opioid use. (Appendix B) Most non-fatal and fatal overdoses occurred on the weekends and about 70% of fatal overdoses occurred at a private residence (Commonwealth of Massachusetts, 2020). Occupational groups with high rates of occupational related injuries, job insecurity, and no paid sick leave have shown to have higher rates of overdose deaths within MA (Hawkins, Roelofs, Laing & Davis, 2019). Within the US, there were 67,367 drug overdoses in 2018, 70% attributed to opioids. Of those, MA had 1,991 drug overdoses in 2018 with 88% of the deaths involving opioids. With the ever-rising numbers of intravenous drug users comes the rising numbers of HIV diagnoses attributed to the opioid epidemic. In 2017, MA saw a significant rise in incidence of opioid-related HIV diagnoses. Public health officials are also concerned with the rising incidence of Neonatal Opioid Withdrawal Syndrome cases, rising from 7 to 13.7 cases per 1,000 in just one year within the state of MA (National Institute on Drug Abuse, 2020).

Existing Services in the Lowell, MA Area

In response to rising numbers, multiple and ongoing city-wide measures to control opioid overdoses were created by the City of Lowell opioid use taskforce, including Narcan® distribution and training of high-risk populations, promoting safe needle use, developing weekend preparedness plans to encourage preparation of supplies and information for the weekend and educating families and healthcare providers (City of Lowell MA, 2019). All tasks were detailed on their website. Individuals can currently obtain Narcan® without a prescription from a local pharmacy in Massachusetts. The focus of the Overdose Education and Naloxone Distribution (ONED) program in Lowell is on providing education on how to effectively respond to an opioid overdose (Massachusetts Department of Public Health, 2020).
Department is working to develop a Massachusetts Prescription Awareness Tool to help better monitor opioid prescribing throughout the state (Prescription Drug Monitoring Program Training and Technical Assistance Center, 2018).

Nationwide, there is a well supported body of evidence demonstrating effective strategies to combating opioid use including ensuring access to addiction treatment, physicians monitoring of opioid prescribing in the community, treating addiction with medication-assisted therapies, and providing recovery support services and behavioral therapies. (US Substance Abuse and Mental Health Services Administration; US Office of the Surgeon General, 2016). Another method that has reduced fatal overdoses was the introduction of naloxone, also named Narcan®. The medication temporarily reverses the opioid through competitive inhibition; has minimal side effects; is easily administered via nasal spray or intramuscular injection; and is quickly effective and remains effective for 30-90 minutes. An important aspect of Narcan® administration is the ability to identify when someone has overdosed. Signs of overdose are unresponsiveness to verbal or painful stimuli, shallow and slow breathing, blue lips and fingernails, and clammy cool skin (Stolback A & Hoffman R S, 2020). In a study performed in 19 MA communities, proper training and universal availability of Narcan® decreased overdose fatalities by 11% despite increased opioid use (Walley et al., 2013).

**Pamphlet Design**

Information deemed essential to be placed onto the pamphlet included: the signs and symptoms of substance use disorder (as listed below), the identified resources available to members of the Lowell community, and the signs and symptoms of opioid overdose (listed above) with resources listed to gain access to home Narcan®. The signs and symptoms of substance use disorder per the DSM-5 diagnostic criteria include a pattern of behavior comprising of two or more of the below within a 12-month period: spending more time than intended on obtaining or using the substance, strong desire for coupled with an inability to stop using, craving substance, recurrent use despite serious setbacks at home or at work, social and interpersonal problems develop due to persistent use, social obligations given up for the sake of continued use, repeated exposure to dangerous situations in order to obtain the substance, developing tolerance, and withdrawal (Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), 2013). The pamphlet was created using simplified jargon so that the target population is able to understand the scientific and community resources available without issues.

Listed below are the specific resources offered within Lowell, MA and surrounding towns for those with substance use disorders (Appendix C). Each resource is grouped into specific categories. The categories include: prevention services, treatment facilities, detoxification services, support group services, virtual learning resources about substance use, emergency medicine availability, medication disposal, needle drop-off services, and hotline services.
Discussion

Our involvement with the project began as a UMMS population health clerkship experience at Head Start in Lowell MA, where we were able to participate in the children’s health monitoring sessions, which included visual and hearing screening checks. Along with our community activities and understanding the delivery of education to the kids in Head Start, we were able to participate with the leadership at the center and observe decisions regarding funding allocation and other leadership efforts. As a result of our discussions with Head Start leadership, we became aware of some of the difficulties faced by the families of the children at Head Start, including the story outlined in the introduction. It was all too apparent as medical students that the opioid epidemic and other substance abuse issues were prevalent and difficult medical issues to address. Drug overdose in the United States in 2019 led to ~70,980 deaths, including 50,042 involving opioids, according to data from the Centers for Disease Control and Prevention (CDC). (Centers for Disease Control and Prevention - Provisional Drug Overdose Data, 2020) There was additional data from the CDC demonstrating that drug overdose deaths have been on the rise and were accelerating during the COVID-19 pandemic (Centers for Disease Control and Prevention-Overdose Deaths Accelerating During Coronavirus Disease, 2020).

By participating in this project, we each learned how providers can connect literature reviews to their patients in real time as they drop their children off at Head Start. By forming a connection between science and the patients, we aided the program in providing effective prevention and treatment of substance use disorders. We accomplished this by creating informational pamphlets to distribute to families and community members in Lowell, MA in layman’s terms. This effort intended to educate the general public on the basics of substance use disorder and how to effectively utilize life saving therapies such as naloxone. The information was made easily accessible to patients from all ethnic and socioeconomic backgrounds. Our team hoped to foster relationships with organizations around Lowell and throughout the state of Massachusetts but these efforts had to be partially halted due to the changes brought about from the coronavirus pandemic. Additional efforts were made to present this information at the annual Massachusetts Academy of Family Physicians research conference.

One of the most significant challenges providers face is the taboo surrounding the topic. Similar to conversations regarding mental health, there is an inherent weakness and vulnerability that becomes apparent when a patient confesses their struggles. Weakness and vulnerability are not societal norms. Many patients are afraid of prosecution when seeking help from professional organizations. Our team felt that the best way to reach and provide support to these self-identified individuals is through informational pamphlets which are easily accessible and can be reviewed privately. One drawback of this strategy is that there is no direct way to assess outcomes and utilization of programs detailed on the pamphlets. One consideration that could be made is to do a follow-up survey annually to identify if the families found the information offered to them to be helpful. Offering multiple resources to those who need addiction medicine services would allow them to be confident in seeking help with an organization of their choice. Having information about different resources and organizations that people can use based on
their needs should lead to better health outcomes and hopefully successful treatment of their substance use disorder. Finally, since our effort started with our experience at Head Start Lowell, we feel thankful to contribute to the organization and help this local site combat situations related to paternal drug use effectively.

The opioid epidemic has affected many states across the United States and Massachusetts is one of them. It was a large undertaking to join the fight against fatal overdoses and opiate addiction and bridge the gap between those suffering with opioid addiction and the services that were available. With the significant rise in fatal overdoses in the city of Lowell, many departments and programs had been developed to combat the opioid epidemic. According to data gathered in 2014, 38 individuals succumbed to overdoses -which has risen to 64 in four years (Commonwealth of Massachusetts, 2020). Our aim was to educate the families of the Head Start Program regarding substance use and connect them to some of the resources already established in Lowell. Some of these resources include medication disposals, Narcan® and signs of overdose training, needle drop-off services, available hotlines, and City-wide programs. Some of the programs available to residents of Lowell include: Lowell Community Opioid Outreach Programs, MA Opioid Abuse and Prevention Collaborative of Greater Lowell, and Partnerships for Success Program - all of which are open for participation. The city of Lowell has made efforts to promote outreach education to schools and community organizations, connected individuals to support and recovery programs, and discuss substance use as a public health concern. (City of Lowell MA -Substance Abuse and Prevention, 2020) The Greater Lowell Health Alliance has created a Substance Use and Prevention Task Force composed of representatives from elected officials, youth and parents and works to address the impact of illicit drugs in the city of Lowell (Greater Lowell Health Alliance, 2020). We analyzed the current evidence-based literature and integrated those strategies into pamphlets to provide additional methods to combat opioid abuse. It was a pleasure to gather resources all around the city and consolidate that information in a manner that will hopefully extend beyond the confines of our aim and help others in the community struggling with substance use. It was a pleasure to work on this project and help the communities in Lowell in our own way.
References


Learn to Cope (2020). A support organization that offers education, resources, peer support and hope for parents and family members coping with a loved one addicted to heroin, opioids or other drugs. Retrieved 29 December 2020, from https://www.learn2cope.org/.


Appendix A

Substance Use Disorder Manual
Presented by Head Start in Lowell in collaboration with UMass Medical School

Do you regularly consume or use?
- Alcohol
- Marijuana
- Crack/Cocaine
- Heroin
- Tobacco (cigarettes)
- Nicotine (E-cigarettes)
- Shrooms
- LSD
- Opiates
- Meth
- Adderall
- PCP
- Molly
- Ecstasy
- Ketamine
- Fentanyl

Signs of Opiate Overdose
- Will not answer your calling or move if you touch them.
- Will barely be breathing (blue lips).
- Needles, white powder, or a spoon may be close by.
- Will have small pupils.

What do you do next?
1. CALL 911
2. ADMINISTER NARCAN (through the nose or into the thigh)

Do you or someone you know experience the following signs or symptoms?
1. Do you need larger amounts over longer periods than intended?
2. Do you crave using it?
3. Do you spend a great deal of time obtaining the substance?
4. Have your relationships been negatively impacted?
5. Have you fallen short in your responsibilities at home or at work?
6. Do you repeatedly find yourself in dangerous situations?
7. Has anyone told you that they think you may have a problem?
8. Do you experience negative symptoms when you stop using something?
Prevention Services:
SAMHSA
Substance Abuse and Mental Health Services
Tel.: 1-877-SAMHSA-7 (1-877-726-7837)

Treatment Facilities:
Lowell Habit OPCO Treatment Center
Tel.: 978-961-9987
Lowell House Addiction Treatment and Recovery
Tel.: 978-459-8656

Lowell Community Health Center
Substance Abuse Program
Tel.: 978-937-9700
South Bay Communication Services
Tel.: 446-957-5357
Institute of Health and Recovery
Tel.: 1-866-705-2807

Detox Services:
Spectrum Health Systems
Tel.: 800-464-9555.

ADCare Treatment Centers
Tel.: 866-738-7692
Tewksbury Treatment Center
Tel.: 978-259-7000

Support Group Services:
Massachusetts Organization of Addiction Recovery
Tel.: Toll free: 1-877-423-6627

Learn to Cope
Tel.: Office: 508-738-5148

Virtual Education:
Drug Free Greater Lowell
Tel.: (978) 674-4304

Narcan Pickup:
Lowell Community Health Center
Tel.: 978-233-6767
Lowell House Addiction Treatment and Recovery
Tel.: 978-459-8656

Learn to Cope
Tel.: Office: 508-738-5148

The MA Substance Abuse Information and Education Helpline
Tel.: 800-327-5050

Medication Disposal:
24-Hour Drop-off Kiosk at the Lowell Police Department, Billerica Police Department, and Chelmsford Police Department

Needle Drop-off Services:
Syringe Collection Program
Tel.: 978-674-1049
Lowell Health Department @ 978-674-1049
Lowell Senior Center @ 978-674-1171
Lowell Regional Wastewater Utility @ 978-674-4248

Hotline Services:
Massachusetts Substance Use Helpline @ 800-327-5050
Samaritans @ 877-870-4673
Appendix B

Number of opiate-related fatal overdoses in Lowell, MA demonstrating a 68% increase in fatalities in a five-year period.
Appendix C

1. **Prevention services**
   1. Substance Abuse and Mental Health Services Administration (SAMHSA):
      1. SAMHSA is a resource that provides a structured community-based approach to substance abuse prevention through the ‘Strategic Prevention Framework’. The framework is meant to support youth development, reduce risk-taking behaviors in younger populations and provide financial investment training. They provide access to substance use and mental health treatments, train practitioners, give grants and financial support to states and programs, collect and analyze data about current substance use, and communicate with public messages about the risks of illicit substances and living well with mental illness. Tel. 1-877-SAMHSA-7 (1-877-726-4727) (SAMHSA - Substance Abuse and Mental Health Services Administration, 2020)

2. **Treatment Facilities**
   1. Lowell Habit OPCO Treatment Center
      1. The OPCO Treatment Center is a comprehensive treatment center providing medically supervised medication based treatment to adults of 18 years of age or older. Patients can obtain outpatient services and opioid maintenance treatments. This facility is part of Acadia healthcare and also offers group and individual therapy, methadone or suboxone maintenance and other medication-assisted treatment. Tel. 978-961-9987 (Lowell Habit OPCO CTC | Adult Comprehensive Treatment Center, 2020)

2. Lowell House Addiction Treatment and Recovery
   1. Lowell House Addiction Treatment and Recovery is a non profit organization providing accessible and affordable addiction services to the Greater Lowell community. They offer inpatient and outpatient treatments, as well as group and family therapy. They assist with housing insecurity and offer driving alcohol education programs. Tel. 978-459-8656 (Lowell House Addiction Treatment and Recovery, 2020)

3. Lowell Community Health Center Substance Abuse Program
   1. The Lowell Community Health Center Substance Abuse program offers treatment for children, adolescents and adults who are struggling with addiction. The staff employed is composed of certified addiction counselors who build long term goals according to individual needs. Single, group and family therapy sessions are also offered. The Health Center also offers many activities for youth to become engaged in after school to provide additional support outside of their homes and schools.
Services such as vaccinations and medical services are also offered on site. Tel. 978-937-9700 (Lowell Community Health Center | LCHC, 2020)

4. South Bay
   1. South Bay is a community-based organization providing child and adult behavioral health services, substance abuse counseling, autism services and other childhood services. South Bay has numerous locations in Massachusetts including Lawrence and Worcester. Tel. Admissions/Intake Dept.: 508-427-5362, Main Number: 508-521-2200 (South Bay Community Services, 2020)

5. Self-Management and Recovery Training
   1. A non-profit program leading an abstinence oriented non-profit organization that seeks to empower people to achieve independence from addiction using their research based 4-point program. Their services are free to individuals and many graduates of the program go on to volunteer to help in the organization. Their 4 point program is focused on 1. Building the motivation to change, 2. Coping with urges, 3. Managing behaviors in effective wars, 4. Living a healthy life. Tel: 440-951-5357 (SMART Recovery, 2020)

6. Institute of Health and Recovery
   1. A state-wide nonprofit organization that provides training, consultation, technical assistance and curriculum development for national, state and local organizations to integrate practices and policies of prevention and treatment programs. They provide services extending to pregnant and parenting women affected by substance use, trauma, and mental health challenges. Tel: 1-866-705-2807 (Institute for Health & Recovery · IHR, 2020)

3. Detoxification services
   1. Spectrum Health Systems - Spectrum is one of New England’s leading addiction treatment provider which offers Commission on Accreditation of Rehabilitation Facilities (CARF) accredited mental health and addiction treatment services across Massachusetts. Therapies offered include inpatient detoxification, rehabilitation, medication-assisted treatment, outpatient counseling and peer support. Tel. 800-464-9555. (Spectrum Health Systems, Inc., 2020)
   2. AdCare Treatment Centers - “AdCare stands for Alcohol and Drug Care and has been committed to treating the disease of addiction. The offer a inpatient hospital in Worcester, MA for those who may need additional inpatient care, otherwise have a network of outpatient facilities throughout Massachusetts. Comprehensive services are provided including assessments, life skills training, medication management, detoxification, and relapse prevention skills. Tel. 866-739-7692 (American Addiction Centers, 2020)
3. Tewksbury Treatment Center - this is a 32 bed inpatient facility which is a part of the Lahey Health Behavioral Services, which offers inpatient detoxification services for adults. Family services, crisis teams, psychiatric care and school based programs for children and adolescents are also offered. Tel. 978.259.7000 (Lahey Health Behavioral Services, 2020)

4. Support Group Services
   1. The Massachusetts Organization of Addiction Recovery (MOAR) and is a coalition supporting the Licensing of Alcohol and Drug Counselors. The organization helps to bring together recovering individuals and educate the general public about recovery from substances. MOAR supports substance addiction as a public health issue, and creates a recovery informed society where recovery is a societal norm. Tel. Toll free: 1-877-423-6627 (Massachusetts Organization for Addiction Recovery, 2020)
   2. Learn to Cope is a non-profit organization supporting education, providing resources and peer support for parents and families dealing with a family member addicted to opiates or other illicit substances. They provide education about prevention of substance use, expectations regarding recovery and an open forum for family members to ask questions. Tel. Office: 508-738-5148 (Learn to Cope, 2020)

5. Virtual Learning Resources about Substance Use
   1. Drug Free Greater Lowell is an educational website created by the Prevention Professionals of Northern Middlesex, a coalition of professionals from the police, EMS, and community health professionals. The coalition has a Substance Abuse Prevention Collaborative to address drug use in the younger population. Additionally, the coalition works alongside the Massachusetts Opioid Abuse Prevention Collaborative to establish policy and environmental changes to reduce substance use. Recently, virtual videos and podcasts about substance use and prevention have been made available for all. Tel. (978) 674-4304 (Drug Free Greater Lowell, 2020)

6. Emergency Medication Availability
   1. Narcan® is available at the Lowell Community Health Center at 978-221-6767, Lowell House Addiction Treatment and Recovery at 978-549-8656, Learn to Cope at 508-738-5148, and The MA Substance Abuse Information and Education Helpline at 800-327-5050. All of these locations offer Narcan® free of charge.

7. Medication Disposal
   1. 24-Hour Drop-off Kiosk at the Lowell Police Department, Billerica Police Department and Chelmsford Police Department (pill only at the last location)
   2. There are also periodic unwanted medication disposal days scheduled in Lowell (subject to changes due to COVID-19 restrictions).
8. **Needle Drop-off Services:**
   1. Call Syringe Collection Program at 978-674-1049 to report a discarded needle in Lowell
   2. Drop-off Locations:
      1. Lowell Health Department at 978-674-1049
      2. Lowell Senior Center at 978-674-1171
      3. Lowell Regional Wastewater Utility at 978-674-4248

9. **Hotline Services**
   1. Massachusetts Substance Use Helpline (800-327-5050)
      1. Helplinema.org is the Massachusetts Substance Use Helpline website that is a statewide and public resource to help people find substance use treatments, gambling addiction and recovery options. All services provided are free and confidential with trained specialists that can educate patients on treatment systems and options. They also provide access to a blog relaying up-to-date information regarding help during the holidays and during the COVID pandemic. Language interpretation services are also offered. (Massachusetts Substance Use Helpline, 2020)
   2. Samaritans (877-870-4673)
      1. A free 24/7 crisis line at 1-877-870-4673 that offers on-demand one-on-one counselors. They offer services to anyone experiencing a mental illness, substance use disorder, or is simply struggling through difficult times (City of Lowell, MA -Narcan® and Opioid Overdose Prevention, 2020)