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New York State Emergency Department Assessment Treatment and Referral of Individuals Presenting to the Emergency Department with Opioid Use Disorder

Macia Victoria Drummond
maciadrummond@gmail.com

NEW YORK STATE EMERGENCY DEPARTMENT ASSESSMENT TREATMENT AND REFERRAL OF INDIVIDUALS PRESENTING TO THE EMERGENCY DEPARTMENT WITH OPIOID USE DISORDER

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by

Macia Victoria Drummond

Name of Supervisor, Patricia Eckardt

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The dissertation committee of the Barbara H. Hagan School of Nursing and Health Sciences has examined the dissertation titled

TITLE OF DISSERTATION: NEW YORK STATE EMERGENCY DEPARTMENT ASSESSMENT TREATMENT AND REFERRAL OF INDIVIDUALS PRESENTING TO THE EMERGENCY DEPARTMENT WITH OPIOID USE DISORDER

Presented by Macia V. Drummond

A candidate for the degree of Doctor of Philosophy

And hereby certify that the dissertation was read and approved by the committee.

Patricia A. Eckardt, PhD, RN,FAAN PhD, RN, FAAN (Chairperson)
Professor, The Barbara H. Hagan School of Nursing & Health Sciences
Chairperson Molloy University Institutional Review Board

Patricia Nadraus, PhD, RN, CCRN-K (Committee Member)
Alumna, The Barbara H. Hagan School of Nursing & Health Sciences

Denise Susan Walsh PhD, RN, FAAN (Committee Member)
Professor Emeritus, The Barbara H. Hagan School of Nursing & Health Sciences

Jennifer Emilie Mannino PhD, RN, CNE
Professor and Director of the PhD in Nursing Program
The Barbara H. Hagan School of Nursing & Health Sciences,

ABSTRACT

Opioid dependence and addiction are classified as severe medical conditions that cause adverse effects on the individual, their family, and society as a whole. The increasing number of opioid overdose cases and deaths has posed a significant challenge for emergency departments (EDs) as they play a crucial role in providing immediate medical attention to patients with opioid use disorder (OUD). The consequences of OUD are alarming, with high morbidity and mortality rates. The purpose of this study was to examine the policies, practices, and barriers to adherence to nationally recognized clinical best practices for treating patients with OUD in New York State (NYS) EDs. Adherence to established guidelines for treating OUD is critical in saving lives by preventing relapses and overdose deaths as well as promoting long-term recovery. However, provider practices often do not align with nationally recognized guidelines, and healthcare organizations face several barriers, such as a need for more resources and administrative non-prioritization of the issue in adhering to these guidelines. This descriptive study was conducted using a survey and the PRECEDE-PROCEED model framework that offers a structural approach for organizational planning, intervention, and implementation of policies and procedures for standardizing OUD best practices in ED settings. The study aimed to assess NYS ED provider practices, policies, barriers, and facilitators in adherence to nationally recognized clinical best practices for treating individuals with OUD. The study findings indicated that only 23% of the respondents reported being aligned, with around 80% of nationally recognized as clinical best practices for treating individuals with OUD and a mere 14% being aligned with all best practices. These results suggested that there is high variability in provider practices and a lack of adherence to established best practices by providers and institutions. Implementing best practices can be

achieved through standardization of practices across NYS EDs, ensuring that all patients in NYS receive the same level of care, regardless of the healthcare organization.

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DEDICATION

I would like to dedicate this dissertation to the individuals who have played an instrumental role in my academic journey and personal growth. First and foremost, I am deeply grateful to my dissertation chair, Dr. Patricia Eckardt, for her unwavering support, mentorship, and friendship throughout my doctoral studies. I also extend my heartfelt appreciation to my committee members, Dr. Patricia Nadraus and Dr. Denise Walsh, for their valuable insights and guidance.

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Finally, I would like to dedicate this work to all those struggling with opioid use disorder and their loved ones. Your courage and resilience inspire me, and I hope this research contributes to improving access to evidence-based treatment and, ultimately, reducing the impact of this devastating epidemic.

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CHAPTER 1: INTRODUCTION

According to the Centers for Disease Control and Prevention (CDC), more than 932,000 people have died since 1999 from a drug overdose. In 2020, 91,799 drug overdose deaths occurred in the United States (CDC, 2021). The opioid epidemic has proved particularly severe in the Eastern United States (Kiang et al., 2019). Due to its large population, New York State (NYS) represents a large proportion of opioid overdose deaths nationally. In 2019, NYS had 4,965 overdose deaths, the fifth highest of any state (CDC, 2021). Opioid addiction and overdose have a significant burden of disease and mortality in NYS (Abell-Hart et al., 2022). This study examines emergency department (ED) healthcare providers' assessment, treatment, and referral in NYS of patients with opioid use disorder (OUD) who present to the ED. According to Dydyk et al. (2022), individuals with OUD often keep using drugs, even when they are well aware of the adverse effects of drug-related consequences, including overdose deaths. Often, EDs are the starting point for a patient's recovery from addiction and provide a critical point of care to reduce OUD deaths (Reuter et al., 2022; Salzman et al., 2020). However, due to the lack of the implementation of appropriate guidelines regarding OUD treatment in NYS EDs, best clinical practices to treat OUD are executed in an inconsistent, and sometimes inappropriate, manner (Samuels, D'Onofrio, et al., 2021) This study aims to provide baseline characteristics of NYS ED's organizational policies and procedures, provider practices, and organizational-provider barriers and facilitators of OUD assessment, treatment, and referral across NYS EDs. The findings from this study can be foundational to developing a framework to successfully implement appropriate OUD treatment modalities across NYS EDs.

Background and Significance of the Problem

Opioid dependence is a pervasive, chronic disorder that devastates an individual, his or her family unit, and society. Individuals with addiction often struggle to maintain sobriety, leading to relapse and, at times, overdose deaths (Miller, 2013). The United States is currently in the midst of an opioid crisis (Collins et al., 2018). The prevalence of OUD has reached epidemic proportions, and more than 1.6 million people in the United States had an OUD in 2019 (Frost et al., 2021).

Among the adult population in NYS, a sharp increase in the use of recreational drugs, including heroin and other opioids, has been identified in the past three years. This rise in OUD has correlated with the pandemic and is often described by individuals as a way to reduce emotional and social stressors (New York State Department of Health, 2021). However, it is important to note that the perception of people regarding heroin and prescription opioid misuse and abuse could be linked to several public health issues, including an increase in the consumption of alcohol, neglect of the inherent dangers related to drug addiction, and mortality associated with overdose. It has been reported that the percentage of people considering the severity of these public health issues as “very serious” has decreased during the past few years (New York State Department of Health, 2021). This decline in people considering the severity of these health issues shows that a higher number of people are not aware of the significance and require outreach regarding the present opioid crisis.

Opioid Burden

The New York State Department of Health has integrated several sources of data for the determination of opioid-related events, representing the overall opioid health burden among NYS residents. Some of the data sources used to assess the opioid burden included overdose deaths

caused by opioids; hospital discharges related to opioid overdose, dependence, abuse, and unspecified uses; and non-fatal outpatient visits to Eds.

According to the New York State Department of Health (2021), the rate of opioid burden in 2019 was at its peak among individuals in the age group of 25 to 44 years (513.1 individuals per 100, 000 population) and black non- Hispanic people (252. 5 individuals per 100, 000 population). Comparatively, non-Hispanic individuals and Hispanics experienced nearly the same high level of rates for opioid burden. On a further note, the rate of opioid burden was over 2.5-fold higher among males (367.1 males per 100,000 population) as compared to females (104.3 females per 100,000 population). New York City (NYC) has been found to have a higher rate (276.0 individuals per 100, 000) in comparison to NYS without NYC (231.4 individuals per 100, 000 population). Aside from these statistics, NYS counties facing the highest opioid burden rates by 2019 included the Bronx, Sullivan, Ulster, Greene, Chemung, Duchess, Broome, New York, Richmond, Niagara, Albany, Rensselaer, Onondaga, Monroe, and Suffolk. The wide range of opioid-related burden across NYS regions reflects the diversity of the state's populations.

Opioid Morbidity

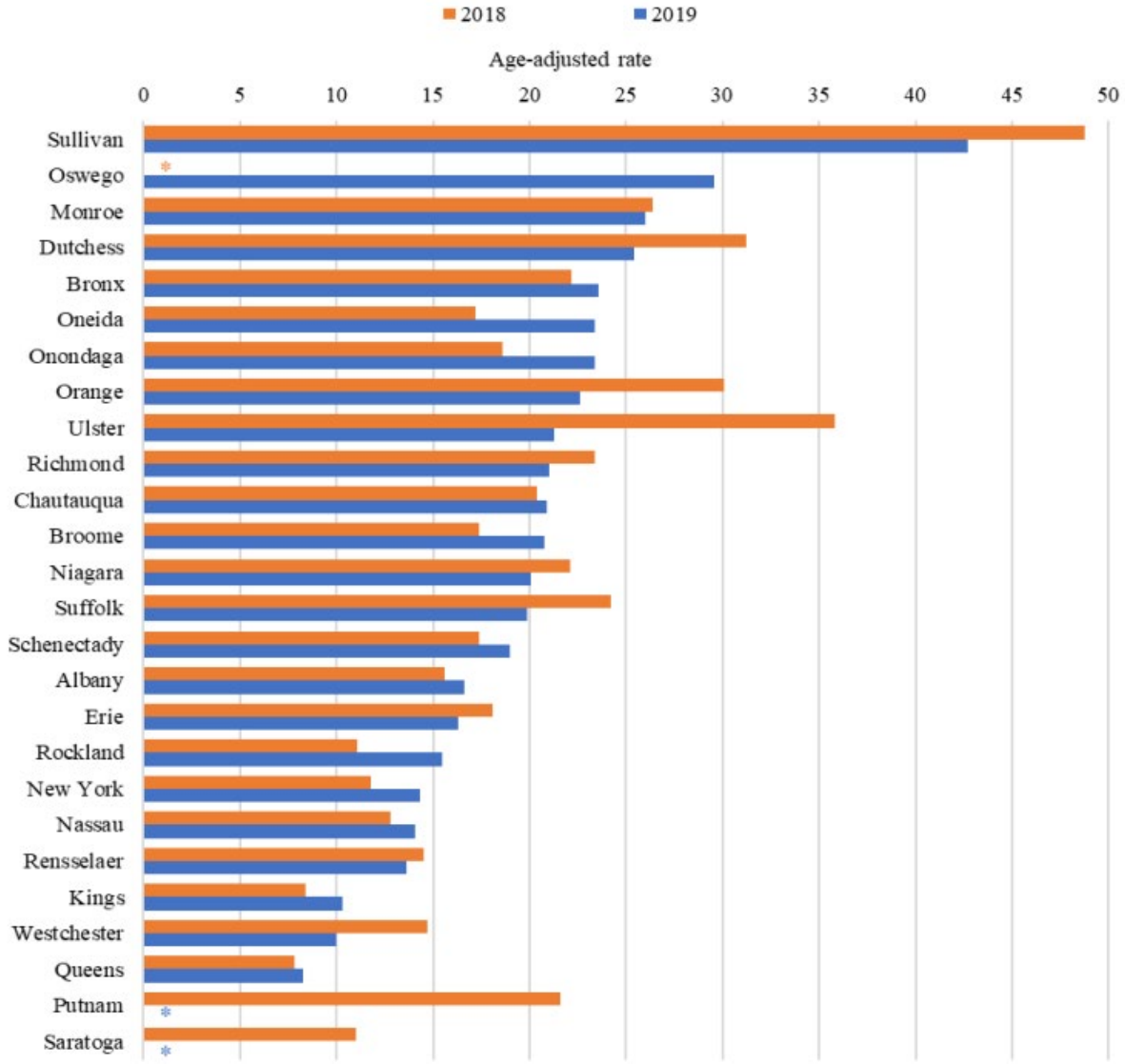
The New York State Department of Health (2021) reported that among the state residents, the morbidity rate in 2019 was at its peak among individuals belonging to the group of 25 to 44 years (representing 214.6 individuals per 100,000 population) and Hispanics (representing 115.0 individuals per 100,000 population). The morbidity rate was found to be 2.5-fold higher among males (representing 154.3 males per 100,000 population) as compared to those of females (representing 60.9 per 100,000 population). New York City has been found to have a higher rate (114.0 individuals per 100,000 population) in comparison to NYS without NYC (representing 100.5 individuals per 100,000 population).

Opioid Mortality

According to the reports presented by the Center for Disease Control and Prevention's National Center for Health Statistics, approximately 100,306 deaths were caused by drug overdose in the United States from April 2020 to April 2021. This number of deaths has increased by approximately 28.5% from the previous year. The number of deaths increased to about 75,673 from 56,064 from April 2020 to April 2021 (CDC, 2021). Overdose deaths related to prescription opioids (whether natural or semi-synthetic opioids) in the United States increased from 3,442 to 17,029 between 1999 and 2017 (New York State Department of Health, 2021). Although the number of deaths decreased to 14,139 from 2017 to 2019, deaths increased again to 16,416 in 2020 (National Institute Drug Abuse, 2022). Opioids, especially synthetic opioids (excluding methadone), are the primary cause of mortality associated with drugs. Approximately 82.3% of deaths caused by opioid overdoses are related to synthetic opioids (CDC, 2021).

Among NYS residents, mortality associated with the overdose of any opioid has increased every year, from 1,074 in 2010 to 3,224 in 2017, which was a 200.2% increase (New York State Department of Health, 2021). Although the number of opioid-related deaths among NYS residents decreased in 2019 to 2,939, it was still higher than that reported in 2010. Among the different counties, Sullivan has been found to be at the highest regarding mortalities. Figure 1 shows opioid overdose deaths in different areas of NYS. Considering a large increase in opioid-related deaths, a few cases could be linked to an increased level of awareness regarding opioid overdoses, advancements in technological approaches and resources to assess toxicological aspects, and an increase in the reporting about the causes of deaths (New York State Department of Health, 2021). Notably, individuals are presented to EDs across NYS in the opioid crisis as in near-overdose or overdose death, with mortality rates of 12% to 48% among counties.

Figure 1: Opioid Overdose Deaths per 100,000 Population by County in New York State



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The Emergency Department

An unprecedented number of individuals are struggling with addiction and OUD, requiring immediate intervention. In this regard, EDs are considered "critical access points" in the provision of medical care to these individuals (Reuter et al., 2022). The EDs not only help in providing timely treatment to individuals in crisis but also provide information and referral

regarding health maintenance and OUD prevention and treatment during non-urgent ED patient encounters (Substance Abuse and Mental Health Services Administration, 2021). A huge level of burden has been put on EDs in relation to the opioid epidemic, which has increased considerably during the past few years (Shastry et al., 2022). For instance, the rate of opioid-related ED visits increased twofold from 2005 to 2014. Moreover, opioid-related stays in inpatient setting have also increased by approximately 64% (Agency for Healthcare Research and Quality, 2021).

In terms of opioid morbidity and ED visits, approximately 10,619 visits in 2019 could be attributed to opioid overdose among NYS residents (New York State Department of Health, 2021). The rate was at its peak among individuals belonging to the age group 25 to 44 years (representing 102.5 individuals per 100,000 population) and White non-Hispanics (showing a rate of 56.9 individuals per 100,000 population). Males had an over twofold higher rate (approximately 76.1 per 100,000 population) in comparison to females (nearly 34.2 females per 100,000). New York City has been found to have a lower rate (approximately 44.4 individuals per 100,000 population) compared to NYS without New York City (nearly 62.2 individuals per 100,000 population). The number of individuals requiring immediate treatment to prevent mortality and appropriate treatment to decrease morbidity associated with OUD remains at a critical high.

The ED plays a vital role in treating patients with disorders and complications with opioid use (Salzman et al., 2020) and is usually the first point of contact in what may lead to the patient's recovery from addiction. As the prevalence of OUD is reaching epidemic proportions in the United States (Cunningham, 2020), 24/7 ED access provides a unique option for dealing with an increasing number of opioid-related cases, thereby saving the lives of many people suffering from life-threatening problems. These people are suffering from overdose or trying to find an

appropriate treatment to overcome complications of OUD or withdrawal symptoms. The ED visits are also beneficial in the provision of motivational strategies to accepting treatment and linkage with healthcare management and other community services for ongoing treatment (Substance Abuse and Mental Health Services Administration, 2021).

Considering the importance of the ED in relation to OUD, healthcare providers working in the ED have an excellent opportunity to provide individuals with life-saving treatment and reduce harm by initiating medication for opioid use disorder (MOUD; Reuter et al., 2022). The identification of OUD by the health care providers upon arrival to the ED is one of the most important steps. However, this step must not be limited to the process of self-reports by the patient or a prescriber's previous experience in a particular healthcare setting but must also include appropriate organizational standards and protocols along with utilization of the available national standards based on evidence-based practice. It is important to note that the start of evidence-based therapeutic regimen is beneficial in providing an appropriate path to treat opioid-related problems at an individual level as well as at a community level and in reducing morbidity and mortality (Substance Abuse and Mental Health Services Administration, 2021).

The ED is rapidly developing into a "one-stop shop" for patients with substance use disorder (Reuter et al., 2022). However, healthcare services are often provided in the absence of an appropriate patient–physician relationship where healthcare providers may have limited time because of patient–staff ratio and decreased level of resources (Hoppe, 2015). The EDs also experience increased pressure regarding the referral of patient with OUD in a coordinated and timely manner. The treatment of OUD is sometimes not connected to the appropriate acute health care, and the referral processes that can be approached and utilized by emergency physicians can be found in only a few programs. Therefore, ED-related healthcare providers face

a challenging situation in their attempt to provide healthcare services to patients with OUD. As healthcare providers can determine the severity of the illness and healthcare problems that may need expertise and appropriate follow-up, EDs are often unable to provide adequate resources and processes to ensure the required level of healthcare (Duber et al., 2018).

The problems related to insurance reimbursement has also been found to be prevalent in the case of patient care in the ED. In this regard, it has been found that approximately 24% of trauma-related surgeons experienced insurance reimbursement problems as their patients had problems with drug or alcohol use or misuse (Hyde, 2013). Gentilello et al. (2005) noted that this approach is helpful in providing an opportunity for starting appropriate care before healthcare problems reach a serious level, but it may require intensive and costly medical and treatment services.

An increase in the number of challenging situations faced by providers in the ED in association with the increase in the length of hospital stay, higher costs related to service delivery, and increased hospital admission rates has also increased several predictable challenges related to the work of healthcare providers. On a further note, an increase in ED utilization has also been reported in comparison to hospital inpatient care. Therefore, the burden of increased ED visits in terms of OUD has significantly affected EDs and associated emergency providers (Beckerleg & Hudgins, 2022).

Nonetheless, the prescribing behavior of healthcare providers and the environment in the EDs is considerably affected by the different aspects of care provided in EDs. Therefore, ED implementation of MOUD is crucial because it provides individuals with their first step to recovery. In addition, this initiation should be mandatory in conjunction with an approved hospital-based protocol aligned with best practices identified by the Substance Abuse and Mental

Health Services Administration (2021) and not limited by a prescriber's previous practice in a specific health care system (Reuter et al., 2022).

Substance Abuse and Mental Health Services Administration recognizes the pivotal role of the ED and the implementation of evidence-based interventions to provide the appropriate assessment, treatment, and referral for individuals with OUD. The Substance Abuse and Mental Health Services Administration, the SUPPORT Act, and the 21st Century Cures Act (including the Substance Use Policy Laboratory [Policy Lab]) have also considered the importance of the ED. These Acts have aided in the development and dissemination of information on evidence-based practices on the various types of services, treatments, and supports that improve the quality of life for individuals with OUD. These initiatives have considered EDs, as they are often the only access these individuals have to the healthcare system and could be identified as the most critical places to fulfill knowledge gaps and deficits in taking care of these individuals (Substance Abuse and Mental Health Services Administration, 2021). Although variations are identified in proposed service delivery models, there is overwhelming evidence that implementation promotes substance misuse and helps individuals afflicted with OUD get the treatment they need (Substance Abuse and Mental Health Services Administration, 2021).

Regarding the increased number of deaths in association with opioid use, Michael Bloomberg, former Mayor of New York City, considered the 2013 initiative and worked in coordination with the governing bodies on the addiction of drugs so that appropriate standards could be established to diagnose and treat individuals with OUD presenting in the NYC hospitals. Mayor Bloomberg worked with the American Society of Addiction Medicine and developed practice guidelines that could help in evaluating and treating patients with OUD while managing opioid overdose individuals, particularly in NYC. These guidelines have been

developed by emergency physicians to decrease the level of opioid addiction and mortalities linked to overdose deaths while preserving the access of those patients to opioids who would get more harm than benefit. Moreover, Mayor Bloomberg also worked on the improvement and development of new guidelines for the prescription of opioid analgesics to the individuals who have been discharged from the EDs in NYC (Cunningham, 2020; Juurlink et al., 2013).

Aside from the guidelines related to the American Society of Addiction Medicine, the New York State Department of Health (2013) released the "NYC Emergency Department Discharge Opioid Prescribing Guidelines." Developed with an expert clinical advisory panel of ED physicians, the guidelines provide recommendations for opioid analgesics prescribed to patients discharged from EDs. These guidelines are beneficial in that, by changing the overall prescription patterns of opioids, the increasing problems of addiction and mortalities related to these drugs can be reduced (Juurlink et al., 2013; NYC Department of Health and Mental Hygiene, n.d.). Therefore, one of the goals of the developed guidelines was to reduce adverse health events after using prescription opioid analgesic, including opioid overdose and dependence, that have already started to negatively affect a huge number of individuals in the United States and in NYC. Although guidelines have not been developed to replace clinical decisions in the healthcare services provided to patients, they can help in providing standardized healthcare services to manage opioid-related problems in the ED. In 36 of NYC hospitals, EDs have already started working according to the guidelines.

The guideline presented by the NYC Department of Health and Mental Hygiene (n.d.) attempt to address the opioid crisis with the following guidelines:

- Consider short-acting opioid analgesics for the treatment of acute pain only when the severity of the pain is reasonably assumed to warrant their use.

- Start with the lowest possible effective dose if opioid analgesics are considered for the management of pain.
- Prescribe no more than a short course of opioid analgesics for acute pain. Most patients require no more than three days.
- To assess for opioid misuse or addiction, use targeted history or validated screening tools. Prescribers can also access the New York State Controlled Substance Information (CSI) on Dispensed Prescriptions Program for information on patients'-controlled substance prescription history.
- Avoid initiating treatment with long-acting or extended-release opioid analgesics.
- Address exacerbations of chronic or recurrent pain conditions with non-opioid analgesics, non-pharmacological therapies, and/or referral to specialists for follow-up, all as clinically appropriate.
- Avoid when possible prescribing opioid analgesics to patients currently taking benzodiazepines and/or other opioids. Consider other risk factors for consequential respiratory depression.
- Attempt to confirm with the treating physician the validity of lost, stolen, or destroyed prescriptions. If considered appropriate, replace the prescription only with a one- to two-day supply.
- Provide information about opioid analgesics to patients receiving a prescription, such as the risks of overdose and dependence/addiction, as well as safe storage and proper disposal of unused medications (NYC Department of Health and Mental Hygiene, n.d., p. 1).

It may be argued that the NYC guidelines do not go far enough. However, since their

implementation, the New York State Department of Health (2021) has reported a decrease in ED visits, as NYC had a lower rate (44.4 individuals per 100,000 population) as compared to NYS without NYC (62.2 individuals per 100,000 population).

The U.S. healthcare system is indeed complex, and treating individuals with OUD in EDs can be challenging. However, the infrastructure is in place to implement ED guidelines for assessing, treating, and referring individuals with OUD and addressing life-threatening consequences of the disorder. Guidelines similar to those for cardiac and diabetic patients, which govern immediate interventions and post-hospitalization follow-up, are also needed in the management of OUD. By providing clear protocols and treatment plans, EDs can improve the quality of care for individuals with OUD and help prevent overdose and other adverse outcomes. Therefore, there is a need for more comprehensive OUD treatment guidelines in EDs to ensure that patients receive optimal care (American Diabetes Association, 2022; Heidenreich et al., 2022; Laurencin & McClinton, 2019).

While national guidelines exist, such as the treatment of OUD developed by the AIDS Institute (National Institutes of Health, 2019) and have proven to save lives, many healthcare organizations in NYS have different philosophies and vary significantly from federal guidelines. For example, attempts have been made to manage OUD in the case of pregnancy and decrease neonatal abstinence syndrome rates (Doerzbacher et al., 2022). Nevertheless, guidelines can save the lives of individuals from a drug overdose and tackle the challenges ED providers face on the frontline, as is the case for NYS EDs. The rationale for this study is that there are no standardized guidelines for implementing available best-practice guidelines for NYS EDs on a universal algorithm approach to assessing, treating, and referring individuals presenting to the ED suffering from OUD. This study explores this gap concerning no standardized guidelines for

NYS ED management of OUD.

In examining the lack of standardized guideline in NYS for the assessment, treatment, and referral of patient with OUD, it was found that the NYS ED's clinical guidelines for managing OUD in ED settings are currently limited (Samuels, D'Onofrio, et al., 2019). Although many have attempted to establish guidelines, no statewide guideline exists (Duber et al., 2018). OUD has received national attention through several initiatives, and although NYS is actively participating and has received funding, its implementation toward ED guideline standardization is understated.

HEAL Initiative

The opioid crisis has become one of the most serious public health issues in the United States. As noted earlier, it has increased the overall national rates of mortalities and morbidities. Therefore, it requires a national response. It is important for people, especially authorities belonging to different segments of society, to start showing an appropriate response to this public health crisis (Collins et al., 2018). Leaders from the public and private sectors who attended the April 2018 National Rx Drug Abuse and Heroin Summit acknowledged the need of research to overcome this public health crisis. This assembly agreed it would take an "all hands on deck" approach. This summit supported the National Institutes of Health (NIH) initiative referred to as the Helping to End Addiction Long-Term (HEAL) initiative that was started in 2018. A key objective of this initiative is to develop productive partnerships with academic institutions, other governmental agencies, communities, industry (especially the health care industry), and patient advocates (Collins et al., 2018). Along with the development of partnerships, the initiative also focused on the provision of scientific solutions to resolve the issues related to opioid misuse, overdose, and addiction (Baker et al., 2021). The HEAL initiative has also been supported by the

HEALing Communities Study developed by NIH and the Substance Abuse and Mental Health Services Administration. The goal of this undertaking was to reduce opioid overdose-related mortalities by 40% within three years by enhancing and integrating multiple proven evidence-based practices that have successfully reduced opioid overdose-related mortalities across multiple settings, including justice, healthcare, and community settings (Chandler et al., 2020).

The HEAL initiative seeks to work on a national level to address the opioid crisis. It has also helped in developing guidelines with a collaboration of 20 different NIH Centers and Institutes partner agencies belonging to the U.S. Department of Health and Human Services, organizations from the private sector, individuals who have been affected by the opioid crisis was key to addressing all angles of addiction(National Institutes of Health, HEAL Initiative, 2023). Therefore, activities associated with this initiative range from clinical to community experiences regarding addiction. Specifically, the HEAL initiative has supported more than 400 funded projects to deal with the opioid crisis in 41 states (National Institutes of Health, HEAL Initiative, 2023). New York is one of the participating states and currently has several funded projects by the HEAL initiative. For instance, one of the projects in association with New York State Psychiatric Institute relates to the under-the-tongue use of dexmedetomidine, which is an alpha-2 adrenergic agonist, used for the treatment of opioid withdrawal. Another project in association with New York University School of Medicine relates to the treatment of drug abuse among Latinx and Black individuals using harm-reduction services. However, there is still lack of innovative approaches and projects relating to addressing the treatment of OUD in NYS EDs (National Institutes of Health, HEAL Initiative, 2023).

Four principal domains linked to research in the context of the HEAL initiative were found to include novel medication options, better outcomes for newborns who have been

affected, new strategies in prevention and treatment of patients with OUD, and the translation of research-related findings into practice (National Institutes of Health, HEAL Initiative, 2023). The NIH HEAL Initiative has over 30 distinct programs led by NIH Institutes, Centers, and Offices, where the sample group can be representative and adjusted for age, gender, ethnicity, and socio-economic status. In addition, the NIH's collaborative efforts to work with other experts in the healthcare system and patients experiencing addiction are projected to develop new, innovative approaches in the assessment, treatment, and referral of OUD management. This collaboration between NIH, healthcare systems, the Food and Drug Administration (FDA), and the Centers for Medicare & Medicaid Services can ensure that research findings eventually become new treatments for pain and addiction (Collins et al., 2018).

The NIH HEAL Initiative is already in its third year in 2022, but it is still dealing with several types of public health crisis related to chronic pain and opioid addiction, misuse, and overdose. This, in tandem with and complicated by pandemic-related impediments presented additional barriers toward reaching certain goals. However, the NIH is moving forward and designing and starting clinical trials while recruiting participants to make advancements related to therapeutic strategies. The research supporting the developments of novel drugs and treatment strategies has been based on fundamental scientific approaches. These approaches could help in medication development for both pain and OUD. In addition, research has been conducted on the integration of mental healthcare into primary healthcare and testing multimodal and multidisciplinary systems of care for both pain and addiction, including care provided in emergency settings (National Institutes of Health, HEAL Initiative, 2023).

It is imperative to address the opioid crisis aggressively with the resources of the HEAL initiative, such as the ambitious several years project conducted by researchers at Columbia

University for the reduction of opioid overdose-related deaths, to inform best-practice ED treatment guidelines with the highest quality of evidence (Chandler et al., 2020; Columbia University, 2022). Evidence-based interventions have to be emphasized to control the opioid crisis and increase the level of funding provided by governments for the initiation of appropriate treatment programs based on opioid abuse-related empirical research (Duber et al., 2018). A key priority of President Biden's administration is controlling the drug overdose and addiction epidemic. Therefore, during March 2022, the American Rescue Plan was signed into law by the president. This law sanctioned approximately $4 billion for Substance Abuse and Mental Health Services Administration and the Health Resources and Services Administration so that critical behavioral health care services could be provided to the maximum number of people (Knopf, 2021.

HEAL investigators and leaders are optimistic that the initiative will be able to reverse the course of the opioid crisis. The priorities of the initiative emphasize a humanistic, individualized approach to combating and addressing the opioid crisis. Although drug use and abuse can be identified in higher percentages among different age groups, genders, ethnicity, and socio-economic status, it is not limited to any one demographic. Therefore, the initiative is geared to ensure racial equity in drug policy and the promotion of harm-reduction efforts (National Institutes of Health, Health Initiative, 2023). The priorities stated are:

- Expanding access to evidence-based treatment;
- Advancing racial equity issues in our approach to drug policy;
- Enhancing evidence-based harm reduction efforts;
- Supporting evidence-based prevention efforts to reduce youth substance use;
- Reducing the supply of illicit substances;

- Advancing recovery-ready workplaces and expanding the addiction workforce;
- Expanding access to recovery support services (Biden-Harris Statement of Drug Policy Priorities, 2021).
- New York State: Public Health Law Section 3309(5)1 requires the New York State Commissioner of Health to publish findings on statewide opioid overdose data annually. In this report, the New York State Department of Health provides an overview of opioid-related mortality and morbidity across NYS, including:
    - Opioid overdose deaths
    - Naloxone administration encounter
    - Opioid overdose hospitalizations and emergency department (ED) visits
    - Treatment admissions for opioid dependency
    - Opioid prescribing
    - Prevalence of opioid use behaviors and opioid dependency (National Institutes of Health, HEAL Initiative, 2023, p. 1.).

Statement of the Problem

The ED is critical for assessing, treating, and referring individuals presenting with OUD and facilitating treatment with short-term MOUD and long-term follow-up. Clinical practice guidelines to treat OUD of individuals presenting to NYS EDs vary by providers and healthcare organizations. Different models, practices, policies, and procedures are used for treating OUD management in the ED. These models vary by setting, staffing, and level of collaboration with community providers and often do not adhere to best practice guidelines. Prescribers have identified organizational barriers that prevent adherence to these guidelines, such as needing more resources and administrative non-prioritization of the issue. The EDs' policies and

approach to the effective treatment of OUD is crucial, as this is often the primary access to treatment for many individuals. Therefore, the treatment that patients receive in the ED may have the most impact on the course of their addiction and recovery from addiction. To this extent, understanding a prescriber's practices, perceptions of barriers, and facilitators to evidence-based OUD treatment and ED administrative policies regarding OUD treatment must be studied. Prescribers must know that their choice of ED-initiated treatment of OUD directly impacts a patient's quality of life, recovery, and assimilation back into society.

With Substance Abuse and Mental Health Services Administration and NIH-supported research findings to inform the use of new treatment interventions and targeted outcomes, grave challenges persist in the fight against the opioid crisis. As the guidelines from the Substance Abuse and Mental Health Services Administration are proven effective and supported by research, their use has not been mandated on a broader, more consistent scale, especially in the EDs where assessment, treatment, and referral of persons with OUD occur daily. In addition, the barriers and facilitators of adopting and implementing the best practice guidelines have not yet been thoroughly studied.

This research aims to examine the organizational policies and procedures of EDs in NYS, as well as provider practices and organizational-provider barriers and facilitators to providing evidence-based standardized treatment for individuals with OUD. Given the national crisis of drug use and abuse, it is imperative to note the potential impact of prescribers' knowledge deficits in the areas of OUD assessment, treatment, and referral on patient care. Moreover, despite the existence of established national guidelines for standardizing OUD care, barriers to their implementation may hinder progress in combating the opioid epidemic. Therefore, in-depth research on these topics can help identify and address such barriers and reduce the risk of

wasting valuable resources. Ultimately, this research can inform interventions to improve the quality of care provided to individuals with OUD in ED settings across NYS.

Purpose of Study

This study aims to identify the barriers and facilitators of prescribing providers' adherence to the clinical practice guidelines for treating OUD as identified by the Substance Abuse and Mental Health Services Administration. By examining the barriers and facilitators of adherence, this study seeks to inform a potential framework for implementation across EDs in NYS. Adherence to clinical practice guidelines for treating OUD is critical for preventing relapse and sustaining long-term recovery, yet prescribing practices often do not align with these nationally recognized guidelines. Prescribers have identified organizational barriers to adherence, such as a lack of resources and administrative non-prioritization of the issue. EDs are a critical setting for OUD assessment, treatment with short-term medication, and long-term follow-up for patients presenting with OUD. Through examining the facilitators and barriers of ED-initiated assessment, treatment, and referral, as well as healthcare organizations' policies and provider practices across NYS, this study provides insight into the unique and shared challenges that providers face. Ultimately, this research can inform interventions to improve adherence to clinical practice guidelines for treating OUD in ED settings, potentially leading to improved outcomes for patients and communities affected by the opioid epidemic.

Research Aims

This study aims to provide a comprehensive description of the clinical practices, organizational policies, and barriers and facilitators that affect prescribing providers' adherence to the clinical practice guidelines for treating OUD in the ED setting across NYS. Clinical practice guidelines for treating OUD are critical for preventing relapses, overdose deaths, and

sustaining long-term recovery. However, provider practices often do not align with these nationally recognized guidelines. In addition, prescribers have identified several organizational barriers to adherence, such as a lack of resources and administrative non-prioritization of the issue. By exploring the facilitators and barriers to adherence to these guidelines, this study can contribute to a better understanding of the challenges that providers face in the ED setting in NYS.

Research Objectives

The objective of this research is to establish a baseline understanding of the current provider practices and institutional policies related to the assessment, treatment, and referral of individuals presenting with OUD across 188 EDs in NYS. By gathering this data, I aim to identify gaps in current practice and policies and potential barriers to providing evidence-based care for individuals with OUD in the ED setting. This information can inform the development of targeted interventions to improve the quality of care for individuals with OUD, leading to better health outcomes and ultimately contributing to the efforts to address the opioid epidemic in NYS.

Research Questions

- What are the current practices of providers working in NYS EDs regarding assessment, treatment, and referral of individuals with OUD?
- What are the perceived barriers and facilitators of providers working in NYS ED's assessment, treatment, and referral of individuals with OUD?
- What are the current clinical guidelines implemented by healthcare organizations in NYS EDs in the assessment, treatment, and referral of individuals with OUD?
- What are the perceived barriers and facilitators of NYS healthcare organization

(ED) implementation to nationally recognized clinical guidelines in initiating, assessment, treatment, and referral of individuals with OUD?

- Are the current clinical guidelines implemented by NYS EDs aligned with nationally recognized clinical best practices for the treatment of individual with OUD?
- What organizational-level covariates are associated with the current clinical guidelines implemented by NYS EDs?

Hypotheses

As this is an exploratory, descriptive, correlational, quantitative study, there are no hypotheses.

Significance of the Study

One significance of the present study is that it can help identify facilitators and barriers that affect the implementation of ED-related policies and associated practices for treating OUD across NYS EDs. These facilitators and barriers can be considered mediating factors affecting the implementation of appropriate policies. In the presence of barriers, such as allocated resources, stigma among healthcare providers, and lack of appropriate funding, compromised OUD treatment–related outcomes can be achieved in EDs in NYS. On the other hand, the presence and promotion of facilitators, such as ease of access to social workers and peer counseling, may help improve the condition related to the OUD treatment. This study can also assist in identifying the facilitators that have been beneficial in OUD treatment in other states or regions and considering those facilitators for improving the outcomes in the EDs in NYS. This study, in association with identifying facilitators and barriers, can also help differentiate factors according to different stages of the PRECEDE-PROCEED planning model that was the

foundational to the study.

Aside from the study of the facilitators and barriers, this study can aid in providing information regarding OUD in the context of EDs in NYS, designing theory-guided knowledge, and developing appropriate interventions in relation to OUD treatment in NYS EDs. Furthermore, this study can identify gaps in research regarding the implementation of policies and practices.

This research proposes an inquiry into NYS ED practices by comparing healthcare organizations' policies and provider practices on OUD assessment, treatment, and referral of individuals presenting to the ED with OUD.

States Comparison

The significance of this study can be established by making a comparison of NYS with that of other states regarding OUD-related deaths. New York is one of the top five states with highest rates of OUD-related deaths. This increase in the number of deaths is showing that some of the policies and practices for OUD in relation to ED need to be optimized. Moreover, the state comparison can also help in finding states with lowest rates of OUD-related deaths. The study of these states, which have lowest rates of deaths, can help in establishing the best possible strategies that can be used in reducing OUD-related deaths in the NYS (CDC, 2018). The differences in the barriers and facilitators associated with different states can be studied, and best practices for NYS can be developed. It is only through state comparisons that different factors, such as the effect of population, can be established. For example, a state may have a smaller population than NYS that is then associated with the lower rate of OUD-related deaths because of easier implementation of policies and practices in comparison to NYS, but this factor cannot be controlled in the case of NYS. Nevertheless, the top five states with the highest and lowest

rates of opioid deaths per 100,000 population in 2020 are presented in Table 1.

Table 1: Top five states with the highest and lowest rates of opioid deaths per 100,000 population in 2020

Top Five States with Highest Number of OD Deaths	**Top Five States with Lowest Number of OD Deaths**
California 8,908	South Dakota 83
Florida 7,231	Wyoming 99
Ohio 5,204	North Dakota 114
Pennsylvania 5,168	Alaska 160
New York 4,965	Montana 162

Source. CDC, 2018.

In addition, based on New York State Department of Health Opioid Annual Data reports, the prevalence of opioid abuse is illustrated in Table 2.

Table 2: Opioid Abuse in New York State

Variable	*N*
Total opioid overdose deaths	3,224
Opioid overdose deaths per 100,000 population	16.3
Emergency department visits related to opioids	14,638
Hospitalizations related to opioids	5,654
Number of opioid prescriptions	4,325,856
Prescriptions per 100,000 people	22.2

Source. New York State Department of Health, 2021.

Rhode Island

Rhode Island is among the states that are experiencing a high rate of mortality associated with opioid overdose. In 2017, the rate of mortality was about 30.2 mortalities per 100,000 residents. Nevertheless, considering the issues linked to opioid overdose, Rhode Island already started planning comprehensive discharge strategies in 2016 for opioid overdose, OUD, and chronic addiction. The Rhode Island Department of Health and the Department of Behavioral Healthcare, Developmental Disabilities and Hospitals (2017) worked on the standards set by Levels of Care to coordinate the statewide strategy for the reduction of death caused by opioid overdose and improvement in provider engagement with levels of care. They released the standards of treatment in association with the Levels of Care for the hospitals and EDs in Rhode Island to treat OUD for inpatient care and emergency room patients. During May 2017 and June 2018, implementation and certification of the policy took place (Samuels, McDonald, et al., 2019).

The primary purpose of the Levels of Care for Rhode Island Emergency Departments and Hospitals for Treating Overdose and Opioid Use Disorder is to standardize compassionate forms of evidence-based care of patients with OUD in the healthcare institutions of the state. Considering the use of this policy and its associated aspects, it was assumed that EDs and associated healthcare settings in Rhode Island would be based on a common foundation to treat OUD and opioid overdose. There are three Levels of Care that can be explored for further improvement in The Rhode Island Levels of Care (Rhode Island Department of Health and Department of Behavioral Healthcare, Developmental Disabilities and Hospitals, 2017):

- Level 3 represents a common foundation for all facilities that demonstrate a solid commitment to this healthcare problem by creating the required infrastructure and subject matter expertise to appropriately treat these patients.
- Level 2 represents an organization that has actively integrated subject matter expertise and infrastructure and has made the commitment to this higher and more complex level of care.
- Level 1 represents an organization which has made the commitment to establish itself as a Center of Excellence (as defined and certified by BHDDH), or another comparable arrangement as recognized by RIDOH or BHDDH and has the requisite capacity to address appropriately the healthcare needs of the most complex patients with opioid use disorder and overdose.

The aim of the Levels of Care policy is to improve and standardize healthcare that has been provided to adult patients with OUD. This policy could help in preventing or reducing deaths associated with opioid overdose, increasing linkage to treatment, and improving overdose surveillance at appropriate times. However, the implementation of the policy faces several challenges as, for example, one of the most cited barriers in the provision of health care has been found to be a prevalent form of stigma among healthcare providers toward OUD medications and patients with OUD. Among the other challenges regarding the implementation of the policy are hospital-related cost that could be associated with the purchase of naloxone and time and effort put in by the healthcare workforce. Despite these challenges, both Rhode Island Department of Health and the Department of Behavioral Healthcare, Developmental Disabilities and Hospitals have supported the standards set by the Levels of Care and mandated hospitals and EDs to implement the policy and maintain standards of care guided by the Level of Care policy. It is

because of the standards associated with the Level of Care that healthcare providers can identify and evaluate areas of high overdoses along with the gaps or weaknesses in the provision and use of services. These aspects of the care help in the rapid identification of lapses and gaps in the elimination of associated problems, especially in relation to the provision of addiction service. Eventually, the standards set by Levels of Care help in releasing appropriate public health advisory to primary stakeholders, such as providers of OUD treatment, municipal leaders, and providers of emergency medical services in EDs (Samuels, McDonald, et al., 2019). Considering Levels of Care utilization and benefits, it seems imperative to start using these guidelines as a helpful approach to be implemented in the EDs for monitoring undesired as well as desired outcomes. After confirmation of the beneficial outcomes associated with these guidelines, they can be mandated in all NYS hospitals through legislative action(Juurlink et al., 2013).

Washington State

Some of the healthcare systems, such as those related to Group Health in Washington State, have used a multifaceted approach to treat OUD. They considered individualized treatment plans, urine drug screening, and appropriate decision support through the electronic health records. Aside from group health, Washington State developed an inter-agency guideline in 2007 regarding the prescription of opioids for the treatment of pain, and legislation was passed in 2010 and 2017 to strengthen the rules associated with opioid prescription (U.S. Department of Health and Human Services, 2020). This strategy of strengthening the rules has been found beneficial in developing and evaluating appropriate guidelines.

Other States

West Virginia also worked on OUD by passing the Opioid Reduction Act in 2018. This Act has been found beneficial in dealing with several opioid-related issues, such as those related

to the discussion of the risks of using opioids with the people from whom they have been prescribed. Moreover, prescribers must discuss the alternatives to opioid therapy, including acupuncture, physical therapy, and massage therapy. In the same way, Nebraska also worked on opioid-related issues by passing a law according to which it is important to discuss opioid-related information with patient before prescribing Schedule II controlled substances (U.S. Department of Health and Human Services, 2020).

In the state of Alabama, Medicaid policy applies according to which short-acting prescription opioids can be prescribed to beneficiaries with no claims for opioids during the past 180 days. Moreover, the opioid supply has to be limited to seven days for adults and five days for children and young adults (18 years and older), and 50 morphine milligram equivalents (MME)/day on an insurance claim. In the state of Kentucky, the prescription of drugs related to Schedule II drugs has to be within the limits of three days' supply if they have to be used for the treatment of pain. However, if the practitioner believes that it would be beneficial to increase the supply for the treatment of pain, the supply of drugs can be increased. In the state of Nebraska, Medicaid policy applies, according to which short-acting opioids have to be used with a limitation of 150 capsules or tablets per 30 rolling days. In the state of Nevada, Medicaid policy applies, according to which prior authorization is required if the dose of the drug has to exceed seven days' supply or 60 MME/day. On the other hand, in the case of New Hampshire, prior authorization is required to reach 100 MME/day. In the case of West Virginia, the opioid supply is limited to four days' supply in an emergency setting. In the state of Texas, there is a Medicaid Lock-In program, which indicates that more than three emergency room visits have to be considered for opioid prescriptions (U.S. Department of Health and Human Services, 2020). The study conducted on OUD in relation to NYS EDs can help in not only developing guidelines but

also making better strategies utilizing experiences of the guidelines and policies used in other states.

Assessment, Treatment, and Referral

Screening for OUD in NYS EDs

The patient screening procedure is one of the most important considerations in improving treatment of OUD. In this case, various self-report screening tools can be used, but the instruments that are used to determine substance use, though reliable, have some problems. For instance, the accuracy of the finding obtained through those tools could be increased only when the perceptions of the patient regarding probable negative outcomes are truthful, such as those related to physician disapproval, involvement of child welfare organizations or societies, implication for insurance, and criminal sanctions. However, patients may start to intentionally misrepresent the information related to drinking or drug use, especially if they fear unwanted consequences (SAMHSA, 2021). Screening tools that are time consuming may not be appropriate. On the other hand, instruments with up to two questions may not help in providing sufficient information. It is also important to note that some healthcare providers often show reluctance to screen patients regarding OUD, as they may have concerns about health insurance companies that may not provide reimbursement in alcohol-related cases (SAMHSA,2021).

Identifying patients with OUD and other individuals with opioid-related problems, such as misuse and overdose, requires the use of screening tools by emergency physicians. These screening tools must be reliable, accurate, and easy to administer in the context of the ED (Duber et al., 2018). In addition to their reliability and accuracy, these tools must also be brief and integrated seamlessly into the current ED workflows to enhance large-scale uptake, administration, and use. Clinical care priorities that have inter-competition, restricted time, and

high staff turnover keep on presenting considerable challenges to screening in a high-demand ED setting. Even though several validated opioid screening tools are present, such as those presented in Table 3, not all of them have been assessed in the ED environment, thereby requiring further examination of these tools for their generalizability. Among the instruments mentioned in Table 3, Clinical Opioid Withdrawal Scale is a provider-administered instrument for assessing opioid withdrawal. The NIDA Drug Use Screening Tool was developed for adult patients in the primary care setting. The Alcohol Smoking and Substance screening is an interviewer-administered survey to assess a history of substance use and dependence (Duber et al., 2018). Nevertheless, these tools are vital to individual and organizational outcomes.

Table 3: Screening Instruments for OUD

Screening Instrument	Description
Clinical Opioid Withdrawal Scale (Duber et al., 2018)	This is an 11-item scale designed to be used for the assessment of commonly developed signs and symptoms associated with opiate withdrawal and monitoring the signs and symptoms over time.
Screening Brief Intervention Referral Tool	This is one of the most comprehensive tools for the delivery of intervention in early stages, along with the appropriate treatment services for patients dealing with substance use disorders and individuals who can develop these disorders.
Drug Abuse Screening Tool	This is a 28-item instrument used for self-report. The items are in line with those of the Michigan

	Alcoholism Screening Test. Self-reported instruments are designed to provide a brief instrument for clinical screening and treatment evaluation.
NIDA Drug Use Screening Tool (Duber et al., 2018)	This is a 1-to-7-question screening tool adapted from the World Health Organization's Alcohol Smoking and Substance screening by the National Institute on Drug Abuse.
Diagnostic and Statistical Manual of Mental Disorder (DSM-5, Duber et al., 2018)	DSM-5 criteria to assess for the presence of OUD components must be observed within a 12-month period.
Alcohol Smoking and Substance screening (Duber et al., 2018)	This is an 8-item screening tool that was developed by experts for the World Health Organization to facilitate the earlier identification of problems related to substance use, such as health risks and disorders in general medical care services, primary health care, and other clinical settings.

The American College of Emergency Physicians and others, such as the National Institute on Drug Abuse and the Centers for Medicare & Medicaid Services, have stated that prescription drug–monitoring and evaluation programs could be considered beneficial screening tools for the identification of patients who may develop opioid abuse or misuse. As a result, using the prescription drug–monitoring program alone to assess the risk of OUD is not advised. In combination with self-reported data, the program may present complementary objective data

worth considering in the screening process (Duber et al., 2018; Samuels, D'Onofrio, et al., 2019). An important question still remains of which individuals should be screened for OUD in the context of the ED. In this regard, formal guidelines are still lacking (Duber et al., 2018), and this research could help in developing such guidelines.

MOUD Guidelines – Treatment

The Substance Abuse and Mental Health Services Administration (2021) identified in their evidence-based resource guide that the three most common medications approved by the FDA for use in OUD are methadone, buprenorphine, and naltrexone. Although these effective medications for the treatment of OUD have been developed, only a small portion of patients in the United States are getting benefits from these medications. Moreover, around 50% of patients show relapse within six months (Collins et al., 2018). In 2021, there were a documented 311,531 clients receiving methadone in outpatient treatment programs. Methadone is dispensed under supervision, requiring daily visits to the outpatient treatment program and significantly impacts the patient's quality of life and assimilation back into society (Substance Abuse and Mental Health Services Administration, 2021). Buprenorphine and methadone are associated with a reduction in mortality. It has also been found that buprenorphine is associated with a reduced risk of overdose in the context of EDs and an improved level of ease in the transition of patients to an outpatient setting, eventually leading to improved health-related outcomes. However, although this prescribing practice has been found beneficial, its adaptation is slow in NYS EDs, as buprenorphine treatment is initiated sparingly. Advanced nurse practitioners had to apply to the Drug Enforcement Agency for a waiver to prescribe buprenorphine, which also required them to complete 24 hours of training for prescribing buprenorphine. The training consisted of eight hours of waiver training and 16 hours of additional training. After completing the required

training, advanced nurse practitioners could treat up to 100 OUD patients with buprenorphine (Substance Abuse and Mental Health Services Administration, 2021). However, the recent elimination of the "DATA-Waiver" requirement by President Biden in December 2022 could facilitate increased utilization of buprenorphine in EDs (Drug Enforcement Administration, 2023).

Buprenorphine can be prescribed by providers and obtained through physician offices, thereby increasing the level of access for patients to treatment. It can be administered daily through the mouth and helps eliminate withdrawal symptoms and reduce or prevent drug cravings. In addition, these processes help the patients to feel normal with no or little adverse effects. Eventually, buprenorphine provides various benefits to patients with OUD and other individuals who find it challenging to adhere to the treatment with methadone (SAMHSA, 2023). Although different treatment options are available, this study focuses on exploring current practices and provider-organizational barriers and facilitators. The objective is to assist in informing prescribers and healthcare organizations on best practices, with the goal of creating a standardized ED algorithm for initiating MOUD.

Summary

This study explores the facilitators and barriers to providers of ED-initiated assessments, treatments, and referrals of individuals with OUD by comparing healthcare organizations' policies and provider practices on OUD screening, treatment, and referral in the ED setting in NYS. Assessment, treatment, and referral of individuals presenting to the ED battling OUD are crucial in managing the opioid crisis currently facing the United States. However, OUD can be complex, and MOUD may be taken months, years, or even a lifetime. Therefore, assessment, treatment, and referral should be guided by evidence-based practices and not based on the

individual providers' practices or driven by their healthcare system's organizational practices.

Surveying current practices in the ED and comparing those practices to best practices identified by the Substance Abuse and Mental Health Services Administration and the National Institute on Drug Abuse may identify the need for an improvement of current practices. In addition, data can inform future replication and standardization of best practices to create a standardized ED algorithm for initiating MOUD. The standardization will be similar to the development of clinical algorithms seen in other specialties, such as cardiogenic shock management. As a result, EDs throughout the NYS may develop standardized guidelines for assessing, treating, and referring patients with OUD.

CHAPTER 2: LITERATURE REVIEW

This chapter provides a literature review and a theoretical framework. First, the theoretical framework is linked to the subject of this study. Then the literature review covers the roles of EDs in the provision of healthcare services; quality-improvement measures for OUD assessment and treatment in EDs; and facilitators and barriers to ED-initiated assessments and treatments that could be associated with providers, patients, organizations, or other factors. This literature review would be of sufficient help for NYS to create or adapt appropriate guidelines. The review also includes items that may be considered for inclusion in the survey for NYS ED administrators.

Theoretical Framework

Theories have been continuously developed, debated, and tested, and they can help in providing some information for practical work and strengthening the solutions to problems in the public health domain. In this case, one of the theoretical models that can inform this research is that of the PRECEDE-PROCEED planning model, which can help in promoting health from an ecological perspective. In this model, PRECEDE is the abbreviation for "Predisposing, Reinforcing, and Enabling Constructs in Educational/Environmental Diagnosis and Evaluation," and PROCEED is the abbreviation for "Policy, Regulatory, and Organizational Constructs in Educational and Environmental Development." The PRECEDE phases relate to steps from 1 to 4, and PROCEED phases relate to steps from 5 to higher (Crosby & Noar, 2011).

The first step relates to the social assessment, in which an assessment can be made regarding most appropriate policies and practices that can be implemented and used in affecting the quality of life of all stakeholders. Moreover, this phase is associated with the assessment of EDs in the local hospitals, physicians or healthcare providers, and people (especially patients

with OUD) coming to those EDs. This assessment also involves the understanding of strengths, limitations (weaknesses), resources, and readiness of all stakeholders to the change in practices and policies. A range of strategies, such as planning committee, surveys, and community forums, can be used in this step. The second and third phases relate to the epidemiological assessment and behavioral and environmental assessment, and these two phases can be combined in a single step. In these steps, epidemiological, behavioral, and environmental factors regarding OUD in EDs in NYS are studied and analyzed, such as the percentage of patients with OUD, forecasting the prevalence of OUD, and healthcare providers' role in intervening the OUD. Nevertheless, this information can be used to conduct research on the modifiable factors in developing intervention strategies in the fourth step of educational and ecological assessment. Collaboration with community health workers can help in providing education to people in relation to OUD and its intervention. In the fifth step, the administrative and policy concerns in association with state health department can be analyzed before implementing health-related interventional strategies in the sixth step. In the last three phases, evaluations can be made regarding the intervention.

Consequently, for this study, utilizing the PRECEDE-PROCEED is the most practical model within the ED. This model is beneficial in providing a structural approach for planning the intervention and organizing not only thoughts but also actions, to make the intervention a coherent and carefully designed intervention in an ED setting. This model is one of the logic models that can facilitate the analysis of critical issues and select the most important areas to manage, along with highly probable factors (facilitators), to help in the management of those areas (Mohamed & Khaton, 2017).

The Roles of EDs in the Provision of Health Care Services

Samuels, D'Onofrio, et al. (2019) suggested that this time-sensitive work domain of EDs can be applied in the case of OUD, as it could help in the reversal and clinical stabilization of individuals exposed to opioid overdose and in treating the severe issues associated with withdrawal. The Substance Abuse and Mental Health Services Administration (2021) has also noted that EDs can help in effectively treating patients with OUD and opioid withdrawal symptoms.

Considering domains within the EDs that work, acute diagnostic testing is available so that emergency testing could be carried out and life-threatening injuries and illnesses could be ruled out in the situations associated with diagnostic uncertainty. Among the examples of acute diagnostic testing that are commonly conducted in the EDs are cardiac enzyme testing and ECGs that are beneficial in the evaluation of patients for the risk of acute coronary syndromes and adequate use of head computed tomography (CT) scanning for the assessment of the risk of serious kinds of head trauma. In this regard, researchers noted that OUD-related cases in relation to this work domain are commonly experienced by the EDs, but standardized strategies, methods, or indicators of quality are often not present or implemented. For example, more research can be done on standardized methods for assessing undifferentiated, altered mental conditions; identifying OUD; and treating acute opioid withdrawal (Samuels, D'Onofrio, et al., 2019).

Another work domain of the EDs is that of their role in providing a link to the healthcare system and definitive treatment. In this regard, after the initial diagnosis in the EDs, health care providers should not only start appropriate treatments but also help the patients in getting definitive healthcare in different forms, such as hospitalization or referral of patients to

outpatient healthcare providers. For example, in the case of a newly diagnosed pregnancy, the healthcare providers in the EDs direct the patients to obstetrics and help them with follow-up. Another example is that in cases of newly diagnosed hyperglycemia with no diabetic ketoacidosis, the healthcare providers in the EDs often start antihyperglycemics and refer the patients to primary care. Considering these examples, it can also be said that the EDs can function in providing appropriate care to patients with OUD and opiate withdrawal issues and become a link for them to definitive care, but still, standards of care and protocols must be established. Some of the factors that are associated with the lack of standardized care and protocols are lack of useful resources for outpatient addiction medicine, stigma, and gaps in knowledge and training of the healthcare providers. Nevertheless, with some work, these barriers and challenges can be overcome, especially with the utilization of EDs for OUDs (Samuels, D'Onofrio, et al., 2019).

Regarding the third work domain, Samuels, D'Onofrio, et al. (2019) noted that EDs can be used for the referral of patients to OUD treatment and can also help in reducing the harm associated with OUD with the help of different interventions, such as administration of naloxone, education of patients and their families regarding opioid overdose, and syringe access. In addition, the Substance Abuse and Mental Health Services Administration (2021) noted that EDs can not only motivate individuals to accept the appropriate required form of treatment for their opioid-related problems but also help those individuals regarding referral for ongoing care.

Quality Improvement Measures for OUD assessment and treatment in EDs

Samuels, D'Onofrio, et al. (2019) presented a quality improvement framework for assessment and treatment in EDs. They noted that some of the structural, process, and outcome measures can be used in primary prevention, treatment, and harm reduction. Although some of

the measures have already been implemented in the United States, more research is required to assess their validity and reliability in improving the quality of OUD care and patient outcomes (Samuels, D'Onofrio, et al., 2019). Furthermore, the NYS EDs can also take advantage of the potential measures for improvement in relation to opioid addiction, assessment, treatment, and referral of patients.

Measures for Primary Prevention

The primary prevention of OUD focuses on reducing the overprescribing of opioids, which has been linked to the development of OUD, as well as reducing co-prescribing with benzodiazepines. Some of the structural measures that can be implemented by hospitals and EDs are developing and expanding the services related to nonopioid pain management, such as using the services for regional anesthesia, developing and implementing programs for alternatives-to-opioids, and integrating databases for prescription drug monitoring programs into the electronic health records of patients (Samuels, McDonalds, et al., 2019).

Process measures associated with primary prevention include the education of people regarding the use of opioids, their storage, and their disposal (Samuels, McDonalds, et al., 2019). The importance of education of patients regarding the storage and disposal has also been noted in Level 3 of the three Levels of Care presented by the Health Department of Rhode Island. After the prescription of an opioid to a patient, it is critical to educate the patient about the prompt and safe storage and disposal of opioids when they are no longer needed. Also, education can be provided in the written form or verbally, according to the preference of the patients (Rhode Island Department of Health and the Department of Behavioral Healthcare, Developmental Disabilities and Hospitals, 2017). Furthermore, the educational material must include the acknowledgement that the patient has to take full responsibility for safeguarding the medications

and keep them in a safe and secure location, as well as education about the options for the safe disposal of unused portions of opioids and controlled substances. This education is critical, as the safe disposal of opioids and other related medications can help in reducing the opportunities for diversion and the potential for unintentional poisoning or misuse.

Aside from primary prevention through the education of patients, other process measures include the use of nonopioid analgesics before the start of opioids and adherence to "safe prescribing" practices and policies. These practices and policies may include limitations related to the number of days prescribed, adherence to outpatient care plans for patients utilizing outpatient services, avoidance of opioid refills for chronic pain, and avoidance of co-prescribing benzodiazepine and opioids. It has been found that the reduction or avoidance of co-prescribing benzodiazepines and opioids is useful in providing mortality prevention. Eventually, outcome measures could be linked to structural and process measures and to the incidence of new OUD per capita, the prevalence of unintended long-term opioid use, and the prevalence of OUD (Samuels, McDonalds, et al., 2019).

Measures for Harm Reduction

OUD harm-reduction goals relate to the reduction of opioid overdoses and mortality associated with such overdoses. In the context of harm reduction, structural measures include the appropriate distribution of naloxone or referral of patients to a community syringe access program (Samuels, McDonalds, et al., 2019). The Substance Abuse and Mental Health Services Administration (2021) has also noted that EDs can help in reducing harm by dispensing naloxone.

In relation to naloxone, the Rhode Island Department of Health and the Department of Behavioral Healthcare, Developmental Disabilities and Hospitals (2017) have also asserted that

naloxone must be dispensed or prescribed to patients according to a well-established protocol. It has been noted that naloxone must be prescribed or dispensed by EDs to patients who have been discharged from a healthcare facility with a known or new combination of benzodiazepine and opioid medications, or patients who have been identified as having a risk for opioid dependence, misuse, or OUD. Some of the other conditions that could be linked to the naloxone dispensing or prescribing may include conditions, such as the patient has already been on prescribed opioids in the amount of 50 or more morphine milligram equivalent (MME) per day; the patient who has been on opioids also has some other comorbid conditions, such as smoking, emphysema, sleep apnea, asthma, cardiac illness, hepatic disease, and HIV/AIDS; the patient has a history of substance use disorder or recovery management; the patient requests the use of naloxone; the patient has a history of illicit opioid use; the prescriber thinks that it is medically appropriate to use naloxone; and the patient has been living with an individual meeting the above criteria.

Aside from the structural measures, process measures include the provision of education to patients regarding overdose, development of a harm reduction care plan to deal with the proportion of patients who would be at risk of overdose, referral of patients to the relevant outpatient services, and prescription of naloxone to patients at their discharge (Samuels, McDonalds, et al., 2019). The Rhode Island Department of Health and the Department of Behavioral Healthcare, Developmental Disabilities and Hospitals (2017) have also provided guidance regarding the education about the administration of naloxone in hospitals or EDs, if appropriate, before the discharge of patients. Moreover, patients have to be educated about overdose prevention and obtaining naloxone. If the screening of the patient shows that the patient has OUD, it is important to provide an appropriate referral to treatment while maintaining consistency in the healthcare plan provided to the patient.

The Department of Health in Rhode Island has also provided guiding standards for appropriate discharge planning that may help in harm reduction. For instance, discharge planning may include certain requirements and parameters that must include the patient's consent. Some of the important requirements that must be considered in the discharge planning are involving the patient, contacting the patient's emergency contact, contacting a peer-recovery specialist, contacting the primary care provider, and referring the patient to substance use care. Considering the patient's involvement, it is imperative that the patient and his or her caregiver must show an understanding of the different closely related aspects of patient education, such as the purpose of therapy or medication, adverse or side effects associated with medication, ways to administer the medication, and the phone number of medical caregivers for further assistance, along with the establishment of a follow-up routine. Moreover, the documentation regarding the patient's involvement must be added to his or her medical record. The ED health care provider also has to contact the emergency contact of the patient, peer-recovery specialist, and primary care provider with patient consent before discharge. Contact with the primary care provider could help in developing an appropriate follow-up routine. Also, the Rhode Island Department of Health and the Department of Behavioral Healthcare, Developmental Disabilities and Hospitals (2017) asserted that the referral of the patient to appropriate substance use care with the consent of the patient is required.

Measures for Treatment

In line with the treatment framework presented by Samuels, McDonalds, et al. (2019), the Department of Health in Rhode Island also supports the use of appropriate medication-related treatment programs. In Level 2 of the Levels of Care, it has been noted that medication-assisted treatment utilizing naloxone/buprenorphine, methadone, or injectable naltrexone has to be

administered in the EDs when it is clinically appropriate (Rhode Island Department of Health and the Department of Behavioral Healthcare, Developmental Disabilities and Hospitals, 2017). In support of this framework, Kaczorowski et al. (2020) presented their findings. They conducted a systematic review in which they extracted information from the published studies. They reported that ED-initiated opioid agonist treatment is the intervention that has been supported by the highest-quality research, including randomized controlled trials, and that can result in the most promising and consistent results in comparison to non-opioid agonist treatments of patients with OUD (Kaczorowski et al., 2020).

The use of medication-assisted treatment has also been supported by the Substance Abuse and Mental Health Services Administration (2021) and has presented the example of the South Carolina Medication-Assisted Treatment Program Pilot in which the treatment of individuals with OUD can be started with the administration of eight 2 mgs of sublingual buprenorphine-naloxone or 8 mgs of sublingual buprenorphine during their visit to the ED. Furthermore, the Substance Abuse and Mental Health Services Administration (2021) has also noted that the start of buprenorphine is the recommended best practice, as shown by a randomized controlled trial, according to which individuals with opioid dependence showed better outcomes after ED-initiated buprenorphine as compared to referral only and brief psychosocial intervention with facilitated referral. In this study, about 78% of participants showed engagement in their treatment at 30 days after ED-initiated buprenorphine treatment, as compared to 45% in the case of brief intervention with referral and 37% with referral only. Langabeer et al. (2021) and the Substance Abuse and Mental Health Services Administration (2021) developed a program referred to as the Houston Emergency Opioid Engagement System that was helpful in providing rapid access to emergency physicians for buprenorphine initiation. The program also included a minimum of

behavioral counseling session along with four peer-support sessions per week during the intervention period of 30 days. Overall, 324 individuals participated in the study. The researchers found that approximately 90.43% (293 individuals) showed engagement in the 30-day program. Also, approximately 63% (203 individuals) were successfully associated with addiction medicine physician in the community (Langabeer et al., 2021).

The process measures regarding OUD treatment may include the use of structured diagnostic and screening tools (Samuels, D'Onofrio, et al., 2019). The Substance Abuse and Mental Health Services Administration (2021) noted that the diagnosis of OUD can be made by considering the standards of meeting a minimum of 4 of the 11 criteria established by the Diagnostic and Statistical Manual of Mental Disorders (DSM-5). In this regard, the Rhode Island Department of Health and the Department of Behavioral Healthcare, Developmental Disabilities and Hospitals (2017) has provided instructions in Level 3 of the Levels of Care to administer standardized OUD screening. Therefore, all the patients who have been admitted to the EDs have to be screened for OUD. The purpose of the screening is to disclose information about the principal diagnosis or co-morbidity that may have been overlooked even by an expert provider or healthcare provider. The screening procedure may consist of using an already established screening tool, such as the Drug Abuse Screen Test or a simple question such as "Have you used an illegal drug during the past month?" to establish whether or not further screening is required. In some cases, patients may not want to take part in the screening procedure. In that case, it is important to document that patient's choice in his or her medical record.

Apart from the process measures related to diagnostics and screening, the utilization of ED-outpatient OUD treatment care plans, the proportion of patients with OUD who have started medications for their disorder, testing for urine toxicology, and the proportion of patients who

have been associated with the program of community medication related to OUD are also considered in the process measures. The importance of these process measures can be established by considering that almost similar process measures have been started by the National Quality Measure Clearinghouse, the Agency for Healthcare Research and Quality, and the National Quality Forum, especially in relation to the start of medication and outpatient treatment referral. Among the other potential process measures are quarterly physician visits and psychosocial treatment of the patients (Samuels, D'Onofrio, et al., 2019).

In terms of OUD treatment, outcome measures for research and policy evaluation may include a study of the proportion of people who have maintained medication use for 30 days, the proportion of people who have participated in the targeted opioid treatment program, risk-adjusted non-fatal and fatal repeated overdoses, and risk-adjusted mortalities (Samuels, D'Onofrio, et al., 2019). Researchers have also presented several research, policy, and clinical practice opportunities to develop and improve quality measures in relation to OUD that are not only related to measures for treatment but also for primary prevention and harm reduction.

Facilitators and Barriers of ED-Initiated Assessments and Treatments

The ED-initiated assessments, treatments, and referrals are considered optimal strategies for patients with OUD. However, several factors can positively (facilitators) or negatively (barriers) affect the optimal strategies. In this regard, it has been noted that among the barriers are the regulation of opioid prescriptions and funding to provide OUD treatment in an ED setting (Guerrero et al., 2020).

The Bipartisan Policy Center (n.d.) has also reported that sustainable funding from federal government is one of the most important aspects in the continuity of healthcare services for OUD and the reduction of harmful outcomes associated with addiction. Along with the

sustainability of funding for the reduction of OUD, flexibility and coordination are also important aspects of funding. For instance, state agencies need to coordinate with one another for the promotion of opioid-reduction programs, and funding for EDs need to be flexible based on drug-use trends and change in markets with the passage of time (Bipartisan Policy Center, n.d.).

Attitudes of practitioners toward the adaption of best practices and toward their patients can also affect the implementation of these practices. For instance, it has been found that attitudes of clinical practitioners toward patients with OUD could be negatively affected by the patient's habitual use of opioids, stigma associated with the use of opioids, and low levels of self-efficacy in the treatment of addiction (Guerrero et al., 2020). Supporting the findings of Guerrero et al. (2020), the Substance Abuse and Mental Health Services Administration (2023) stated that stigmatizing language and inappropriate terminologies that healthcare providers may use unconsciously can also become a barrier in the initiation of appropriate treatment strategies, such as buprenorphine treatment. Health care providers have to know the importance of using person-centered language while considering the patient as a person rather than an addict.

Kaczorowski et al. (2020) also noted that lack of physician readiness and formal training with or without time constraints could be a barrier in the appropriate ED-initiated treatments. Lowenstein et al. (2019) conducted a study in Philadelphia and supported the findings of the study conducted by Kaczorowski et al. (2020). They studied barriers and facilitators for ED initiation of buprenorphine among physicians working in academic EDs in urban settings. They found that even though physicians showed some level of preparation for OUD care, about 39% of the participants showed that they were considerably prepared to work according to the level of care for patients and about 27% of the participants reported that they were prepared to initiate buprenorphine (Lowenstein et al., 2019).

Guerrero et al. (2020) stated that it is imperative to prepare practitioners for change and innovation regarding the treatment of OUD in an ED setting. In this regard, the leadership of an organization can help by showing their support, knowledge, and perseverance regarding better OUD treatment strategies during their implementation. The Substance Abuse and Mental Health Services Administration (2021) has also noted that ED providers have to complete the required training to anticipate the requirements for more waivered products.

Patients' mistrust in clinical practitioners regarding pain medication can also be a barrier in ED-initiated assessment and treatment (Guerrero et al., 2020). For instance, patients or caregivers may assume that their healthcare providers are only replacing an addictive drug by prescribing another drug. In this regard, it is important to improve the level of knowledge of patients and their caregivers since, for example, they have to be told that buprenorphine is a medication that has been prescribed by a healthcare provider in an appropriate regimen to deal with opioid-related problems (Substance Abuse and Mental Health Services Administration, 2021). Lowenstein et al. (2019) have also presented some of the physician-reported patient or consumer-related barriers and facilitators. For instance, they found that some important barriers are a lack of interest of patient or their families in the treatment, social barriers experienced by patients, patients' preference for alternative treatments, and referral availability for substance or drug use. On the other hand, important facilitators include patients' access to constant level of treatment services even after their discharge; pharmacist consultation; and ease of access to social workers, peer counselors, or care coordinators for patients with OUD.

Aside from the attitudes of practitioners and patients, organizational factors such as leadership and organizational climate can also affect the appropriate implementation of evidence-based practices in the ED setting (Guerrero et al., 2020). In this regard, Guerrero et al.

(2020) conducted a study on the exploration of organizational factors in relation to practitioners' support for OUD treatment in the ED setting. They surveyed 241 practitioners, including nurses, physicians, and social workers working in an ED setting in the US. They found that nurses and administrators showed more support for medication-assisted treatment and other best practices for OUD in an ED setting. Paradoxically, nurses showed more bias in working with patients with OUD as compared to physicians. Moreover, nurses were found to be less optimistic regarding the treatment of people with OUD. Nevertheless, nurses could be considered as facilitators in ED-initiated assessments and treatments. Nurses also play an important role in the connection of patients to resources and further information for recommended care, such as specialty treatment for substance use disorder.

NYS ED's Administration Implementation of OUD Treatment Best Practices and Policies

The NYS ED administrators can adapt several of the above-mentioned points regarding the standardized or best practices for the treatment of patients with OUD to their unique situations. In this regard, the social, epidemiological, behavioral, and environmental assessments, according to the first, second, and third steps in the PRECEDE-PROCEED Model, can be used. For instance, the social assessment can be completed by the determination of overall community; issues faced by the community, such as joblessness, life expectancy, and poverty rate; and healthcare resources available to the community. The epidemiological assessment can be completed by assessing prevalence and other epidemiological factors, such as OUD-related mortality and morbidity, and forecasting regarding the number of individuals with OUD-related issues. The behavioral and environmental assessment of individuals with OUD can be completed by the standardized screening procedures, including the use of the Drug Abuse Screen Test, or the use of a simple question such as, "Have you used an illegal drug during the past month?" and

conducting further assessment based on this question, as described by the Rhode Island Department of Health and the Department of Behavioral Healthcare, Developmental Disabilities and Hospitals (2017). Moreover, the attitudes of practitioners toward the adaption of best practices and toward their patients can also be assessed for better implementation of the intervention. The stigmatizing behavior of healthcare providers and inappropriate language of both healthcare providers and patients can be assessed. For the fourth step, the educational and ecological assessments can be completed by collaborating with community healthcare and social workers, so that people in the community can be educated regarding the benefits, harms, barriers, and facilitators. Advertisements can also be used to promote information regarding OUD. For the fifth step, administrative and policy assessments can be made with the help of state health departments and other government bodies; for example, assessments can be made regarding the regulation of opioid prescriptions and funding to provide OUD treatment in an ED setting. Eventually, outcomes linked to these assessments can be used for the implementation of practices and policies by the NYS EDs, as noted in the sixth step of the model.

Another point that needs to be considered or asked in the initiation of treatment of patients with OUD, especially in the induction of buprenorphine, is that of providers' knowledge of the FDA guidelines. The Substance Abuse and Mental Health Services Administration (2021) has also noted that the dose of buprenorphine has to be considered only after considering the severity of conditions, withdrawal symptoms, history of opioid use, and several other risks. With the passage of time, the process of NYS ED's administration of best practices and policies can be evaluated, according to the seventh, eighth, and ninth step of PRECEDE-PROCEED Model.

Summary

The theoretical framework used in this study is the PRECEDE-PROCEED planning model, which consists of nine steps, including the first five steps of assessment, the sixth step of implementation, and the last three steps of evaluation. This model can be used in identifying and analyzing critical issues associated with the treatment of OUD in an ED setting and selecting the most important areas to manage, along with facilitators, to help in overcoming barriers. For instance, this model can help in finding or designing most appropriate policies and practices based on the prevalence of OUD-related morbidity and mortality as well as healthcare resources available to the community.

A literature review has also been presented in which the roles of EDs in the provision of healthcare services have been shown, but it has also been shown that further improvement is still required regarding the role of EDs in OUD treatment. For instance, it has been noted that OUD-related cases in the EDs are commonly experienced by healthcare providers, but that standardized strategies, methods, or indicators of quality are often not present or implemented, thereby requiring further work on standardized methods. Furthermore, standards of care and protocols have to be established for definitive care to patients with OUD in EDs.

The literature review also describes the quality-improvement measures for OUD assessment and treatment in EDs. These improvement measures are related to primary prevention, harm reduction, and treatment of OUD. For instance, primary prevention relates to the reduction in overprescribing opioids, harm reduction relates to the reduction of opioid overdoses and mortality associated with such overdoses, and treatment relates to the use of appropriate medication-related treatment programs. The guidelines presented by the Substance Abuse and Mental Health Services Administration and the Department of Health in Rhode Island

have also been utilized in association with other research and review articles so that they could become guiding factors for the development of NYS ED administrators.

The facilitators and barriers to ED-initiated assessments and treatments that could be associated with practitioners, patients, organizations, or other factors have also been presented in this chapter. In this case, regulation of the opioid prescriptions and funding to provide OUD treatment in an ED setting can be become barriers requiring further study. In addition, the attitudes of practitioners toward the adoption of best practices and behavior of patients with OUD can be assessed, as further studies are required in the context of EDs in NYS. This literature review revealed that questions such as “Have you used an illegal drug during the past month?” may be considered for inclusion in the survey for NYS ED administrators and would be of sufficient help for NYS to make or adapt appropriate guidelines.

CHAPTER 3: METHODS

The ED setting is often the primary source of medical care for individuals with OUD. Individuals with OUD can be assessed, treated, and referred for outpatient treatment through appropriate ED assessment, treatment, and referral. However, NYS practitioners and healthcare systems are not required to follow national best practice guidelines to treat OUD. It is possible to get a snapshot of current OUD treatment options in NYS EDs by examining the barriers and facilitators for providers and organizations in adopting national standards of best practices, current practices, and policies to treat OUD patients.. In addition, this information can be used to frame feasible and sustainable approaches for the statewide adoption of best practice national guidelines. This chapter describes the purpose of the study, proposed research design, sample, variables, instruments, data analysis, data management, and the protection of human subjects for this study.

Purpose of the Study

This study seeks to describe healthcare organizations' current policies and provider practices on OUD assessment, treatment, and referral in the ED setting in NYS and the perceived facilitators and barriers to adopting national best practices of OUD treatment. In addition, the relationship between provider practices, organizational policies, provider knowledge of OUD best practice treatment guidelines, and perceived barriers and facilitators is explored.

A quantitative approach can best address the following research questions:

- What are the current clinical practices of providers working in NYS EDs regarding assessment, treatment, and referral of individuals with OUD?
- What are the perceived barriers and facilitators of providers working in the NYS

ED's adherence to nationally recognized clinical guidelines for the assessment, treatment, and referral of individuals with OUD?

- What are the current clinical guidelines implemented by healthcare organizations in NYS EDs in the assessment, treatment, and referral of individuals with OUD?
- What are the perceived barriers and facilitators of NYS healthcare organization's EDs' adherence to nationally recognized clinical guidelines in the assessment, treatment, and referral of individuals with OUD?
- Are the current clinical guidelines implemented by NYS EDs aligned with nationally recognized clinical best practices for the treatment of individuals with OUD?
- What organizational-level covariates are associated with the current clinical guidelines implemented by NYS EDs?

Research Design

This study was a non-experimental, descriptive, correlational, quantitative study. A descriptive study's goal is to observe, describe, and document aspects of a situation as they occur naturally. It can sometimes be a starting point for hypothesis generation or theory development (Polit & Beck, 2017, p. 206). For the purpose of this study, a descriptive survey was chosen to capture the healthcare organizations' current policies and procedures, barriers, and facilitators and gather an understanding of current provider practices. The survey consisted of a checklist of best practices identified by the Substance Abuse and Mental Health Services Administration and the National Institute on Drug Abuse. In addition, the checklist contained descriptions of key program elements, settings, OUD identification, assessment, treatment procedures, and linkage to community referral.

This method helped provide the necessary data associated with understanding current practices and captured the extent of utilization of pre-existing best practices established by the Substance Abuse and Mental Health Services Administration (2021) and the National Institute on Drug Abuse, answered the research questions, and has the potential to identify and guide future research and policies on the standardization of assessment, treatment, and referral in NYS EDs.

Population/Sample

Participants for this study were a sample of 188 NYS ED medical director or administrator and nursing directors of the comprehensive list of NYS EDs retrieved from the New York State Department of Health (2021) website that identified the hospital's name, address, and phone number. However, it did not include complete ED contact information. An internet search provided contact information for each ED listed. The search helped identify the contact person, including the Chief of the ED, Chair of the ED, Medical Director, or ED Administrator; any of the three were accepted for the identified ED administrator. Some administrators had been assigned to several EDs within a health care system, so it was determined that a survey would be provided to each ED.

NYS was chosen due to the wide variation in assessment tools, treatment models, and linkage to community referrals of patients with OUD. In addition, there are variations among prescribers, healthcare organizations (e.g., community compared to academic medical centers), and population demographics (e.g., urban vs. rural areas). Moreover, from a policy standpoint, NYS EDs were chosen due to the current crisis of the opioid epidemic and the data that reflect this significance. NYS is likely in the best position, based on current policies and records of the population, as shown by the New York State Department of Health (2021), to be influential in

moving the standardization of OUD treatment within the ED policy forward.

Instruments

The instrument for this study was a 36-item survey checklist of evidence-based practices identified by Substance Abuse and Mental Health Services Administration (2021) in the assessment, treatment, and referral of individuals struggling with OUD. There were five parts to the survey: organizational policies and procedures, provider practices, organizational barriers, provider barriers, and organization demographics.

Part 1 (10 items): The organization's policies and procedures for screening, treatment, and referral of individuals presenting to the ED. Each item focused on laboratory drug screening, initiation of treatment for MOUD, recovery support, harm reduction, and community referral.

Part 2 (5 items): This part dealt with provider practices, and the items focused on screening for OUD, initiation of MOUD, community referral, and harm reduction.

Part 3 (6 items): This part dealt with the organization's barriers and facilitators; The items focused on access to expert consultation, protocols for MOUD, clinical decision support, access to pharmacist consultation, community referral, and staff education.

Part 4 (6 items): This part dealt with provider barriers and facilitators. The items focused on provider comfort with screening tools, determining OUD treatment, and ordering MOUD, time constraints, and community referrals.

Part 5 (9 items): This part dealt with organization demographics, focused on setting, type of facility, regional location, bed capacity, primary ED providers, and primary insurance.

The surveys were mailed to the ED medical director/administrator and nursing directors of the 188 NYS ED using the U.S. postal service. A detailed letter was enclosed, which described the purpose of the study, and in closing, a URL code was embedded to download the

survey, which could be completed online or by mobile access, and opened in SurveyMonkey. This two-step procedure was chosen to increase response rates while reducing the participant burden of mailing in their responses. After the initial mailing, two follow-up reminders were sent out via US postal service in one-week intervals to increase the response rate. After the third week, an Institutional Review Board (IRB) amendment was submitted and approved to allow telephone contact to the 188 NYS EDs to increase the response rate. There were no payments offered for completing the survey; however, each participant had the opportunity to enroll in a random drawing to win a new 2023 Amazon baseline Kindle E Ink e-reader (valued at $100) via a QR code link separate from the research study link. The approximate time of completion of the survey was five minutes. The survey was accessible for six weeks.

Data Collection

This study was submitted to the Molloy University IRB for review and determination of the protection of human subjects. It was determined that there were no more than minimal risks to the ED administrators who would participate in this research; that is, the magnitude of harm or discomfort anticipated was not greater than that ordinarily encountered in daily life. All participants in this study were informed that the IRB level of risk determination involved no more than minimal risk, their responses were confidential, and their participation was voluntary. The surveys excluded any names or identifying information. The risk of participation in this study included potential loss of privacy, which was mitigated using SurveyMonkey and internet address tracking to make the survey anonymous. Participation in this survey was voluntary.

The informed consent process took place after the participant accessed the link provided by SurveyMonkey, which included information regarding participation on the first page of the survey. The elements of the introductory information included the following: (a) an explanation

of the purpose of the study, (b) an explanation that there will be no direct benefits and minimal risks to participation, (c) an assurance of confidentiality, and (d) an assurance of the participant's right to choose not to participate or to terminate participation at any time. Cross-sectional data were collected from across all regions in NYS and compared by scoring the utilization of best practices to standardize the treatment of OUD patients in NYS EDs. Understanding variations and similarities in MOUD-initiation protocols across NYS EDs can help guide recommendations for protocol development and future research on best practices.

The initial recruitment letter was mailed using the U.S. Postal Services on February 14, 2023, followed by a reminder to invite them to participate on February 27, 2023, and a final reminder on March 6, 2023. On March 18, 2023, an IRB amendment was submitted and approved to make a phone call to each of the 188 EDs to confirm receipt of the survey and express appreciation of considering participation, to increase the response rate; these calls were conducted one week before the survey closing date ended on March 20, 2023.

Data Analysis

Data handling, protection, coding, and analyses are discussed in terms of how they answer the research questions.

Data Protection and Handling. All survey results were entered into Microsoft Excel software and the Statistical Package for Social Sciences (SPSS 27) software.

Data Coding and Transformation. Quantitative data were coded and cleaned for descriptive and correlational analyses by checking for missing data, duplicates, outliers, and transforming variables as needed to meet statistical assumptions.

Descriptive Statistical Analysis

Descriptive analysis were conducted to assess differences in participating ED providers' current adaptation of OUD guidelines recommended by the National Institute on Drug Abuse and the Substance Abuse and Mental Health Services Administration. The categorical variables were compared with cross-tabulations. Continuous variables were compared with mean point estimates. In addition, dispersion around the proportions and means were estimated with 95% confidence intervals.

Inferential statistical analysis

A descriptive correlational analysis was conducted first, including estimates of central tendencies (proportions), dispersion of estimates, differences in participating ED providers' current adaptation of OUD guidelines recommended by the National Institute on Drug Abuse and Substance Abuse and Mental Health Services Administration, and correlations of practices with organizational-level covariates.

Relationships among institutional-level covariates, practices, policies, and procedures were estimated using correlations and confidence intervals around these estimates. For bivariate correlations, the power analysis to obtain a power of .80, with a one-tailed .05 alpha to detect a medium effect, required a minimum sample size of 42. To account for potential missing data (possibly up to 10%), a minimum sample size of 50 participants provided a sufficient sample size. A one-tailed test was appropriate, as prior research using the same method and sample found associations among the variables chosen for this analysis.

Validity and Reliability

Reliability was assessed with Kuder Richardson Formula 20 (KR-20) estimates. In addition, practice items were assessed for difficulty and discrimination indexes in this sample.

Summary

This methodology contributed new knowledge and understanding and was the most suitable method for this study. Obstacles encountered and how they were overcome, minimizing the impact of any unexpected obstacles and mitigating challenges. Information collected in this investigation can contribute to developing future policy, education, and dissemination of NYS ED assessment, treatment, and referral of individuals challenged with OUD. Current practices were measured and compared to the best practices identified by the Substance Abuse and Mental Health Services Administration and the National Institute on Drug Abuse. Data can inform future replication and standardization of best practices to create a standardized ED algorithm for initiating MOUD. In addition, this project follows the standard clinical algorithms in practices such as cardiac care.

CHAPTER 4: RESULTS

This chapter presents the survey's analysis and summarizes the findings based on the analysis. The results in this chapter are based on data collected from February 14, 2023, to March 20, 2023, from 64 EDs across NYS regarding their assessment, treatment, and referral of individuals presenting to the ED with OUD.

The survey aimed to identify current healthcare practices within the NYS ED regarding assessing, treating, and referring individuals presenting to NYS EDs with OUD. ED administrators reported current policies and procedures as well as barriers and facilitators for ED providers concerning the assessment, treatment, and referral of individuals presenting to their ED with OUD. The survey served to identify current practices and was measured and compared to the best practices identified by the Substance Abuse and Mental Health Services Administration and the National Institute on Drug Abuse. Of the 188 invited to participate in the research, 64 (34%) responded to the survey. Each participant was requested to complete a 14-question survey, with several questions having sub-questions. All returned surveys were qualified to be included in the results and there were no data that had to be rejected for use in this study.

The findings in this chapter are organized into different sections. The first section of this manuscript details the demographic characteristics of the respondents' healthcare institution, followed by a tabular representation of the pertinent data. A quantitative design was the most appropriate approach. Concerning statistical software, all statistical analyses were conducted using the IBM version of SPSS, Version 25. Appropriate statistics based on the level of measurement were used for each of the items. Several of the data items collected were ordinal; therefore, frequencies and percentages of responses were reported. The subsequent sections present specific analysis relative to descriptive and assessment questions. In the second section,

appropriate composite scores were used to identify relationships between participants' responses to their organizations' policies and procedures for the screening, treatment, and referral of patients presenting to the ED. The final section presents inferences from the data analysis and answers the research questions.

General Description of Data

Demographical data analysis related to the organizational and provider demographics in this study included the following: institution setting, type of medical facility, identified organization as part of a health system, NYS regional location, bed capacity, institutional staffing of the ED, key profession components of the ED OUD team, primary insurance reimbursement, and participants' profession.

Demographic Analysis

Regarding the institutional setting, 45% of respondents, which were the majority of respondents, identified their institution as being located in an urban setting, followed by suburban at 33% and rural at 22%. The findings reveal that a majority of the respondents, amounting to 48%, worked at community hospitals, with academic medical centers and private institutions accounting for 34% and 17%, respectively. The analysis of responses concerning the respondent's organization affiliation with a health system indicates that a significant majority, comprising 75% of the respondents, answered in the affirmative, while a negligible proportion of 5% responded in the negative. Finally, the geographical distribution of respondents across the various regions of NYS was examined. The outcomes suggest that the majority of the respondents, comprising 41%, were situated in New York City, while Long Island accounted for the second-highest proportion at 22%. Conversely, the Mohawk Valley displayed the least representation at 2%, while the Southern Tier, Finger Lakes, and Capital Region exhibited

similar representation levels at 3%.

The analysis of the hospital bed capacity in the respondents' organizations was categorized into five distinct categories. The findings indicated that a significant proportion of the organizations, amounting to 27%, had a bed capacity ranging between 100 and 200. On the other hand, 22% of the organizations had a bed capacity exceeding 400. Notably, the 201-300 bed capacity category was the least represented among the responses. Inquiring about the primary provider staffing of the respondent's institution, the survey respondents were provided with the option to select all relevant designations. The available designations were physicians, nurse practitioners, physician assistants, residents, and interns. The results reveal that the majority of the respondents, comprising 92%, selected physicians as the ED staff, followed by physician assistants and nurse practitioners at 70% and 67%, respectively. Furthermore, the respondents were required to identify the composition of their organization's ED OUD team by selecting all that apply. The results revealed that the majority of the institutions' ED OUD teams were staffed with social workers at 90%, followed by case managers at 63%. Conversely, the smallest proportion was observed among peer-recovery coaches at 15%. Regarding the professions of the respondents, the results revealed that the majority of the professionals staffing NYS EDs were nurses (RN, NP, Ph.D., DNP), constituting 48%, while physician assistants had the lowest proportion at 2%. In terms of primary insurance reimbursement mechanisms for patients receiving care in NYS EDs, respondents ranked managed care as the most common reimbursement method, with a proportion of 47%, followed by Medicaid ranking second with 30%, and private insurance ranking third with 13%. Medicare ranked fourth with 7%, while the Uninsured had the lowest ranking of 3%. The general sample demographic characteristics are summarized in Table 4.

Table 4: Demographic Characteristics of New York State Emergency Department (n = 64)

Characteristics	*n* (%)
Setting	
Rural	14 (22)
Suburban	21 (32)
Urban	29 (45)
Type of Medical Facility	
Academic	22 (34)
Community	31 (48)
Private	11 (17)
Part of Health System	
Yes	48 (75)
No	16 (25)
New York State Region	
Capital Region	2 (3)
Central New York	5 (8)
Finger Lakes	2 (3)
Long Island	14 (22)
Mid-Hudson	3 (5)
Mohawk Valley	1 (2)
Characteristics	
New York City	26 (41)

North Country	3 (5)
Southern Tier	2 (3)
Western New York	5 (8)
Bed Capacity	
<100 bed capacity	11 (17)
100-200 bed capacity	17 (27)
201-300 bed capacity	9 (14)
301-400 bed capacity	13 (20)
>400 bed capacity	14 (22)
Primary Provider Staffing [a]	
Physicians	59 (92)
Nurse Practitioner	43 (67)
Physician Assistant	45 (70)
Residents	32 (50)
Interns	16 (25)
ED OUD Care Team [a]	
Case Manager	38 (63)
Peer Recovery Coach	9 (15)
Pharmacist	18 (30)
Psychiatrist	28 (47)
Characteristics	
Social Worker	54 (90)

Substance Abuse Specialist	14 (23)
Primary Insurance Reimbursement [b]	
Managed Care	28 (47)
Medicaid	18 (30)
Medicare	4 (7)
Private	8 (13)
Uninsured	2 (3)
Profession	
Physician (MD, DO)	25 (39)
Nurse (RN, NP, DNP, PhD)	31 (48)
Physician Assistant	1 (2)
Administrator	10 (16)

[a]Respondents answered select all that apply to this question on insurance reimbursement. [b] Reflect the number and percentage of respondents ranking #1 as most common to this question.

Survey Reliability

The survey reliability was assessed with the KR-20, which is a statistical method used to assess the internal consistency or reliability of a measurement scale, such as a survey or questionnaire (Singh, 2017). KR-20 measures whether the questions in the survey are consistent in measuring the same construct. The KR-20 produces a correlation measure, which is a number between 0 and 1 (El-Uri & Malas, 2013). The closer the coefficient is to 1, the higher the internal consistency of the scale or test, indicating that the questions measure the same underlying construct. On the other hand, a coefficient closer to 0 indicates that the scale or test could be more consistent and measure a different underlying construct (El-Uri & Malas, 2013). In

addition, practice items were assessed for difficulty and discrimination indexes in this sample. Table 5 depicts the KR-20 inter-item reliability results for the study of assessment, treatment, and referral of NYS EDs and their policies and practices, as well as barriers and facilitators.

Table 5: Policies, Practices, Barriers, and Facilitators in the Treatment of OUD in NYS EDs

Scale/Subscales	Items	Kuder Richardson 20
Organizational Policies and Procedures (Best Practices)	10	.83
Overall Provider Practices	5	.56
Organizational Barriers and Facilitators (Best Practices)	6	.81
Provider Barriers and Facilitators	6	.62
Overall Scale	27	.92

The overall survey, KR-20, was scored at .92, as shown in Table 5. The Organizational Policies and Procedures section, scoring .83, and the organizational Barriers and Facilitators section, scoring .81, indicated the highest results in inter-item reliability.

Sections of the Survey

Organization's Barriers and Facilitators for Screening, Treatment, and Referral of Patients Presenting to the ED

The responses showed that 64% of respondents identified access to dedicated pharmacist consultation as a barrier, followed by 42.8% of respondents who identified ED staff education for screening, treating, and referring patients presenting with OUD as a barrier. KR-20 scored 0.81, which reflects good reliability, as shown in Table 5.

Overall Provider Barriers and Facilitators in the ED

According to this assessment, the majority of NYS ED providers identified "are comfortable ordering and/or administering MOUD?" as the most significant provider barrier, with 38% responses, followed by 34% responses to "are comfortable determining the level of care for patients with OUD?" KR-20 scored .62, as shown in Table 5.

Table 6: Descriptive Statistics of Items of New York State Emergency Department

Items	*n* (%)	*n*[a] (%)
Organizational practices		
Q1 Screened for OUD	29 (45)	35 (55)
Q2 Screening Tools	20 (31)	44 (69)
Q3 Pregnant In-Patient Stabilization	18 (28)	46 (72)
Q4 Laboratory Screening	4 (6)	60 (94)
Q5 MOUD Initiation	18 (28)	46 (72)
Q6 EMR Order Set	28 (44)	36 (56)
Q7 Peer Recovery	22 (34)	42 (66)
Q8 Community Referral	12 (19)	52 (81)
Q9 Dispense Naloxone	32 (50)	32 (50)
Q10 Harm Reduction	43 (67)	21 (33)
Providers Practices		
Q1 Screening Tool	31 (48)	33 (52)
Q2 MOUD Initiation (set protocols)	25 (39)	37 (58)
Q3 MOUD Initiation (provider spec.)	22 (34)	41 (64)

Q4 Community Referral	6 (9)	58 (91)
Q5 Prescribe Naloxone	27 (42)	37 (58)
Organization Barriers/Facilitators		
Q1 Expert Consultation	17 (27)	47 (73)
Q2 MOUD Protocols	22 (34)	42 (66)
Q3 EMR Support	25 (39)	38 (59)
Q4 Pharmacist Consult	41 (64)	23 (36)
Q5 Community Referral	15 (23)	49 (77)
Q6 Annual ED Training	27 (43)	36 (57)
Provider Barriers/Facilitators		
Q1 Knowledge of Screening Tool	20 (31)	44 (69)
Q2 Determining Care	22 (34)	42 (66)
Q3 Order/Administer MOUD	24 (38)	40 (63)
Q4 Time Constraints	15 (23)	49 (77)
Q5 Patient Barriers	5 (8)	59 (92)
Q6 Community Referrals	18(28)	45 (70)

[a]Reflects the number and percentage of respondents answering "yes" to this question.

Descriptive Correlations

A descriptive correlational analysis was performed to evaluate the central tendencies (proportions), dispersion of estimates, differences in OUD guideline adoption among participating ED providers recommended by the National Institute on Drug Abuse and Substance Abuse and Mental Health Services Administration, and correlations of practices with organizational-level covariates. Bivariate correlations were examined using power analysis to

achieve a power of .80, with a one-tailed .05 alpha to detect a medium effect, which necessitated a minimum sample size of 60.

The present study used a variety of statistical methods to analyze the data. Cross-tabulations were used to compare the categorical variables, while mean point estimates were used to compare the continuous variables. Moreover, to examine the variability around the proportions and means, 95% confidence intervals were computed. To explore the relationships between institutional-level covariates, practices, policies, and procedures, correlation analysis was performed, and confidence intervals were calculated for these estimates.

Answering the Research Questions

This study aimed to identify current healthcare provider practices regarding assessing, treating, and referring individuals presenting to NYS EDs with OUD and their current policies, procedures, barriers, and facilitators. The survey served to identify current practices and was measured and compared to the best practices identified by Substance Abuse and Mental Health Services Administration and the National Institute on Drug Abuse. This section presents an exposition of the research goals and objectives, along with a comprehensive discussion of the analytical findings for research questions.

Research Question 1: What are the current practices of providers working in NYS ED assessment, treatment, and referral of individuals with OUD?

Of the 10 identified standard practices, approximately 94% (60 out of 64) of individuals facilitated laboratory drug screening on individuals coming to the ED, over 81% (52 out of 64) facilitated referrals to community treatment prior to discharge, and 72% (46 out of 64) participants initiated MOUD. Although administering a standardized screening tool is considered a best practice, only 69% (44 out of 64) respondents reported utilizing such screening tools in the

ED, as shown in Table 6.

Overall Provider Practices in the Emergency Department

In this assessment, the majority of ED providers—91% of respondents—identified facilitating referral to community treatment, followed by 64% initiating MOUD treatment based on individual provider specifications as the most common provider practices. The area with the lowest score in provider practices was that 52% of respondents identified administering a standardized substance use disorder screening for all patients. KR-20 scored .56, which is indicative of non-standardization and varied practices, as shown in Table 5.

Research Question 2: What are the perceived barriers and facilitators for providers working in NYS ED's assessment, treatment, and referral of individuals with OUD?

The second research question sought to explore the perceived barriers and facilitators encountered by providers in NYS EDs when assessing, treating, and referring individuals with OUD. The majority of the participants, constituting 92% (59 out of 64) of participants, identified "encounter patient barriers (e.g., psychological or lack of interest)" as the most significant barrier to providing OUD treatment, followed by "have time constraints regarding treating OUD" at 77%. In addition, 70% of the respondents identified "provide active referral to appropriate community providers" as a facilitator. Notably, 38% of the respondents indicated discomfort in ordering and/or administering MOUD; 34% reported discomfort in determining the level of care for patients with OUD, and 31% reported discomfort in using evidence-based OUD screening tool (see Table 6).

Research Question 3: What are the current policies, procedures, and clinical guidelines implemented by healthcare organizations in NYS EDs in the assessment, treatment, and referral of individuals with OUD?

The third research question queried the current policies and clinical guidelines implemented by healthcare organizations in NYS EDs in assessing, treating, and referring individuals with OUD. Table 6 indicates that greater than 90% **(**60 out of 64) respondents identified "laboratory drug screening is performed on individuals presenting to the ED with overdose/OUD" as the most utilized practice, followed by 81% (52 out of 64) who identified "our procedures include ED providers facilitating referrals to community treatment prior to discharge." In comparison, 72% (46 out of 64) respondents identified "our procedures include initiating Medication for Opioid Use Disorder (MOUD) treatment such as buprenorphine" and "pregnant women with OUD are offered inpatient stabilization, if needed," as implemented policies within their ED. Table 6 also indicates that the least identified practice implementation was that 33% (21 out of 64) respondents identified "harm reduction measures such as syringe-exchange program, HIV/Hep C testing, Hep A vaccinations are implemented prior to ED discharge."

Research Question 4: What are the perceived barriers and facilitators of the NYS Healthcare organization's (ED) implementation of nationally recognized clinical guidelines in initiating, assessing, treating, and referring individuals with OUD?

The fourth research question focused on the perceived barriers and facilitators of NYS healthcare organization ED implementation of nationally recognized clinical guidelines in initiating, assessing, treating, and referring individuals with OUD. Approximately 64% (41 out of 64) of respondents responded "no" to "access to dedicated pharmacist consultation," followed

by 43% (27 out of 63) who cited "ED staff annual education for screening, treating, and referring patients presenting with OUD" as their most significant barrier. In comparison, "facilitation of referral to community treatment" and "access to expert physician consultation" were identified as the facilitating policies and practices, by 77% (49 out of 64) and 73% (47 out of 64) respondents, respectively, as shown in Table 6.

Research Question 5: Are the current clinical guidelines implemented by NYS EDs aligned with nationally recognized clinical best practices for the treatment of individuals with OUD?

The fifth research question pertained to the policies and procedures implemented by the organization for screening, treatment, and referral of patients who present to the ED. Each of the 10 items in this section was weighted at a factor of 10, thereby producing scores ranging from 0 to 100 for this section. Descriptive statistics (Table 7) were utilized to report the implementation of the policies and procedures outlined in this section.

Table 7: Descriptive Statistics Analysis of Best Practices Totals

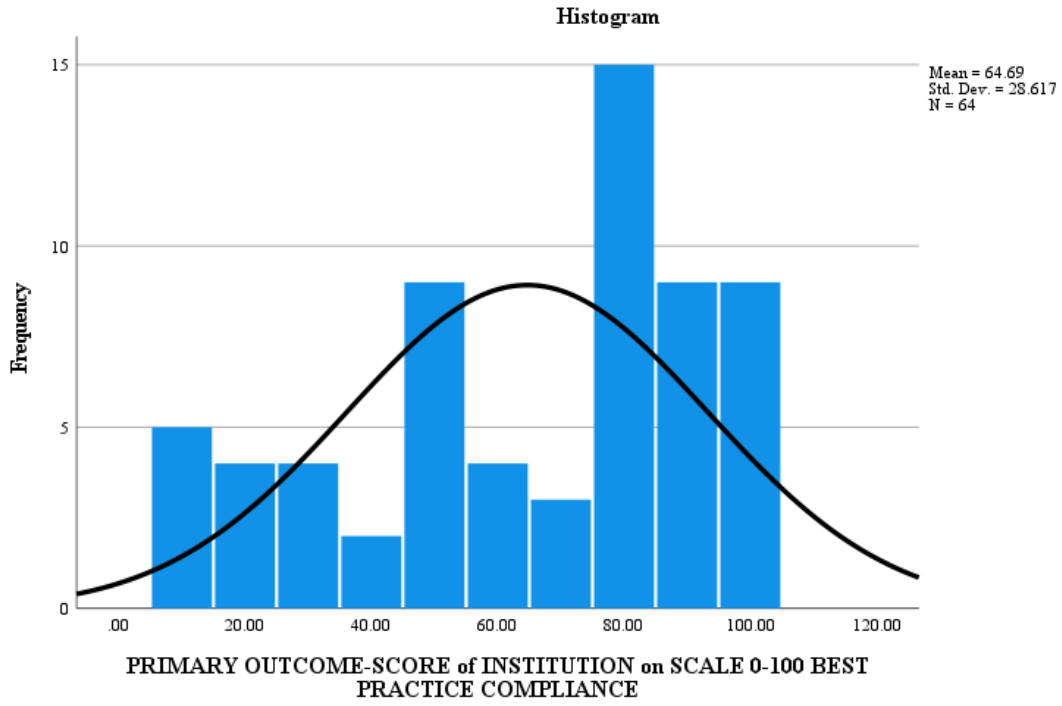
Variable	*N*	Mean	Median	*SD*
Best Practice Total	64	64.6	80	28.6

Twenty-three percent of the respondents reported being aligned with approximately 80% of the nationally recognized clinical best practices for the treatment of individuals with OUD. In addition, only 14% were aligned with all best practices, as shown in Table 8 and Figure 2.

Table 8: Best Practice Totals

Score	*n*	%
10	5	7.8
20	4	6.3
30	4	6.3
40	2	3.1
50	9	14.1
60	4	6.3
70	3	4.7
80	15	23.4
90	9	14.1
100	9	14.1

Figure 2: Histogram of Primary Outcome Score of Institution on a Scale from 0 to 100



Research Question 6: What organizational-level covariates are associated with the current clinical guidelines implemented by NYS EDs?

The final research question relates to the correlation of the demographics with the total score (0 to 100) using Pearson and point-biserial correlations. Organizational characteristics could be covariates associated with aligned best practices identified by the Substance Abuse and Mental Health Services Administration and the National Institute on Drug Abuse, including region, facility type, bed capacity, insurance reimbursement, primary ED provider, and ED care team.

A significant positive correlation was found between the type of facility and the outcome variable ($r = .30$, $p = .008$). Academic medical center–related setting was significantly correlated with best practices. Best practice increased within academic medical center settings. On average,

academic medical centers adhere to 80% of best practices, whereas community hospitals and private hospitals adhere to approximately 60%. Table 8 and Figure 5 illustrate this significance. In addition, there was a significant positive correlation between an organization having an attending physician present in the ED and being part of the ED OUD treatment team. There was a significant negative correlation with best practices when no physician was present in the ED. Table 9 demonstrates this correlation.

Table 9: Correlation: Best Practices Total Correlated with Healthcare System, Bed Capacity, Physician Present, and OUD Care Team (n = 64)

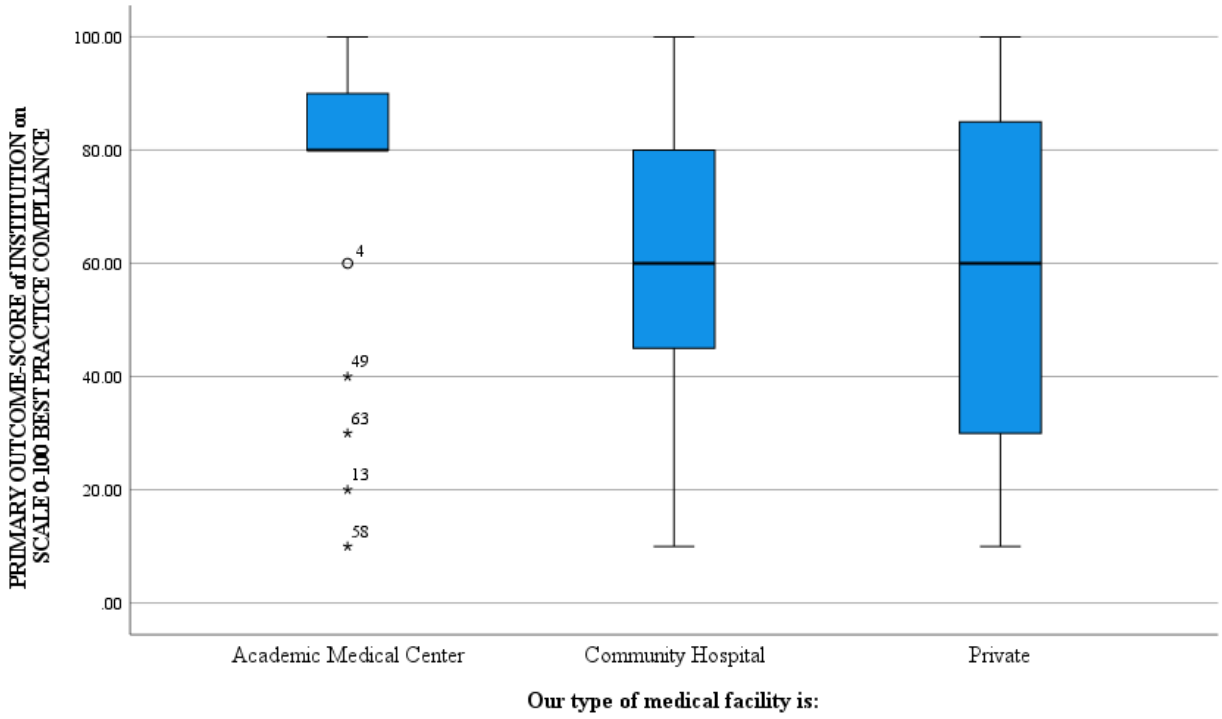
Best Practices	Pearson Correlation	Significance
Healthcare System[a]	.108	0.198
Bed Capacity	.178	0.08
Type of Facility[b]	.298**	0.008
ED with Physician	.356**	0.002
ED with no Physician	–.356**	0.002
Total ED OUD Care Team	r=.508**	0.000

a. Respondents answered “yes” to part of a healthcare system.

b. The type of facility was an academic medical center.

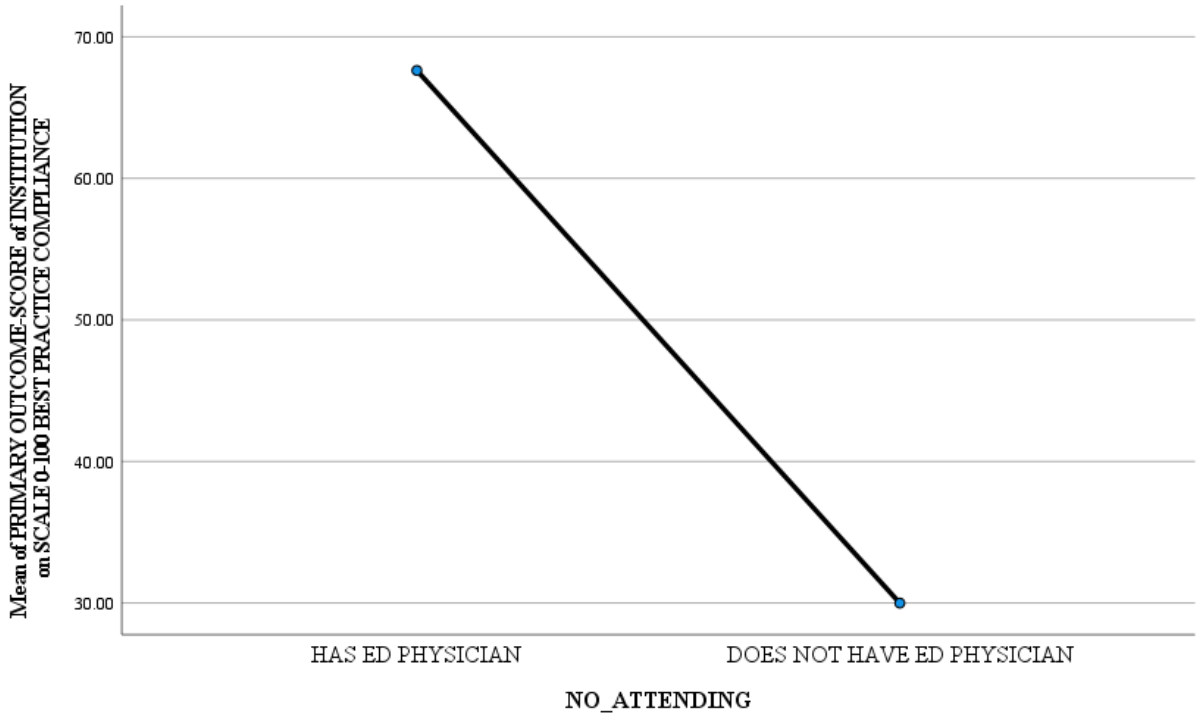
**Correlation is significant at the .01 level (1-tailed).

Figure 3: Type of Medical Facility Versus Primary Outcome Score



In best practice totals in the EDs that had no attending physician, the average score was significantly low at 30%, as opposed to the EDs that had an attending physician, in which the average score was 68% (see Figure 4).

Figure 4: Correlation: Best Practices with Attending Physician Present in the ED



The region was significantly correlated with adherence to best practice guidelines (r (32) = –.292, $p < .01$). As indicated in Table 10, the primary reimbursement for patients was not associated with best practices. Figure 5 also demonstrates there was a negative correlation between the utilization of best practices among various NYS regions.

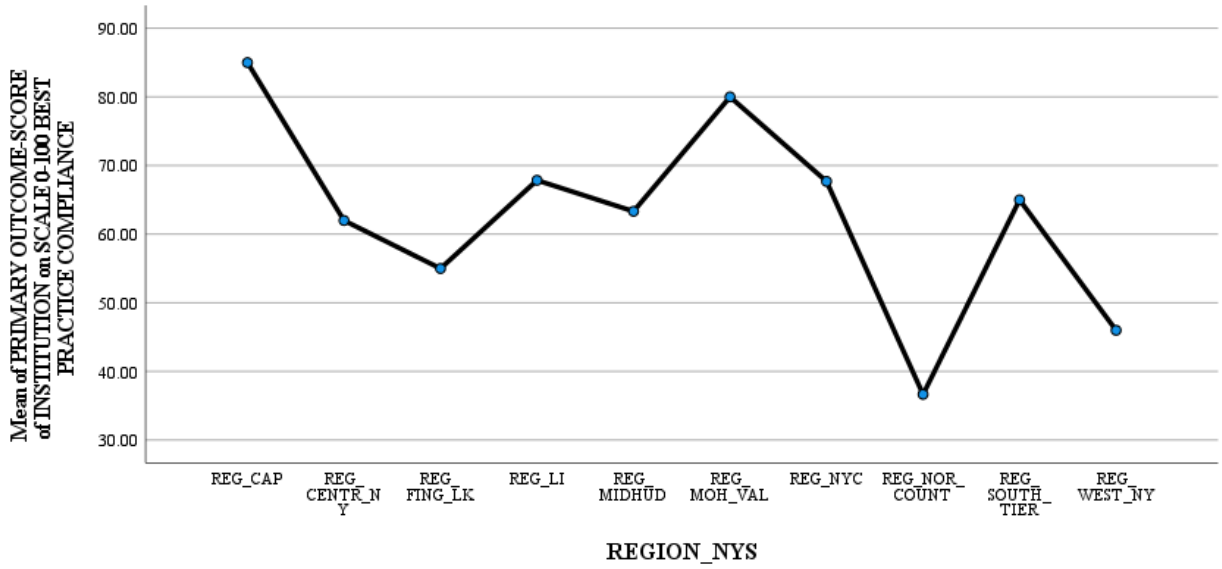
Table 10: Correlation: Best Practices and NYS Regions/Insurance Reimbursement (n = 64)

Item	Pearson Correlation	Significance
Insurance Reimbursement [a]	–.003	.491
NYS Regions	–.292*	.01

a. The primary insurance reimbursement was identified as Medicaid, Medicare, or uninsured.

*Correlation is significant at the .05 level (1-tailed).

Figure 5: Correlation: Best Practice Outcome with NYS Regions



Chapter Summary

This descriptive study looked to identify current healthcare practices within the NYS ED regarding assessing, treating, and referring individuals presenting to NYS EDs with OUD. ED administrators reported current policies and procedures as well as barriers and facilitators for ED providers concerning the assessment, treatment, and referral of individuals presenting to their ED with OUD. The survey served to identify current practices and was measured and compared to the best practices identified by the Substance Abuse and Mental Health Services Administration and the National Institute on Drug Abuse.

This section summarized the analysis of the variables of the study, the results, and the statistical analysis for each proposed research question. The statistical analysis illustrates that organizational covariates were associated with aligned adherence to nationally recognized best practices in the assessment, treatment, and referral of individuals with OUD presenting to ED identified by the Substance Abuse and Mental Health Services Administration and the National

Institute on Drug Abuse. Organizational covariates with significant impacts on best practices were identified as demographic data as a type of medical facility and regional location. Organization characteristics having significant effects on both an attending MD in the ED and as a part of the OUD ED team were also significantly correlated with the institution's alignment with recognized best practices identified by the Substance Abuse and Mental Health Services Administration and the National Institute on Drug Abuse. The overall survey scored KR-20 a .92. As pointed out, it demonstrated an acceptable value and item inter-relatedness between items. However, drilling down to specific sections, overall provider practices (n = 5) scored the lowest with a 0.56 and demonstrated the need for standardization of OUD guidelines.

CHAPTER 5: DISCUSSION

This study aimed to survey NYS ED administrators on their organization's provider practices, policies, and barriers and facilitators of providers' adherence to nationally recognized clinical best practices for treating an individual with OUD within the ED setting. Compliance with established guidelines for treating OUD can save lives by helping prevent relapses and overdose deaths and promoting long-term recovery. However, provider practices often do not align with nationally recognized guidelines. In addition, providers have identified organizational barriers to adherence to these guidelines, such as a need for more resources and administrative non-prioritization of the issue.

This descriptive study used survey methodology to determine NYS ED provider practices, policies, barriers, and facilitators of providers' adherence to nationally recognized clinical best practices for treating an individual with OUD. Participants in this research study were asked to complete a 36-question electronic survey. The instrument combined evidence-based practices identified by the Substance Abuse and Mental Health Services Administration and the National Institute on Drug Abuse in assessing, treating, and referring individuals presenting to the ED with OUD. The 64 participants came from different EDs across NYS.

The study measured adherence to OUD best practices and the reliability of the overall survey using KR-20, which received a score of .92. There were four survey sections, not including the demographic section, and the results indicated that the organizational policies and procedures section scored .83, and the organizational barriers and facilitators section, scoring .81, indicated the highest results in inter-item reliability. However, when drilling down to the other two survey components related to overall provider practices and provider barriers, facilitators scored lower at .56 and .62, suggesting the high variability in practices and lack of

standardization indicative of provider practices and the importance of this study.

A one-tailed statistical analysis was conducted as a national best practice have already been established. Moreover, considering these guidelines, they were components of best practice utilized. Therefore, the institutions with these characteristics are more likely to be aligned with best practices, which informed the decision to use a one-tailed test.

The fifth research question, "Are the current clinical guidelines implemented by NYS EDs aligned with nationally recognized clinical best practices for the treatment of an individual with OUD?" rendered significant research findings. The fifth research question pertained to the policies and procedures implemented by the organization for screening, treating, and referring patients who present to the ED. Each of the 10 items in this section was weighted by a factor of 10, producing scores ranging from 0 to 100 for this section. Overall, 23% of the respondents reported being aligned with approximately 80% of the nationally recognized clinical best practices for treating individuals with OUD. In addition, only 14% were aligned with all best practices. The descriptive statistics analysis of the total mean of best practices was 64.6, the median was 80, and the standard deviation was 28.6. This study shows a need for more standardization among providers and institutional practices.

In addition, when demographic correlations were analyzed, a significant finding was that the correlation between organizations with an attending physician in the ED and having an attending physician as part of the OUD care team was higher. The average score for the EDs with no attending was 30%, as opposed to the ED with an attending score of 68%. This correlation emphasizes how vital the dynamics of the ED OUD care team are in providing comprehensive management to individuals presenting to the ED according to best practices. Furthermore, it provides ED staff with on-site resources and support, ultimately improving both

patient and institutional outcomes. This finding should be emphasized and further explored.

The PRECEDE-PROCEED model is the most practical model to be utilized within the ED setting and can provide a structural approach for organizational planning, interventions, and the implementation of standardization of OUD management within the ED setting. This model can be beneficial in providing a structural approach for planning the intervention and organizing thoughts and actions to intervene in a coherent and carefully designed intervention in an ED setting. Also, PRECEDE-PROCEED is the logic model for facilitating the analysis of the current opioid crisis faced by EDs across NYS and the country in selecting the most critical areas to manage along with highly probable factors (facilitators) to help in the management of individuals presenting to NYS ED with OUD (Mohamed & Khaton, 2017).

Provider Practice Summary

Current practices of providers working in NYS ED assessment, treatment, and referral of individuals with OUD.

The study findings revealed a significant majority of respondents, 91%, who identified "facilitate to community treatment" as the best practice. However, it is imperative to recognize that effective ED OUD treatment and management entails more than simply providing a referral to treatment and resources. In fact, appropriate linkage to treatment and resources and treatment initiation during the ED contact are among crucial components to address the issue of patient loss upon discharge. Furthermore, the linkage should encompass an assessment of patient accessibility to the Office-Based Opioid Treatment program, transportation, carfare, and support to encourage appointment keeping. In addition, linkage to mental health services should be incorporated. Timely treatment initiation should be prioritized to ensure optimal patient outcomes.

Provider Barriers

The study results indicate that 92% of providers identified “encountering patient barriers (e.g., psychosocial or lack of interest)” and 77% identified “having time constraints regarding treating OUD” as primary barriers to providing OUD treatment in the ED. These responses align with the organizational barriers identified, including “access to dedicated pharmacist consultation” and “ED staff annual education for screening, treating, and referring patients presenting with OUD.” To address this gap, it is imperative to ensure that ED providers are competent and confident in managing the OUD population through appropriate education, training, and guidance. This can be achieved through the standardization of OUD guidelines and the mandatory OUD training of providers across NYS. In addition, addressing provider encounters with patients presenting to the ED with OUD is essential. Patient encounters were identified as the primary barrier by 92% of the respondents. Moreover, 38% of the respondents were not comfortable ordering and/or administering MOUD, and 34% were not comfortable determining the level of care for patients with OUD. As mentioned, training providers can address this gap. However, there remains a significant stigma associated with individuals struggling with OUD. Most patients are often labeled as drug seekers upon entering the ED, and their complaints are frequently minimized or overlooked. Implementation of standardized guidelines can provide all patients with the same level of care, eliminating the reliance on individualized provider judgment or specification on management, as 34% of respondents indicated they were “not comfortable” managing OUD. Addressing these barriers is crucial to improving the management and treatment of OUD patients in the ED setting. Further research may explore additional strategies to enhance provider competence and confidence in managing the OUD population.

Current NYS ED Organizational Policies and Procedures

According to the study findings, the most frequently utilized practice among organizations was laboratory drug screening for individuals presenting to the ED with overdose/OUD, as identified by over 90% of respondents. The second most utilized practice, as identified by 81% of respondents, was the facilitation of referrals to community treatment by ED providers prior to discharge. In contrast, 67% of respondents reported implementation of harm reduction measures such as syringe exchange programs, HIV/Hepatitis C testing, and Hepatitis A vaccinations were not provided prior to ED discharge. This indicates a clear lack of investment in harm-reduction practices among organizations. It is essential to address this issue and increase investment in harm-reduction measures to effectively combat the opioid epidemic and improve patient outcomes.

Organizational Covariate Correlations

Institutional settings within NYS regional locations were significant, and urban, suburban, and rural areas showed a significant correlation. Respondents were from across NYS. The largest percentage of respondents were from Long Island, New York City, and the Mid-Hudson. A very small percentage was from the Capital Region, Finger Lakes, Mohawk Valley, and Southern Tier of New York (n = 64). As the US faces the highest opioid burden recorded in history, with opioid deaths topping 100,000 (CDC, 2018), NYS regions with the lowest response are significantly impacted. According to the New York State Department of Health (2021), Sullivan, Ulster, Greene, Chemung, Dutchess, Broome, Niagara, Albany, and Monroe had the highest opioid mortality. Additionally, when addressing setting—suburban, rural, and urban—and whether an institution is a part of a health care system. Rural institutions that are not part of a health care system underachieved with being aligned with best practice guidelines, counties such

as Capital Region, the Finger Lakes, Mid-Hudson, and Southern Tier areas where they may not have the resources afforded to cities that are part of a health system. Overall, rural EDs underperformed significantly on the implementation of best practices compared to institutions in suburban and urban settings. In recent years, rural communities have been disproportionately affected by the opioid epidemic; these communities are at increased risk due to socioeconomic vulnerability and limited OUD treatment and harm-reduction services (Bolinski et al., 2022). For instance, a hospital that is part of a larger healthcare system may have access to a wider range of resources and expertise than an independent hospital. This can include access to specialized medical equipment, research facilities, and a larger network of healthcare professionals.

Established Standardized Practices

A healthcare system can establish standardized practices and guidelines across all of its member hospitals, which can help ensure that patients receive consistent and high-quality care. Additionally, being part of a healthcare system can facilitate better communication and collaboration among healthcare professionals. This can help ensure that all members of a patient's care team are on the same page and working together to achieve the best outcomes.

Better Patient Outcomes

By following established guidelines and best practices, hospitals can improve patient outcomes and reduce the risk of medical errors. This can lead to better patient satisfaction and a stronger reputation for the hospital and healthcare system. Implementing guidelines can help reduce healthcare costs by reducing the need for unnecessary procedures or tests and improving overall efficiency. This can benefit both the hospital and the healthcare system as a whole.

Organizational ED OUD care team

In most NYS EDs, the social worker is the primary member of the OUD care team, followed by case managers. This trend aligns with the community referral to OPT as the most commonly implemented best practice for OUD. The data suggest that the primary goal of EDs is to facilitate community referrals. In contrast, peer-recovery coaches and substance-abuse specialists are not a significant part of the OUD care team, scoring only 9% and 14%, respectively, across institutions. Nevertheless, both have been identified as critical components for linking patients to OPT treatment following discharge and providing support to facilitate community referrals, thereby helping to break the cycle of repeated ED visits and saving lives.

Peer-recovery coaches are uniquely positioned to provide valuable support to individuals struggling with addiction due to their own experience with addiction and recovery. This shared experience can build trust and create a sense of understanding that may be challenging to establish with other types of support. Furthermore, peer-recovery coaches can serve as role models for their clients by demonstrating successful addiction recovery and leading fulfilling lives in recovery. This can provide hope and inspiration to those who are struggling with addiction.

In addition to being a source of inspiration, peer-recovery coaches provide a non-judgmental and accepting environment for their clients. They understand that addiction is a disease, and that relapse is a common part of the recovery process. This understanding creates a safe space for clients to share their struggles openly. Moreover, peer-recovery coaches can offer practical support in various areas of life, such as finding housing, employment, or healthcare. They can also provide guidance on navigating the healthcare system and accessing community resources. In conclusion, peer-recovery coaching is an essential component of a comprehensive

addiction recovery program, offering a unique level of support and understanding that may not be found elsewhere in the field of addiction treatment.

Primary Insurance Reimbursement

The primary insurance reimbursement mechanism for patients who receive ED services is a crucial aspect of healthcare delivery. Managed care plans currently hold the top ranking as the leading source of primary reimbursement for ED services. It is essential to examine the extent to which managed care plans may limit the services provided to patients based on their coverage limitations. Moreover, it is worth considering whether greater support services could be made available under these plans and the types of services that are currently covered.

The implications of managed care plans as the primary source of reimbursement for ED services raise several pertinent questions. For instance, it is necessary to assess whether managed care plans limit the availability of certain services that may be medically necessary but fall outside the scope of coverage limitations. Such limitations may curtail access to essential services for vulnerable populations, particularly those with complex medical needs. In addition, the provision of greater support services, such as mental health and substance abuse treatment, is critical for patient outcomes. It is thus imperative to determine whether managed care plans currently offer adequate coverage for such services or if there is a need to expand coverage to ensure optimal patient outcomes.

Specific Areas to Address with Literature and Findings

The implementation of harm-reduction strategies is a critical aspect of addressing the opioid crisis in the United States. However, the findings of this dissertation study indicate a significant lack of investment in harm-reduction efforts in NYS EDs. Specifically, 67% of respondents reported that harm-reduction measures, such as syringe-exchange programs,

HIV/Hepatitis C testing, and Hepatitis A vaccinations, were not implemented prior to ED discharge. This lack of investment in harm-reduction efforts is concerning, given the severity of the opioid crisis and the urgent need to address it.

Harm-reduction strategies, such as the distribution of naloxone to reverse opioid overdoses and the creation of safe injection sites, are crucial components of harm reduction. The recent approval by the FDA of Narcan, a 4 milligram (mg) naloxone hydrochloride nasal spray for over-the-counter, non-prescription use, represents a significant step forward in addressing the opioid crisis. Narcan is the first naloxone product approved for use without a prescription (Food and Drug Administration, 2023), which enables individuals to purchase the medication directly from drug stores, convenience stores, grocery stores, gas stations, and online. The availability of Narcan to the general public has the potential to reduce opioid mortality rates in NYS and the United States.

Given the lack of investment in harm-reduction efforts in NYS EDs, there is a critical need for organization and legislation to focus on harm reduction as a vital public health need. Legislative implementation of harm-reduction strategies would provide the necessary motivation for resource allocation to ensure institutional readiness and a more active role in harm-reduction efforts. Placing a greater emphasis on the importance of harm reduction in the battle against the opioid crisis is essential for improving patient outcomes and reducing the significant public health burden associated with opioid use.

Moreover, there has been a recent focus on reducing regulatory barriers that impede access to MOUD, thus enabling greater accessibility and ultimately saving lives. Given the unprecedented magnitude of the opioid epidemic, there is a growing demand for addiction treatment. The elimination of the Drug Addiction Treatment Act 2000 x-waiver was a key barrier

to treatment of OUD, which required "8-hour period of specialized training for physicians (24 hours for advanced practice providers followed by onerous regulatory requirements often delayed and discourages partitioners from prescribing Buprenorphine)" (D'Onofrio et al., 2021, p. 220). Notably, a randomized controlled trial conducted by D'Onofrio et al. (2015) demonstrated that the initiation of Buprenorphine within the EDs was associated with increased treatment engagement and other outcomes related to opioid use when compared with referral to treatment (Chen et al., 2020). The expansion of access to evidence-based treatments, including MOUD and behavioral therapies, holds the potential to save lives and represents a crucial strategy for addressing the opioid epidemic.

Attending Physician Present in the ED

The findings of this study reveal a significant correlation between the presence of an attending physician in the ED and their inclusion in the ED OUD treatment team. Conversely, there was a noteworthy negative correlation with best practices when an attending physician was absent from the ED. The average score for best practices in EDs lacking an attending physician was significantly low at 30%, compared to EDs that had an attending physician present, which scored an average of 68%. Notably, institutions that not only had an attending physician present but also incorporated them into the ED OUD team demonstrated higher implementation of best practices. These results underscore the significance of staffing EDs with more than just an attending physician, as it is a vital component in providing comprehensive management to individuals presenting to the ED. This approach also affords ED staff with on-site resources and support, which ultimately improves patient and institutional outcomes. By being uniquely positioned to initiate OUD treatment services, EDs can reduce barriers to treatment access for patients diagnosed with OUD.

Barriers

One of the significant organizational barriers identified in this study was the lack of annual OUD education and training for ED staff on screening, treating, and referring patients presenting with OUD, which was reported by 43% of respondents. In contrast, "facilitation of referral to community treatment" at 77% and "access to expert physician consultation" were identified as facilitators in the treatment of individuals presenting to the ED. In light of the opioid crisis, institutions must recognize the importance of not only treating and referring patients but also optimizing ED contact to initiate MOUD treatment with appropriate linkage and follow-up with community treatment. To effectively treat the OUD population and save lives, providers must be equipped with appropriate resources and training.

Despite the widespread impact of the opioid epidemic, a significant proportion of clinicians do not possess the necessary skills to diagnose and manage patients with OUD (Madras et al., 2020). Specifically, 38% of respondents in this study reported discomfort with ordering and administering MOUD, while 34% were uncomfortable with determining appropriate levels of care for OUD patients. These findings underscore the critical need to address gaps in training for clinicians. Indeed, current medical school and residency programs often lack detailed instruction on OUD, including the provision of MOUD (Madras et al., 2020).

Existing literature highlights the importance of training healthcare providers on the screening, diagnosis, and treatment of OUD. In particular, requiring such training for a wide range of clinicians—rather than limiting it to specialists—has been identified as an effective strategy to address the growing prevalence of OUD. Institutions seeking to bolster efforts to educate providers on OUD treatment can draw upon a variety of high-quality resources,

including guidelines established by the Substance Abuse and Mental Health Services Administration and the National Institute on Drug Abuse (Madras et al., 2020).

Conclusion

The opioid epidemic has had significant ramifications across both NYS and the United States as a whole. Patients with OUD are at a greater risk of fatal opioid overdose and more frequently visit EDs than the general population (Chen et al., 2020, p. 1). Although the assessment, treatment, and referral of patients with opioid addiction in NYS EDs can present challenges, several key strategies have been identified by the National Institute on Drug Abuse and the Substance Abuse and Mental Health Services Administration as best practices. The implementation of such strategies can help ensure that patients receive the care and support they need, ultimately decreasing morbidity and mortality associated with the opioid crisis. Standardization of recognized best practices within NYS EDs can be a valuable tool in addressing this daunting task. In addition, community-based resources such as support groups or peer-recovery programs can help build a network of support and promote sustained recovery.

In conclusion, the management of patients with opioid addiction in EDs necessitates a holistic, patient-centric approach that takes into account the multifaceted nature of addiction, encompassing physical, psychological, and social factors. By utilizing a diverse array of evidence-based strategies, EDs can facilitate the provision of optimal care and support for patients to achieve sustained recovery. The standardization of best practices across EDs throughout NYS can play a pivotal role in ensuring uniformity of care delivery, irrespective of the healthcare institution that patients present to. This approach will be instrumental in improving patient outcomes and enhancing the overall management of the opioid epidemic in the state.

Limitations

The present research study is subject to several limitations that may require consideration. First, the small sample size used in this study may limit the generalizability of the findings beyond the state of New York. This limitation is attributable to a number of factors, including the unavailability of a comprehensive listserv of all NYS ED administrators or providers. In an effort to overcome this challenge, the study team relied on a survey instrument that was distributed via the U.S. Postal Service, which did not provide an identifiable contact person in all instances. This circumstance presented a significant challenge when attempting to contact organizations by telephone, particularly when the name of the administrator was unknown. To mitigate this limitation in future research studies, obtaining a comprehensive listserv of ED administrators or providers would likely increase the response rate and improve the generalizability of the study findings.

Future Research

The findings of this investigation have the potential to contribute to the replication and standardization of best practices for the assessment, treatment, and referral of patients with OUD in EDs. The aim is to create a standardized algorithm that follows clinical best practices, similar to those used in other medical specialties such as cardiac care. These findings may also inform future policy and education initiatives and support the dissemination of standardized OUD guidelines across NYS EDs and potentially across the United States.

Furthermore, implementing OUD guidelines can be facilitated by healthcare systems sharing resources such as telehealth OUD management and peer-recovery coaching services among all EDs. This study also found a significant correlation between the adoption of best practices and the presence of an OUD team with all members, including social workers and peer-

recovery coaches, but explicitly having an attending physician present significantly impacted an organization's alignment with best practices. As such, recommendations for EDs include integrating all necessary components of the OUD team to ensure optimal patient outcomes.

However, it should be noted that this research study is limited by its small sample size, which may limit the generalizability of the findings. In addition, the use of the U.S. Postal Service as the primary mode of survey dissemination created barriers to contact with administrators, highlighting the need for more efficient and reliable methods for survey distribution in future research.

Furthermore, the study's findings may have significant implications for the broader healthcare system, particularly in the development and adoption of standardized treatment guidelines for OUD. Standardization of care across a jurisdiction like NYS has the potential to improve access to care, increase efficiency, improve the quality of care, reduce barriers to care, and enhance care coordination across the healthcare continuum. Improved access to care is essential as it ensures that all individuals have equal access to evidence-based care, regardless of their geographic location or socio-economic status. Standardization can also lead to increased efficiency in delivering care, reducing variability in treatment, and optimizing the use of resources. In addition, standardization can ensure that all patients receive high-quality care, consistent with the latest clinical guidelines and best practices. Reduced barriers to care, such as coverage inconsistencies or treatment availability, can be addressed through standardized care, thereby increasing access to treatment. Furthermore, the standardization of treatment can enhance care coordination between providers and across the continuum of care, which has the potential to improve outcomes and reduce the risk of adverse events.

In summary, treating, assessing, and referring patients with opioid addiction in EDs

requires a comprehensive, patient-centered approach that addresses the physical, psychological, and social aspects of addiction. The incorporation of evidence-based strategies and the adoption of standardized treatment guidelines can significantly contribute to improving patient outcomes and addressing the ongoing opioid crisis.

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Appendix A: IRB Approval Letter

MOLLOY UNIVERSITY

1000 Hempstead Ave., PO Box 5002, Rockville Center, NY 11571-5002
www.molloy.edu

Patricia A. Eckardt, PhD, RN, FAAN
Chair, Molloy University Institutional Review Board
Professor, Barbara H. Hagan School of Nursing and Health Sciences
E: peckardt@molloy.edu
T: 516.323.3711

DATE: February 11, 2023

TO: Macia Drummond, MSN
FROM: Molloy University IRB

PROJECT TITLE: [2012343-1] New York State Emergency Department Assessment, Treatment and Referral of Individuals Presenting to the Emergency Department with Opioid Use Disorder
REFERENCE #:
SUBMISSION TYPE: New Project

ACTION: DETERMINATION OF EXEMPT STATUS
DECISION DATE: February 10, 2023

REVIEW CATEGORY: Exemption category # *2 (i)(ii)*

Thank you for your submission of New Project materials for this project. The Molloy University IRB has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations. However, exempt research activities are subject to the same human subject protections and ethical standards as outlined in the Belmont Report.

You may proceed with your project.

This acknowledgement expires within three years- unless there is a change to the protocol.

Though this protocol does not require annual IRB review, the IRB requires an annual report of your exempt protocol (Expedited and Exempt Research Protocol Annual Report Form) which is available on the IRB webpage.

If there is a proposed change to the protocol, it is the responsibility of the Principal Investigator to inform the Molloy University IRB of any requested changes before implementation. A change in the research may change the project from EXEMPT status and requires prior communication with the IRB.

We will retain a copy of this correspondence within our records.

If you have any questions, please contact Patricia Eckardt at 516-323-3711 or peckardt@molloy.edu. Please include your project title and reference number in all correspondence with this committee.

Sincerely,

Patricia Eckardt, Ph.D., RN, FAAN
Chair, Molloy University Institutional Review Board

Audra Cerruto, Ph. D.
Associate Professor
Director of Graduate and Post Master's Education Programs
Co-Chair Molloy University Institutional Review Board

This letter has been issued in accordance with all applicable regulations, and a copy is retained within Molloy University IRB's records.

Appendix B: Recruitment Sample

Molloy University IRB
Approval Date: February 10, 2023
Expiration Date: February 10, 2026

MOLLOY UNIVERSITY

Dear ED Medical Director,

My name is Macia Drummond, and I am a doctoral candidate at the Barbara H Hagan School of Nursing & Health Sciences at Molloy University in Rockville Centre, NY.

I am conducting a research study to examine healthcare organizations' policies and clinician practices regarding ED-initiated assessment, treatment, and referral of patients presenting with opioid use disorder within New York State.

I am writing to invite you to participate in my survey as you are one of the 188 New York State ED administrators and/or medical or nursing directors.

The survey can be found below. The survey will take no longer than 5 minutes to complete.

BRIEF SURVEY LINK:

https://www.surveymonkey.com/r/QGNX5V7

No identifiable personal information will be collected.

Additionally, as a thank you for your time, a separate optional QR code is provided below to enter your email to be in a random drawing for a new

Molloy University IRB
Approval Date: February 10, 2023
Expiration Date: February 10, 2026

2023 Amazon baseline Kindle E Ink e-reader (cost $100). The QR code for the random drawing and the survey QR code are NOT linked in any way to keep your data anonymous.

Please feel free to reach out with any additional questions to mdrummond@lions.molloy.edu .

You can also contact the chairperson of the Molloy University IRB, Patricia A. Eckardt, PhD, RN, FAAN if you have any questions regarding your rights as a research participant. peckardt@molloy.edu

This study received an exempt determination from the IRB on February 10, 2023, and IRB #2012343-1.

Thank you for considering this research opportunity!

AFTER SURVEY COMPLETION, RANDOM DRAWING ENTRY LINK:

https://www.surveymonkey.com/r/ZWKBZYH

Appendix C: Survey/Interview Questions

MOLLOY UNIVERSITY

Policies and Practices in Treating Opioid Use Disorder in the Emergency Department

Please check off YES or NO for the below items. Thank you. Your feedback is greatly valued.

Question Title

* 1. My name is Macia Drummond, I am a doctoral candidate at Molloy University,1000 Hempstead Ave, Rockville Centre, NY 11570

You are being invited to participate in this research study of New York State Emergency Department Assessment, Treatment and Referral of Individuals Presenting to the Emergency Department with Opioid Use Disorder. I am interested in finding out about current policies and practices to treat patients with opioid use disorder in NY state emergency departments.

Your participation in this study would be the completion of a brief survey (accessed with the QR code or link below). This should take approximately 5 minutes of your time. Your participation will be anonymous, and you will not be contacted again in the future. You will not be paid for being in this

study. However, to be respectful of your time, you can enroll in a random drawing to win a new 2023 Amazon baseline Kindle E Ink e-reader (cost $100) via a QR code link separate from the research study link.

This survey involves minimal risk to you.

You do not have to be in this study if you do not want to be. You do not have to answer any question that you do not want to answer for any reason.

We will be happy to answer any questions you have about this study.

If you have further questions about this project or if you have a research-related problem you may contact me, Macia Drummond at mdrummond@lions.molloy.edu

If you have any questions about your rights as a research participant, you may contact the Molloy University IRB Chair Dr. Patricia A. Eckardt: at peckardt@molloy.edu, or the Molloy IRB administrator account at irb@molloy.edu.

You may stop here also without any repercussions.

If you choose to participate, please check YES below and proceed to the survey.

- ☐ Yes
- ☐ No

Question Title

2. Please answer the following questions based on your **organization's policies and procedures for screening, treatment, and referral of patients presenting to the ED.**

	YES	NO
Every patient presenting to the ED is screened for Opioid Use Disorder (OUD) through medical screening history and exams.	Every patient presenting to the ED is screened for Opioid Use Disorder (OUD) through medical screening history and exams. YES	Every patient presenting to the ED is screened for Opioid Use Disorder (OUD) through medical screening history and exams. NO
Screening utilizes Evidence-based Screening Tool (e.g.SBIRT; COWS; DAST28/10; DSM-5).	Screening utilizes Evidence-based Screening Tool (e.g.SBIRT; COWS; DAST28/10; DSM-5). YES	Screening utilizes Evidence-based Screening Tool (e.g.SBIRT; COWS; DAST28/10; DSM-5). NO
Pregnant women with OUD are offered inpatient stabilization, if needed.	Pregnant women with OUD are offered inpatient stabilization, if needed. YES	Pregnant women with OUD are offered inpatient stabilization, if needed. NO
Laboratory drug screening is performed on individual presenting to the ED with overdose/OUD.	Laboratory drug screening is performed on individual presenting to the ED with overdose/OUD. YES	Laboratory drug screening is performed on individual presenting to the ED with overdose/OUD. NO
Our procedures include Initiating Medication for Opioid Use Disorder (MOUD) treatment such as buprenorphine.	Our procedures include Initiating Medication for Opioid Use Disorder (MOUD) treatment such as buprenorphine. YES	Our procedures include Initiating Medication for Opioid Use Disorder (MOUD) treatment such as buprenorphine. NO
Standardized order sets for OUD treatment are in the EMR.	Standardized order sets for OUD treatment are in the EMR. YES	Standardized order sets for OUD treatment are in the EMR. NO

	YES	NO
Our procedures include offering referral to peer recovery support services.	Our procedures include offering referral to peer recovery support services. YES	Our procedures include offering referral to peer recovery support services. NO
Our procedures include ED providers facilitating referral to community treatment prior to discharge.	Our procedures include ED providers facilitating referral to community treatment prior to discharge. YES	Our procedures include ED providers facilitating referral to community treatment prior to discharge. NO
Naloxone kits and education are provided to all individuals with OUD prior to ED discharge.	Naloxone kits and education are provided to all individuals with OUD prior to ED discharge. YES	Naloxone kits and education are provided to all individuals with OUD prior to ED discharge. NO
Harm reduction measures such as syringe exchange program, HIV/Hep C testing, Hep A vaccinations are implemented prior to ED discharge.	Harm reduction measures such as syringe exchange program, HIV/Hep C testing, Hep A vaccinations are implemented prior to ED discharge. YES	Harm reduction measures such as syringe exchange program, HIV/Hep C testing, Hep A vaccinations are implemented prior to ED discharge. NO

Question Title

3. Please answer the following questions based on your assessment of **overall provider practices in your Emergency Department.**
In my assessment, the majority of our ED providers,

	YES	NO
Administer a standardized substance use disorder screening for all patients (e.g. SBIRT; COWS; DAST28/10; DSM-5).	Administer a standardized substance use disorder screening for all	Administer a standardized substance use disorder screening for

	YES	NO
	patients (e.g. SBIRT; COWS; DAST28/10; DSM-5). YES	all patients (e.g. SBIRT; COWS; DAST28/10; DSM-5). NO
Initiate MOUD Treatment based on organizational set protocols.	Initiate MOUD Treatment based on organizational set protocols. YES	Initiate MOUD Treatment based on organizational set protocols. NO
Initiate MOUD Treatment based on individual providers specification.	Initiate MOUD Treatment based on individual providers specification. YES	Initiate MOUD Treatment based on individual providers specification. NO
Facilitate referral to community treatment.	Facilitate referral to community treatment. YES	Facilitate referral to community treatment. NO
Prescribe naloxone for overdose prevention	Prescribe naloxone for overdose prevention YES	Prescribe naloxone for overdose prevention NO

Question Title

4. Please answer the following questions based on your **organization's barriers and facilitators for screening, treatment, and referral of patients presenting to the ED. My organization provides-**

	YES	NO
Access to expert physician consultation.	Access to expert physician consultation. YES	Access to expert physician consultation. NO
Availability of protocols for initiating MOUD.	Availability of protocols for initiating MOUD. YES	Availability of protocols for initiating MOUD. NO
Clinical decision support for OUD treatment in the EMR.	Clinical decision support for OUD treatment in the EMR. YES	Clinical decision support for OUD treatment in the EMR. NO

	YES	NO
Access to dedicated pharmacist consultation.	Access to dedicated pharmacist consultation. YES	Access to dedicated pharmacist consultation. NO
Facilitation of referral to community treatment.	Facilitation of referral to community treatment. YES	Facilitation of referral to community treatment. NO
ED staff annual education for screening, treating, and referring patients presenting with OUD.	ED staff annual education for screening, treating, and referring patients presenting with OUD. YES	ED staff annual education for screening, treating, and referring patients presenting with OUD. NO

Question Title

5. Please answer the following questions based on your assessment of **overall provider barriers and facilitators in your ED.**
In my assessment, the majority of our ED providers-

	YES	NO
Are comfortable using an evidence-based OUD screening tool	Are comfortable using an evidence-based OUD screening tool YES	Are comfortable using an evidence-based OUD screening tool NO
Are comfortable determining the level of care for patients with OUD.	Are comfortable determining the level of care for patients with OUD. YES	Are comfortable determining the level of care for patients with OUD. NO
Are comfortable ordering and/or administering MOUD.	Are comfortable ordering and/or administering MOUD. YES	Are comfortable ordering and/or administering MOUD. NO
Have time constraints regarding treating OUD.	Have time constraints regarding treating OUD. YES	Have time constraints regarding treating OUD. NO

	YES	NO
Encounter patient barriers (e.g psychosocial or lack of interest) to providing OUD treatment.	Encounter patient barriers (e.g psychosocial or lack of interest) to providing OUD treatment. YES	Encounter patient barriers (e.g psychsocial or lack of interest) to providing OUD treatment. NO
Provide active referral to appropriate community providers.	Provide active referral to appropriate community providers. YES	Provide active referral to appropriate community providers. NO

Question Title

6. My institution's setting is

- Rural
- Suburban
- Urban

Question Title

7. Our type of medical facility is:

- Academic Medical Center
- Community Hospital
- Private

Question Title

8. Is your institution part of a Health System?

- Yes
- No

Question Title

9. New York state region your institution is located in

- ☐ Capital Region
- ☐ Central New York
- ☐ Finger Lakes
- ☐ Long Island
- ☐ Mid-Hudson
- ☐ Mohawk Valley
- ☐ New York City
- ☐ North Country
- ☐ Southern Tier
- ☐ Western New York

Question Title

10. Institution Bed capacity

- ☐ <100 Bed capacity
- ☐ 100- 200 Bed capacity
- ☐ 201- 300 Bed capacity
- ☐ 301-400 Bed capacity
- ☐ > 400 Bed capacity

Question Title

11. Primary Providers staffing your ED (please select all that apply)

- ☐ Physicians
- ☐ Nurse Practitioners
- ☐ Physician Assistants
- ☐ Residents

- [ ] Interns

Question Title

12. Our organization's ED OUD care team includes (please select all that apply):

- [ ] Case manager
- [ ] Peer Recovery Coach
- [ ] Pharmacist
- [ ] Psychiatrist
- [ ] Social worker
- [ ] Substance Abuse Specialist

Question Title

13. Primary Insurance Reimbursement Mechanism for Patients Seen in the ED (please rank by 1= most common; -5= least common)

Managed Care

Medicaid

Medicare

Private

Uninsured

Question Title

14. Please choose your profession from the list below (CHECK ALL THAT APPLY):

- ☐ Physician (MD, DO)
- ☐ Nurse (RN, NP, PhD, DNP)
- ☐ Physician Assistant
- ☐ Administrator- (BA, BS, MS, MBA, MPH)

Done