Bay County, MI

Opioid Use Needs Assessment

Bay County HEALTH Department

BAY COUNTY MICHIGAN · 1857

February 2024

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- Bay County Probate Court
- Bay County Sheriff
- Bay County Treatment Court
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- McLaren Bay Region
- Peer360 Recovery Alliance
- Recovery Pathways, LLC.
- Sacred Heart Rehabilitation Center

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Definitions[1]

Analgesic: Drug that provides pain relief.

Behavioral Therapy: A therapeutic modality where an individual works with a therapist or counselor to help identify and change potentially self-destructive or unhealthy behaviors.

Benzodiazepine: Class of prescription medications typically used to treat anxiety. Can be misused and is observed in accidental overdoses.

Buprenorphine (Sublocade): Partial opioid receptor agonist that produces weak morphine-like symptoms. Used in medication-assisted treatment to assist patients in ceasing their use of opioids without experiencing withdrawal. Sublocade is a prescription medicine administered as a monthly injection subcutaneously to those who have received an oral transmucosal buprenorphine-containing medicine that controls withdrawal symptoms for at least 7 days.

Comorbidity: A medical and/or mental health diagnosis that occurs in combination with another diagnosis.

Continuum of Care: A treatment system in which clients enter treatment at the level appropriate to their needs and can step up or down to more or less intense levels of treatment as needed.[2]

Detoxification (Detox): A process by which a substance user stops using intoxicating substances to allow his or her body the time to fully clear itself of that substance.

Evidence Based Practice: a process of "integrating the best available research evidence with clinical expertise and the patient's unique values and circumstances"[3] and "it also requires the health professional to consider characteristics of the practice context in which they work."[4]

Fentanyl: Synthetic opioid 50–100 times as potent as morphine. Commonly found as an additive in heroin preparations that greatly increases the risk of accidental overdose.

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[1] All definitions come from the Bronx Opioid Needs Assessment Report, unless otherwise noted. Citation: Millan, Lee, Ohlrich, and Sarnoff. "Bronx-Opioid Epidemic Needs Assessment." Columbia University School of International and Public Affairs, 2018.

[2] Forman, Robert F., and Paul D. Nagy "Substance Abuse: Clinical Issues in Intensive Outpatient Treatment." U.S. Dept. of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Treatment, 2006, www.ncbi.nlm.nih.gov/books/NBK64088/

[3] Straus, S. E., Glasziou, P., Richardson, W. S., & Haynes, R. B. (2011). Evidence-based medicine: How to practice and teach it (4th ed.). Churchill Livingstone Elsevier.

[4] Hoffmann, T., Bennett, S., & Del Mar, C. (2016). Evidence-based practice across the health professions (3rd ed.). Elsevier Australia.

Harm Reduction: Evolving strategy that seeks to reduce the health, social, and socioeconomic risks associated with drug use (whether legal or illegal) without necessarily reducing drug consumption.

Heroin: Strong, rapidly acting opioid receptor agonist that acts on the brain to cause powerful feelings of euphoria. Derived from morphine, it can be snorted, injected, or smoked.

Inpatient: A medical facility that houses patients during treatment.

Integrated Care: Denotes physical health and behavioral health integration. It includes attention to human service needs and social determinants of health and efforts to address health disparities that are barriers to physical health and behavioral health treatment and promotes justice and equity in health services.[5]

Medication-Assisted Treatment (MAT): A treatment plan for opioid recovery and/or alcohol use disorder that involves the medically supervised use of methadone, buprenorphine, or naltrexone.

Methadone: Synthetic opioid receptor agonist similar to heroin used to decrease withdrawal symptoms for people who have stopped using opioids. Administered orally and can be used in medication-assisted treatment.

Mental Illness: A wide range of behavioral and/or physical symptoms, either reported and/or observed, impairing an individual's ability to perform the activities of daily living. Often referred to as "Mental Health Disorder."

Naloxone (Narcan): Opioid receptor antagonist that binds and blocks receptor activity; has been effectively used as an antidote for suspected opioid overdoses, rapidly reversing the respiratory depression that causes death.

Naltrexone (Vivitrol): Synthetic opioid receptor antagonist used in medication-assisted treatment and administered in pill or injectable form. Vivitrol is a branded preparation of naltrexone that is dosed as a once-monthly injectable.

Needs Assessment: A systematic process for determining and addressing "gaps," or needs, between current conditions and desired "wants," or conditions.[6]

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[5] National Council for Mental Wellbeing. The Comprehensive Healthcare Integration Framework, 2022., https://www.thenationalcouncil.org/resources/the-comprehensive-healthcare-integration-framework.

[6] University of Connecticut Health. "Needs Assessment Data." Community and Continuing Medical Education, UCONN Health, https://health.uconn.edu/continuing-medical-education/cme-education/#:~:text=Objectives.pdf-,Needs%20Assessment%20Data.

Opioid: Class of drug that binds to specific receptors in the brain, blocking pain signals.

Opioid Dependency: The state of feeling unable to discontinue the use of opioid drugs.

Opioid Overdose: An acute condition due to excessive use of opioids that may cause death. Can be reversed by the opioid receptor antagonist naloxone (Narcan); with or without reversal, death can occur.

Opioid Use Disorder (OUD): A problematic pattern of opioid use leading to clinically significant impairment or distress.[7]

Outpatient: A treatment facility that renders care to patients without housing them.

Over-prescription: The unjustifiably excessive provision of a prescription drug by a provider.

Peer Support Workers: Someone with the lived experience of recovery from a mental health condition, substance use disorder, or both. They provide support to others experiencing similar challenges. May also be referred to as: peer specialists, peer recovery coaches, peer advocates, and peer recovery support specialists.[8]

Primary Care: Health services that cover a range of prevention, wellness, and treatment for common illnesses. Includes doctors, nurses, nurse practitioners, and physician assistants. They often maintain long-term relationships with patients and advise and treat patients on a range of health-related issues. They may also coordinate care with specialists.[9]

Primary Prevention: Prevention strategies aimed at preventing the first use of opioids.[10]

Recovery: A process of change through which individuals improve their health and wellness, live a self-directed life, and strive to reach their full potential.

Recovery Support Services: The collection of community services that can provide emotional and practical support for continuing remission as well as daily structure and rewarding alternatives to substance use.[11]

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[7] CDC. Opioid Use Disorder: Preventing and Treating., https://www.cdc.gov/opioids/healthcare-professionals/prescribing/opioid-use-disorder.html.
[8] SAMHSA. Peer Support Brochure, 2017, https://www.samhsa.gov/sites/default/files/programs_campaigns/brss_tacs/peer-support-2017.pdf
[9] Healthcare.gov. "Primary Care – Healthcare.gov Glossary." U.S. Centers for Medicare & Medicaid Services, https://www.healthcare.gov/glossary/primary-care/.
[10] Institute for Work & Health. "Primary, Secondary, and Tertiary Prevention." Institute for Work & Health, 2015, www.iwh.on.ca/what-researchers-mean-by/primary-secondary-and-tertiary-prevention.
[11] U.S. Surgeon General. "Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, & Health." SAMHSA. 2016, https://www.hhs.gov/sites/default/files/facing-addiction-in-america-surgeon-generals-report.pdf.

Residential Treatment: A form of treatment where patients live in a non-hospital setting and receive 24-hour care. Residential treatment programs can be long-term (6 to 12 months) or short-term (less than 6 months).[12]

Safe Syringe Program (SSP): Community-based prevention programs that can provide linkage to substance use disorder treatment; access to and disposal of sterile syringes and injection equipment; and vaccination, testing, and linkage to care and treatment for infectious diseases.

SAMHSA: Substance Abuse and Mental Health Services Administration. An agency within the U.S. Department of Health and Human Services that leads public health efforts to advance the behavioral health of the nation.

SAMHSA Treatment Locator: A tool in SAMHSA's website to help people find facilities for substance use or mental health treatment. The locator shows results by address, city, or zip code. Information is updated annually from facility responses to SAMHSA's National Survey of Substance Abuse Treatment Services (N-SSATS) and National Mental Health Services Survey (N-MHSS) New facilities are added monthly.[13]

Stigma: Disapproval or negative perceptions of certain behaviors or health conditions.

Suboxone (Buprenorphine + Naloxone): Branded prescription drug combination available either as a pill or a film; requires medical supervision. Used in medication-assisted treatment.

Substance Use Disorder (SUD): Recurrent use of alcohol and/or drugs causing clinically and functionally significant impairment, such as health problems, disability, and failure to meet major responsibilities at work, school, or home.[14]

Xylazine ("tranq" or "tranq dope"): A non-opioid sedative or tranquilizer. It is not a controlled substance in the United States and not approved for use in people.[link]

[12] National Institute on Drug Abuse, "Types of Treatment Programs." 2018, https://nida.nih.gov/sites/default/files/podat-3rdEd-508.pdf.
[13] SAMHSA – Substance Abuse and Mental Health Services Administration, "Find Treatment.gov." https://findtreatment.gov/.
[14] SAMHSA – Substance Abuse and Mental Health Services Administration. "Mental Health and Substance Use Disorders." 2023, https://www.samhsa.gov/find-help/disorders.

Methodology

The methodology for this assessment relied on quantitative and qualitative data as well as reviewing data from peer-reviewed journal articles (i.e., from PubMed, Elsevier, Google Scholar, etc.) between 2000 and 2023.

Quantitative data came from secondary data sources published by national, state, or county agencies. Data was referenced from the U.S. Census Bureau, National Survey on Drug Use and Health, Michigan Substance Use Disorder Data Repository, Michigan Overdose Data to Action Dashboard, University of Michigan's Injury Prevention Center, Michigan Profile for Healthy Youth, and Michigan Behavior Risk Factor Surveillance System. An effort was made to obtain the most recent data whenever possible.

Qualitative data came from semi-structured interviews with stakeholders in Bay County who had expertise or experience working in the opioid field. For example, the following types of organizations/agencies were a part of the interviews: individuals in recovery, justice system organizations/legal service providers, public safety officials, mental health providers, pharmacy providers, community organizations, and treatment service providers. Over 45 individuals were invited to take part in the stakeholder interviews. Of the 45 invited, 26 unique individuals were interviewed from over 16 different organizations/agencies between December 4 and December 21, 2023. A list of the agencies and the number of individuals that were a part of the stakeholder interviews can be found in Appendix 1. Interviews were conducted either in-person or virtually and took anywhere from 30 to 90 minutes. A majority of the interviews maintained a semi-structured format; however, a few of the interviewees addressed the questions more broadly. Several interviewees shared information about the programs and services they offer as well. Stakeholder responses to each of the questions were scanned and highlighted for notable perspectives as well as potential solutions to issues that were raised. Next, all of the highlighted responses were grouped under each of the six main interview questions, which were then scanned and reviewed for common themes and solutions.

The Bronx-Opioid Epidemic Needs Assessment Report[1] served as a model for this report as well as the interview questions that were adapted from it, which can be found in Appendix 2. The questions were broad and open-ended to allow each interviewee to share their own unique perspective without limiting potential responses.

The synthesis of quantitative data and the qualitative interviews served as the basis for the findings and recommendations of this assessment, which were organized into three categories: *primary prevention, secondary prevention – treatment, and tertiary prevention – continuum of care*.

Executive Summary

Opioid-related drug overdose fatalities have increased dramatically in Bay County since 2008. In 2021, there were 35 overdose fatalities involving poly-drug and/or synthetic opioid use. The Bay County Health Department conducted a needs assessment of opioid use in Bay County at the request of the Bay County Board of Commissioners.

Using both quantitative data and information gathered from qualitative stakeholder interviews, this report identified factors contributing to the opioid crisis in Bay County. To obtain qualitative data, the Health Department interviewed stakeholders from individuals in recovery, justice system organizations/legal service providers, public safety officials, mental health providers, pharmacy providers, community organizations, and treatment service providers. A list of interviewees' top priorities in addressing the opioid crisis can be found in Appendix 3. The report also utilized quantitative data published by national, state, or local agencies as well as reviewing evidence from peer-reviewed journal articles. The synthesis of the information from secondary sources and insights from stakeholders were grouped into three main areas: p*rimary prevention, secondary prevention – treatment, and tertiary prevention – continuum of care*. Each area presents a number of findings and recommendations to consider in addressing the opioid crisis in Bay County, and fortunately, the Opioid Settlement provides an opportunity and guidance to invest in many of these recommendations. Appendix 4 proposes an evidence-based framework for implementing the recommendations listed in the report. Appendix 5 states the preferred language to use to help change the conversation surrounding stigma.

Primary Prevention

- Identifies insufficient public awareness on the harms of opioids use
- Reveals that deficiencies in education persist in the medical environment
- Highlights the lack of drug education in the K-12 schools

Secondary Prevention – Treatment

- Identifies missed opportunities to engage with those with OUD as well as the circumstances that motivate individuals to access treatment
- Examines the lack of family counseling services as well as limited information about treatments and services
- Discusses treatment capacity, gaps, and inconsistent collaboration among providers
- Explores the impact of court-mandated treatment, barriers, and overall efficacy

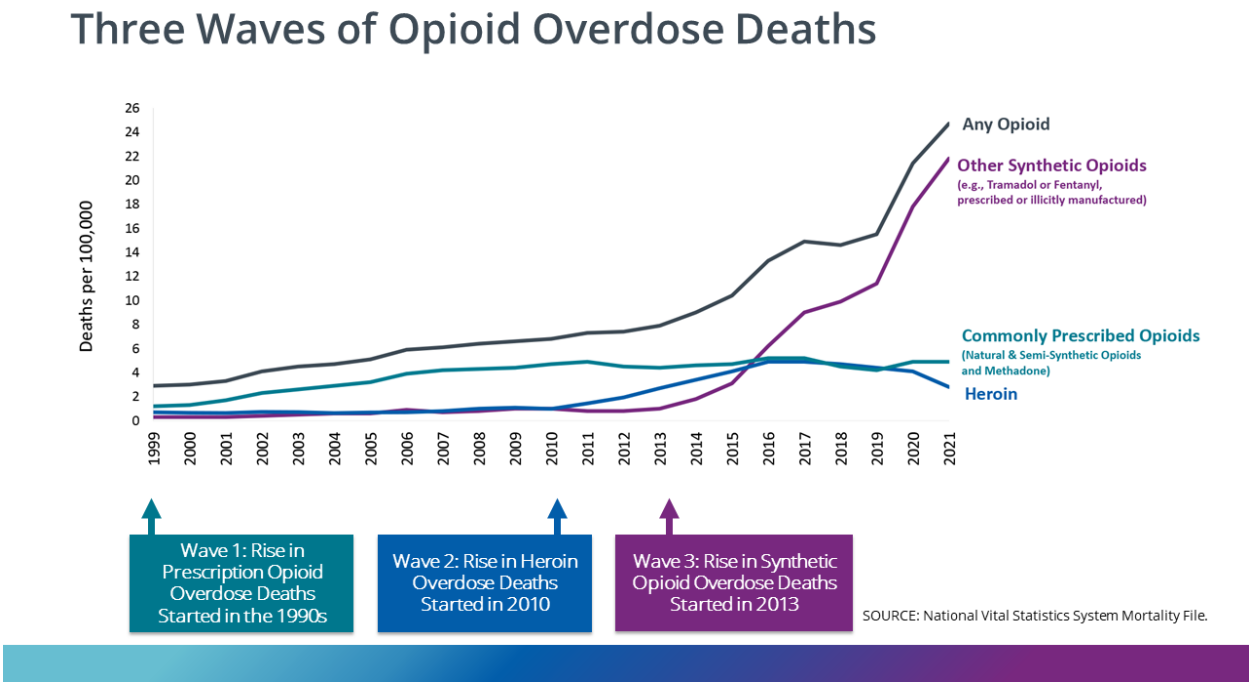
Tertiary Prevention – Continuum of Care

- Identifies the lack of public awareness that opioid use disorder is a chronic disease
- Finds insufficient infrastructure in place to help people successfully maintain their recovery
- Reveals insufficient capacity to meet the demand for peer recovery coaches

Introduction: The Opioid Crisis in the United States, Michigan, and Bay County

Nationally

From 1999 to 2021, nearly 650,000 people died from an overdose involving any opioid, including prescription and illicit opioids across the United States. The number of drug overdose deaths increased more than 16% from 2020 to 2021. Over 75% of the nearly 107,000 drug overdose deaths in 2021 involved an opioid.[15]



Graphic credit: CDC[15]

Progression of the Opioid Epidemic:

1. 1990 – 2010: increasing overdose deaths involving prescription opioids.
2. 2010 – 2013: rapid increase in overdose deaths involving heroin.
3. 2013 – Today: significant increases in overdose deaths involving synthetic opioids (particularly fentanyl). The market for illicit manufactured fentanyl continues to change and can be found in combination with heroin, cocaine, methamphetamines, and counterfeit pills (i.e., Percocet).

[15] Centers for Disease Control and Prevention. "Understanding the Opioid Epidemic." Aug. 8, 2023, https://www.cdc.gov/opioids/basics/epidemic.html.

Substance Use Disorder (SUD)[16]

In 2022, the National Survey on Drug Use and Health (NSDUH) found that an estimated:

- 6.1 million Americans (aged 12 or older) had an opioid use disorder
- 8.9 million Americans misused opioids
- 4.3 million Americans misused prescription stimulants
- 991,000 Americans misused prescription fentanyl or used illegally made fentanyl

Mental Health[16]

In 2022, the NSDUH found that:

- Almost 1 in 4 adults aged 18 or older had any mental illness (AMI)
- 1 in 11 adults aged 18 or older had a past year Major Depressive Episode (MDE)
- 1 in 12 adults aged 18 or older had both AMI and SUD in the past year
- Over 1/3 of adults aged 18 or older who had AMI also had a SUD in the past year
- 1 in 20 adults aged 18 or older had serious thoughts of suicide in the past year

Adolescent Mental Health[16]

In 2022, the NSDUH found that:

- About 1 in 5 adolescents aged 12 to 17 had an MDE in the past year
- About 20% of adolescents who had an MDE, had a co-occurring SUD
- Over 1 in 8 adolescents aged 12 to 17 had serious thoughts of suicide in the past year

Increases in overdose deaths have occurred. This is especially true from synthetic opioid use, which accounted for nearly 88% of all opioid-related deaths in 2021 and rose 22% from 2020 to 2021. Reports indicate that the increases in these overdose deaths are being driven by the presence of fentanyl mixed with other drugs (such as, counterfeit opioid pills, heroin, cocaine, and methamphetamine). This is a major concern because people may or may not be aware that these drugs include this deadly additive and those who have never used opioids before are at an even greater risk for overdose.[17]

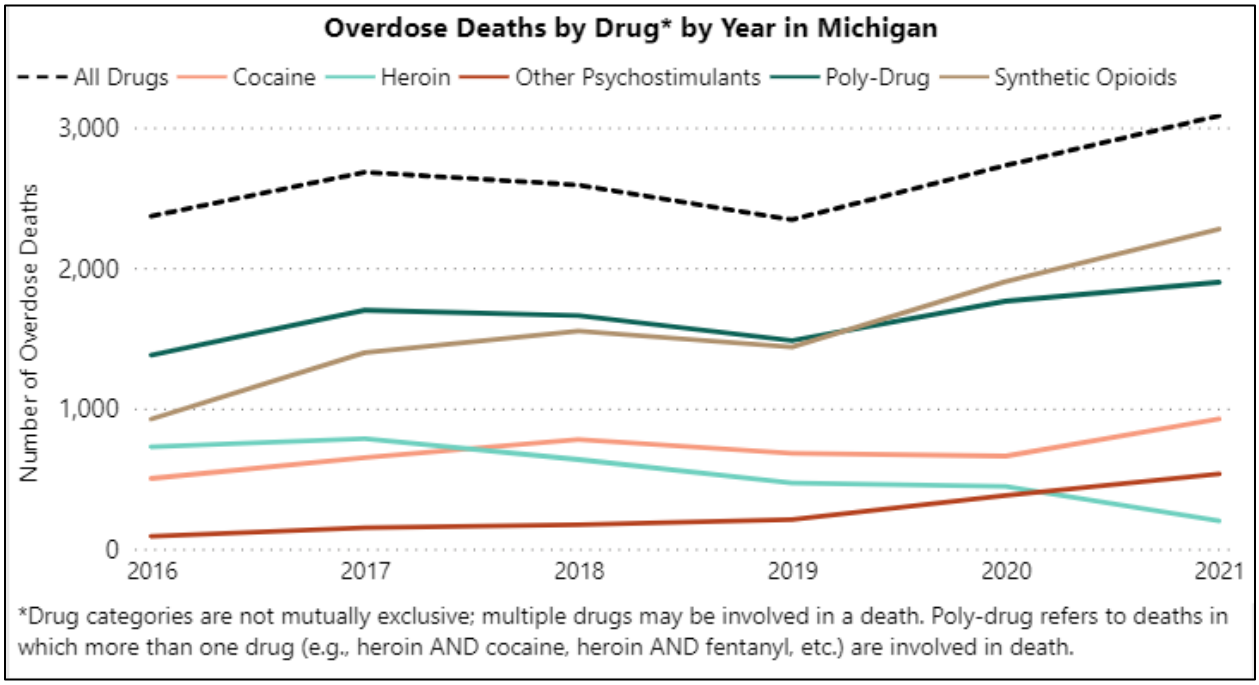
> Fentanyl is approximately 50 times as potent as heroin and 100 times as potent as morphine.[17]

[16] Substance Abuse and Mental Health Services Administration. (2023). Results from the 2022 National Survey on Drug Use and Health: A companion infographic (SAMHSA Publication No. PEP23-07-01-007). Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration. https://www.samhsa.gov/data/report/2022-nsduh-infographic.

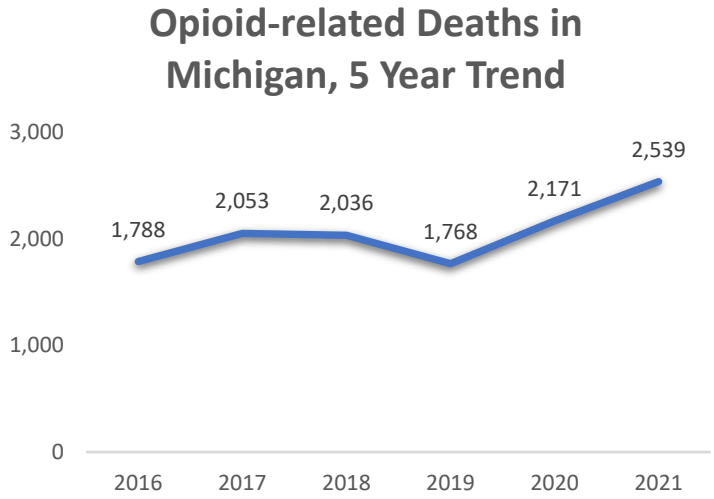
[17] Centers for Disease Control and Prevention. "Opioid Overdose." Aug. 23, 2023, https://www.cdc.gov/drugoverdose/deaths/opioid-overdose.html.

Michigan

All drug overdose deaths increased 13% in Michigan from 2020 to 2021. The age group with the highest overdose deaths are those aged 35-44, followed by those aged 25-34. The overdose death rate for males is double (42 vs. 20 per 100,000) that of females. While heroin use has decreased, there have been dramatic **increases** (35%+) in every other drug category.[18]



MDHHS MODA



From 2016 to 2021, there was a 42% **increase** in opioid-related (synthetic and non-synthetic) deaths in Michigan.

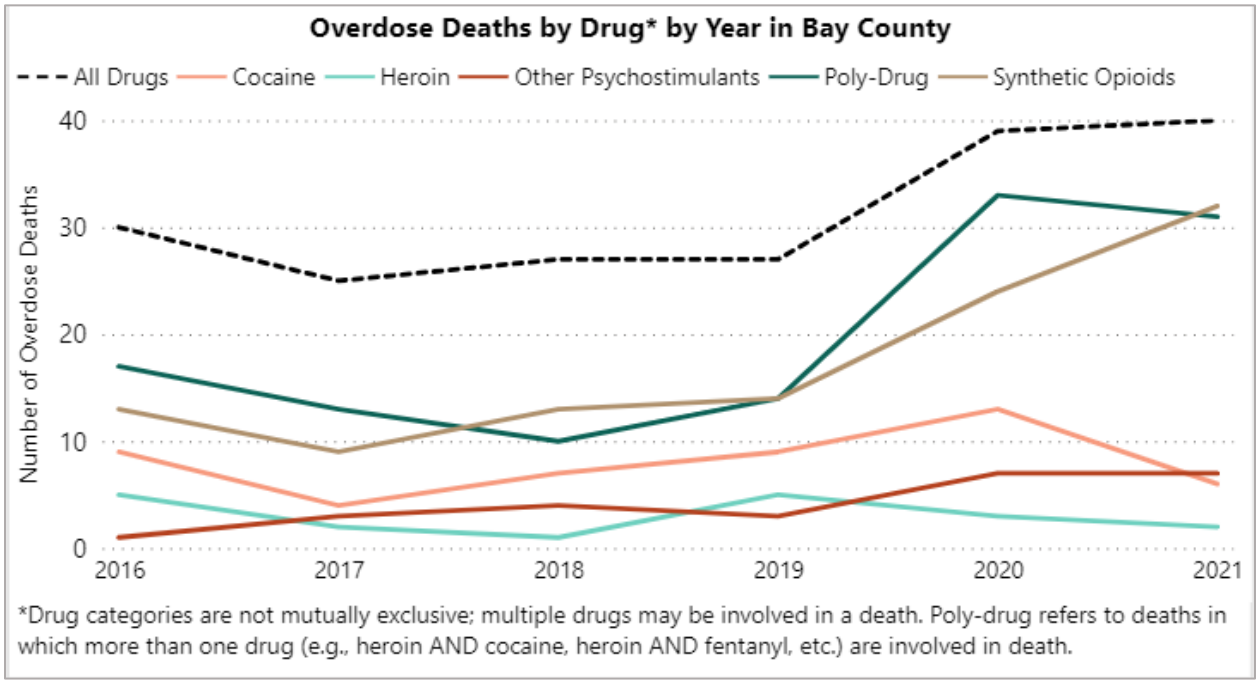
From 1999 to 2021, there have been a **total** of 21,903 opioid-related deaths in Michgian.[19]

[18] MDHHS. Michigan Overdose Data to Action Dashboard (MODA), 2016-2021 https://www.michigan.gov/opioids/category-data

[19] MDHHS. Michigan Substance Use Disorder Data Repository, 1999-2021, https://mi-suddr.com/blog/2018/09/26/opioid-heroin-poisonings/

Bay County

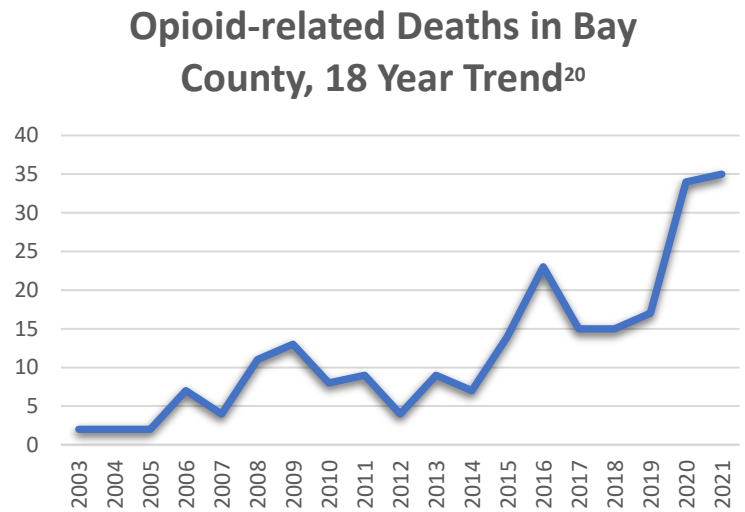
All drug overdose deaths increased 48.1% in Bay County from 2019 to 2021. The majority (over 80%) of overdose deaths involved opioids.[20]



MDHHS MODA

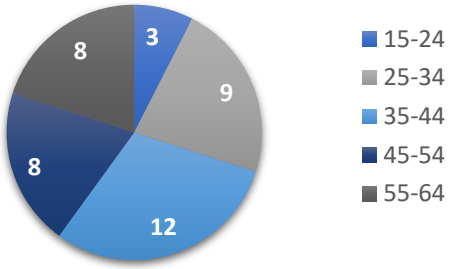
Opioid-related deaths significantly increased over the last 18 years. The following set of years had the biggest increases:[20]

- 2019-2021: 106%
- 2014-2016: 229%
- 2007-2009: 225%

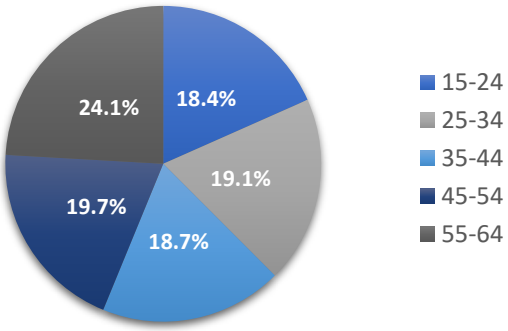


[20] MDHHS. Michigan Overdose Data to Action Dashboard (MODA), https://www.michigan.gov/opioids/category-data

All Drug Overdose Deaths by Age in Bay County[21]

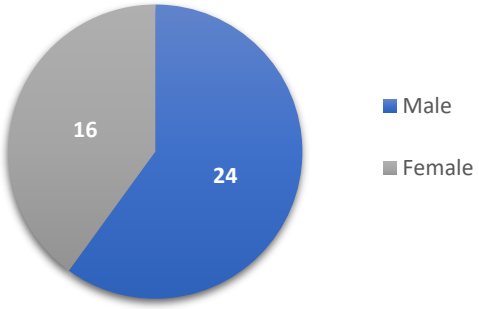


Bay County Population by Age[22]

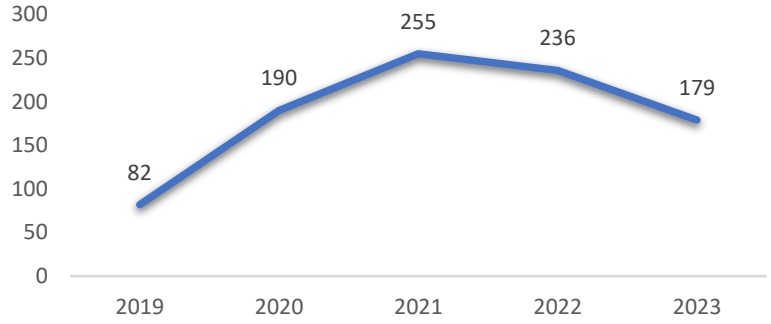


Similar to Michigan, the age group with the highest overdose deaths in Bay County are those aged 35-44, followed by those aged 25-34. The majority of males died from a drug overdose.

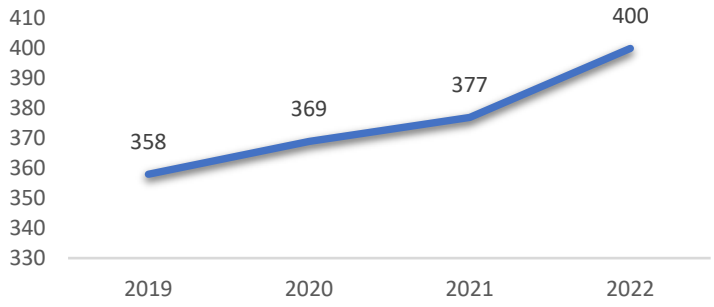
All Drug Overdose Deaths by Gender in Bay County[21]



EMS Responses to Probable Opioid Overdose in Bay County[21]



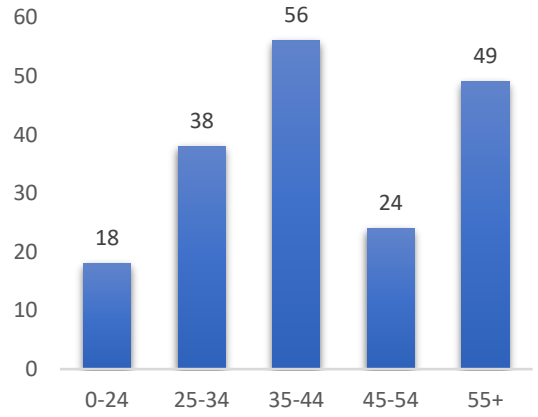
Overdose Emergency Department Visits in Bay County[21]



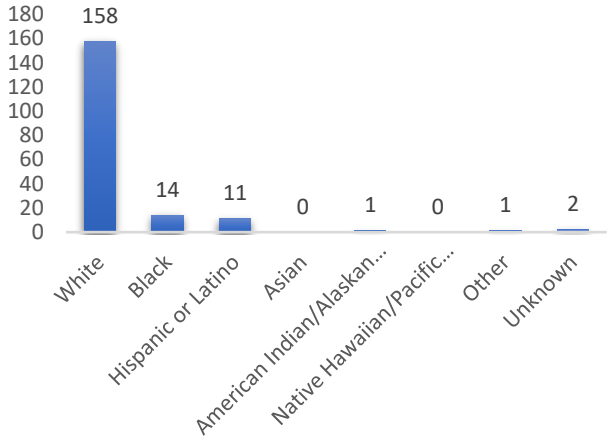
While EMS responses decreased from 2021 to 2023, overdose emergency departments visits continued to increase.

[21] MDHHS. Michigan Overdose Data to Action Dashboard, https://www.michigan.gov/opioids/category-data
[22] Source: U.S. Census Bureau, 2018-2022 American Community Survey 5-Year Estimates, https://data.census.gov/table/ACSST5Y2022.S0101?q=bay%20county,%20mi&moe=false&tid=ACSST1Y2022.S0101

Number of EMS Naloxone Administrations by Age[23]

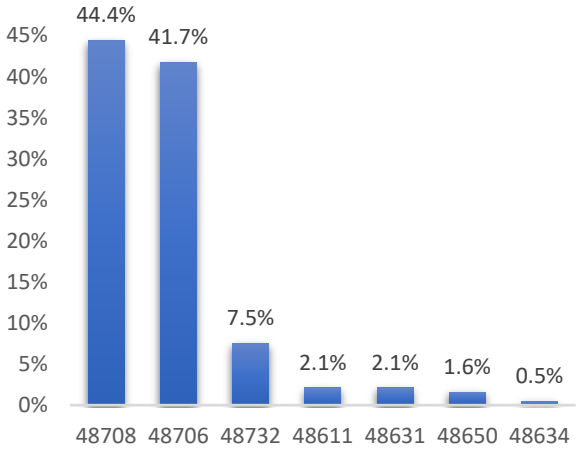


Number of EMS Naloxone Administrations by Race[23]

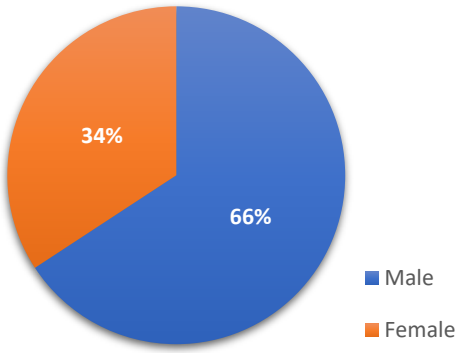


Between December 1, 2022 and November 30, 2023, there were 187 administrations of Naloxone (Narcan), with the most common recipients primarily white and aged 35-44.

Percent of EMS Naloxone Administrations by Zip Code[23]



Percent of EMS Naloxone Administrations by Gender[23]



The majority of Narcan administrations were performed on males and happened within the 48708 and 48706 zip codes of Bay County.

[23] University of Michigan Injury Prevention Center. System for Opioid Overdose Surveillance (SOS). December 1, 2022 to November 30, 2023.

Understanding Addiction

The National Institute on Drug Abuse (NIDA) define addiction[24] as "a chronic, relapsing disorder characterized by compulsive drug seeking and use despite adverse consequences." Drug addiction shares some of the same characteristics to that of heart disease: both impair the function of a normal, healthy organ in the body; both have life-threatening effects, and both can typically be prevented and treated with medicine and/or lifestyle modifications.

While a person's initial decision to take drugs is typically voluntary, their ability of self-control becomes gravely impaired. People with a drug addiction show physical changes in areas of the brain that impact decision-making, learning, judgement, memory, and behavior control.

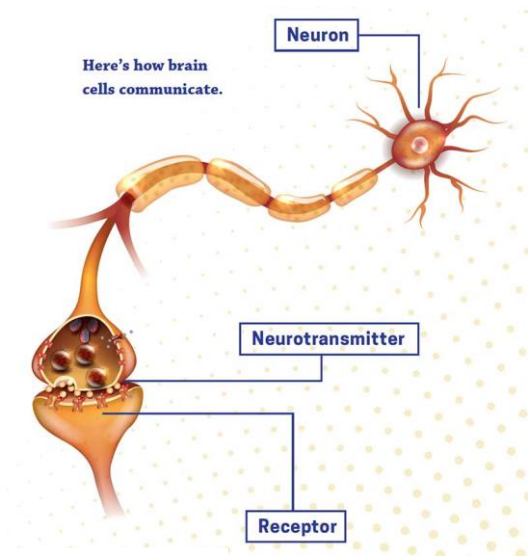


Photo credit: NIDA

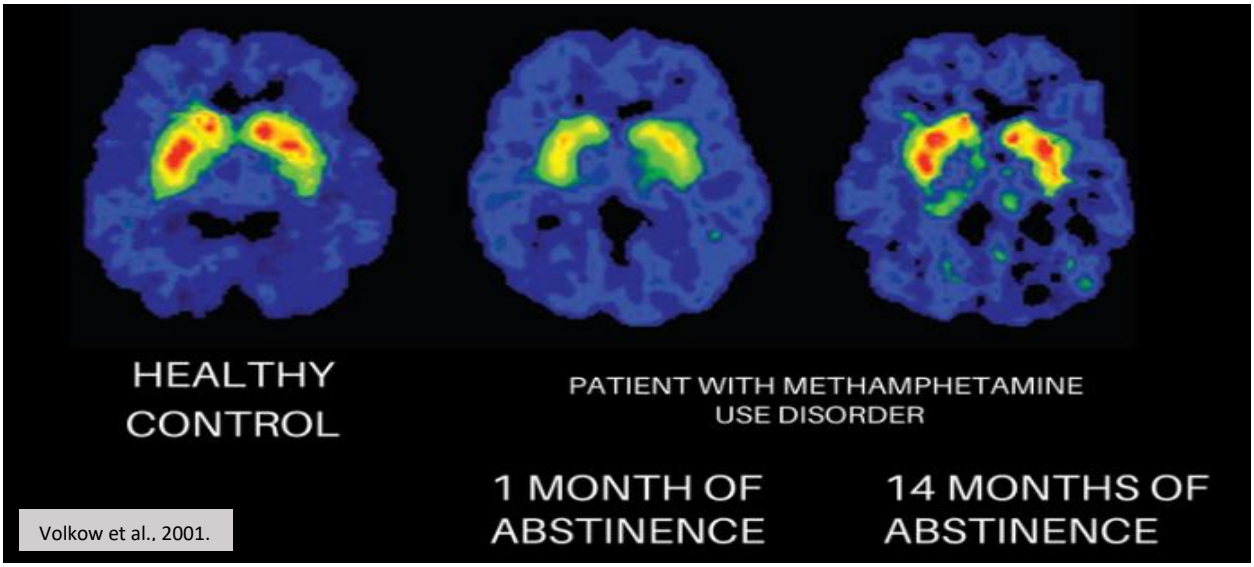
Drugs such as marijuana and heroin activate neurons because their chemical structure imitates natural neurotransmitters, but they do not activate in the same way and thus lead to abnormal messages being sent in the brain. On the other hand, amphetamine and cocaine cause neurons to either release excessive amounts of natural neurotransmitters or interfere with transporters that prevent the "recycling" of these brain chemicals, which amplifies or impairs normal communication between neurons. Opioids in particular also disrupt the brain stem, which controls heart rate, breathing, and sleeping. This disruption explains why overdoses can cause depressed breathing and death.

When these types of drugs are taken, a person experiences a surge of endorphins (the body's natural opioids) and neurotransmitters in the basal ganglia (reward center) that contribute to the "high." Dopamine was once thought to be directly produced by the use of these drugs; however, research seems to find that it has a more "reinforcing effect" that motivates a person to repeat pleasurable activities and all the external "cues" associated with it. Given that these drugs produce a large degree of pleasure, the dopamine response is much greater than from normal, everyday activities. It is important note that the human brain is wired to repeat pleasurable activities (i.e., eating, socializing, sex, etc.). The dopamine signal essentially makes it easier to repeat the pleasurable activity again and again without thinking about it, leading to the formation of what we refer to as a habit.

[24] National Institute on Drug Abuse. *Drugs, Brains, and Behavior: The Science of Addiction*. July 2020, https://nida.nih.gov/publications/drugs-brains-behavior-science-addiction/drug-misuse-addiction

As a person continues to use drugs, the brain adjusts by reducing the number of receptors that can receive signals and producing fewer neurotransmitters (an effect known as tolerance). This results in a person who reports feeling flat, unmotivated, and/or depressed because of their ability to experience pleasure from naturally rewarding (i.e., reinforcing) activities has been dramatically reduced. This reduction perpetuates the vicious cycle of trying to produce a familiar high and to experience even a normal level of reward.

The neuroscience of addiction treatment provides evidence and, most importantly, hope to those suffering from a substance use disorder. Drug addiction treatment provides a way to manage the condition, similar how the condition of heart disease or asthma is treated by managing it. The image below shows that the brain recovers over a period of time and after 14 months of abstinence from methamphetamine use, areas of brain activity appear to be returning to a more normal, healthy level of functioning.



A common misconception of recovery is that when a person relapses, or returns to drug use after an attempt to quit, they are viewed as not committed or that treatment has failed. Since drug addiction is considered a chronic disorder, it involves changing deeply rooted behaviors and that means relapse is usually a part of the recovery process. When a person relapses from either an addiction or from any other chronic disease (heart disease, high blood pressure, diabetes, etc.), it indicates the need to speak with a medical professional to continue treatment, modify it, or try a whole different approach.[25]

The nature of addiction is insidious and tragic. Because it changes circuits in the brain involved in reward, stress, and self-control, drug addiction can be regarded as a chronic brain disorder.

[25] Volkow et al. *Loss of Dopamine Transporters in Methamphetamine Abusers Recovers with Protracted Abstinence*. Journal of Neuroscience (23):9414-9418; 2001, https://www.jneurosci.org/content/21/23/9414

Risk Factors

While no single risk factor contributes to whether a person may become addicted to drugs, the chance is greater the more risk factors a person has or experiences in their life.

Risk Factors[26]	
Aggressive behavior in childhood	Mental health disorders
Lack of parental supervision	Unstable home or family life
Low peer refusal skills	Parent's use and attitudes
Drug experimentation	Community attitudes/culture
Availability of drugs at school	Poor grades
Poverty	Early youth use
Physical or sexual abuse	Genetics

While stakeholder interviewees mentioned similar risk factors as those above, what was considered unique to Bay County is the location of where it resides along the Interstate-75 corridor and the amount of cannabis and alcohol establishments in the area. Poverty and mental health were the two most common responses from interviewees when asked what contributes to the opioid crisis in Bay County. Instability in home life, trauma, and familial drug or alcohol use were other themes that emerged. Familial use of drugs or alcohol can increase a children's risk of future drug problems.[27]

In Bay County:

- **30%** of households make less than $35,000 a year.[28]
- **22%** of individuals live below 150% of the federal poverty level.[28]
- **20%** of adults 18 years or older report fair or poor mental health on at least 14 days in the past month.[29]
- **44%** of students felt so sad or hopeless almost every day for two weeks or more in a row that they stopped doing some usual activities during the past 12 months.[30]
- **35%** of students reported experiencing two or more traumatic events or situations in their life that overwhelmed their ability to cope with what they had experienced.[30]

[26] National Institute on Drug Abuse. *Drugs, Brains, and Behavior: The Science of Addiction*. July 2020, https://nida.nih.gov/publications/drugs-brains-behavior-science-addiction/drug-misuse-addiction

[27] Biederman et al. *Patterns of alcohol & drug use in adolescents can be predicted by parental SUDs*. Pediatrics. 2000, https://publications.aap.org/pediatrics/article-abstract/106/4/792/65785/Patterns-of-Alcohol-and-Drug-Use-in-Adolescents?redirectedFrom=fulltext

[28] U.S. Census Bureau, 2018-2022 American Community Survey 5-Year Estimates, https://data.census.gov/all?q=Bay%20County,%20Michigan

[29] Michigan Behavioral Risk Factor Surveillance System. 2020-2022 Local Health Department Estimates, https://www.michigan.gov/mdhhs/-/media/Project/Websites/mdhhs/Keeping-Michigan-Healthy/Communicable-and-Chronic-Diseases/Epidemiology-Services/2020-2022_MiBRFSS_Reg-LHD_Tables.pdf

[30] Michigan Department of Education. Michigan Profile for Healthy Youth (MiPHY), 2019-2020., https://mdoe.state.mi.us/schoolhealthsurveys/ExternalReports/CountyReportGeneration.aspx

Primary Prevention

This section will address primary prevention strategies or ways to prevent initial use of opioids.

Primary prevention means preventing the onset of a disease, injury, or condition before it ever occurs.[31] These types of strategies can be conducted in a variety of settings such as, in schools; when a person is prescribed an opioid for chronic pain; and in the community. Methods are typically through evidence-based curriculum, patient education, widely disseminated information and messages (i.e., Public Service Announcements), and screening tools.

Many interviewees pointed out the general lack of prevention strategies in Bay County and the importance of educating all levels of the population. This includes law enforcement, businesses, medical providers, schools, parents, and the broader community. Themes that emerged were increased awareness on the dangers of opioids, changing the substance use culture, continued provider and patient education, and implementing more robust youth drug education.

Primary Prevention Findings

Finding 1: There is insufficient public awareness on the dangers of opioids.

At the time of this report, the only public awareness campaign currently underway in Bay County is focused on reducing stigma. While many interviewees stressed the importance in reducing stigma (both in the using community and general public), it was also revealed that there is a lack of public awareness on the dangers of opioids, the prevalence of fentanyl in other drugs, and little understanding on the nature of drug addiction. Nearly all of the interviewees mentioned that fentanyl is in every drug out there, including cannabis, and that the public (and even some in the medical profession) do not understand how drug addiction works in the brain. This creates a disconnect between those addressing the opioid crisis and those who may be under- or misinformed.

Interviewees also expressed their frustration with the current drug and alcohol culture in Bay County and how it is becoming more socially acceptable to alter one's reality. Many commented on that there are billboards about where to buy cannabis, but little, to none, about the dangers of opioids. Most, if not all, stated that they were unaware of any national public awareness campaign regarding opioids. Though some of the interviewees did reference the anti-smoking campaign as a potential model to use to address the opioid crisis.

[31] Institute for Work & Health. "Primary, Secondary and Tertiary Prevention." April 2015, www.iwh.on.ca/what-researchers-mean-by/primary-secondary-and-tertiary-prevention

Finding 2: While there have been modest improvements in provider and patient education, there are still deficiencies present in the medical environment.

Earlier in the opioid crisis, insufficient provider education contributed to opioid prescriptions becoming a problem along with a neglect of patient education on these types of medications. While providers have shifted to being more judicious with these prescriptions, patients are left to seek out other ways to manage their pain.

Some interviewees felt doctors are apprehensive to discuss or prescribe these medications at all, while others mentioned that people who are on these medications may discontinue use prematurely and still have the medication sitting around in their home. Others mentioned challenges with communication within the medical environment. Finally, screenings tools that assess social determinants of health, mental health, etc. seem to be underutilized.

Finding 3: There is insufficient drug and mental health education in the K-12 schools.

Nearly all interviewees noted that drug and mental health education is severely lacking and needs to be a bigger priority in K-12 schools. Some were not even certain if children were receiving any at all. Most stressed the importance of educating youth as early as possible. Middle school was mentioned the most often, but others suggested starting at age 9, 10, or 11. One of the difficulties mentioned in doing youth prevention was having access to current data on youth health, but most local data (i.e., MiPHY) found was from over four years ago.

Often organizations outside the school – with permission from the principal or superintendent, come in to facilitate curriculums specifically on mental health and/or drug education. Historically, the Bay County Prevention Network and Sacred Heart Rehabilitation Center have gone into schools to provide these types of curriculums. For example, the *Too Good for Drugs* curriculum targets K-12 and is designed to mitigate the risk factors and enhance protective factors related to alcohol, tobacco, and other drug use. Students develop skills for making healthy choices, build positive friendships, develop self-efficacy, and resist peer pressure and influence.[32] Whereas the *Too Good for Violence* curriculum targets K-5 and is focused on identifying and managing emotions; effective communication; and pro-social peer bonding.[32]

The Bay-Arenac Intermediate School District utilizes the Michigan Department of Education's Health Education Grade Level Content Expectations[33] from kindergarten to grade 8 and the Michigan Merit Curriculum Credit Guidelines[34] for high school students. Both provide a framework for designing curriculum, assessments, and learning experiences for students that provide age-appropriate learning expectations as it relates to alcohol, tobacco, and other drugs.

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[32] Too Good. Too Good Programs, https://toogoodprograms.org/

[33] MDE Health Education Grade Level Content Expectations, www.michigan.gov/-/media/Project/Websites/mde/Year/2010/03/09/HealthK-8.pdf

[34] Michigan Merit Curriculum Credit Guidelines, www.michigan.gov/-/media/Project/Websites/mde/Academic-Standards/MMC_HS_Health_Guidelines.pdf

According to the Michigan Department of Education's MI School Data Enrollment Counts Report for the 2022-2023 school year in Bay County, there were 14,727 total students in K-12 education; 3,329 in 6th through 8th grade; and 5,189 in 9th through 12th grade.[35]

Barriers do exist, for example, there are too few staff to facilitate the curriculums, a school may be unwilling or unable to accommodate a consistent schedule for lessons, or limited funding to reach more schools. According to the Bay County Prevention Network, 804 students began the *Too Good for Drugs* program, with just under 600 students completing the program among 6th to 9th grade students from October 1, 2022 through September 2023.

While providing evidence-based curriculum is important and needed, interviewees stressed the value of bringing in peer recovery coaches to speak about their lived experience too as another form of education. Peer360 Recovery shared they are offered some opportunities to speak in front of students, but unfortunately, the lack of coaches and schools either unwilling or unaware of the value are a missed opportunity. Interviewees also stated there is little, to no, access to a peer recovery coach in schools, with students having no resource to come to for SUD issues. Most schools have a social worker or mental health professional; however, these professionals may have limited knowledge or expertise with substance use disorders.

The next page reveals youth use and social norms toward alcohol, marijuana, and other drugs.

[35] Michigan Department of Education MI School Data. Student Enrollment counts Report. 2022-2023 School Year., https://www.mischooldata.org/student-enrollment-counts-report/

Bay County Youth Data

The Michigan Profile for Healthy Youth was last conducted in Bay County during the 2019 to 2020 school year among 7th, 9th, and 11th grade students. There were 545 students who were surveyed in 7th grade and 364 students in 9th and 11th grade.

Bay County Youth	7th grade	9th & 11th grade
Other Drug Use		
Percentage of students who ever used any form of cocaine	7.2%	-
Percentage of students who ever used methamphetamines	6.5%	-
Percentage of students who ever used a needle to inject any illegal drug into their body	6.7%	-
Percentage of students who took painkillers such as OxyContin, Codeine, Vicodin, or Percocet without a doctor's prescription during the past 30 days	3.7%	4.2%
Percentage of students who took a prescription drug, such as Ritalin, Adderall, or Xanax without a doctor's prescription during the past 30 days	5%	3.4%
Percentage of students who took a prescription drug not prescribed to them, including painkillers, during the past 30 days	5%	6.9%
Percentage of students who were offered, sold, or given an illegal drug on school property by someone during the past 12 months	6.9%	23%
Social Norms		
Percentage of students that think that none (0%) of the students in their grade used an illegal drug in the past month (not including marijuana)	53%	28.6%
Percentage of students that think that none (0%) of the students in their grade used marijuana in the past month	39%	20%
Percentage of students that think none (0%) of the students in their grade drank alcohol in the past month	37%	19%

Source: Michigan Profile for Healthy Youth (MiPHY). Bay County. Alcohol and Other Drugs Report: Summary Table – MS & HS. 2019-2020.
https://mdoe.state.mi.us/schoolhealthsurveys/ExternalReports/CountyReportGeneration.aspx

Primary Prevention Recommendations

Recommendation 1: *Implement a comprehensive, highly visible public awareness campaign addressing the dangers of opioids.*

Interviewees referenced the anti-smoking campaigns as an effective model to raise awareness on this topic. The FDA's *The Real Cost* campaign relied on blunt images and messages on the consequences of smoking; while the CDC's *Tips from Former Smokers* campaign delivered stories from people with lived experiences. The Truth Campaign utilized youth peer-to-peer messages in creative videos that increased the awareness on the dangers of smoking, vaping, and nicotine use. In 2018, the Truth Initiative launched *The Truth About Opioids* campaign, which focused prescription opioid misuse and helped lower stigma, increase knowledge, and increase the likelihood to share opioid-related information with peers.[36]

Using the anti-smoking campaign as a model, Bay County should implement a comprehensive, highly visible public awareness campaign. Interviewees recommended the following topics: reducing stigma; the risk of becoming addicted to opioids; what withdrawal looks like; the nature of drug addiction in the brain; how to use naloxone; and the prevalence of fentanyl in other drugs. It was often stressed that a priority should be placed on showing the physical and bodily consequences from using opioids.

Many interviewees recommended having prevention messages in as many public spaces as possible, such as, homeless shelters, schools, businesses, churches, community organizations, parent-teacher associations, community clubs, health centers, hospitals, billboards, etc. The goal should be to raise awareness while not stigmatizing those with an opioid use disorder.

[35] Michigan Department of Education MI School Data. Student Enrollment counts Report. 2022-2023 School Year., https://www.mischooldata.org/student-enrollment-counts-report/

[36] Rath et al., "Educating Young Adults about Opioid Misuse: Evidence from a Mass Media Intervention." Int. Journal of Environ. Research & Public Health. December 2021, https://www.mdpi.com/1660-4601/19/1/22

Examples of Anti-smoking Public Awareness Campaign

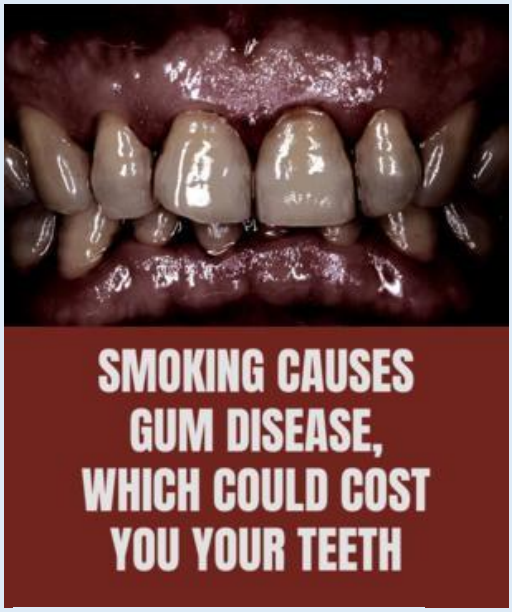

Photo Credit: The Real Cost

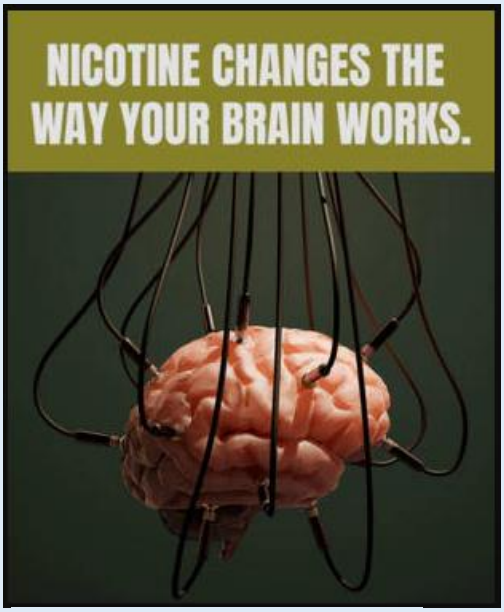

Photo Credit: The Real Cost

Recommendation 2: Improve provider and patient education with effective screening tools, alternative pain management methods, and best practices for prescribing medications.

Screening tools can provide doctors a way to identify patients who are at risk for developing a substance use disorder (SUD) or detect patients who may currently have a SUD. The National Institute on Drug Abuse (NIDA) is encouraging widespread physician use of SBIRT (Screening, Brief Intervention, and Referral to Treatment) tools for use in primary care settings through its NIDAMED initiative. Evidence demonstrates its effectiveness against tobacco and alcohol use – and increasingly, against illicit and prescription drug use – to potentially not only catch people before serious drug problems develop, but also to identify people in need of treatment and connect them with the appropriate treatment providers.[37] Doctors should take sufficient time to learn a patient's medical history prior to addressing any chronic or acute health condition. There should also be improved communication across medical disciplines and departments.

Patients should be more aware of the risks associated with opioids, receive relevant information if prescribed an opioid, and be aware of other methods to help manage chronic pain. For example, prescription and over-the-counter aspirin, ibuprofen, and acetaminophen; nondrug remedies such as massage and acupuncture; and high-tech treatments using radio waves and electrical signals can be effective as well.[38] With the legalization of medical and recreational cannabis, there has been an increased demand of people using cannabis to alleviate pain. According to the Michigan Cannabis Regulatory Agency, the majority of patients site chronic and severe pain as a reason for using medical cannabis. However, one study found that smoking cannabis actually increased cravings and urges for opiates and promoted opiate relapse and was not helpful as a harm reduction strategy in young people with OUD.[39]

In 2022, the CDC released an updated Clinical Practice Guideline for Prescribing Opioids for Pain, which gave recommendations for clinicians providing pain care, including those prescribing opioids for outpatients over 18 years of age and recommendations for managing acute, sub-acute, and chronic pain.[40] Additionally, the Providers Clinical Support System Medications for Opioid Use Disorders program (funded by SAMHSA) provides trainings and clinical mentoring programs to train primary care providers in the evidence-based prevention and treatment of OUDs and treatment of chronic pain.[41]

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[37] National Institute on Drug Abuse (NIDA). "Principles of Drug Addiction Treatment: A Research-Based Guide (Third Edition)." Jan. 2018, https://nida.nih.gov/sites/default/files/podat-3rdEd-508.pdf

[38] American Society of Anesthesiologists. "Non-Opioid Treatment." https://www.asahq.org/madeforthismoment/pain-management/non-opioid-treatment/

[39] Jaffe S.L., "Case Reports on the Failure of Smoking Marijuana to Prevent Relapse to Use of Opiates in Adolescents/Young Adults with Opiate Use Disorder." Emerging Trends in Drugs, Addictions, and Health, 2001, https://doi.org/10.1016/j.etdah.2021.100011

[40] Dowell D, Ragan KR, Jones CM, Baldwin GT, Chou R. CDC Clinical Practice Guideline for Prescribing Opioids for Pain, 2022. MMWR Recomm. Rep 2022;71(No. RR-3):1–95. DOI: http://dx.doi.org/10.15585/mmwr.rr7103a1

[41] Providers Clinical Support System - Medications for Opioid Use Disorders, https://pcssnow.org/courses/

Recommendation 3: *Implement comprehensive drug and mental health education in K-12 Schools, which include evidence-based curriculum, presentations from the recovery community, and safe, confidential access to peer recovery specialists for students.*

Schools should play a larger role in opioid prevention, either by expanding current programs or implementing new evidence-based curriculum. The Michigan Department of Education recommends that each student receive 50 hours of health at each grade, Pre-K through grade 12, so students have adequate time to learn and practice healthy habits and skills.[33,34]

A popular program back in the 1990s was Project D.A.R.E., but a number of scientific studies have found that the program was not effective and failed to decrease drug use.[42] Since then, a new program from the DARE organization was released called, *keepin' it REAL* and exhibits more promising evidence than its predecessor. Additionally, a number of other evidence-based drug education programs have emerged over the years, such as the following:

Program	Audience	Evidence
Too Good for Drugs	K – grade 12	https://toogoodprograms.org/pages/evidence-base
Botvin Life Skills Training	Elementary – grade 12	https://www.lifeskillstraining.com/evaluation-studies/
Safety First	High School	Fischer, N.R. School-based harm reduction with adolescents: a pilot study. Subst Abuse Treat Prev Policy 17, 79 (2022). https://doi.org/10.1186/s13011-022-00502-1
Project Towards No Drug Abuse	High School	https://tnd.usc.edu/?page_id=38

Too Good for Drugs and *Botvin Life Skills* are designed to be developmentally appropriate education programs that build resiliency by teaching social and emotional competency, personal self-management skills, and effective defenses against substance use. *Botvin Life Skills* also incorporate violence prevention methods into its curriculum. *Project Towards No Drug Abuse* focus on similar themes that are relevant for high school students. *Safety First* is designed for high school students who may be already using or at risk of using and includes a harm-reduction message in addition to the importance of abstaining from substance use.

There should also be more opportunities for peer recovery specialists speak to youth about the dangers and consequences of opioid use (i.e., what an overdose is, needles, open sores on your face and body, infections, etc.). Many interviewees stressed the importance to not "sugar-coat" the effects of OUD. Other interviewees suggested having safe, confidential access to a peer recovery coach in schools as an option for students who may already be using or are feeling overwhelmed if a parent is using opioids. Children must know how to make safe decisions and be equipped to handle the difficult situations that they will likely face in their future outside of the school system.

[42] West, S. L., & O'Neal, K. K. (2004). Project D.A.R.E. outcome effectiveness revisited. American journal of public health, 94(6), 1027–1029. https://doi.org/10.2105/ajph.94.6.1027

Secondary Prevention – Treatment

This section will address secondary prevention strategies to reduce the impact of and injury from current opioid use.

Secondary prevention typically involves "detecting and treating disease or injury as soon as possible to halt or slow its progress, encouraging personal strategies to prevent reinjury or recurrence."[43] It also means implementing programs to return people to a healthier level of functioning to prevent long-term problems.

There are a variety of evidence-based approaches to treat drug addiction, such as, behavioral therapies (cognitive behavioral therapies), pharmacotherapies (medication-assisted treatment, also known as MAT), or a combination of both.

Behavioral therapies can be provided through individual, family, group counseling, or a combination. These counseling modalities offer strategies to engage in treatment, change attitudes and behaviors of drug use, cope with cravings and environmental cues, how to prevent and manage a relapse, and even incentives to remain drug-free. They can also help to improve communication, relationship, and parenting skills.

SAMHSA defines MAT as "the use of medications, in combination with counseling and behavioral therapies, to provide a 'whole-patient' approach to the treatment of substance use disorders."[44] Methadone, naltrexone, and buprenorphine, as well as Suboxone (a combination of naloxone and buprenorphine) are used to treat OUD. The Food and Drug Administration (FDA) has approved these medications for OUD through SAMHSA-accredited professionals and certified opioid treatment programs (OTPs). Federal guidelines state that OTPs must provide patients with "adequate medical, counseling, vocational, educational, and other assessment and treatment services."[45]

Purpose of MAT for OUD is to "normalize brain chemistry, block the euphoric effects of opioids, relieve psychological cravings, and normalize body functions without the negative and euphoric effects of the substance used" and "are safe to use for months, years, or even a lifetime."[44]

[43] Institute for Work & Health. "Primary, Secondary and Tertiary Prevention." April 2015, www.iwh.on.ca/what-researchers-mean-by/primary-secondary-and-tertiary-prevention

[44] SAMHSA – Substance Abuse and Mental Health Services Administration. "Medications for Substance Use Disorders." Oct. 2023, https://www.samhsa.gov/medications-substance-use-disorders

[45] SAMHSA. *Federal Guidelines for Opioid Treatment Programs*. HHS Publication No. (SMA) PEP15-FEDGUIDEOTP. 2015, https://store.samhsa.gov/sites/default/files/pep15-fedguideotp-federal-guidelines-for-opioid-treatment-programs.pdf

Pros and Cons of MAT Modalities[46]

MAT Modality	Pros	Cons

Methadone	• Easy induction from active use
	• Lower medication cost but program fees vary
	• Best medication for retaining patients in treatment at 12 months (~80%)
	• Lowers drug use and criminal activity
	• Treatment of choice for pregnant women
		• Requires early morning daily dosing
		• Many states and rural areas have limited access
		• Programs are targeted by drug dealers
		• Patients often combine benzodiazepines and other medications to get "high" on a regular dose
		  ○ i.e., patients "nodding out
		  ○ Can lead to overdose (esp. first 2 weeks)
		• Can cause medical complications (arrhythmias)
		• Patients face more stigma

Buprenorphine	• Greatly reduces overdose risk
	• Very good pain control when dose every 6 hours
	• Can be prescribed like any other medication
	• Often monitored in prescription monitoring programs (PMPs)
	• May produce better outcomes than methadone for pregnant women and newborns
	• Somewhat less stigma
		• Patients must be in withdrawal to take first dose
		  ○ Can precipitate withdrawal if taken too soon
		  ○ As a result, some patients struggle to start
		• Has street value and can be sold
		• Patients can intentionally space out doses and use opioids in between
		• Some people inject it (despite abuse deterrence)
		• Tapering may be more difficult than with other MATs

Naltrexone	• Patients no longer fear going into withdrawal • Blocks opioid use of any kind ○ 50% of patients "test" the blockage initially and quickly extinguish use • Can be given as monthly injection (Vivitrol) to ensure adherence and block relapse • Injection has 2 times retention as oral treatment • Less stigma • Does not require tapering	• Most difficult induction, requires 3-10 days of abstinence: patients must detox, often drop out • May be difficult to find providers • Many insurers don't reimburse • Lowers tolerance: if patients stop medication they could overdose if relapse • No pain relief and should be stopped for surgery

[46] William, Robin. "The Pros and Cons of MAT." Microsoft PowerPoint file. https://s3.amazonaws.com/medicallyassistedtreatment/presentations/The+Pros+and+Cons+of+MAT.pdf

MAT Legislation
Methadone is classified as a Schedule II drug in the Controlled Substance Act (CSA) Scheduling by the Drug Enforcement Administration (DEA). "Practitioners wishing to administer and dispense methadone for maintenance and detoxification treatment must obtain a separate DEA registration as a narcotic treatment program (NTP) in addition to the approval and certification of the Center for Substance Abuse Treatment (CSAT) with SAMHSA and the state methadone authority."[47] **Buprenorphine** is classified as a Schedule III drug in the CSA. Beginning in 2023, the Drug Addiction Treatment Act (DATA) wavier was eliminated and all practitioners who have a current DEA registration number may now prescribe buprenorphine for OUD. Additionally, beginning June 27, 2023, practitioners applying for a new or renewed DEA registration will need to attest to having completed at least 8 hours of training, either through academic coursework on managing patients with opioid or other SUD; or continuing education credits through a certified association.[47] **Naltrexone** is not considered a controlled substance by the DEA and "can be prescribed and administered by any practitioner licensed to prescribe medications."[48]

The American Society of Addiction Medicine (ASAM) states that "for most patients with an OUD, the use of medications (combined with psychosocial treatment) is superior to withdrawal management (combined with psychosocial treatment), followed by psychosocial treatment on its own."[49] Numerous clinical studies suggest that "both methadone and buprenorphine maintenance treatments are superior to withdrawal management alone and significantly reduce illicit opioid use."[49] When buprenorphine is combined with Naloxone, it can decrease the chance of diversion or misuse.[50] The evidence suggests the extended-release injectable naltrexone (XR-NTX) administered once monthly can be effective (though there have been few studies conducted).[49] Interestingly, XR-NTX initiated prior to release from controlled environments (i.e., jails, prisons, residential rehabilitation programs) may prevent a return to opioid use after release and increase treatment engagement.[51]

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[47] Drug Enforcement Administration. *Practitioner's Manual: An Information Outline of the Controlled Substances Act*. Revised 2023, https://www.deadiversion.usdoj.gov/GDP/(DEA-DC-071)(EO-DEA226)_Practitioner's_Manual_(final).pdf

[48] SAMHSA. "Naltrexone." September 2023, https://www.samhsa.gov/medications-substance-use-disorders/medications-counseling-related-conditions/naltrexone

[49] ASAM. *National Practice Guideline for the Treatment of OUD*. 2020, https://downloads.asam.org/sitefinity-production-blobs/docs/default-source/guidelines/npg-jam-supplement.pdf

[50] SAMHSA. "Buprenorphine." September 2023, https://www.samhsa.gov/medications-substance-use-disorders/medications-counseling-related-conditions/buprenorphine

[51] SAMHSA. *Medications for Opioid Use Disorder*. Treatment Improvement Protocol (TIP) Series 63 Publication No. PEP21-02-01-002. 2021, https://store.samhsa.gov/sites/default/files/pep21-02-01-002.pdf

SAMHSA's Evidence-based Practices Resource Center "provides communities, clinicians, policy-makers, and others with the information and tools to incorporate evidence-based practices into their community or clinical settings."[52]

MAT does have downsides too because it may require daily clinic visits for methadone, cause physical dependence, and cause unpleasant or serious side effects. The ASAM states that "the choice among available treatment options should be a shared decision between the clinician and the patient" while taking into consideration a patient's clinical history and preferences.[53]

Treatment Best Practices

Based on research, the National Institute on Drug Abuse collected a list of best practices for substance use disorder treatment:[54]

1) The importance of understanding addiction as a "complex, but treatable disease that affects brain function and behavior."
2) "No single treatment is appropriate for everyone."
3) "Treatment needs to be readily available."
4) "Treatment must address the individual's substance use and any associated medical, psychological, social, vocational, and legal problems" as well as be appropriate to the individual's "age, gender, ethnicity, and culture.
5) "Remaining in treatment for an adequate period of time is critical. With research indicating that individuals need at least 3 months in treatment and that the best outcomes occur with longer durations of treatment."
6) "Medications are important element of treatment for many patients, especially when combined with counseling and other behavioral therapies." These can include individual, family, or group counseling to build skills, improve relationships, and maintain abstinence.
7) "An individual's treatment and services plan must be assessed continually and modified as necessary to ensure that it meets his or her changing needs."
8) "Treatment does not need to be voluntary to be effective."
9) "Drug use during treatment must be monitored continuously, as lapses during treatment do occur."
10) "Treatment programs should test patients for the presence of HIV/AIDS, hepatitis B and C, tuberculosis, and other infectious disease as well as provide targeted risk-reduction counseling, linking patients to treatment if necessary."

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[52] SAMHSA. "Evidence-based Practices Resource Center." https://www.samhsa.gov/resource-search/ebp?keys=opioid&sort_bef_combine=field_rc_publication_date_DESC&items_per_page=50

[53] ASAM. *National Practice Guideline for the Treatment of OUD*. 2020, https://downloads.asam.org/sitefinity-production-blobs/docs/default-source/guidelines/npg-jam-supplement.pdf

[54] National Institute on Drug Abuse. "Principles of Drug Addiction Treatment: A Research-Based Guide (Third Edition)." Jan. 2018, https://nida.nih.gov/sites/default/files/podat-3rdEd-508.pdf

The first stage of treatment usually begins with detoxification and medically managed withdrawal. Detoxification is the is the process by which the body clears itself of drugs; and medically managed withdrawal is using medications administered by a physician in an inpatient or outpatient setting to assist with the unpleasant and potentially fatal side effects.[55] And yet, "detoxification alone does not address the psychological, social, and behavioral problems associated with addiction and therefore does not typically produce lasting behavioral changes necessary for recovery."[55] Formal assessment and referral to drug addiction treatment should be the next step.

Residential treatment can either be long-term or short-term. Long-term residential treatment "provides care 24 hours a day, generally in non-hospital settings"[55] with lengths of six to twelve months. Treatment is highly structured, where residents examine damaging beliefs, self-concepts, and destructive behaviors and adopt new coping skills and positive habits. They also offer support services (i.e., employment training) on site. Short-term residential treatments "provide intensive but brief treatment based on a modified 12-step approach"[55] with a three-to- six-week hospital stay followed by outpatient therapy and then participation in a self-help group.

Outpatient facilities are the next step in the process and can vary in intensity from offering drug education while others "can be comparable to residential programs in services and effectiveness."[55] Group counseling may be a component in addition to treating patients with other mental health problems as a part of their drug treatment.

Treatment, not Substitution[55]

Because methadone and buprenorphine are themselves opioids, some view these treatments as substitutions of one addictive drug for another. But taking these medications as prescribed allows patients to hold jobs, avoid crime, and reduce their exposure to HIV and Hepatitis C by stopping or decreasing injection drug use or other risky behavior. Patients stabilized on these medications can also engage more readily in counseling and other behavioral interventions essential to recovery.

Finally, community organizations can offer recovery services in the form of peer support services for social and emotional support and community resources to housing, employment, and child care.

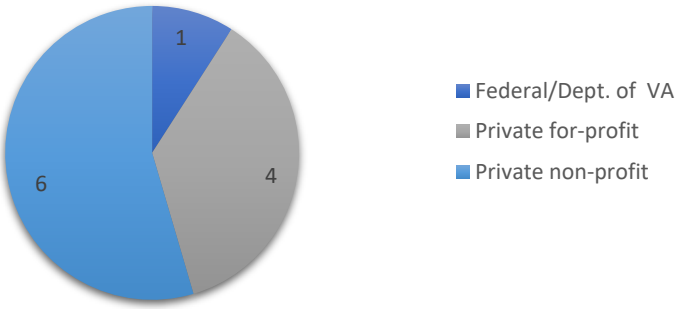
[55] National Institute on Drug Abuse. "Principles of Drug Addiction Treatment: A Research-Based Guide (Third Edition)." Jan. 2018, https://nida.nih.gov/sites/default/files/podat-3rdEd-508.pdf

Treatment in Bay County

Treatment options in Bay County are scarce. In 2023, there are three facilities that provide 'substance use' services in Bay County in SAMHSA's Treatment Locator.[56] Adding the 'mental health' category expands the number to six facilities. At the time of the search, there was only one facility – Recovery Pathways, LLC. that offers MAT services. However, in a later stakeholder interview, it was revealed that Sacred Heart Rehabilitation Center will be offering MAT services beginning in mid-December 2023. There are no residential facilities located in Bay County.

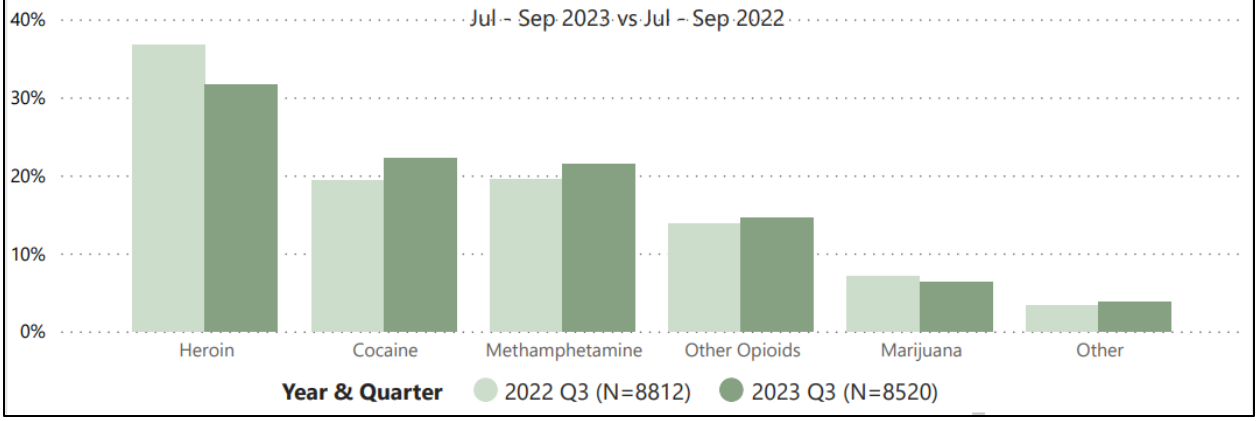
However, if a search for 'substance use' services is expanded to a 25-mile radius, there are five additional outpatient facilities that offer MAT services, mostly residing in Saginaw County. There are only two facilities in Saginaw that offer short-term and long-term residential services.

SAMHSA-Recognized Substance Use Services within a 25-mile Radius of Bay County[56]



In terms of treatment utilization in Michigan, heroin remains the most common substance used by patients entering Publicly Funded SUD treatment.[57]

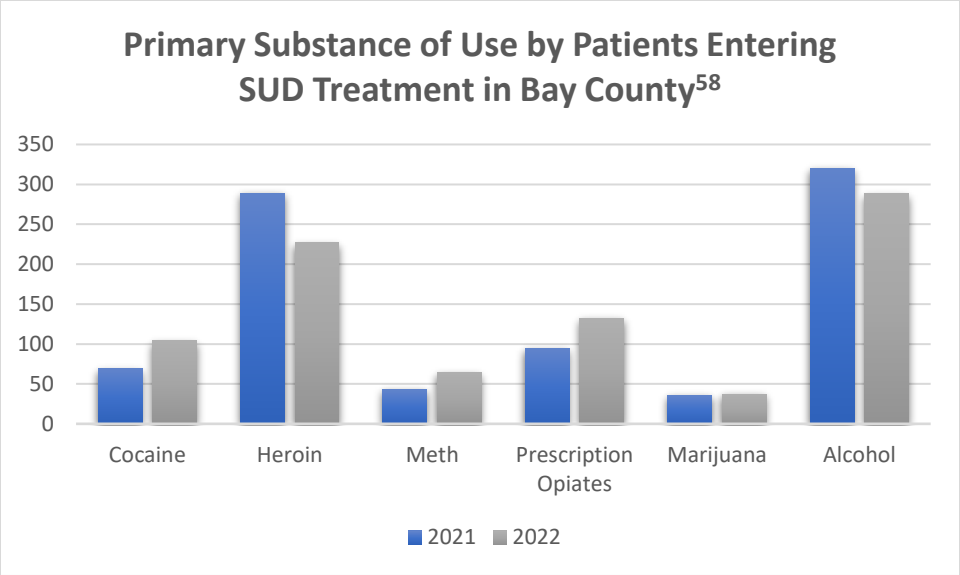
Figure 14. Drugs Self-Reported as Primary Substance of Use by Patients Entering Publicly Funded SUD Treatment (%), (TEDS)



[56] SAMHSA's Treatment Locator. https://findtreatment.gov/locator

[57] MDHHS. *Michigan Monthly Overdose Update Report*. MDHHS Treatment Episode Dataset. December 2023.

Besides alcohol, heroin is the most common substance used by patients entering publicly funded SUD treatment in Bay County.[58] Cocaine, methamphetamines, and prescription opiates increased from 2021 to 2022.[58]



Treatment Referral by the Criminal Justice System

Those with a substance use disorder often come in contact with the criminal justice system before any other healthcare or social system, which presents an opportunity for intervention.

According to the Bureau of Justice Statistics, it is estimated that approximately half of State and Federal inmates have a drug addiction.[59] Efforts have been made by the criminal justice system to refer offenders to treatment through "diverting non-violent offenders to treatment; stipulating treatment as a condition of incarceration, probation, or pretrial release; and convening specialized courts, or drug courts, that handle drug offense cases."[59] Essentially, drug courts offer an alternative to incarceration. "Treatment and criminal justice personnel work together on treatment planning – including implementation of screening, placement, testing, monitoring, and supervision – as well as on the systematic use of sanctions and rewards."[59] There is evidence that "individuals who enter treatment under legal pressure have outcomes as favorable as those who enter treatment voluntarily" and those "under legal coercion tend to stay in treatment longer and do as well or better than those not under legal pressure."[59] By combining criminal justice interventions with drug treatment, this can decrease substance use and associated crime.

[58] Michigan Behavioral Health Treatment Episode Data Set, BHDDA/MDHHS, 2021-2022. https://mi-suddr.com/blog/2018/09/26/teds/

[59] National Institute on Drug Abuse. "Principles of Drug Addiction Treatment: A Research-Based Guide (Third Edition)." Jan. 2018, https://nida.nih.gov/sites/default/files/podat-3rdEd-508.pdf

According to Michigan law, there are a number of criteria that determine whether a person is eligible to enter a drug treatment court, but typically in most counties, substance use offenders:[60]

- Must not be a violent offender (i.e., charged or guilty to the death or serious bodily injury to any individual, or any criminal sexual conduct of any degree).
- Must plead guilty or must admit responsibility (in the case of a juvenile) for the violation(s) they are accused of committing
- Must link the offense to drug or alcohol use
- Must be a resident of the county in which the offense was committed

The Bay County Recovery Court receives funding from the Michigan Drug Court Grant Program through the Michigan Supreme Court's State Court Administrator Office, which provides criteria that must be met to be eligible to receive funding. Interestingly, the more severe the offense level (based off of the Michigan Sentencing Guidelines), the more eligible an individual becomes to participate in the drug court program (assuming it meets the state criteria: MCL 600.1060 through MCL 600.1084). For example, if an individual's sentencing falls into either an 'intermediate cell' or 'prison cell' category, they are typically eligible. This is in contrast to someone who may be a young offender and have a less severe offense level (i.e., a sentencing of 0-9 months). Ultimately, the Prosecutor's Office has the final say in whether an offender can participate in the recovery court program or not, due to their ability to "veto" an applicant.

Though admission into the program is voluntary, treatment is "court-ordered" or required. After cases are screened for eligibility, participants spend approximately 20-36 months in Bay County's Recovery Court program, as a condition of their probation. The program partners with Recovery Pathways, LLC. to provide evidence-based substance use treatment (MAT and counseling) and wraparound services. Participation also includes random drug screening, home visit compliance checks, rewards, and consequences for poor behavior. They provide referrals to TRICAP and other programs outside of the county too. TRICAP[62] is a probation residential center, located in Saginaw County, offering alternative placement to jail or prison. Residents receive support, educational services, and 24-hour supervision. TRICAP is not dependent on a person's charge and if they score moderate-to-high on the substance use scale on the COMPASS assessment, they are eligible. Their opioid program is 150-180 days and includes a minor mental health component. Participants may or may not be on MAT. The program includes access to yoga, Pilates, and gym equipment with off-site access to NA groups.

In 2022, there were 33 cases screened for participation and 23 defendants participating in the Bay County Recovery Court Program.[61] There have been 34 participants who have successfully completed (graduated) the program since its inception in 2011.[61]

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[60] Michigan Code of Laws (MCL). MCL 600.1060 through MCL 600.1084, https://www.legislature.mi.gov/(S(d112g2ko4n4sxg3bcyesng5v))/documents/mcl/pdf/mcl-236-1961-10A..pdf

[61] Bay County Recovery Court. Program Data. 2011-2022

[62] TRICAP. https://www.tricap.net/

Secondary Prevention – Treatment Findings

> ***Finding 1:*** *Individuals with opioid use disorder seek treatment after a perceived traumatic event or circumstance; however, there are missed opportunities that could be leveraged for harm-reduction programs or referral to treatment services.*

Many interviewees stated that individuals seek treatment after a perceived traumatic event or life circumstance. For example: the first time sitting in jail, a desire to avoid prison, possibility of losing custody of their children, loss of a friend or family member to an overdose, their own experience with a non-fatal overdose, admitting a loss of control over their life, or an exhaustion of their current lifestyle. While each individual has a different perception of what a traumatic event is, interviewees mentioned that some may have to lose everything in their life before they seek help and even still, some may not want to quit their substance use at all.

Interviewees pointed out that there are simply not enough opportunities to interact with the using community either through harm-reduction approaches or after a life-threatening event. Some interviewees stated individuals who arrive at the Emergency Department inconsistently receive resources or referrals to care. Others shared how Bay County does not have a Naloxone Leave Behind Program, where EMS personnel leave behind extra Naloxone kits with the patient, family and friends, or bystanders at the scene of an overdose. Many other surrounding counties already have this implemented. Despite efforts to have Naloxone kits available at some agencies, interviewees stated that they should be more widely available, especially in places perceived less threatening and in areas more commonly visited in the county.

Furthermore, Bay County does not have a Safe Syringe Program (SSP). Though perceived as controversial, there is evidence that they are safe, effective, cost-saving, do not increase illegal drug use or crime, and play an important role in reducing viral hepatitis, HIV, and other infections.[63, 64] SSPs have been around since the 1980s as a way to reduce the transmission of HIV and Hepatitis C viruses. SSPs can be an effective community-based secondary prevention strategy that provides access to and disposal of sterile syringes and injection equipment, vaccinations, testing, wound care, distribution of harm reduction supplies (fentanyl test strips, naloxone kits, etc.), and referrals to infectious disease care and SUD treatment. One study[65] claimed that overdose rates increased with the introduction of SSPs; however, another study[66] debunked that claim due to the original study design suffering from an ecological fallacy, exposure misclassification, and inauthentic associations.

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[63] Aspinall, Esther J et al. "Are needle and syringe programmes associated with a reduction in HIV transmission among people who inject drugs: a systematic review and meta-analysis." International journal of epidemiology vol. 43,1 (2014): 235-48. https://academic.oup.com/ije/article/43/1/235/734951

[64] Bernard et al. *Estimation of the cost-effectiveness of HIV prevention portfolios for people who inject drugs in the United States: A model-based analysis*. PLoS Med, 14(5). 2017. https://pubmed.ncbi.nlm.nih.gov/28542184/

[65] Packham, A. *Syringe exchange programs and hard reduction: New evidence in the wake of the opioid epidemic*. Journal of Public Economics, 215 (104733). 2022. https://doi.org/10.1016/j.jpubeco.2022.104733

[66] Lambdin, B.H. et al. *New evidence' for Syringe Services Programs? A call for rigor and skepticism*. International Journal of Drug Policy. Volume 121 (104107) 2023. https://doi.org/10.1016/j.drugpo.2023.104107

SSPs can help reduce opioid-related overdose deaths by providing and teaching individuals how to use naloxone, a medication used to reverse overdose.[67,68] New users of SSPs are five times more likely to enter treatment and about three times more likely to stop using drugs than those who do not use the programs.[69]

Finding 2: Individuals with opioid use disorder who receive adequate support (from friends, family, counselors, etc.) access treatment and are more successful in their recovery. However, there are a lack of family counseling services available.

According to the National Institute of Drug Abuse, "family and friends play critical roles in motivating individuals with drug problems to enter and stay in treatment" and family or a significant other's involvement can strengthen and extend treatment benefits.[70] Interviewees echoed that sentiment as well, sharing that the most successful patients receive enormous family support (which can be hard with all they have endured). Other interviewees talked about how in-person accountability matters, support from a therapist, recovery groups, sober friends, and the court system can all be of benefit. Ultimately, this helps the individual achieve better stability and confidence during the recovery and for the rest of their life.

Despite all of this, interviewees mentioned that family members are typically underequipped (lack of awareness or stigma) to help an individual with OUD find treatment, and equally important, find available family counseling options in the area. SAMHSA's treatment locator reveals little availability of services for family counseling. Nar-Anon Family Groups, which is for relatives of individuals with substance use disorder, have one meeting location in Bay County.[71]

Finding 3: Individuals, family members, and the public have limited or inaccurate information about opioid use disorder treatment and services, including barriers in navigating insurance.

Interviewees commonly shared that most individuals with OUD, family members, and the public have little awareness of or are misinformed about what OUD treatment is, where to go, or how to access it. A few interviewees spoke about how insurance can be a barrier to treatment too.

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[67] Seal, Karen H. et al. "Naloxone distribution and cardiopulmonary resuscitation training for injection drug users to prevent heroin overdose death: a pilot intervention study." Journal of urban health: bulletin of the New York Academy of Medicine vol. 82,2 (2005): 303-11. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2570543/

[68] Leece, Pamela N. et al. "Development and implementation of an opioid overdose prevention and response program in Toronto, Ontario." Canadian journal of public health. vol. 104,3 e200-4. 18 Apr. 2013, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6973908/

[69] Hagan H. et al. "Reduced injection frequency and increased entry and retention in drug treatment associated with needle-exchange participation in Seattle drug injectors", Journal of Substance Abuse Treatment, 2000; 19:247–252. https://www.jsatjournal.com/article/S0740-5472(00)00104-5/fulltext

[70] National Institute on Drug Abuse. "Principles of Drug Addiction Treatment: A Research-Based Guide (Third Edition)." Jan. 2018, https://nida.nih.gov/sites/default/files/podat-3rdEd-508.pdf

[71] Nar-Anon Family Groups. "Find a Meeting." https://www.nar-anon.org/find-a-meeting

There is a belief that detox is a sufficient standalone treatment among those with OUD, family members, and the public, which is likely a misunderstanding of OUD and the idea that once the body is rid of opioids, a person is fully recovered and no further treatment is needed. Many interviewees cited stigma as a big reason why further treatment is avoided. Other cited preferences based upon prior negative experiences of their own or stories from peers. While some stated that individuals feel overwhelmed that they do not know simply where to begin. Stigma can be related to further treatment and/or specific types of treatment modalities, specifically MAT. Some interviewees shared that there is a misperception of MAT being a substitute form of dependency and not a medicine. Although methadone and buprenorphine list physical dependence as a warning to use[72], NIDA states "patients maintained on these medications do not experience a rush, significantly reduce their desire to use opioids, and produce stable levels of activation in the brain."[73] This stability allows individuals to focus on addressing their medical, psychological, and social issues that are essential to recovery. Finally, other health and human service organizations are either not aware of or under-informed of what treatment options are available.

Navigating the health insurance realm of substance use treatment can be daunting and plagued with complexities, with the experience depending on an individual's insurance and situation. Insurance limits, the type of insurance, administrative redundancies, and income of individuals all play a factor in determining which treatment a person may be eligible for and how long they may be able to receive it. One interviewer talked about how "if you do not have kids and you have a job, it may disqualify you from receiving Medicaid" and also commented on how DHHS was not very user-friendly to reach out to for help in navigating treatment options. However, individuals in the criminal justice system with OUD may fair better due to those services being supported by state grant programs.

> ***Finding 4:*** *There is a lack of treatment capacity, unnecessary competition, and inconsistent collaboration among treatment providers.*

The majority of interviewees spoke about the lack of treatment capacity in Bay County and the need for more provider options for treatment, especially a residential treatment facility. There are currently no residential treatment facilities located in Bay County. While there may be options outside of the county, they are usually accompanied by long wait lists. Furthermore, according to the SAMHSA's Buprenorphine Treatment Practitioner Locator, there are only 12 medical professionals authorized to prescribe buprenorphine in Bay County.[74]

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[72] American Society of Addiction Medicine. "The ASAM National Practice Guideline for the Treatment of Opioid Use Disorder." 2020, https://sitefinitystorage.blob.core.windows.net/sitefinity-production-blobs/docs/default-source/guidelines/npg-jam-supplement.pdf

[73] National Institute on Drug Abuse. "Principles of Drug Addiction Treatment: A Research-Based Guide (Third Edition)." Jan. 2018, https://nida.nih.gov/sites/default/files/podat-3rdEd-508.pdf

[74] SAMHSA. "Buprenorphine Treatment Practitioner Locator." 2018, https://www.samhsa.gov/medication-assisted-treatment/find-treatment/treatment-practitioner-locator

While Vivitrol is administered in the Bay County jail to those with alcohol use disorder, there is currently no medication-assisted treatment (specifically pharmacotherapy) administered to individuals with opioid use disorder. As a result, anyone who is lodged in the county jail with an OUD will likely experience withdrawal symptoms that could be fatal. However, Sacred Heart Rehabilitation and a church do provide periodic behavioral support in the jail. Interviewees shared examples of the barriers to administering MAT in the jail, namely that there is a perception that offenders may hide or pretend to take MAT medications, insufficient staff capacity (to administer medications and provide counseling), too stringent of protocols, and limited buy-in from jail staff. Since approximately 63% of inmates have a substance use disorder, 30 states across the country have Jail-based MAT program.[75]

Some interviewees revealed that there is a nature of unnecessary and unhealthy competition among providers in the area for the billable treatment services and less of an effort on collaboration in addressing the opioid crisis as a collective effort. It was revealed that rarely are referrals made to other treatment modalities when an individual either initially arrives for service or later struggling in their recovery. Additionally, health professionals part of larger organizations may be hindered in their efforts to implement new projects, especially if there is little buy-in from upper management or resistance from inter-departmental programs.

> *Finding 5: There is support for court-mandated treatment; however, others have concerns about its effectiveness in reaching all individuals with substance use disorder.*

Interviewees had mixed comments about the current treatment court model. While many stated it can motivate individuals with an OUD to avoid going to prison, others stated that those who are forced to participate may be less committed than those who voluntarily participate. However, one interviewee spoke about how even those that voluntarily go may end up changing their minds at a later point, and how others may try to "game the system" and not be truly committed. Another interviewee affirmed that drug courts can serve as a 'last resort' to divert individuals with more severe offenses from being incarcerated, but this creates a blind spot (or a barrier) in the drug court model for individuals who may be younger or have less criminal history with substance use. This primarily stems from the fact that the grant from the State Administrators Office (SAO) stipulates specific criteria in what can and cannot be funded. Interviewees also shared that the recovery court is expensive and underfunded, even with the funding it receives from the SAO grant, which limits its effectiveness in assisting individuals equitably with their recovery. For example, while the court does provide some wraparound services, the grant is unable to cover help with transportation, clothing, temporary housing, restoration fees, etc.

[75] National Commission on Correctional Healthcare and National Sheriff's Association. *Jail-Based MAT: Promising Practices, Guidelines, & Resources for the Field*. October 2018, https://www.ncchc.org/wp-content/uploads/Jail-Based-MAT-PPG-web.pdf

Secondary Prevention – Treatment Recommendations

> ***Recommendation 1:*** *Increase the number of opportunities to engage with the SUD community, especially after a crisis event, by implementing effective harm-reduction programs, disseminating resources, and providing referrals to treatment.*

While law enforcement and EMS professionals utilize Naloxone in response to opioid overdose calls, first responders should have access to additional assets and resources when they come in contact with the using community. First, the Naloxone Leave Behind Program should be implemented by EMS personnel. Secondly, Bay County should create more 'touch points' to individuals with an OUD after these life-threatening situations. Fortunately, this effort is already underway in Bay County. For example, FAN (Families Against Narcotics) and the Bay City Department of Public Safety developed a quick response team where, once a week, a police officer, a peer coach, and family coach in an unmarked police car visit the locations of where overdoses occurred. Then a week later, FAN follows up to provide harm-reduction services. Expanding the capacity of this team should be considered to increase its reach within the county. Third, naloxone trainings should be conducted more often in community organizations, schools, churches, and businesses. Many agencies do annual employee trainings and integrating a naloxone training into those trainings is recommended. Fourth, expand and invest in more naloxone vending machines (or similar dispensing equipment) placed in locations perceived as less threatening and in places more commonly visited (i.e., gas stations, retail outlets, grocery stores). Fifth, invest and implement a safe syringe program that provides access to and disposal of sterile syringes and injection equipment, vaccinations, testing, wound care, distribution of harm reduction supplies (fentanyl test strips, naloxone kits, etc.), and referrals to infectious disease care and SUD treatment. Finally, emergency departments should increase staff capacity and implement evidence-based programs. For example, Project ASSERT is a nationally recognized approach that utilizes the SBIRT model and recovery coaches to identify and intervene with SUD patients in the emergency department. The coaches can help patients access primary care, treatment services, support groups, counseling, health insurance, etc.

> ***Recommendation 2:*** *Increase the number of family counseling groups and provide more information to family members about opioid use disorder and treatment programs to adequately support their relatives with OUD.*

While some agencies provide family counseling and/or a family coach as a part of an individual's treatment program, the number of family counseling groups should be expanded as well as increasing the capacity of professionals that facilitate those groups. Fortunately, FAN provides monthly forums where anyone can attend to learn about addiction, recovery, and

[76] Bernstein, E et al. "Project ASSERT: an ED-based intervention to increase access to primary care, preventive services, and the substance abuse treatment system." Annals of emergency medicine vol. 30,2 (1997): 181-9. https://pubmed.ncbi.nlm.nih.gov/9250643/

meet with people in similar situations.[77] These meetings should continue to be hosted, accessible, and widely advertised to the public as much as possible. Additionally, publications or helplines should be developed and targeted towards family members of individuals with opioid use disorder who need treatment to more readily access it. Implementing awareness campaigns that demonstrate how family members can support their relatives into treatment could be effective, as well as portraying stories about how friends or family members successfully administered naloxone to save an individual's life.

Finally, the county should invest in and expand efforts to increase "peer navigator" programs, where families and individuals can receive assistance with how to navigate insurance and treatment systems, understand drug addiction, connect them to other resources in the community, and provide tools on how to adjust when someone returns home from treatment.

> ***Recommendation 3:*** *Create highly visible and accessible public awareness campaigns with accurate, easy-to-understand information about treatment options.*

Because most perceptions of treatment stem from incomplete or inaccurate information, it should be a priority to deliver comprehensive, accurate information related to treatment services for opioid use disorder in Bay County. For example, publishing comprehensive resource lists of all available services frequently (either as a part of a campaign or by itself) will ensure that everyone has accurate, accessible information related to seeking treatment services.

Another possible way can involve residents that have previously went through treatment. Familiarizing and personalizing the success stories of those who have undergone MAT can be a powerful tool to dispel fears or misconceptions that potential patients, family members, and the public may have related to MAT. Messaging should explain why and when certain forms of MAT can have side effects, mitigate fears about the medications utilized, and explain why individuals with OUD need a comprehensive, tailored treatment plan after detox. Public education that addresses detox as merely the first step can help patients more easily transition to other services in their recovery journey.

More than 1 in 5 Bay County residents receive Medicaid alone or in combination with another insurance.[78] Information about the services covered by Medicaid (and ideally all forms of insurance) should be made available and readily accessible to alleviate the challenges associated with navigating insurance for OUD treatment. Local, state, and federal representatives should advocate for additional funding to support opioid-related prevention efforts, increased staff capacity at state health and human service agencies, and address the insurance and Medicaid complexities and redundancies to simplify patient navigation.

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[77] 77 Families Against Narcotics. FAN Forums. https://www.familiesagainstnarcotics.org/forums

[78] U.S. Census Bureau. "Public Health Insurance Coverage by Type and Selected Characteristics." American Community Survey, ACS 5-Year Estimates Subject Tables, Table S2704, 2022, https://data.census.gov/table/ACSST5Y2022.S2704?q=health%20insurance20coverage&g=050XX00US26017&moe=true&tid=ACSST1Y2022.S2704

Recommendation 4: Increase treatment capacity and foster greater collaboration among community agencies.

A lack of treatment capacity and collaboration among community agencies impede efforts to effectively address the opioid crisis in Bay County. Thus, a greater effort should be directed to increasing treatment capacity, both in the number of physicians trained in SUD treatment and in the number of treatment facilities or services available. Given the complexity and stigma associated with substance use and addiction medicine, efforts should be made to increase competency in the field, such as, having inexperienced physicians train or mentor under those who have greater expertise in treating those with OUD. For example, the Hub and Spoke Model of service delivery[79] "allows for basic treatment services to be provided in a variety of spoke locations, with the hub providing leadership and OUD treatment expertise," and it can "serve OUD patients more efficiently and effectively while easing the navigation process for treatment services." Fortunately, the model permits young physicians to receive adequate education and support from more experienced physicians as well. Success of the Hub and Spoke model has been demonstrated in Connecticut,[79] Vermont,[80] Louisiana,[81] and Washington.[82]

Interviewees often pointed out that a residential facility is needed in Bay County. Though the financial and liability burden can be high, it should not be immediately discounted. Researching grant and investment opportunities should be explored to determine feasibility. Another option could be to collaborate with nearby counties to either increase the capacity of current facilities in the area; or invest in a larger, regional facility that serves a multi-county population. This approach would alleviate some of the burden of operating such a facility and provide the intensive treatment and attention that individuals may desperately require.

The U.S. Constitution and Michigan state law requires correctional facilities provide all state and federal inmates as well as people in jail waiting for trial with sufficient medical care.[83,84] Despite county jails being required to contract with at one substance use and mental health provider, most interviewees expressed their frustration and acknowledged the current measures in place are inadequate, counter-productive, and have even led to fatal outcomes.

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[79] Community Health Center Association of Connecticut. *Project ECHO*. https://www.chcact.org/about/projectecho

[80] Brooklyn, John R, and Stacey C Sigmon. "Vermont Hub-and-Spoke Model of Care for Opioid Use Disorder: Development, Implementation, and Impact." Journal of addiction medicine vol. 11,4 (2017): 286-292. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5537005/

[81] Elrod, James K, and John L Fortenberry Jr. "The hub-and-spoke organization design: an avenue for serving patients well." BMC health services research vol. 17,Suppl 1 457. 11 Jul. 2017, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5516840/

[82] Reif, S., Brolin, M. F., Stewart, M. T., Fuchs, T. J., Speaker, E., & Mazel, S. B. (2020). The Washington State Hub and Spoke Model to increase access to medication treatment for opioid use disorders. Journal of substance abuse treatment, 108, 33–39. https://doi.org/10.1016/j.jsat.2019.07.007

[83] *Estelle v. Gamble*, 429 U.S. 97 (1976). https://supreme.justia.com/cases/federal/us/429/97/

[84] Michigan Department of Corrections. Policy Directive 03.04.100 - Health Services. January 2023. https://www.michigan.gov/corrections/-/media/Project/Websites/corrections/Files/Policy-Directives/PDs-03-General-Operations/PD-0304-Health-Care/03-04-100-Health-Services-effective-04-12-21.pdf

Fortunately, the National Commission on Correctional Healthcare and the National Sheriff's Association released a resource for jail administrators with best practices and lessons learned from across the country to develop an effective Jail-based MAT program.[85] The value these programs provide may include safe and secure facility for inmates and staff; reduced system costs; and reduce the cycle of arrest, incarceration, and release associated with SUDs.[85] Therefore, a Jail-based MAT program should be advocated for and implemented in Bay County.

Finally, there should be greater collaboration between treatment providers and other health and human service organizations. For example, the Bay County HOPE Coalition and the Bay County Overdose Fatality Review Group are two coalitions that periodically meet to discuss the negative impact of opioids, review data, raise awareness, and implement solutions. Increased participation from agencies across the county in these coalitions is crucial to have greater community buy-in to solve the multi-faceted challenges associated with opioid use. Panel discussions or conferences that are free, or low-cost, should be periodically hosted to help educate and encourage support among stakeholders and the public about opioid use disorder.

> ***Recommendation 5:*** *Support the current Bay County Recovery Court Program and expand to innovative models that reach more individuals sooner with a history of substance use involved in the criminal justice system.*

Given that the Bay County Recovery Court Program is currently underfunded, it should receive adequate investment through additional grants, donations, or local government assistance in order to equitably serve all individuals participating in the program. Furthermore, based on interviewee comments, the Bay County court system should research new, innovative recovery court models that serve those with less severe offenses or history of substance use in order to reach more people and prevent future harm and criminality. One example of an innovative model is the New York City Bronx's Overdose Avoidance and Recovery Program. The Chief Administrative Judge and District Attorney established the drug court[86] "as an alternative to incarceration to misdemeanor offenders charged with criminal possession of a controlled substance." This model differs from other court models as there are no consequences for not completing treatment and does not require offenders to plead guilty. If an offender completes the program, their case is dismissed and sealed.[86] If they are not successful, the case is transferred back to the original case processing track without prejudice.[86] NPC Research conducted an independent analysis of the Buffalo, New York Opioid Intervention Court and produced an implementation manual with lessons learned, best practices, and case studies.[87]

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[85] Natl. Comm'n on Correctional Healthcare & Natl. Sheriff's Assoc. *Jail-Based MAT: Promising Practices, Guidelines, & Resources for the Field*, 2018. https://www.ncchc.org/wp-content/uploads/Jail-Based-MAT-PPG-web.pdf

[86] Millan, Lee, Ohlrich, and Sarnoff. "Bronx-Opioid Epidemic Needs Assessment." Columbia University School of International and Public Affairs, 2018. https://www.bronxda.nyc.gov/downloads/pdf/annual-reports/Bronx-Opioid-Epidemic-Needs-Assessment.pdf

[87] Carey, Shannon M., "How to Implement an Opioid Intervention Court." NPC Research, 2021. https://www.nycourts.gov/LegacyPDFS/COURTS/problem_solving/drugcourts/pdfs/Opioid%20Intervention%20Court%20Manual.pdf

Tertiary Prevention – Continuum of Care

This section will address tertiary prevention strategies to reduce the impact of an on-going opioid use disorder or injury from its lasting effects.

Tertiary prevention typically involves[88] "helping people manage long-term, often complex health problems and injuries in order to improve as much as possible their ability to function, their quality of life, and their life expectancy."

Historically, the traditional model for care has been that an individual seeks treatment, completes an assessment, receives treatment, and is successfully discharged over the course of weeks or months.[89] This model has misled physicians and patients with substance use disorders to believe that receiving a single episode of treatment is sufficient and thus lead to lifelong abstinence. However, "clinical experience and studies conducted over several decades confirm that more than half the patients entering publicly funded addiction programs require multiple episodes of treatment over several years to achieve and sustain recovery."[89]

"Continuum of care" refers to a treatment system in which clients enter treatment at a level appropriate to their needs and then step up to more intense treatments or down to less intense treatment as needed.[90] Mee-Lee and Shulman (2003) outlined an effective continuum of care framework:

- "Successful transfer of the client between levels of care, similar treatment philosophy across levels of care, and efficient transfer of client records;"[90]
- "Prompts clinicians to look ahead to the next step in a client's treatment;"[90] and
- "Helps clinicians engage in the treatment planning that is integral not only to the client's ongoing care but also the transition from one level of treatment to the next."[90]

An essential component in providing continuum of care services is case management, which help to ensure people with OUD are able to transition from one level of care to the next, avoid gaps in service, and respond swiftly to the risk or the event of a relapse.[91]

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[88] Institute for Work & Health. "Primary, Secondary and Tertiary Prevention." April 2015, www.iwh.on.ca/what-researchers-mean-by/primary-secondary-and-tertiary-prevention

[89] Dennis, Michael, and Christy K Scott. "Managing addiction as a chronic condition." Addiction science & clinical practice vol. 4,1 (2007): 45-55. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2797101/

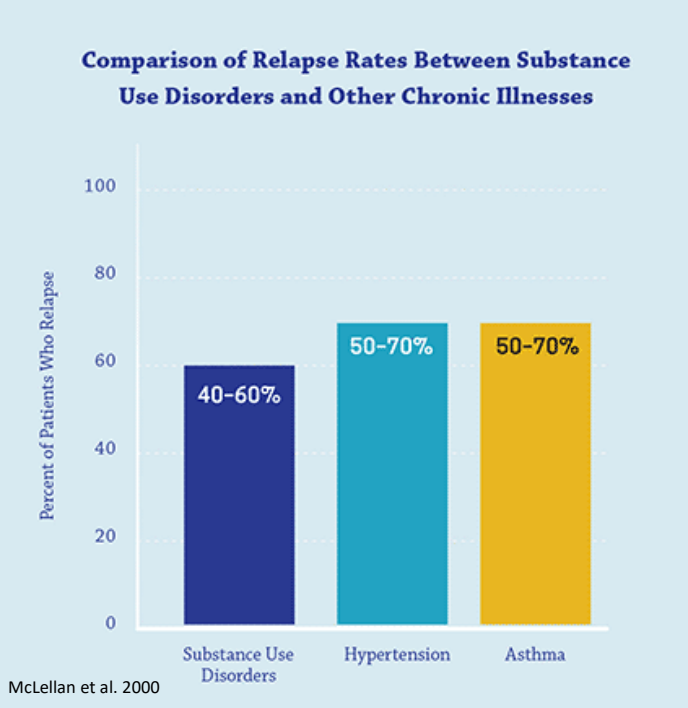
[90] SAMHSA. Substance Abuse: *Clinical Issues in Intensive Outpatient Treatment*. Treatment Improvement Protocol (TIP) Series, No. 47. Chapter 3. Intensive Outpatient Treatment and the Continuum of Care. 2006. https://www.ncbi.nlm.nih.gov/books/NBK64088/

[91] Center for Substance Abuse Treatment. *Comprehensive Case Management for Substance Abuse Treatment*. Treatment Improvement Protocol (TIP) Series, No. 27. HHS Publication No. (SMA) 15-4215. 2000. https://store.samhsa.gov/sites/default/files/sma15-4215.pdf

Tertiary Prevention – Continuum of Care Findings

Finding 1: Opioid use disorder is a chronic, brain disease.

Given the chronic nature of addiction, relapse is usually a part of the recovery process but likely not always understood or communicated. Most interviewees emphasized the lack of awareness and understanding from patients and the public of treating OUD as a chronic, brain disease and that relapse is often a reality. As one interviewee specifically shared, "A part of treatment isn't teaching someone not to relapse, but what to do when you do relapse," which is why a relapse prevention plan is essential to long-term recovery.



Interestingly, relapse rates for substance use are surprisingly similar to rates for other chronic diseases, like those treated for high blood pressure and asthma.[92] Studies indicate that 50% to 70% of adult patients with hypertension and asthma experience recurrence of symptoms each year where they require additional medical care to reestablish symptom remission.[92] Despite the similarity, a significant disparity exists in the level of care an individual with SUD receives in the healthcare system compared to other chronic diseases. Many interviewees expressed their frustration with this inequity of care and stated that the care one receives for SUD must be more comprehensive and without prejudice.

Finally, interviewees mentioned that patients who have a favorable experience with adequate support are more likely to come back after they have a relapsing event and may reenter recovery sooner because they know where and who to reach out to for help. One interviewee echoed that sentiment, "there's something about coming out of treatment, returning to active illness, and remembering that someone treated them with [respect], which creates more motivation [to return to treatment]."

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[92] McLellan, A T et al. "Drug dependence, a chronic medical illness: implications for treatment, insurance, and outcomes evaluation." JAMA vol. 284,13 (2000): 1689-95. https://pubmed.ncbi.nlm.nih.gov/11015800/. Originally found and cited by NIDA. *Drugs, Brains, and Behavior: The Science of Addiction*: https://nida.nih.gov/publications/drugs-brains-behavior-science-addiction/treatment-recovery

Finding 2: While treatment providers typically provide recovery support services, there is insufficient infrastructure in place to help people successfully maintain their recovery.

SAMHSA describes four major dimensions that support a life in recovery: "overcoming or managing one's disease or symptoms while making healthy decisions; having a stable and safe home; having relationships and social networks that provide support; and conducting meaningful activities (i.e., a job, volunteerism, family caretaking, or creative pursuits)."[93]

Nearly all interviewees stressed the need for recovery housing in Bay County. Currently, there are no recovery housing facilities located in the county. Evidence proves recovery housing has been "associated with decreased substance use, reduced likelihood of return to use, lower rates of incarceration, higher income, increased employment, and improved family relationships."[94] Interviewees mentioned that many individuals with OUD do not have a home to go back to or they return to the same environment that contributed to their substance use in the first place, which can trigger stress, trauma, and environmental cues to use again. It was also shared there are a lack of sober activities/events in the county or how individuals may go out drinking with their friends, lowering their inhibitions, and may lead them to use again.

Though there are few substance use treatment providers in Bay County, the ones that do exist typically provide some kind of recovery support services, such as, assistance with obtaining social services; access to recovery coaches; mentoring/peer support; self-help groups; employment counseling or training; and women's specialty programs for pregnant mothers. However, interviewees shared it takes several staff (i.e., 10 to 1 patient) to find, navigate, and refer an individual with OUD to basic services, which can be very time-consuming.

Finding 3: There is insufficient capacity to meet the demand for peer recovery coaches in Bay County, while current staff capacity can be difficult to retain.

A peer recovery coach is someone who "models core recovery values (i.e., tolerance, acceptance, gratitude); the capacity for self-observation, self-expression, sober problem-solving; recovery-based reconstruction of personal identity and relationships; economic self-sufficiency; and positive citizenship."[95] Coaches differ from a 12-step sponsor in that they help "peers in early recovery make choices about which recovery pathway(s) will work for them, rather than urging them to adopt the coach's own program or any specific recovery program."[95]

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[93] SAMHSA. Recovery and Recovery Support: *The Four Major Dimensions of Recovery*. 2023., https://www.samhsa.gov/find-help/recovery

[94] SAMHSA. *Best Practices for Recovery Housing*. Publication No. PEP23-10-00-002. 2023. https://store.samhsa.gov/sites/default/files/pep23-10-00-002.pdf

[95] Center for Substance Abuse Treatment. "What are Peer Recovery Support Services?" HHS Publication No. (SMA) 09-4454. SAMHSA, U.S. DHHS. 2009. https://store.samhsa.gov/sites/default/files/sma09-4454.pdf

In addition to mentoring, the coach may perform a variety of other functions, such as, leading recovery groups; providing services and/or trainings; supervising other peer workers; educating the public and policymakers; administering programs or agencies; and developing resources.[96]

Two systematic reviews of the published literature on the effectiveness of peer-delivered recovery supports concluded that there is a positive impact on participants (Bassuk, Hanson, Greene, Richard & Laudet, 2016; Rief et al, 2014); specifically, those who receive those supports may experience:[97]

- **improved relationship with treatment** (Sanders et al., 1998; Andreas et al., 2010)
- **increased treatment retention** (Mangrum, 2008; Deering et al., 2011; Tracy et al., 2011)
- **increased satisfaction with overall treatment** (Armitage et al., 2010)
- **greater housing stability** (Ja et al., 2009)
- **reduced substance use** (Mangrum, 2008; Kamon & Turner, 2013; Armitage, 2010)
- **reduced re-hospitalization rates** (Min et al., 2007)
- **improved access to social supports** (O'Connell, ND; Boisvert et al., 2008; Andreas et al., 2010)
- **reduce relapse rates** (Boisvert et al., 2008)
- **decreased criminal justice involvement** (Rowe et al., 2007; Mangrum, 2008)
- **decreased use of emergency services** (Kamon & Turner, 2013)

Interviewees shared that peer recovery coaches are highly sought after and proven to be invaluable members of the organizations that employ them and, undeniably, the rest of the community. Several interviewees stated the lack of coaches either employed or accessible in specific organizations are a missed opportunity for a targeted "touch point," or intervention--for example, in middle and high schools, county jails, and emergency departments. Others expressed a desire to expand coaches out in the community to do more proactive (or "street-level") work on harm-reduction strategies or to simply establish a positive connection with an individual with opioid use disorder.

In speaking with the staff at Peer360 Recovery (a community organization comprised entirely of those in recovery), they revealed that coaches are prone to burn-out as a result of them being tasked with many responsibilities because of their unique expertise, at the same time trying to manage their own recovery and personal life.

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[96] SAMHSA. *Peer Support Workers for those in Recovery*. 2023. https://www.samhsa.gov/brss-tacs/recovery-support-tools/peers

[97] Bridging Recovery Supports to Scale - Technical Assistance Center Strategy. "Peers Supporting Recovery from Substance Use Disorders Infographic." SAMHSA. 2017. https://www.samhsa.gov/sites/default/files/programs_campaigns/brss_tacs/peers-supporting-recovery-substance-use-disorders-2017.pdf

Tertiary Prevention – Continuum of Care Recommendations

> ***Recommendation 1:*** *Communicate opioid use disorder is a chronic disease, including expectations related to relapse, to individuals seeking treatment and to those who may be involved in an individual's recovery.*

For many patients, relapse is usually a reality at some point during their treatment and recovery journey. Most interviewees emphasized communicating the importance of treating opioid use disorder as a chronic, brain disease and consequently, managing expectations on the nature of relapse. Thus, it should be a priority to communicate this philosophy to patients, family, and the public. It should also be important to define what success means in treatment and recovery. However, defining success as an "abstinence-only" mindset may dissuade people from seeking treatment in the first place or continuing with their recovery after a relapsing event.

While not an exhaustive list, the table below shows a few instruments that may be used to measure treatment success and the diverse domains in the recovery process.

Potential Measures of Recovery[98]

Instrument Name	Authors	Domains	Number of Items
Modular Survey	Doucette, 2008; Forum on Performance Measurement	Quality of services, perceived outcome improvement, connectedness, commitment to change	21
Recovery Capital Measure	Sterling et al., 2008	Reliance on God and faith; spirituality; recent sobriety; stable income; alcohol/drug-free environment; % of lifetime spent free from the effects of substance use; satisfaction with living situation; amount of education/training	23
Client Assessment Summary	Kressel et al., 2000	Developmental, socialization, psychological, community membership	14
WHOQOL (World Health Organization Quality of Life)	WHOQOL Group	Physical, psychological, social, living environment, independence, spiritual	100

[98] "Environmental Scan of Measures of Recovery." Substance Abuse and Mental Health Services Administration (SAMHSA)/Center for Substance Abuse Treatment (CSAT), 2009. https://www.chestnut.org/resources/c8df8067-f1c5-4d64-93e6-316d607be491/Recovery-percent-20Measures-percent-20Laudet-percent-202009.pdf

Additionally, one treatment provider shared a component of how they measure an effective treatment, by measuring the length of time between the relapsing event and a person's return to treatment. By looking at that gap, they are able to assess how successful a patient is as well as whether they learned valuable skills from their treatment.

Similar to heart disease and diabetes, opioid use disorder is a chronic disease. Therefore, public messaging should be widely distributed through pamphlets or other informational materials and as a part of public awareness campaigns that communicate this issue. For example, incorporating individuals with lived experience with a chronic disease (from heart disease, diabetes, or OUD) could help destigmatize OUD as a chronic disease. This would encourage more people to access treatment and seek support from others.

> ***Recommendation 2:*** *Strengthen current recovery support services while investing in infrastructure to help people successfully maintain their recovery.*

In order to achieve and successfully maintain recovery, individuals in OUD treatment need access to recovery support services and an environment conducive to rebuilding their lives without negative influences or revisiting past trauma. Fortunately, treatment providers in the area offer some, to most, of the type of recovery support services (i.e., education, housing, transportation, and employment assistance) in addition to self-help groups and peer coaches. Existing treatment providers should strengthen and invest in their recovery support services and expand to additional services, if feasible. Since there is currently no recovery housing at all in Bay County, it is highly recommended a facility be invested in and implemented, given the evidence in the research literature of its effectiveness for maintaining a successful recovery.

> ***Recommendation 3:*** *Increase the capacity of peer recovery coaches, with placement in specific environments to better target at-risk populations.*

As mentioned earlier, peer recovery coaches are invaluable and an asset to the community and to those in recovery. It is highly recommended to invest in and increase the capacity of peer recovery specialists in Bay County, especially given the substantial evidence base in the research literature. First, increase recruitment of additional peer recovery coaches. Second, these coaches should be placed in schools, county jails, and emergency departments to serve as a link to treatment services, but also to inspire hope in those who may need it. As one interviewee put it, "[Seeing] one person in recovery could change your life [...] One sober person who has done it [to provide that] glimmer of hope." Finally, research and implement innovative ways for peer recovery coaches to do more proactive work in the community that act as an effective "touch point" with the substance use community.

Appendix 1

Interviews conducted with stakeholders in the county.

Organization	Number of Interviews Conducted with Individuals in the Organization
Bay-Arenac Behavioral Health Authority	2
Bay City Public Safety	2
Bay County Circuit Court	2
Bay County Community Corrections	1
Bay County District Court	2
Bay County Defense Office	1
Bay County Prevention Network	1
Bay County Prosecuting Office	1
Bay County Probate Court	1
Bay County Sheriff	1
Bay County Recovery Court	1
Families Against Narcotics (FAN)	1
McLaren Bay Region	1
Peer360 Recovery Alliance	3
Person in recovery from Recovery Pathways, LLC.	1
Recovery Pathways, LLC.	4
Sacred Heart Rehabilitation Center	1
Total	**26**

Appendix 2

Opioid Interview Questions[99]

1. What are the factors that contribute to opioid abuse in Bay County?

2. What can be done to prevent opioid abuse and overdose?

3. What distinguishes people with opioid use disorder who seek treatment from those who do not?

4. What distinguishes people who have been treated and continue using from those who do not?

5. What opportunities for intervention do you believe are missing?
    a. How can they be addressed?
    b. What about the role of education?

6. In a perfect world, what would be your top priority in addressing the opioid crisis in Bay County?

[99] Interview questions adapted from: Millan, Lee, Ohlrich, and Sarnoff. "Bronx-Opioid Epidemic Needs Assessment." Columbia University School of International and Public Affairs, 2018.

Appendix 3

Interviewees were asked what their top priority would be in addressing the opioid crisis in Bay County. The table below shows what types of priorities they have and what should take place in the county.

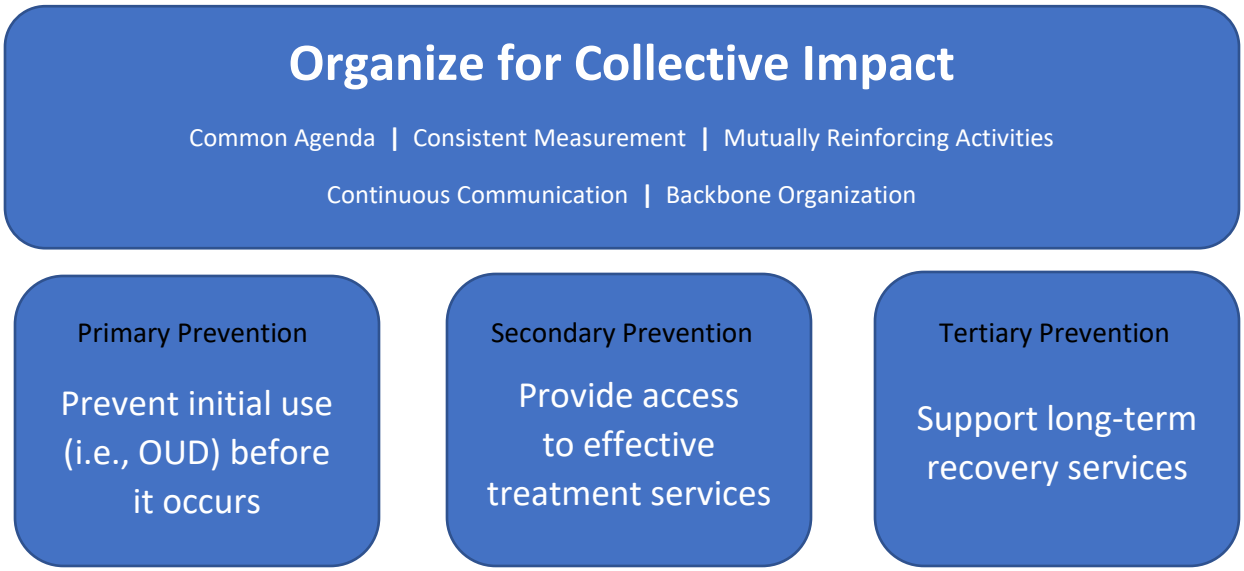
Top Priority Themes

Top Priority	Number of times stated by Interviewees
Increase funding	6
Need for recovery housing	5
Need for an in-patient facility	4
Improve mental health access (services or education)	3
Improve access to transportation/nondiscriminatory transportation	2
Increase the capacity of recovery coaches	2
Educate physicians on opioid medications	1
Implement training to the faith community	1
Increase prevention efforts	1
Improve communication	1
Increase dissemination of information/resources	1
Improve access to social services	1
Implement a medical intervention in the jails	1
Make medication-assisted treatment a priority	1
Improve education in schools	1
Destigmatize medication-assisted treatment	1
Improve collaboration between agencies and systems of care	1

Appendix 4

Collective Impact is a network of community members, organizations, and institutions who advance equity by learning together, aligning, and integrating their actions to achieve population and systems level change.[90,101]

Strategic Framework to Reduce Opioid Use Disorder in Bay County



Create a Common Agenda:

- Shared vision
- Shared definition of the problem
- Agreed upon actions and activities

Apply a consistent measurement:

- Regular data collection and reports
- Efforts remained aligned and hold everyone accountable

Participate in mutually reinforcing activities:

- Activities are differentiated
- But coordinated through a mutually reinforcing plan

Engage in continuous communication:

- Consistent and open communication to build trust, transparency, and strengthen relationships

Identify a backbone organization:

- Dedicated, skilled team
- Plan, manage, and support facilitation and activities
- Data collection and reporting
- Logistical and administrative tasks

[100] Collective Impact Forum. "What is Collective Impact." https://collectiveimpactforum.org/what-is-collective-impact/

[101] Stanford Social Innovation Review. "Collective Impact" 2011. https://ssir.org/articles/entry/collective_impact

Appendix 5

It is important to recognize the way words can hurt, even unintentionally. The table below[102] presents stigmatizing language and the preferred language to use instead to help change the conversation surrounding stigma.

STIGMATIZING LANGUAGE	PREFERRED LANGUAGE
First Person language; Addict	Person with a substance use disorder
Addicted to X	Has a X use disorder
Addiction	Substance use disorder
Alcoholic	Person suffering from alcohol addiction
Clean	In recovery
Clean screen	Substance free
Dirty	Actively using
Dirty screen	Testing positive for substance use
Drug habit	Regular substance use
Drunk	Person who misuses alcohol / Engages in unhealthy/hazardous alcohol use
Former addict	Person in long-term recovery
Habit	Substance use disorder / Drug addiction
Junkie	Person in active use
Reformed addict or alcoholic	Person in recovery
Opioid replacement	Medication assisted treatment
Substance/Drug abuser	Patient
User	Person with OUD or opioid addiction

[102] Michigan. End the Stigma. https://www.michigan.gov/opioids/find-help/stigma/stigma-info/campaign