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AN OVERVIEW OF MICHIGAN'S EFFORTS IN COMBATING THE OPIOID EPIDEMIC

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INTRODUCTION

Opioids are a class of drugs that includes heroin and prescription pain relievers, such as oxycodone (OxyContin), hydrocodone (Vicodin), codeine, morphine, and fentanyl (a synthetic opioid pain reliever), that are derived from opium, the milky fluid of the opium poppy. Although effective in treating pain, opioid pain relievers (OPRs) are highly addictive. The term "opioid epidemic" commonly is used to refer to the prescription drug and opioid abuse, misuse, and overdose deaths that are occurring at an increasing rate in the United States.[1] According to a recent report on preventable deaths from the National Safety Council, in 2017, the likelihood of death caused by an opioid overdose (a 1 in 96 chance) was higher than death caused by a motor vehicle crash (a 1 in 103 chance).

The Centers for Disease Control and Prevention (CDC) estimates that 2,662 Michigan residents and over 70,000 Americans died of a drug-related overdose in 2017, an 8% increase from the previous year statewide and a 6% increase nationwide. (In 2016, 2,376 Michigan residents died of a drug-related overdose, roughly 70% of which were attributed to opioid or heroin use.) Two-thirds of drug overdose deaths in 2016 and 2017 were linked to opioids. Michigan ranked 15th in the nation for drug overdose deaths between 2014 and 2015.[2] In 2016, opioid prescription rates in the State declined after peaking at 98 opioid prescriptions per 100 people; compared to the national average of 78 prescriptions per 100 people), but remained high at 85 prescriptions per 100 people, well above the national average of 66.5 prescriptions per 100 people that year.[3]

Combating the opioid epidemic now is one of the top health-related issues in the United States, as it has had a wide-ranging impact in Michigan and the nation. It has caused dramatic increases in drug-related overdose deaths and the treatment of substance use disorders. This public health crisis has adversely affected virtually all corners of society and the economy, from healthcare to criminal justice to employment, and shows little indication of slowing. Despite increased attention to the epidemic and prescribing practices, drug-related overdose deaths continue to climb and opioid prescription rates remain high.

This issue paper provides a high-level overview of drug dependency and addiction; a brief history of the opioid epidemic; a history of Michigan-specific legislation pertaining to combating the opioid epidemic in the State; a three-year history of substance use disorder and opioid-related appropriations within the Department of Health and Human Services (DHHS), the Department of Licensing and Regulatory Affairs, the Department of Corrections, and the Judiciary; and a comparison of other states' legislative actions in response to the opioid epidemic.

THE SCIENCE OF TOLERANCE, DEPENDENCE, AND ADDICTION

The brain is the most complex organ in the human body, and it controls all of the body's functions. It is made up of networks of billions of neurons (nerve cells), specialized cells that are designed to receive, process, and transmit information to other cells by sending electrochemical signals. Generally, when a neuron receives a message from another neuron, it sends an electrical signal through its axon (nerve fiber). At the end of the axon, the electrical signal is converted into a chemical signal, called a neurotransmitter, which is released into the synapse, the space between the axon of one neuron and the dendrite (a branch-like extension from a neuron) of another neuron. The dendrite then converts the chemical signal back into an electrical signal, the signal travels through the neuron, and then it is communicated to another neuron in the same manner. This process is called "neurotransmission".[4]

Many drugs interfere with neurotransmission by drastically increasing or decreasing the amount of neurotransmitters in the synapse. Some drugs, such as marijuana, heroin, and prescription opioids, activate neurons because their chemical structures are similar to the body's natural neurotransmitters.[5] However, because they are not identical to those neurotransmitters, they do not activate neurons in the same manner as the brain's natural neurotransmitters, which leads to the transmission of abnormal messages throughout the brain.[6] Other drugs, such as amphetamine and cocaine, cause neurons to release abnormally large amounts of natural neurotransmitters, or prevent the natural recycling of these chemicals.[7] For example, cocaine usage results in increased levels of dopamine, a natural neurotransmitter that is located in areas of the brain that regulate movement, emotion, cognition, motivation, and the nucleus accumbens (the brain's reward and pleasure center).[8]

As the OPRs break down and travel through the bloodstream to the brain, they bind to specialized proteins, called *mu* opioid receptors, on the surfaces of neurons.[9] This process triggers the brain's reward center and causes the brain to release dopamine, which produces feelings of pleasure similar to those associated with eating and sexual intercourse. The brain then creates a memory that associates those feelings with the circumstances in which they occur, which can motivate repeated use of the drug for pleasure.[10]

Opioids have a tendency to induce tolerance, which occurs when a person no longer responds to a drug as strongly as he or she did at first, necessitating a higher dose to achieve the same effect.[11] This is why people with substance use disorder must seek more of the drug to get the same kind of "high". Many people who take OPRs every day for an extended period of time become dependent on the medication. This means that when the person stops taking the drug, their body experiences mild to severe physical and psychological symptoms of withdrawal.[12]

Opioid addiction, which is a type of substance use disorder, is defined by a chronic, relapsing, compulsive urge to use OPRs, even after they are no longer medically required, and despite their adverse effects. Although addiction can result from repeated drug use, unlike tolerance and dependence, addiction is classified as a disease because it involves functional changes to brain activity related to reward, stress, and self-control. If left untreated, addiction can last a lifetime and may lead to death. Several factors, such as genetics, psychology, and environment, play a role in addiction.[13] Other known risk factors of opioid misuse and addiction include poverty, unemployment, family or personal history of substance abuse, depression, high-risk environments, and age.

Adolescents may be at a higher risk to experiment with drugs because their brains are still developing, particularly the frontal regions that deal with impulse control and risk assessment.[14] The reward center in an adolescent's brain is more active than in an adult's brain. Research also suggests that dopamine release in response to experience is higher in adolescent brains.[15] This is why children often need more stimulating activities and respond better to positive rewards.[16] Because adolescent brains are still developing, adolescent drug use has a greater potential to disrupt brain function in areas that are critical to motivation, judgment, memory, learning, and behavior control.[17] According to the National Survey of Drug Use and Health (NSDUH), some children begin abusing drugs by age 12 or 13. If the abuse persists into adolescence, these children eventually may use other drugs or illegal substances.

SUBSTANCE USE DISORDER TREATMENT

Research has shown that substance use disorder can be treated successfully and effectively, with relapse rates no higher than those associated with other chronic illnesses.[18] Substance use disorder is classified into three severity categories: mild, moderate, and severe.[19] A mild to

moderate substance use disorder usually can be identified quickly in medical and social settings and often responds effectively to general health care approaches, or to motivational intervention and/or supportive monitoring ("guided self-care").[20] More severe cases of substance use disorder, however, may require specialized treatment. There are several different kinds of treatments and services available to help people with a substance use disorder.

Medication-Assisted Treatment

Using medication to treat a substance use disorder is common. Frequently, this is referred to as medication-assisted treatment (MAT). This model of treatment often uses medication in combination with counseling and behavioral therapies.[21]

Opioid agonists (e.g., methadone, heroin, oxycodone, hydrocodone, morphine, and opium) are drugs that activate the opioid receptors in the brain. Methadone is an opioid agonist that is used to treat substance use disorder. Most opioids are fast-acting and cause an almost immediate period of intense euphoria that wears off quickly and leaves the user craving more of the drug. Methadone is long-acting, which decreases the euphoric effect of opioids, and lessens or eliminates the symptoms of withdrawal.[22] However, methadone can be addictive, so patients taking methadone to treat a substance use disorder must receive the medication under the supervision of a physician.[23]

Buprenorphine is a partial opioid agonist, which activates the opioid receptors in the brain, but to a lesser extent than a full agonist. Buprenorphine also is an opioid antagonist, meaning it blocks opioids by attaching to opioid receptors without activating them. Since buprenorphine is both a partial agonist and an antagonist, it blocks other opioids while allowing for some opioid effect of its own.[24] Like methadone, buprenorphine suppresses cravings and lessens withdrawal symptoms. According to the Substance Abuse and Mental Health Services Administration (SAMHSA), the risk of buprenorphine overdose is low. Originally, buprenorphine could be prescribed only through opioid treatment programs. However, the Federal Drug Addiction Treatment Act of 2000 permits physicians to prescribe buprenorphine in other settings. The substance Abuse and Mental Health Services Administration reports an average of 80% reduction in illicit drug use through buprenorphine treatment.

According to the World Health Organization, opioid overdose deaths are preventable if the person receives basic life support and timely administration of naloxone, an opioid antagonist. Opioid antagonists can reverse the effects of a drug overdose by binding to the opioid receptors with higher affinity than opioid agonists.[25]

This effectively blocks the receptor, preventing the body from responding to opioids and endorphins. The Food and Drug Administration (FDA) has approved three formulations of naloxone: injectable, which requires professional training; autoinjectable (e.g., EVZIO), and nasal spray (e.g., NARCAN).[26] Generic brands of injectable naloxone are available. Naloxone is a fast-acting opioid antagonists, so it is used mainly as a quick response to an overdose. Comparatively, naltrexone (e.g., Vivitrol) is a slow-acting antagonists used to block cravings, and cannot be used for immediate lifesaving rescue.[27] It is preferred for longer-term treatment. In 2015, prescriptions for naloxone were dispensed at a rate 12 times higher than in 2013.[28] According to the Prescription Drug Abuse Policy System, as of October 2018, all 50 states have naloxone access laws.

Counseling and Behavioral Therapy

Counseling and behavioral therapy can be provided at the individual or group level. These therapies focus on reducing or stopping substance use, and helping patients modify their attitudes

and behaviors related to drug abuse.[29] Some common therapies include cognitive-behavioral therapy, motivational enhancement, 12-step facilitation therapy, and motivational incentives.

BRIEF HISTORY OF THE OPIOID EPIDEMIC

Pre-Civil War

Opioids are derived from opium, a highly addictive, nonsynthetic narcotic extracted from the seedpods of the opium poppy and made into a liquid, powder, or solid. For thousands of years, opium has been known to relieve pain, and it was used as a surgical analgesic. Opium use can be traced back as far as 3,400 BC. Sumerians, who inhabited southern Mesopotamia, cultivated opium poppies and referred to them as "the joy plant".[30] Opium cultivation also has been recorded in Ancient Greece, Persia, and Egypt.

The abuse of opioids, including prescription painkillers, has been a recurring issue throughout much of America's history. In the 1700s and 1800s, laudanum, a tincture of opium, was a common remedy for many maladies, such as cough, epilepsy, insomnia, and "hysteria".[31] During the American Revolution, opium was used to treat sick and wounded soldiers. It is reported that Benjamin Franklin used opium to cope with severe pain from a bladder stone, Alexander Hamilton was given laudanum following his duel with Aaron Burr, and Mary Todd Lincoln took opium for headaches and became addicted.[32]

Civil War

Following the Civil War, the United States experienced an opioid epidemic similar to the one it is facing today. The Union Army issued approximately 10 million opium pills and over 2.9 million ounces of opioid powders and tinctures to its soldiers.[33] Reportedly, many soldiers who survived the war returned home addicted to opium, a condition which was termed the "army disease". Many people attribute this and the use of hypodermic syringes, which allowed for the quick and effective delivery of morphine, as the cause of the mass drug addiction in the United States during that time. Because they were the most reliable drugs at the time, opium and morphine were used extensively during the Civil War as pain relievers, and for treating a range of other disorders, including dysentery, stomach aches, gallstones, headaches, hemorrhoids, tetanus, typhus, and syphilis.[34]

The Medical and Surgical History of the War of the Rebellion, 1861-65, a report submitted to the Surgeon General, recorded accounts of wounds and diseases encountered by surgeons in the field. From this report, it is clear that opium and morphine were used extensively.[35] However, there are no recorded incidents of addiction, and that category of disease is not included in the report. A book titled the *Book of Prescriptions*, published in 1865, does note that "taken continually in small doses, [opium] causes a kind of intoxication".[36] The term "addiction", however, did not exist in the mid-19th century, and the term was used mainly to describe bad habits or vices.[37] It was not until about three decades after the Civil War that people began recognizing that an opium "habit" had occurred. America's opioid epidemic did not disappear after the war. Between the 1870s and the 1880s, the per capita consumption of opiates reportedly tripled.[3839]

Research suggests that the opioid epidemic of the late 1800s was similar to the today's crisis. The number of per capita opioid addicts was three-times that of the mid-1900s.[40] Between half and two-thirds of addicts in the late 1800s were women. Opioid use escalated again in 1898 when Bayer started production of heroin on a commercial scale. It could be obtained without a prescription and was commonly used to treat influenza and respiratory illnesses.

Twentieth Century

In the 1900s, the post-Civil War opioid epidemic subsided when laudanum, morphine, and other opium-based drugs became harder to obtain. In 1906, Congress passed the Pure Food and Drug Act, which required medications to be sold according to certain standards, and required ingredients, such as opium, to be clearly listed on the label.[41] Access to opium medications and supply became increasingly restricted when Congress passed the Harrison Narcotics Tax Act in 1914.[42] The Act required those who manufactured, imported, or sold any derivative of opium or coca leaves to be registered with the Federal government. By the 1920s, doctors were aware of the highly addictive nature of opioids and scaled back on prescribing them, except for more extreme cases. Heroin became entirely illegal in 1924. Additionally, cocaine and heroin were much more expensive in the 1920s, and during the Great Depression, people had less disposable income for illicit drug habits.[43] Opioid use declined until 1970, when it increased to epidemic proportions again.

Throughout the 1960s and 1970s, physicians were taught to prescribe opioids only for the most severe forms of pain. However, heroin use surged during that period, which mainly is attributed to the Vietnam War.[44] The 1960s and 1970s also are synonymous with the counterculture movement started by a group of mostly young, middle-class, white Americans who began challenging mainstream values, and rejected the traditional culture and conventional social norms of the 1950s. This movement was characterized by rock music, antiwar sentiment, and the use of recreational drugs, such LSD (lysergic acid diethylamide), cannabis, heroin, and cocaine.

The Comprehensive Drug Abuse Prevention and Control Act of 1970 was passed to address the inadequacies of Federal law pertaining to illegal use of legally-manufactured drugs.[45] The Act contains three different titles: Title I established rehabilitation programs for drug abusers; Title II, more commonly known as the Controlled Substances Act, established a comprehensive framework for registering, reporting, and prescribing; and Title III addressed issues related to the importation and exportation of controlled substances. Table 1 below provides an overview of Federal controlled substance schedules along with examples of opioids contained in those classes.

Table 1

Federal Controlled Substance Classifications		
Schedule	**Criteria**	**Examples of Opioids**
I	- no currently accepted medical use - high potential for abuse	heroin
II	- high potential for abuse - use may lead to severe psychological or physical dependence	methadone, pethidine/meperidine (Demerol), hydromorphone (Dilaudid), oxycodone (OxyContin), fentanyl, codeine (alone)
III	- moderate to low potential physical and psychological dependence - less addictive	codeine (in products containing 90 mg or less per dosage unit)
IV	- low potential for abuse - low risk of dependence	tramadol (Ultram)
V	- lower potential for abuse than IV - substances that contain limited quantities of certain narcotics	codeine (in cough suppressants containing 200 mg or less)

Source: Drug Enforcement Administration

In 1971, President Richard Nixon publicly declared war on drugs, and declared drug abuse "public enemy number one".[46] Two years later, according to the history of the Drug Enforcement Administration (DEA), he signed an Executive Order that created the DEA by merging the Bureau of Narcotics and Dangerous Drugs, the Office for Drug Abuse Law Enforcement, the Office of National Narcotics Intelligence, parts of the United States Customs Services dealing in drug trafficking intelligence and investigations, and the Narcotics Advance Research Management Team. The newly-created executive agency was tasked with enforcing controlled substances law and regulations in the United States.

A letter printed in the *New England Journal of Medicine* in 1980 challenged the idea that using opioids to treat pain was risky. Hershel Jick, a doctor at Boston University Medical Center, used hospital records to monitor drug side effects, and took an interest in addiction. In his letter, he wrote that "the development of addiction is rare in medical patients with no history of addiction".[47] Similarly, Dr. Russell Portenoy studied 38 patients treated with opioids for noncancer pain, and found that, although two-thirds had issues with addiction, "opioid maintenance therapy can be a safe…alternative" to surgery or to not treating chronic pain.[48] In the 1980s, pain frequently was treated with opioids. For example, propoxyphene, a narcotic pain reliever and cough suppressant, was the second-most dispensed drug in the country.[49]

By the 1990s, opioid prescribing practices had changed, as many patient advocacy groups and pain specialists, with help from pharmaceutical companies, began arguing that doctors were undertreating pain that could be treated with opioids.

In 1996, the rate of opioid use increased rapidly, which largely is attributed to the introduction of OxyContin the previous year.[50] Between 1996 and 2002, Purdue Pharma, the manufacturer of OxyContin, launched an advertising campaign encouraging long-term use of opioid pain relievers for chronic noncancer pain. It also provided financial support for several professional organizations, such as the American Pain Society, the American Academy of Pain Medicine, and the Federation of State Medical Boards, which, in turn, advocated for more aggressive identification and treatment of pain.[51] Before the introduction of OxyContin, many medical providers were reluctant to prescribe opioids for pain relief out of concerns about addiction, tolerance, and physiological dependence. To combat this, many physician-spokespersons for opioid manufacturers emphasized the difference between addiction and physical dependence.

Between 1997 and 2002, OxyContin prescriptions increased from about 670,000 to 6.2 million.[52] The increase in prescribing OPRs subsequently led to widespread diversion (when one person's lawfully-prescribed medications are obtained or used illegally by another person) and misuse of these medications. These factors are believed to have caused the rise in opioid consumption over the past three decades.[53]

From 1999 to 2008, overdose death rates, OPR sales, and substance use disorder treatment admissions increased in parallel: the overdose rate in 2008 was almost four times greater than in 1999; sales of OPRs in 2010 were four times greater than those in 1999; and the substance use disorder treatment admission rate in 2009 was six times greater than the 1999 rate.[54]

Modern Epidemic

According to the National Survey on Drug Use and Health (NSDUH), in 2012, an estimated 2.1 million Americans were addicted to OPRs, and roughly 467,000 were addicted to heroin. An additional 2.5 million were patients who could have been suffering from an opioid use disorder (The NSDUH does not include individuals who receive valid opioid prescriptions). In 2014, the

NSDUH found that an estimated 1.9 million people had an OPR disorder, lower than the rates from 2000 to 2012, but similar to 2013. In 2016, an estimated 2.1 million Americans were addicted to OPRs, and 600,000 were addicted to heroin. The CDC estimated that rate of drug overdose deaths in 2016 was 21% higher than the rate in 2015.

In 2015, President Barack Obama announced Federal, state, local, and private sector efforts aimed at addressing the opioid epidemic. The same year, the Secretary of the United States Department Health and Human Services announced an initiative targeting three key areas to address the opioid epidemic, including improving prescribing practices, expanding access to and the use of medication-assisted treatment, and expanding the use of naloxone.[55]

Heroin overdoses reportedly tripled between 2010 and 2015, and some researchers attribute this rise to users transitioning from prescription opioid to more potent and cheaper alternatives.[56] Additionally, in 2010, OxyContin was reformulated to make it more difficult to crush and abuse by snorting or injecting it, although the original formulation's contribution to the rise in heroin overdoses is contested.[57]

In March 2016, the CDC published its Guidelines for Prescribing Opioids for Chronic Pain, which was designed to improve patient care and safety and to prevent future opioid overdoses. Among other things, the guidelines recommend nonopioid therapy for chronic pain. If opioids are used, the Guidelines recommend prescribing the lowest possible dose to reduce the risks of dependence and overdose; prescribing immediate-release opioids, instead of extended-release and long-acting opioids; evaluating risk factors for opioid-related harms; and reviewing patients' prescription histories using state prescription drug monitoring programs.[58]

The Comprehensive Addiction and Recovery Act[59] and the 21st Century Cures Act,[60] both passed in 2016, allocated $181 million and $1 billion, respectively, for expanded treatment and prevention programs. In 2017, the Department of Health and Human Services announced the distribution of the first round of grants allocated from the 21st Century Cures Act to all 50 states and the United States territories.

In October 2017, President Donald Trump declared the opioid epidemic a public health emergency. That same year, the President's Council of Economic Advisers released *The Underestimated Costs of the Opioid Crisis,* which estimated that the cost of the opioid epidemic to the United States surpassed $500 billion in 2015, or roughly three percent of the nation's GDP.[61]

The President also created The President's Commission on Combating Drug Addiction and the Opioid Crisis by executive order in 2017.[62] The Commission was tasked with examining the scope of the crisis and exploring ways to combat the growing epidemic. Highlighting the need for Federal funding support, the Commission recommended Federal block grant funding to states for substance use disorder activities and evidence-based treatment programs.

According to the NSDUH, more than one-third of the United States population used prescription opioids in 2016, and approximately 4% reportedly misused them. It was estimated that 3.4 million people misused pain relievers that year, with over 200,000 of them being adolescents. The highest rates of opioid use disorder (OUD) was among adults aged 18-34. Males were more likely than females to have an OUD, whites carried a much higher risk of having an OUD as compared to other racial groups, and groups from lower socioeconomic status were more likely to have an OUD.

MICHIGAN'S RESPONSE TO THE OPIOID EPIDEMIC

Prescription Drug and Opioid Abuse Task Force

In June 2015, Governor Snyder announced the creation of a task force focused on addressing the prescription drug and opioid problem. The Michigan Prescription Drug and Opioid Abuse Task Force was composed of various State lawmakers, government and court officials, law enforcement personnel, medical professional, and other stakeholders.

In October of the same year, the Task Force released its "Report of Findings and Recommendations for Action". Recommendations included requiring additional training for prescribers, eliminating doctor-shopping (seek prescriptions from multiple prescribers in order to obtain more opioids), increasing accessibility to naloxone, updating or replacing the Michigan Automated Prescription System (MAPS) (which tracks the prescription of Schedule 2 to 5 controlled substances), and enhancing licensing sanctions for improper prescribing and dispensing practices. The Task Force also recommended a review of programs and parameters within the Medicaid system and close study of the actions taken by other states to address their own opioid use disorder issues.[63]

Executive Order 2016-15 transferred all authority, powers, duties, functions, responsibilities, and reports of the Task Force, the Controlled Substances Advisory Commission, and the Advisory Commission on Pain and Symptom Management to the Prescription Drug and Opioid Abuse Commission.

The Angel Program Within the Department of State Police

The Department of State Police's Angel Program allows individuals to seek assistance for drug addiction at any of the thirty Michigan State Police (MSP) posts throughout the State. Michigan State Police staff may contact an Angel volunteer, who will meet and work with the individual to locate an appropriate treatment program or facility. The volunteer also agrees to provide transportation to the location in question. Reimbursements to volunteers are paid for from private donations to the Program. The Michigan State Police also has received a grant from the Michigan Department of Health and Human Services to fund an analyst position. As of November 2018, the Angel Program had served 87 participants and had between 100 and 125 volunteers.[64]

Substance Use Disorder Treatment Programs Within the MDOC and Judiciary

Corrections & Judiciary Opioid and Substance-Abuse Programs

A majority of inmates in the United States meet the medical criteria for a drug or alcohol substance use disorder, with estimates ranging from one-half to two-thirds of the nation's incarcerated population.[65] The stretch of sobriety offenders experience during incarceration puts them at a much greater risk of overdose in the two weeks immediately following release. During this period, offenders are 3.5 times more likely to experience a fatal overdose as compared to nonoffenders, which results from lowered tolerance levels and returns to preincarceration substance use habits.[66]

In Michigan, around 55% of incarcerated individuals have a high enough Substance Abuse Subtle Screening Inventory score to warrant substance abuse assessment and treatment.[67] To combat the pervasiveness of substance use disorders throughout the criminal justice system, the

Michigan Department of Corrections and the Judiciary operate substance abuse and treatment programs for offenders in the courts and corrections systems, some of which are specifically targeted at opioids and heroin abuse, and other general substance abuse treatment programs.

Medication-Assisted Treatment

Michigan began the Medication-Assisted Treatment (MAT) Reentry Pilot Program in 2016. The program connects opioid- and alcohol-dependent offenders with pre- and post-release treatment using the injection-based Vivitrol medication. The program is voluntary, and injections are administered once prior to release from custody with an aftercare plan to continue injections in the community. Unlike commonly used opioid-treatment medications, such as methadone, Vivitrol is not an opioid, but a full antagonist blocker that completely binds to the opioid receptor, allowing no dopamine release.[68] Subsequently, an individual feels no physical dependency to the substance or feelings of being drunk or high after alcohol or opioid use, thus reducing the likelihood of relapse. However, overdose is still possible.

The program is operational in four counties: Wayne, Oakland, Monroe, and Macomb. First included in the fiscal year (FY) 2016-17 budget, for FY 2018-19 the program received $500,000 General Fund, and each Vivitrol injection costs approximately $1,000. In 2017, 58 participants received Vivitrol injections upon release, 25 received follow-up injections in the community for at least three months, and four were subsequently returned to prison after receiving injections.[69]

MISSION Model

The Maintaining Independence and Sobriety through System Integration, Outreach and Networking (MISSION) model, or MI-REP, is a pilot program for offenders with co-occurring mental health and opioid use disorders. Implemented in 2017, the program is a joint effort by the MDOC, the DHHS, and the State's Prepaid Inpatient Health Plans (PIHP).

Michigan's MI-REP pilot is one of over twenty similar programs across the country based on the MISSION model, which blends traditional addiction treatment with traditional mental health treatment and provides peer support, vocational support and medication-assisted treatment in prisons and as individuals re-enter the community. The program is available to eligible offenders at the Women's Huron Valley Correctional Facility and the Detroit Reentry Center who are on parole in Wayne, Macomb, and Oakland counties. The MISSION model is funded through a Federal SAMHSA grant.

Substance Abuse Parole Certain Sanctions Program

The Substance Abuse Parole Certain Sanctions Program (SSSPP), formerly known as the Parole Sanction Certainty Program, was created as a pilot in 2016 initially targeting parole violators with a history of opioid and/or methamphetamine substance use disorders.[70] Similar to the Swift and Sure program for probationers, the SSSPP aims to reduce supervision violations with immediate, short-term sanctions, such as substance abuse or mental health treatment, counseling, community service, or short-term incarceration.

The Program was expanded in 2017 when the Parole Sanction Certainty Act was signed into law. The Act establishes a defined system for applying sanctions, standards on informing a supervised individual of his or her conditions and expectations, and it requires the MDOC to implement the Program in additional counties with the most individuals convicted of criminal violations and

subsequently sentenced to incarceration.[71] Funds are distributed to accredited rehabilitation organizations that provide treatment services to parole violators.

Drug Treatment Courts

Michigan's specialty courts are intense, judicially-supervised treatment programs that offer an alternative to the traditional criminal justice system for nonviolent offenders with substance use disorders. The 84 drug treatment courts operating throughout the State are centered on rehabilitating participants, reducing recidivism, and reducing drug-related court caseloads.[72] Offenders average one to three years under the program, and the use of sanctions (e.g., short jail stays) and incentives are applied continuously. A majority of participants receive outpatient treatment services at some point during the program. A 2017 evaluation of Michigan's adult drug treatment courts found that the primary drug of choice among participants was heroin and/or opioids, with nearly 40 percent of participants preferring those substances.[73]

A little over a third of drug treatment courts participants successfully graduated the program, and over half were unsuccessfully terminated. However, all drug treatment courts participants were found to have a reduced likelihood of being reconvicted of a crime within three years of leaving the program. The FY 2018-19 budget appropriated $11,833,000 for drug treatment courts, supported through General Fund, the Drug Treatment Courts Fund, and Federal Byrne Justice Assistance Grants.

Other Substance Use Disorder Related Appropriations

Substance abuse testing and treatment services within the MDOC perform drug testing and treatment to detect and deter drug use among prisoners, parolees, and probationers. Services include drug screenings, residential and outpatient substance abuse treatment within prison facilities, and community-based residential and outpatient treatment services. In 2016, over 600,000 drug tests were administered among prisoners, parolees, and probationers. Approximately 5,600 prisoners over 9,000 parole and probationers received either residential or outpatient substance abuse treatment services.[74]

Michigan Automated Drug Prescription System

Currently, forty-nine states use an electronic prescription tracking system. Commonly referred to as prescription drug monitoring programs, these databases enable authorized users to review data on controlled substances prescribed and dispensed within their state. A 2001 amendment to the Public Health Code (Public Act (PA) 231 of 2001) established MAPS, and it was launched in 2003. The Michigan Automated Drug Prescription System is administered by the Bureau of Professional Licensing within the Department of Licensing and Regulatory Affairs.

Before prescribing a Schedule 2, 3, 4, or 5 controlled substance, a practitioner must check his or her patient's current and past prescriptions using MAPS. He or she also must enter new prescriptions into the system. These requirements are intended to reduce doctor-shopping and improve detection of physicians and other providers who overprescribe opioids. Patient information may be accessed by prescribers, pharmacists, and other authorized users. Law enforcement agencies also may submit requests for MAPS access. In addition, users may allow delegates to access and use MAPS. For example, a physician may delegate to a nurse or office administrator within his or her practice. A delegate user's actions are attributable to the supervising prescriber.

As mentioned above, the Michigan Prescription Drug and Opioid Abuse Task Force's report included a recommendation to update MAPS. The new system, launched in April 2017, uses PMP AWARxE software and has reduced the wait time for information from several minutes to seconds.[75] The upgrade allows for special alerts, real-time updates, and improved data sharing between states. The change was completed under budget for a total of $570,000 across FY 2016-17 and FY 2017-18.

As of September 2018, LARA reported that about 60% of licensed prescribers/dispensers had integrated their system with MAPS. The previous spring, this number was estimated to be approximately 30%. The reasons cited for delayed adoption include skepticism of improved utility, resistance to learning a new process, belief that using the system takes up valuable staff time, and reluctance to become involved should a patient appear to be addicted to opioids. The Department expects to meet its goal of more than 70% systems integrated by August 31, 2019.

The State has provided funding for health systems and physicians to integrate their electronic medical record systems with MAPS. Integration enables prescribers to check MAPS through their own programs without logging in to a separate system. Integration funding is available through August 31, 2019. After that date, costs must be paid by the integrator.

Michigan Team to End Drug Addiction

In October 2018, Lieutenant Governor Calley signed an executive directive creating the Michigan Team to End Drug Addiction (MITEDA).[76] According to a press release from the Office of Governor Snyder, the MITEDA is a multiagency initiative that will do the following:

- Research, develop and propose policy initiatives to address the opioid epidemic.
- Create an action plan to implement recommended initiatives.
- Advise the Governor on the progress of the plan and produce an annual report.
- Evaluate the efficiency of current proposals and continually develop new solutions to the epidemic.
- Incorporate recommendations from the Prescription Drug and Opioid Abuse Task Force and Commission reports.
- Explore avenues of funding for remediation efforts including federal grants, legislative appropriations and private partners.

The directive to create the group coincided with the launch of a website aimed at providing information on opioid use, overdose deaths, and State-related programs to the public. The website directs users to life-saving resources, offers a variety of opioid-related facts and information, and provides recent legislative updates. Public Act 618 of 2018 provided $300,000 in funding for the new task force as part of a supplemental appropriations package.

HISTORY OF ENACTED LEGISLATION

FY 2014-2015

In October 2014, Governor Snyder signed into law a package of four bills (PAs 311-314 of 2014) which amended the State's Good Samaritan law and amended the Public Health Code relative to the use of an opioid antagonist in response to an opioid-related overdose. Public Act 311 of 2014 amended Part 177 (Pharmacy Practice and Drug Control) of the Public Health Code to authorize a prescriber to issue, and a dispensing prescriber or pharmacist to dispense, an opioid antagonist to an individual at risk for an opioid-related overdose; a family member, friend, other individual in

a position to assist an individual at risk of an opioid-related overdose; or person other than an individual who meets the following requirements:

- Acts at the direction of the prescriber.
- Stores the opioid antagonist in compliance with State law.
- Dispenses or administers the opioid antagonist under a valid prescription to an individual or patient.
- Does not charge or require compensation for the administration of the opioid antagonist.

Under this statute, a prescriber who has issued a prescription, or a dispensing prescriber or pharmacist who has dispensed a properly stored opioid antagonist is protected from civil liability if the opioid antagonist is the proximate cause of injury or death to an individual. Beginning February 1, 2015, and annually thereafter, the Department of Community Health (now the Department of Health and Human Services) is required to release a report on the number, trends, patterns, and risk factors related to opioid-related overdose deaths in the preceding calendar year, as well as any information on interventions that may reduce the rate of opioid-related overdoses.

Public Act 312 of 2014 amended the Part 209 (Emergency Medical Services) of the Public Health Code to require that a medical control authority establish protocols, by October 14, 2015, for life support vehicles that provide medical first response life support, basic life support, or limited advanced life support to be equipped with opioid antagonists, and that all emergency services personnel staffing those vehicles be trained to administer opioid antagonists. After October 14, 2017, a medical control authority may continue or rescind the protocols regarding opioid antagonists.

Public Act 313 of 2014 added Michigan Compiled Law 333.7422 and 333.17744c. Michigan Compiled Law 333.7422 exempts a person complying with Section 17744b from being in violation of Article 7 (Controlled Substances) of the Public Health Code when prescribing, dispensing, possessing, or administering an opioid antagonist. Michigan Compiled Law 333.17744c grants immunity from criminal prosecution or sanction under any professional licensing act to a person who administers an opioid antagonist in good faith to an individual who he or she believes is suffering an opioid-related overdose.

Public Act 314 of 2014 extended civil liability protection to an individual administering an opioid antagonist in good faith under the State's Good Samaritan Law. This protection excluded physicians, physician's assistants, registered nurses, or licensed practical nurses administering the opioid antagonist in a hospital, or if the individual administering the opioid antagonist acts in a willful or wanton manner. Additionally, the Act defines "opioid antagonist" as naloxone hydrochloride or any other similarly acting and equally safe drug approved by the FDA for the treatment of drug overdose; and "opioid-related overdose" as a condition, including extreme physical illness, decreased level of consciousness, respiratory depression, coma, or death, that results from the consumption or use of an opioid or another substance with which an opioid was combined or that a layperson would reasonably believe to be an opioid-related overdose that requires medical assistance.

Public Act 462 of 2014 permitted State and local law enforcement agencies to purchase opioid antagonists and distribute them to their officers. A peace officer is authorized to administer the antagonist to an individual he or she believes to be experiencing an opioid-related overdose provided that the officer has been properly trained in the procedure.[77] The Act also extended civil liability protection and protection from criminal prosecution for those law enforcement agencies

and officers who engage in those activities in good faith so long as the actions do not amount to gross negligence.

FY 2016-2017

In December 2016, Governor Snyder signed PA 383 of 2016 into law. This law authorized the Chief Medical Executive of the State to issue a statewide standing order for opioid antagonists. The standing order was finalized on May 25, 2017, and allows a pharmacist to dispense naloxone without an individual prescription and without identifying a specific patient, notwithstanding any provisions of the Public Health Code to the contrary. [The current standing order was amended on January 25, 2019, and is now set to expire on April 30, 2019, unless renewed by the Chief Medical Executive under the administration of Governor Whitmer.] [78] As of January 2019, there are 1,554 pharmacies across the state that have completed the standing order request and have been approved to dispense Naloxone.[79]

In addition to allowing for a statewide standing order, PA 383 of 2016 made four other changes to the Public Health Code. First, it removed a requirement that prescribers submit an inventory of controlled substances to the Michigan Board of Pharmacy or receive a $25,000 fine, and replaced it with a requirement that the inventory be available for inspection by the DHHS for two years. Second, it permanently extended the ability of the DHHS Director to provide data from the controlled substances electronic monitoring system to benefit and health care payment providers and, in return, allows the Director to request information on the usage and access of the system by those same providers. The Act eliminated a reporting requirement on the implementation of the electronic monitoring system by, and required consultation of, the Controlled Substances Advisory Commission to reflect the elimination of the Commission in Executive Order 2016-15. Finally, the Act established an effective date of January 1, 2020, for continuing education requirements for veterinarians or veterinary technicians who seek licensure renewal.

FY 2017-2018

In December 2017, Lieutenant Governor Calley signed a package of ten bills related to the opioid crisis. Much of the MAPS-related legislation described in this section was intended to reduce doctor-shopping and promote awareness of both the risks of opioid use and the availability of assistance for use disorders. These bills largely targeted licensed prescribers, dispensers, and other professionals and required them to perform certain actions.

Public Act 246 of 2017 contained requirements for prescribers who prescribe a substance containing opioids to a minor. It also required the use of a Start Talking Consent Form for all patients to inform them of opioid-use related risks. Prescribers must provide all patients information on opioid addiction, laws, and proper disposal. The Act also increased sanctions for failure to comply, making the prescriber subject to probation, fines, suspension of license, or temporary or permanent revocation of license through a disciplinary subcommittee through LARA.

Public Act 247 of 2017 defined, and required a licensed prescriber to have, a *bona fide* relationship with a patient prior to his or her writing a prescription for Schedule 2, 3, 4, or 5 controlled substances. In addition, prescribers now must provide follow-up care to monitor the substance's effectiveness, or refer the patient to another licensed prescriber, subject to criteria including reasonable geographic proximity. These provisions take effect March 31, 2019. The same Act also gives LARA the authority to promulgate additional rules pertaining to the *bona fide* patient-prescriber relationship before December 27, 2018.

Public Act 248 of 2017 revised the Public Health Code to require both dispensers and prescribers to register with MAPS and review the patient's report before prescribing or dispensing Schedule 2-5 controlled substances. Previously, only individuals who dispensed controlled substances were required to register. Under this legislation, individuals prescribing or dispensing more than a three-day supply of a controlled substance are required to review the patient's MAPS report. Exceptions are made for certain circumstances, including cases in which a substance is administered to patients within an Article 17-licensed facility or hospital.

Public Act 249 of 2017 repeated a number of the provisions contained in other bills in the package to resolve conflicts among the statutes. In addition, it revised the dates and sanctions for certain violations, such as failure to have an established *bona fide* patient relationship as described by PA 247. The Act also contained language allowing LARA to send a licensee thought to be in violation of controlled substance rules a letter notifying him or her of the potential violation.

Public Act 250 of 2017 provided patients being treated for opioid-related overdose with information regarding Substance Use Disorder services.

Public Act 251 of 2017 specified that prescribers must not prescribe more than a seven-day supply of an opioid in a seven-day period to a patient being treated for acute pain. The Act also allows pharmacists to fill a Schedule 2 controlled substance prescription.

Public Act 252 of 2017 created an additional exemption to MAPS reporting requirements for veterinary hospitals and clinics administering to inpatient animals. It also requires prescribers to obtain and review a MAPS report for a patient before prescribing of dispensing buprenorphine, a drug containing buprenorphine, or methadone to a patient in a substance disorder program.

HISTORY OF ENACTED APPROPRIATIONS

The funding history related to opioid prevention, treatment, and education programs spans a number of different departments within State government. The remainder of this section looks at the funding levels in Michigan, as broken down into individual fiscal years.

FY 2016-2017

Department of Health and Human Services

The initial FY 2016-17 Executive DHHS budget recommendation for the community substance use disorder prevention, education, and treatment programs line item was unchanged from the enacted appropriation for FY 2015-16 of $73,811,800 Gross. The House and Senate concurred with the Executive recommendation.

In his initial budget, Governor Snyder recommended an appropriation level of $49,964,500 Gross for the Medicaid substance use disorder services line item, consisting of a net $2,468,800 Gross increase over the originally-enacted budget from FY 2015-16 because of base and caseload changes, actuarial soundness adjustments, and the expiration of the Use Tax on December 31, 2016. While the Senate concurred with the Executive recommendation, the House included an additional $152,000 Gross to reflect an updated managed care Use Tax adjustment. The conference committee reflected the corrected Use Tax adjustment, and the May 2016 Consensus Revenue Estimating Conference (CREC) estimates, bringing the enacted appropriation to $53,392,400 Gross. The Executive recommendation included, and the House and Senate

concurred with, an unchanged appropriation level of $2,018,800 Gross for the State disability assistance program substance use disorder services line item.

The Senate budget included two new boilerplate sections related to opioid fraud and opioid addiction treatment. After minor revisions during conference negotiations, both boilerplate sections were included in the enacted budget bill. Section 1150 required the DHHS to dedicate one full-time equated position (FTE) to coordinate with LARA, the Department of the Attorney General, all appropriate law enforcement agencies, and the Medicaid health plans to reduce fraud related to opioid prescribing within Medicaid. Section 1151 required the DHHS to dedicate one FTE to coordinate with LARA, the Department of the Attorney General, all appropriate law enforcement agencies, and the Medicaid health plans to work with local substance use disorder agencies and addiction treatment providers to inform Medicaid beneficiaries of medically-appropriate treatment options for opioid addiction. Both of the boilerplate sections were aimed at addressing recommendations made by the Prescription Drug and Opioid Abuse Task Force in its October 2015 report.[80]

The Senate approved Legislative Transfer 2017-6 in June 2017, which included an increase in authorization of $16,372,700 Gross and Federal for the Community substance use disorder prevention, education, and treatment line item to reflect the first year of increased State Targeted Response to the Opioid Crisis grant funding to support the Michigan Opioid State Targeted Response (STR) Project. The stated purpose of the Michigan STR Project is to increase access to treatment, reduce unmet need, and reduce opioid overdose related deaths through the provision of prevention, treatment and recovery activities for persons with opioid use disorders.[81] In July 2017, the Legislature passed, and Governor Snyder signed, PA 107 of 2017, which removed $1,392,400 Gross from the Medicaid substance use disorder services line item to reflect May 2017 CREC estimates showed that lower base and caseload growth than originally projected.

Department of Licensing and Regulatory Affairs

For FY 2016-17, $4,880,128 Gross was appropriated to LARA for MAPS-related expenses. Those appropriations included $1,250,000 from the General Fund/General Purpose (GF/GP), $2,470,000 in supplemental funding, and $1,160,128 in grant funding. In total, LARA spent $1,868,172 of this funding, including all GP/GF appropriations. The majority of the unspent funds were supplemental appropriations intended for integrating electronic health records systems with MAPS. Most integrations were delayed until FY 2017-18.

The FY 2016-17 appropriations bill for LARA contained two new boilerplate sections related to prescription monitoring. Section 517 required LARA to submit a report to the House and Senate Appropriations Committees that included an accounting of the administrative actions taken against licensees for overprescribing, overdispensing, and drug diversion, as well as the number of prescribers who were notified as potentially overprescribing. Section 519 specified that the funding provided for MAPS upgrades should be used to improve the efficiencies, functionalities, and reporting capabilities of the system. That section also included a requirement that LARA issue a report in FY 2017-18 stating specific metrics regarding the system, including administrative action cases and integration cost estimates.

Department of Corrections and Judiciary

The Medication-Assisted Treatment Reentry Pilot Program, which was appropriated $500,000 GF/GP, first originated in the House FY 2016-17 budget. As a House-initiated program, the pilot

was not included in the Governor's Executive Recommendation or by the Senate. Conference negotiations agreed with the House, and $500,000 GF/GP was added to the budget for the Program.

The Parole Sanction Certainty Program was expanded by the Senate in FY 2016-17 to include Genesee, Kent, and Saginaw Counties. That year, the Governor's Executive Recommendation eliminated all $500,000 General Fund for the program. The House maintained the initial $500,000, and the Senate increased program funding by $940,000 GF/GP. Conference negotiations retained the additional funding, bringing the Program's total funding to $1,440,000 Gross and GF/GP.

The FY 2016-17 Executive Recommendation for the Judiciary included prior-year drug treatment courts funding of $10,958,000, with which the House and Senate concurred. In conference negotiations, $125,000 Gross was added to the Drug treatment courts line item, bringing the total funding for FY 2016-17 to $11,083,000 Gross.

The FY 2016-17 Executive Recommendation for the Substance abuse testing and treatment services line within the MDOC decreased to $21,340,600 Gross from the previous year's $21,791,300. Within the net decrease was a Governor-initiated investment of $750,000 GF/GP for a program targeting probation violators with a history of relapse. The House retained the proposed investment and concurred with the Governor's recommended funding level. The Senate removed the $750,000 recommendation to reach a Gross appropriation of $21,590,600 for the Substance abuse testing and treatment services line. Conference negotiations agreed with the Senate and maintained an appropriation level of $21,590,600 Gross.

FY 2017-2018

Department of Health and Human Services

The initial FY 2017-18 budget recommendation by the Governor for the DHHS increased the Community substance use disorder prevention, education, and treatment programs line item from the FY 2016-17 enacted level by $3,263,200 Gross, bringing the total appropriation to $77,075,000 Gross. All of this increase resulted from the recognition of additional medical marihuana regulatory revenue. The Executive recommendation removed the $16.4 million supplemental funding that had been included for the State Targeted Response to the Opioid Crisis grant. Both the Senate and House concurred with the recommended increase, however, additional funding of $305,000 Gross for a Kids Kicking Cancer pilot program was included during conference negotiations.

The Executive budget recommendation decreased the Medicaid substance use disorder services line item to $50,369,600 Gross to reflect a decrease in base and caseload related costs. The conference committee added back in $2,038,900 Gross to reflect updated base and caseload estimates, resulting in an initial appropriation for FY 2017-18 of $52,408,500. Governor Snyder recommended, and the House and Senate concurred with, an unchanged appropriation level of $2,018,800 Gross for the State disability assistance program substance use disorder services line item.

In addition to the two existing boilerplate sections from FY 2016-2017, the conference committee recommended adding Section 916 appropriating $305,000 Gross for a pilot program run by Kids Kicking Cancer. The goal of the pilot program was to create an investigative pediatric standard of

care in the early detection of pediatric opioid abuse in order to reduce opioid dependency and addiction in adult patients.

In November 2017, Governor Snyder signed Public Act 158, which provided supplemental appropriations to recognize the receipt of $16,372,700 Gross for the second year of the State Targeted Response to the Opioid Crisis Grant funding and appropriated $700,000 Gross for a Genomic Opioid Research program.

In addition to the inclusion of funding for a Genomic Opioid Research program, Section 1408 directed the funds to the Kalamazoo Community Mental Health Services Program (CMHSP). The funding was contingent upon the submission, by the Kalamazoo CMHSP, of a research plan that fulfilled the following three requirements: 1) demonstrated an ability to facilitate research on the potential use of genomic testing to improve opioid prescribing practices and medication-assisted treatment programs; 2) demonstrated an ability to comply with Federal regulations regarding the protection of human subjects; and 3) demonstrate an ability to comply with privacy requirements contained in the Federal Health Insurance Portability and Accountability Act.

The second supplemental affecting opioid and other substance use disorder-related funding was included in Public Act 207 of 2018, which also contained the initial appropriations for FY 2018-2019. The Medicaid substance use disorder services line item was increased by $10,111,800 Gross, bringing the year-to-date funding level to $62,520,300 Gross. This increase reflected updated base and caseload projections from the May 2018 CREC.

Department of Licensing and Regulatory Affairs

For FY 2017-18, $5,880,128 Gross was devoted to MAPS-related activities: $1,250,000 GF/GP, $2,470,000 in supplemental funding, and $2,160,128 in grant funding were appropriated to LARA for those expenses. Of that amount, $4,086,161 was spent. Approximately $362,000 GF/GP was used for 3.0 FTEs and 25% manager time. In addition, $23,765 was spent from the Pain and Symptom Management Fund for 2.0 FTEs.

The FY 2017-18 appropriations bill contained new boilerplate for LARA. Section 517, which required LARA to submit an annual report on MAPS, was revised. The new boilerplate language required less data than the language included in the FY 2016-17 appropriations bill. Mandatory information included the number of licensed health professionals and the number of dispensers registered to MAPS; the total number of prescribers and the number of dispensers using the system; and the number of cases related to overprescribing, overdispensing, and drug diversion for which LARA took administrative action as a result of information obtained through MAPS. The report also had to include the number of integrations of electronic health record systems with MAPS. Section 519 was eliminated by the Governor and House but retained by the Senate. The section was eliminated during conference committee negotiations. A number of the reporting requirements contained in this section were included in revised Section 517.

Department of Corrections & Judiciary

The Governor's FY 2017-18 Executive Recommendation for the Judiciary included a $750,000 GF/GP increase to the Drug treatment courts line item for ongoing MAT, bringing the total for the line to $11,833,000 Gross. The House, Senate, and conference negotiations concurred with the Governor.

The Substance abuse testing and treatment services line item within the MDOC was included in the Governor's FY 2017-18 Executive Recommendation at $21,596,300 Gross with a slight increase of $11,800 Gross to account for economics adjustments. The House and Senate concurred. The House budget also included a $500,000 GF/GP increase to the MAT program, though final conference negotiations did not include the increase. In FY 2017-18, the Parole Sanction Certainty Program was formally renamed the Substance Abuse Parole Certain Sanction Program. Boilerplate Section 421 was changed to reflect the new program name.

FY 2018-2019

Department of Health and Human Services

In his initial DHHS budget recommendation for FY 2018-19, Governor Snyder proposed an appropriation level of $76,456,200 Gross for the Community substance use disorder prevention, education, and treatment programs line item. This was slightly lower than the enacted appropriation level for FY 2017-18 because of the removal of funding for the Kids Kicking Cancer Program, and a net decrease related to the alignment of anticipated revenue from the Medical Marihuana Regulatory Fund and recognition of increased liquor license revenue. The Governor's recommended budget also removed the $16.4 million Federal and $700,000 GF/GP that had been appropriated through supplemental funding in FY 2017-18. Both the Senate and House concurred with the Governor's recommendations. In addition to these changes, the House added $500,000 Gross for a ten-bed substance use disorder detoxification pilot at St. Mary's Hospital located in Livonia, Michigan. The conference committee concurred with the House, bringing Gross funding for the Community substance use disorder prevention, education, and treatment programs line item to $76,956,200.

The Executive budget recommendation increased the Medicaid substance use disorder services line item to $68,441,000 Gross because of growth in base- and caseload-related costs, and in utilization- and inflation-related costs. The conference committee agreed upon a slightly lower level of funding of $67,640,500 Gross for this line item resulting from revised estimates for base- and caseload-related expenditures during the May 2018 CREC. Governor Snyder recommended, and the House and Senate concurred with, an unchanged appropriation level of $2,018,800 Gross for the State disability assistance program substance use disorder services line item.

In the One-Time Appropriations unit, the conference committee added $115,000 Gross to the opioid outreach coordinator line item for Growth Works (a social service provider located in southeast Michigan) to hire an opioid crisis outreach coordinator to provide education, training, and outreach services in Wayne County. A new boilerplate section, Section 1922, was added during conference committee to direct the expenditure of the funds.

The Governor's budget recommended revising both Section 1150 and 1151 to remove the requirement that the DHHS dedicate one FTE to coordinate opioid fraud reduction and opioid treatment education activities with various entities. The conference committee concurred with the recommended modifications for both existing sections. The House included a new boilerplate section related to testing of opioids in a laboratory. The modified language concurred in by the conference committee as Section 1170 appropriates $1.0 million from the laboratory services line item for enhanced laboratory testing of opioids in cases of drug overdose deaths in order to investigate the types of opioids seen in overdose-related deaths across the State. Of this $1.0 million, a maximum of $100,000 is appropriated to continue the Western Michigan University Michigan Opioid Rapid Testing Project,[82] while the remaining funds will be used to support grants to county medical examiners for the collection of specimens and toxicology screening.

In December 2018, Governor Snyder signed Public Act 618, which includes $500,000 Gross ($500,000 GF/GP) in the Community substance use disorder prevention, education, and treatment line item for an opioid pilot located at St. Mary's Hospital in Livonia. This pilot will dedicate at least five beds to stabilize patients suffering from addiction and provide these individuals with peer support specialists and a specialized trauma therapist. Upon the conclusion of the pilot, the supervising substance use and case management provider must submit a report on the pilot project's outcomes to the Legislature.

Department of Licensing and Regulatory Affairs

The Department of Licensing and Regulatory Affairs spent $354,621 GF/GP for 3.0 FTEs and 25% manager time and $161,227 from the Pain and Symptom Management Fund for 2.0 FTEs in FY 2018-19. Expenditures for MAPS are unknown.

The FY 2018-19 Executive Recommendation revised Section 517, included as Section 510 following conference committee. The revisions affected the requirements for two items included in LARA's annual report on the MAPS program. The language related to reporting the number of integrations was revised to refer to "the number of hospitals, doctor's offices, pharmacies, and other health facilities" that have integrated with MAPS. An additional new item requires the report to contain the total number of delegate users registered with MAPS.

A one-time supplemental appropriation to create an opioid treatment and community resource locator database for public use was provided to LARA through Public Act 618 of 2018.

Department of Corrections and Judiciary

The FY 2018-19 Executive Recommendation for the Judiciary maintained prior-year funding levels for the Drug treatment courts line item at $11,833,000 Gross, with which the House concurred. The Senate included a slight increase of $28,700 to the line; however, conference negotiations ultimately agreed with the Governor's recommendation and the House and retained prior-year funding levels.

The Governor's FY 2018-19 budget eliminated all funding for the Substance Abuse Parole Certain Sanctions Program, while the Senate budget retained the initial $1,440,000 GF/GP appropriation and increased it by $1.0 million. The House budget agreed with the Governor in eliminating the program, but conference negotiations restored the original funding amount of $1,440,000 GF/GP.

The House FY 2018-19 budget included a $500,000 GF/GP increase for the Medication-Assisted Treatment Reentry Pilot Program. The Conference committee concurred with the House, and funding for the program was increased by $500,000 GF/GP. In 2017, 58 participants received Vivitrol injections upon release, 25 received follow-up injections in the community for at least three months, and four were subsequently returned to prison after receiving injections.[83]

The Substance abuse testing and treatment services line item within the MDOC was decreased slightly to $21,386,600 Gross to reflect technical adjustments. The Senate, House, and conference negotiations concurred with the Governor. In 2016, the most recent reporting period, over 600,000 drug tests were administered among prisoners, parolees, and probationers. Approximately 5,600 prisoners and over 9,000 parolees and probationers received either residential or outpatient substance use disorder treatment services.[84]

APPROACHES BY OTHER STATES

As mentioned above, Michigan is not the only state facing an increase in opioid use and opioid-related deaths. According to the Network for Public Health Law, the most effective solution for reducing the number of opioid-related deaths would require states to reduce the number of inappropriate opioid prescriptions, increase access to treatment options, and remove criminal penalties related to addiction.[85] One of the most statistically-effective intervention strategies is increasing access to naloxone or other opioid antagonists. States that have adopted access laws have seen a reduction in opioid-related fatalities of between 9% and 11%.[86] The remainder of this section provides an overview of the approach four other states have taken to address the opioid problem and any future steps those states may be planning on taking.

Indiana

While Michigan passed legislation allowing the issuance of a standing order for the dispensation of an overdose intervention drug, in Indiana, Public Law 6 of 2016 requires the issuance of a standing order. Additionally, Michigan and Indiana provide civil protections to an individual administering an overdose intervention drug to a person who he or she believes in good faith is experiencing an opioid-related overdose. In Indiana and Michigan, a person who administers an overdose intervention drug and who requests emergency assistance for an overdose victim is immune from criminal prosecution for possession of various controlled substances. Unlike Michigan, however, Indiana statute specifies that calling for help may be taken into account as a mitigating factor when a person is prosecuted for possession of a controlled substance.

Although Michigan and Indiana have similar laws relating to standing orders, and both states have implemented a prescription drug monitoring program, there are a number of initiatives enacted by Indiana that either are still in the pilot phase in Michigan, or not yet on the radar.[87] For example, Indiana has set a limit on the number of days that a first-time opioid prescription can be supplied. There are additional limitations if the prescription is for a minor. Unless the prescription is for the treatment of cancer, palliative care, for the treatment of a substance use disorder, or a condition that is adopted by the state's medical licensing board, the initial prescription cannot be written for more than a seven-day supply.[88] Indiana law does allow for an exception if, in the providers' professional judgement, a supply longer than seven days is necessary. If the prescription is written for a minor, the seven-day limit applies for any prescription written, not just the initial prescription.[89] Despite the relatively recent enactment of the law, an article published in the *IndyStar* stated that within the first few months of passage, the number of written prescriptions dropped by 100,000.[90]

Public Law 193 of 2018 is similar to the enhanced laboratory testing of opioids pilot program funded through Section 1170 of the FY 2018-19 DHHS budget bill mentioned in the preceding section. Under this law, Indiana county coroners must obtain information about opioids prescribed to the decedent through use of the INSPECT program, and are required extract and test certain bodily fluids of the deceased individual if the coroner suspects that his or her death was caused by accidental or intentional overdose of a controlled substance.

In 2017, Indiana enacted Public Law 125, which requires a three-year pilot program located in Tippecanoe, Marion, and Wayne Counties. During the pilot program, eligible individuals receive assistance in overcoming opioid use disorder through inpatient, residential, and outpatient opioid treatment services. The Law defines "opioid treatment services" as evidence based treatment and recovery support services provided in an inpatient, residential, or outpatient setting to individuals diagnosed with opioid use disorder.[91] These services include opioid reversal medication, addiction

counseling, inpatient detoxification, and medication assisted treatment.[92] A report on the results, effectiveness, and recommendations of the pilot program must be submitted to the Indiana Legislature not later than November 1, 2020.[93]

Beginning in September 2017, stakeholders in Indiana partnered with The Pew Charitable Trusts to develop policy recommendations aimed at combating the opioid epidemic.[94] The final report, released in September 2018, listed six policy recommendations, separated into three categories, the task force felt would improve Indiana's treatment of opioid use disorder. In order to transform the state's treatment system, the report recommended the implementation of a comprehensive regulatory approach for office-based opioid treatment, annual reporting on the progress towards establishing new opioid treatment programs and increased patient access, and revised legal definitions of "recovery housing".[95]

One of the main obstacles identified was a substance use disorder workforce that is too small to sustain the increasing need for services. In order to overcome this, the task force recommended that Indiana Medicaid reevaluate its reimbursement rates for counseling services provided in community-based settings.[96] An increase in reimbursement rates would help attract new workers to the state, greatly increasing access to services.

Along with expanding the workforce, the task force included two recommendations aimed at connecting with underserved populations. The first recommendation proposes a program to assess access to MAT availability within county jails and then to expand the availability of all three FDA-approved medications in at least one county jail.[97] The other recommendation focused on the jail population as a viable contact point for OUD intervention. The task force recommended that Indiana Medicaid establish a pilot program to test ways to ensure that there is no gap in Medicaid coverage for eligible inmates upon re-entering their communities. Additionally, the pilot would prioritize education of inmates on what their Medicaid benefits cover, and where to access those benefits upon their release. The impetus for basing the pilot programs for underserved populations in Indiana correctional facilities is due to some early successes seen in a pilot program from Middlesex County, Massachusetts. Beginning in October 2015, jails in Middlesex County could enroll in a program that allowed them to offer extended release naltrexone to inmates. Results released in April 2018 show that 98.5% of program participants have not fatally overdosed, and 82% of participants who completed the program have not recidivated.[98]

While it remains to be seen which, if any, of these recommendations Indiana pursues, the resulting outcomes could provide a path for Michigan to follow towards better outcomes for individuals diagnosed with an OUD.

New York

In 2015, New York began an opioid overdose and prevention training program in partnership with the New York State Department of Health, the Department of Corrections and Community Supervision, and the Harm Reduction Coalition throughout New York's state prisons. The Overdose Education and Naloxone Distribution program provides education to offenders, corrections and parole officers, and family members on the elevated risk of overdose immediately following release, recognizing the signs of an overdose, and what to do if an overdose occurs.[99] The training also includes instruction on the assembly and application of naloxone, which family members are offered after completing of the training program.

Like Indiana, New York also places limitations on the length of time that prescribers can write initial opioid-related prescriptions, and requires prescriber to consult the New York Prescription

Monitoring Program Registry before issuing a prescription for a Schedule 2 through 4 controlled substance.[100] After the initial prescription for acute pain, prescribers may prescribe no more than a seven-day supply of any Schedule 2, 3, or 4 opioids, unless the prescription is for chronic pain, for the treatment of cancer, hospice or other end-of-life care, or for palliative care.[101] Unlike Indiana, New York does not provide an exception for a prescriber to write a prescription for a longer course of treatment if his or her professional judgement indicates that a longer prescription is necessary.

Although New York does allow pharmacists to dispense opioid antagonists without a patient-specific prescription, its approach to the standing order is slightly different than Michigan's. As discussed previously, Michigan's Chief Medical Executive was given the authority to issue a standing order that covers the entire state. New York law states that "a health care professional may prescribe by a patient-specific or non-patient-specific prescription, dispense or distribute, directly or indirectly, an opioid antagonist to an opioid antagonist recipient".[102] Additionally, New York law requires any pharmacy with more than 20 locations within the state to pursue or maintain a non patient-specific prescription for an opioid antagonist with an authorized health care professional, or register with the New York Department of Health as an opioid overdose prevention program.[103] Opioid overdose prevention programs will provide the person receiving training with what steps to take to prevent an opioid overdose-related fatality. These steps must include, at a minimum, contacting emergency services, administering an opioid antagonist, and providing resuscitation when appropriate.[104]

As in Michigan, New York offers protections from being arrested, charged with possession, or prosecuted for controlled substance offenses if the individual, in good faith, seeks medical assistance for someone who is experiencing an opioid-related overdose. These protections extend to an individual who seeks assistance for himself or herself when experiencing an opioid-related emergency.[105] A person who possesses naloxone with a prescription and administers it to an individual experiencing an opioid-related overdose is immune from both criminal and civil liability, as the administration of naloxone is considered to be first aid or emergency treatment under New York law.[106] There is additional protection for health care practitioners that provides them immunity from professional misconduct sanctions if they administer naloxone in an emergency situation.[107] Under New York law, however, prescribers and dispensers do not have any immunity for dispensing naloxone or other opioid antagonists to an individual.[108]

Wisconsin

In 2015, Wisconsin began the Opioid Addiction Treatment Pilot Program for offenders with a history of opioid dependency who are in the process of being released back into the community. With an appropriation of $1.6 million, the program assesses each offender to determine the needed level of services and combines mental health counseling, cognitive behavioral therapy, and MAT using Vivitrol through private service providers.[109] In the first two years, the program has had 24 participants complete treatment successfully, and it averages around 100 participants at a time.

Of the five states discussed in this paper, Wisconsin was the last to pass legislation authorizing a prescription drug monitoring program. Currently known as the Wisconsin Enhanced Prescription Drug Monitoring Program (ePDMP), authorizing legislation was enacted on May 18, 2010, although the ePDMP did not become operational until April 2013.[110] Unlike Michigan, Wisconsin law allows, but does not require, suspicious or statistically-outlying prescribing, dispensing or purchasing activity to be identified and reported to law enforcement, the appropriate professional licensing body, or to a prescriber or dispenser.[111]

In addition to having a statewide standing order, Wisconsin law allows advance practice nurses certified to issue prescription orders, physicians, and physician assistants to issue standing orders authorizing the dispensation of an opioid antagonist to one or more individuals.[112] Wisconsin has the most extensive liability protections of the five states discussed in this paper. Prescribers and dispensers have immunity from criminal and civil liability for prescribing, dispensing, or distributing naloxone, as well as immunity from professional sanctions.[113] Any person who acts in good faith to deliver or dispense an opioid antagonist to another person who he or she believes is experiencing an opioid-related overdose is immune from both civil and criminal liability related to the outcome of the delivery or dispensation.[114] Additionally, Wisconsin offers immunity from prosecution for possession of a controlled substance or drug paraphernalia if the person charged attempted to contact emergency services for himself or herself or another person experiencing an opioid-related overdose.[115] Unlike Michigan, Wisconsin also provides immunity from the revocation of parole, probation, or extended supervision.[116]

In 2017, the Wisconsin Legislature passed 2017 Wisconsin Act 26, which appropriated $63,000 Gross in both FY 2017-18 and FY 2018-19 to fund graduate fellowships in addiction medicine or addiction psychiatry by expanding or establishing addiction specialist graduate medical training programs for physicians practicing family medicine, general internal medicine, general surgery, pediatrics, or psychiatry.[117] Although Michigan has never used the graduate medical education program to prioritize increasing the opioid use disorder workforce, it has funded a multi-year initiative to develop a graduate medical education consortium known as MiDocs. The stated purpose of MiDocs is to explore alternative financing sources and mechanisms to increase the availability of primary care residencies in underserved areas.[118] Depending on the results of Wisconsin's initiative, the MiDocs consortium may provide an opportunity for Michigan to take a similar approach to address workforce shortages.

Ohio

A number of key opioid prescribing and dispensing provisions are found in the Ohio Administrative Code instead of the Ohio Revised Code.

While many of Ohio's laws and rules are similar to Michigan's, there are several points of difference related to the degree and range of prescription monitoring. Ohio's prescription monitoring system is known as the Ohio Automated Prescription Reporting System (OARRS). Rule 4729-5-20 of the Ohio Administrative Code requires a pharmacist to retrieve an OARRS report in more cases than are required under Michigan law. These include instances in which a prescriber or patient is outside of their usual pharmacy geographic area or if a report for that patient has not been viewed in the previous year. Unlike Michigan, which does not mandate interstate patient checks, Ohio requires prescribers in counties that border another state to utilize OARRS's interstate functionalities for the states in question. For example, as Lawrence County borders both West Virginia and Kentucky, prescribers are obligated to request information from each of those states when issuing their prescriptions. In addition, Ohio requires drug wholesalers to use the OARRS to report their sales of controlled substances, as well as the drug gabapentin, to pharmacies and prescribers within the state.

According to a 2016 report from the Ohio Department of Health, prescriber OARRS queries increased by 123.1% from 2014 to 2016. The number of solid opioid doses dispensed to patients fell from 751 million to 631 million, a 15.9% decline. While unintentional drug overdoses rose over the 2014-2016 period, deaths due to prescription opioid overdoses declined 16.1%. Opioid-related deaths rose overall, largely due to the rapid rise in fentanyl poisonings.

The 2017 Annual Report for the OARRS noted that opioid prescriptions dispensed to patients decreased from 12.2 million in 2014 to 9.3 million in 2017. One of the most noteworthy changes in Ohio's prescription opioid situation in recent years is the decline in doctor-shoppers, which the report defines as a person receiving a controlled substance prescription from five or more prescribers in a calendar month. The number of doctor-shoppers recorded through the OARRS fell by 87.6% (2,205 to 273) from 2011 to 2017.

Like Michigan's Public Act 251 of 2017, Ohio now limits prescriptions of opioids for acute pain patients to seven days for adults. Exemptions are made for special medical cases, cancer, end-of-life treatment, and other specific conditions.[119] These amendments to the Ohio Administrative Code went into effect in the fall of 2018.

Senate Bill 319, enacted in 2017, made a number of changes related to the laws governing opioid prescriptions, substance use disorder-related treatment, and the administration of opioid antagonists.[120] The bill directly limited the number of opioid pills given with a single prescription to a 90-day supply. Unfilled prescriptions for opioids now are void thirty days from the prescribing date. Senate Bill 319 established a registration system for pharmacy technicians, but contained no appropriations for its implementation.

Senate Bill 319 also allowed schools, substance use disorder treatment centers, homeless shelters, and other facilities that work with high-risk individuals to keep naloxone on site. The bill extended a licensing requirement for facilities that administer the drug Suboxone, a combination of naloxone and buprenorphine. In an effort to increase the availability of treatment, the law allows methadone clinics to operate for profit and eliminates a requirement that providers have at least two years of state certification prior to operation. Finally, the bill extends criminal and civil immunity to first responders and authorized employees at treatment centers and other facilities who administer naloxone in cases of suspected opioid overdoses.

CONCLUSION

Michigan's efforts in combating the opioid epidemic have focused primarily on treating substance use disorder and creating stricter controls on prescribing opioid drugs. These efforts seemingly are on par with other states facing similar opioid epidemics. However, the success of Michigan's efforts are difficult to assess in these early stages.

The results of recent improvements to MAPS cannot yet be fully evaluated because integration is still ongoing. However, the success of these changes in other states, such as Ohio, indicate that the program is likely to directly reduce access to opioids as well as help authorities uncover cases of both doctor-shopping and overprescribing. The newly-enacted restrictions on prescribing and the mandated use of tools like MAPS and Start Talking Consent Forms will allow health care providers to better identify at-risk patients and to inform them of the dangers of opioid misuse. Achieving higher levels of integration with providers' and dispensers' electronic health record systems should allow for more accurate analyses of Michigan's legislative efforts.

Similarly, because many of Michigan's pilot programs are still in their early stages, it is unclear how effective they are in reducing opioid-related deaths and cases of substance use disorder. However, research suggests that expanding access to naloxone, which allows first-responders and family members of overdose victims to provide a quick response to avoiding potentially fatal overdoses, and increasing funding for substance use disorder treatment programs, such as MAT,

have shown promising results in providing effective treatment and long-term recovery for people with a substance use disorder.

Recently, there has been a significant increase in the number of overdoses from synthetic opioids, and from heroin use. Between 2013 and 2016, deaths attributed to fentanyl derivatives increased 540% nationally.[121] According to the Kaiser Family Foundation, between 2012 and 2016, heroin overdoses increased 161%. Comparatively, in Michigan, overdoses from synthetic opioids (e.g., fentanyl), not including methadone, grew from 72 in 2012 to 921 in 2016.[122] The State also experienced a 176% increase of heroin overdoses during that same period.[123] Although Michigan has taken many steps in reducing the abuse, misuse, and overprescribing of prescription opioids, the rise in illicit opioid use presents a challenge for the State.

ENDNOTES

[1] "Overdose Death Rates", National Institute on Drug Abuse, www.drugabuse.gov, August 2018. Retrieved on 1-23-2019.
[2] Drug Overdose Death Data, Centers for Disease Control and Prevention, www.cdc.gov, 2016. Retrieved on 10-10-2018.
[3] "U.S. State Prescribing Rates", Centers for Disease Control and Prevention, www.cdc.gov, 7-31-2017. Retrieved on 10-5-2018.
[4] "Impacts of Drugs on Neurotransmission", National Institute on Drug Abuse, www.drugabuse.gov, 3-9-2017. Retrieved on 10-8-2018;
[5] "Drugs, Brains, and Behavior: The Science of Addiction", National Institute on Drug Abuse, www.drugabuse.gov, July 2018. Retrieved on 8-8-2018.
[6] *Id*.
[7] Note 3.
[8] Note 2.
[9] Kosten, Thomas, *et al*., "The Neurobiology of Opioid Dependence: Implications for Treatment", *Science and Practice Perspectives*, July 2002, p. 14.
[10] Note 5.
[11] Volkow, Nora, "America's Addiction to Opioids: Heroin and Prescription Drug Abuse", National Institute on Drug Abuse, 5-14-2014. Retrieved on 10-15-2018.
[12] "Tolerance, Dependence, Addiction: What's the Difference", National Institute on Drug Abuse for Teens, teens.drugabuse.gov, 1-12-2017. Retrieved on 10-12-2017.
[13] Mayo Clinic Staff, "How opioid addiction occurs", Mayo Clinic, www.mayoclinic.org. Retrieved 10-15-2018.
[14] "Biology of Addiction", News in Health, National Institutes of Health, U.S. Department of Health and Human Services, October 2015.
[15] Siegel, Daniel, "Dopamine and Teenage Logic", *The Atlantic*, 10-24-2014.
[16] *Id*.
[17] Note 5.
[18] "Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health", U.S. Department of Health and Human Services, www.surgeongeneral.gov, November 2017.
[19] *Id*.
[20] Note 18.
[21] "Treatments for Substance Use Disorder", Substance Abuse and Mental Health Services Administration, www.samhsa.gov. Retrieved on 10-17-2018.
[22] *Id*.
[23] Note 21.
[24] *Id*.
[25] "Thorough Technical Explanation of Burprenorphine", The National Alliance of Advocates for Burprenorphine Treatment, www.naabt.org. Retrieved on 10-15-2018.
[26] "Opioid Overdose Reversal with Naloxone (Narcan, Evzio)", National Institute on Drug Abuse, www.drugabuse.gov. April 2018, Retrieved on 10-5-2018.
[27] Bloom, Josh, "Naloxone And Naltrexone Look And Sound The Same, But Are Used Differently. Here's Why", American Council on Science and Health, www.acsh.org, 7-17-2018. Retrieved on 10-16-2018.
[28] Medications to Treat Opioid Use Disorder, National Institute on Drug Abuse, www.drugabuse.gov. Retrieved on 10-9-2018.
[29] Note 21.
[30] "Heroin, Morphine, and Opiates", www.history.com. Retrieved on 10-02-2018.
[31] Pappas, Stephanie, "Parallels to Drug Epidemic of Late 1800s", *Live Science*, 9-29-2017; Trickey, Erika, "Inside the Story of America's 19th-Century Opiate Addiction", *Smithsonian*, 1-4-2018.
[32] Stobbe, Mike, "Today's opioid crisis shared chilling similarities with past drug epidemics", *The Chicago Tribune*, 10-28-2017.
[33] Note 32, *Trickey*.
[34] Lewy, Jonathan, "The Army Disease: Drug Addiction and the Civil War", *War in History*, p. 102-119, 2013.
[35] *Id*.
[36] Note 34.
[37] *Id*.
[38] Glenza, Jessica, "America's opioid epidemic began more than a century ago – with the civil war", *The Guardian*, 12-30-2017.

[39] An "opiate" is a drug naturally derived from the opium poppy (ex: morphine, codeine, and heroin), while an "opioid" is any natural or synthetic substance that binds to the opioid receptors in the brain. Opiates are a subcategory of opioids.
[40] Note 31.
[41] 21 USC 1.
[42] 83 Stat 785.
[43] Note 32.
[44] *Id*.
[45] 21 USC 13.
[46] Special Message to the Congress on Drug Abuse Prevention and Control, June 17, 1971.
[47] Zhang, Sarah, "The One-Paragraph Letter From 1980 That Fueled the Opioid Crisis", *The Atlantic*, 6-2-2017.
[48] Moghe, Sonia, "Opioid History: From 'wonder drug' to abuse epidemic, *CNN*, 10-14-2016.
[49] Dasgupta, Nabarun, *et al*., "Opioid Crisis: No Easy Fix to its Social and Economic Determinants", *American Journal of Public Health*, p. 182, February 2018.
[50] Kolodny, Andrew, *et al*., "The Prescription Opioid and Heroin Crisis: A Public Health Approach to an Epidemic of Addiction", *Annual Review of Public Health*, p. 562, January 2015.
[51] Note 50.
[52] Jones, Mark R., *et al*., "A Brief History of the Opioid Epidemic and Strategies for Pain Medicine", *Pain and Therapy*, June 2018.
[53] *Id*.
[54] "Opioid Addiction 2016 Facts & Figures", American Society of Addiction Medicine, www.asam.org.
[55] "Opioid Abuse in the U.S. and HHS Actions to Address Opioid-Drug Related Overdoses and Deaths", Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services, 3-26-2015. Retrieved on 10-10-2018.
[56] Note 49.
[57] Note 48.
[58] The CDC's full report on the Guidelines for Prescribing Opioid for Chronic Pain can be accessed at https://www.cdc.gov/mmwr/volumes/65/rr/rr6501e1.htm?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fmmwr%2Fvolumes%2F65%2Frr%2Frr6501e1er.htm.
[59] 130 Stat 695.
[60] Pub. L. 114-255.
[61] "The Underestimated Costs of the Opioid Crisis", The Council of Economic Advisers, www.whitehouse.gov, 11-1-2017. Retrieved on 10-8-2018.
[62] "The President's Commission on Combating Drug Addiction and the Opioid Crisis", The White House, www.whitehouse.gov, 11-1-2017. Retrieved on 10-8-2018.
[63] For a more detailed description of the Michigan Prescription Drug and Opioid Abuse Task Force's recommendations, please see the Report of Findings and Recommendations for Action, available at http://www.michigan.gov/documents/snyder/Presciption_Drug_and_Opioid_Task_Force_Report_5041 40_7.pdf.
[64] Department of State Police. 31 October 2018.
[65] Chandler, Redonna, *et al*., "Treating Drug Abuse and Addiction in the Criminal Justice System: Improving Public Health and Safety", *Journal of the American Medical Association*, p. 183-190, March 2009; "Behind Bars II: Substance Abuse and America's Prison Population", The National Center on Addiction and Substance Abuse at Columbia University, February 2010.
[66] Binswanger, Ingrid, *et al*., "Release from Prison - A High Risk of Death for Former Inmates", *New England Journal of Medicine*, 1-11-2007.
[67] Michigan Department of Corrections.
[68] Waller, R. Corey, "Medication Assisted Treatment Guidelines for Opioid Use Disorders", Michigan Department of Community Health, September 2014.
[69] Report to the Legislature: Medication-Assisted Treatment Reentry Program, Michigan Department of Corrections. Retrieved on 10-17-2018.
[70] "President's Report: Parole Certain Sanctions Program", www.kpep.com. Retrieved on 10-18-2018.
[71] MCL 791.201-791.285.
[72] "Michigan's Adult Drug Courts Recidivism Analysis: Summary of Finding and Recommendations", National Center for State Courts, May 2017.
[73] *Id*.
[74] Report to the Legislature: Substance Abuse Reporting Requirements, Michigan Department of Corrections. Retrieved on 10-17-2018.
[75] "Michigan Launches New Prescription Drug Monitoring Program to Help Prevent Opioid Abuse", Department of Licensing and Regulatory Affairs, 4-11-2017.
[76] "Lt. Gov. Brian Calley issues executive directive establishing a multi-agency effort to combat opioid epidemic", Office of Governor Rick Snyder, www.michigan.gov, 10-25-2018.

[77] Public Act 462 defines "peace officer" as one or more of the following: a) a regularly employed member of a law enforcement agency authorized and established under law, including common law, who is responsible for the prevention and detection of crime and the enforcement of general laws of the State; b) a Michigan Indian tribal police officer; c) the sergeant at arms or any assistant sergeant at arms of either house of the Legislature who is commissioned as a police officer by that respective house; d) a law enforcement officer of a multicounty metropolitan district; or e) a police officer or public safety officer of a community college, college, or university.
[78] "Naloxone Standing Order - for Pharmacist Use Only", Michigan Department of Health and Human Services. Retrieved on 10-18-2018.
[79] *Id*.
[80] Note 63.
[81] Funds for the project will support the following initiatives: 1) improve the State infrastructure for individuals with an opioid use disorder; 2) train PIHP administration on infrastructure improvements, and train staff on evidence-based interventions; 3) implement evidence-based prevention and treatment interventions; 4) improve access to psychiatric services and psychotropic medications; 5) expand the availability and use of MAT and drug-free programming; 6) expand outreach to primary care and law enforcement sites; 7) increase supports to the prisoner re-entry population with an opioid use disorder; 8) expand the use of peers in emergency departments and primary care settings; 9) expand overdoes education and naloxone distribution; and 10) disseminate a statewide media campaign for public education.
[82] The Western Michigan University Michigan Opioid Rapid Testing Project began in September 2017 with the goal of developing a method capable of identifying and quantitating up to 50 different opioids and opioid analogs within 48 to 72 hours ("WMED Professor Looks to Help Stem Michigan Opioid Crisis with State-Funded Surveillance Project", www.med.wmich.edu, 10-27-2017. Retrieved on 10-17-2018).
[83] Note 69.
[84] Note 74.
[85] "Legal Interventions to Reduce Overdose Mortality: Naloxone Access and Overdose Good Samaritan Laws", The Network for Public Health Law, July 2017.
[86] Rees, Daniel, *et al*., "With a Little Help from My Friends: The Effects of Naloxone Access and Good Samaritan Laws on Opioid-Related Deaths", National Bureau of Economic Research, February 2017.
[87] Indiana's prescription drug monitoring program is known as INSPECT, the Indiana Scheduled Prescription Electronic Collection and Tracking program. It maintains a warehouse of patient information for health care professionals, and provides an investigative tool for law enforcement.
[88] Indiana Public Law 182 of 2017.
[89] *Id*.
[90] Rudavsky, Shari. "Don't just prescribe pain meds, new state guidelines tell doctors". *IndyStar*. 1-17-2018.
[91] Indiana Public Law 125 of 2017.
[92] *Id*.
[93] Note 91.
[94] "Indiana Takes on the Opioid Crisis", The Pew Charitable Trusts, www.pewtrusts.org. Retrieved on 10-3-2018.
[95] "Substance Use Disorder Treatment Policy Recommendations for the State of Indiana", The Pew Charitable Trusts, www.pewtrusts.org. Retrieved on 10-3-2018
[96] *Id*.
[97] Note 95.
[98] Utilizing Incarceration to Tackle Addiction and Save Lives: Implementing Medication Assisted Treatment Programs in Jails", Middlesex Sheriff's Office, MATADOR Program White Paper. April 2018.
[99] "Corrections-Based Responses to the Opioid Epidemic: Lessons from New York State's Overdose Education and Naloxone Distribution Program", Vera Institute of Justice, March 2018.
[100] N.Y. Public Health Law § 3331; N.Y. Public Health Law § 3343-a.
[101] N.Y. Public Health Law § 3331.
[102] N.Y. Public Health Law § 3309.
[103] *Id*.
[104] Note 102.
[105] N.Y. Penal Law § 220.78.
[106] N.Y. Public Health Law § 3309.
[107] N.Y. Educ. Law § 6509-d.
[108] "Legal Interventions to Reduce Overdose Mortality: Naloxone Access and Overdose Good Samaritan Laws", The Network for Public Health Law, July 2017. Retrieved on 10-16-2018.
[109] "Opioid Addiction Treatment Pilot Program", Wisconsin Department of Corrections, doc.wi.gov. Retrieved on 10-18-2018.
[110] 2009 Wisconsin Act 362.
[111] Wis. Stat. § 961.385, Wis. Admin. Code, CSB 4.15.
[112] Wis. Stat. § 441.18; Wis. Stat. § 448.037.
[113] Wis. Stat. § 441.18; Wis. Stat. § 448.037; Wis. Stat. § 450.11.

[114] Wis. Stat. § 450.11.
[115] Wis. Stat. § 441.18; Wis. Stat. § 448.037; Wis. Stat. § 450.11.
[116] Wis. Stat. § 961.443(2)(a).
[117] 2017 Wisconsin Act 26.
[118] Public Act 207 of 2018, Section 1870.
[119] Ohio Admin. Code § 4731-11-13.
[120] Ohio Rev. Code § 307.86, *et al*.
[121] Note 48.
[122] "Overdose Deaths by Type of Opioid", Kaiser Family Foundation. Retrieved 10-19-2018.
[123] *Id*.