A BLUEPRINT FOR TRANSFORMING OPIOID USE DISORDER TREATMENT IN DELAWARE

Submitted to the Department of Health and Social Services
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Johns Hopkins Bloomberg School of Public Health and the Bloomberg American Health Initiative

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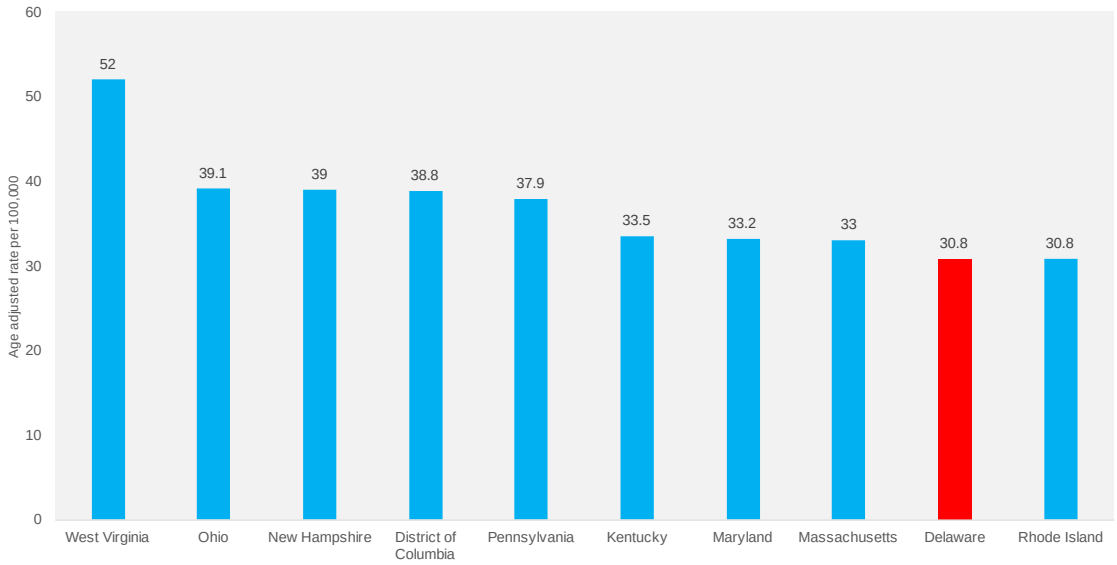
EXECUTIVE SUMMARY

Delaware is in the midst of an unprecedented public health crisis related to opioids. In 2016, Delaware lost over 300 lives to overdose. Delaware ranks ninth (tied with Rhode Island) in the nation in drug overdose death rates, and most of these deaths can be linked to opioids including heroin, prescription opioids, and synthetic opioids like fentanyl.

Figure 1. States with the Highest Drug Overdose Death Rate, 2016



Source: Centers for Disease Control and Prevention (https://www.cdc.gov/drugoverdose/data/statedeaths.html)

In April 2017, Secretary Kara Odom Walker asked a team of faculty at the Johns Hopkins Bloomberg School of Public Health to meet with state officials across multiple agencies, representatives of the service provider community, and patient advocates and to study available literature and the experiences of other states and localities. Based on this review, Secretary Walker asked the Johns Hopkins team to make recommendations to strengthen the opioid use disorder treatment system in Delaware in Delaware's treatment system.

These recommendations begin with a vision for the future of addiction treatment in Delaware: A system of care that is accessible, evidence-based, individualized, comprehensive, and accountable. To achieve this vision, this report proposes four major strategies.

Strategy 1: Increase the Capacity of the Treatment System

Treatment of opioid use disorder with medications is the standard of care and substantially reduces overdose, transmission of infectious diseases such as HIV and hepatitis C virus, crime, and unemployment.[1,2,3,4,5,6]

People with opioid use disorder in Delaware experience significant challenges when seeking treatment with medications. Specifically:

- There is inadequate access to medication treatments for opioid use disorder across the state
- People in crisis are often not connected to appropriate services in a timely manner

- People with opioid use disorder also frequently need support with other basic needs such as housing and employment.

Closing these gaps requires expanding and enhancing the treatment system and connecting treatment to social services. To begin to address this, Delaware has started implementing a Centers of Excellence to increase timely access to medication treatment with linkages to continuing care.

Recommendation 1A: The Division of Substance Abuse and Mental Health should fully implement a Centers of Excellence program to provide a site for rapid intake and assessment, treatment with medication and counseling, peer mentorship services, and access to chronic disease management.

Recommendation 1B: The Division of Substance Abuse and Mental Health should create a continually-refreshed inventory of all credentialed treatment providers that is accessible online in order to promote an improved consumer experience.

Recommendation 1C: The Department of Health and Social Services should lead a campaign to increase the number of providers actively prescribing buprenorphine in the state.

Recommendation 1D: The Department of Health and Social Services should develop a plan to support housing and employment for individuals in recovery.

Strategy 2: Engage High-Risk Populations in Treatment

A large proportion of opioid overdose deaths on the east coast, including Delaware, involve fentanyl, a highly potent synthetic drug. The increased lethality of the drug supply underscores the urgency of providing access to services at key moments of need, rather than providing a referral for follow-up care days or weeks later. Critical opportunities to initiate care can occur in the detention system, in hospital emergency departments, and at times of contact with emergency providers. Data from Connecticut[7] and Rhode Island[8] exemplify the potential for focused efforts in these settings to save lives.

Currently, there are significant gaps in access to care for high risk populations in Delaware. These include:

- No significant capacity in jails and prisons to start or continue treatment with medications for all people with opioid use disorder
- Emergency medical services personnel lack tools to support overdose survivors and connect them to care beyond transporting them to hospitals
- Emergency departments lack the ability to initiate treatment with buprenorphine for individuals with an identified treatment need
- There are few outreach efforts by trained peer mentors, social service agencies, and other crisis intervention services to help connect vulnerable patients to evidence-based treatment and other supports, including those who may not have direct contact with the health system

Recommendation 2A: The Department of Corrections should offer opioid use disorder treatment that includes all FDA-approved medications to all individuals in detention facilities.

Recommendation 2B: Delaware should upgrade the three existing withdrawal management centers so that they are capable of helping individuals in the aftermath of overdose, initiating medication treatments, and linking persons with longer term treatment. These stabilization centers should have the capacity to both start and transfer persons to evidence-based treatment for opioid use disorder.

Recommendation 2C: The Department of Health and Social Services should set standards for hospital provision of substance use disorder treatment, including the capacity to start buprenorphine in the emergency department and use peers to engage and link individuals to needed services in the case of opioid use disorder or overdose.

Strategy 3: Create Incentives for Quality Care

Financial incentives can be an important driver of system reform. However, these incentives may not be fully realized under the current financing structures used in the state. The Division of Substance Abuse and Mental Health is responsible for setting rates, but should ensure that the rates that it offers are sufficient to attract the array of skilled providers needed along the continuum of substance use care, create incentives for quality improvement, and ensure competition in the provider market. Within Medicaid, there is an important opportunity to direct current value-based payment initiatives in managed care toward better outcomes for opioid use disorder.

Addressing these gaps will push the treatment system towards better outcomes.

Recommendation 3A: The Division of Substance Abuse and Mental Health should review current rates to ensure that there is adequate and consistent reimbursement for high quality care and create a framework for measuring and rewarding value.

Recommendation 3B: Medicaid should ensure that current value based payment initiatives being applied through Managed Care Organizations (MCOs) are extended to opioid use disorder treatment.

Recommendation 3C: The Department of Health and Social Services, in partnership with other state agencies, should develop a compliance strategy that includes credentialing, inspections, and enforcement of parity laws.

Strategy 4: Use Data to Guide Reform and Monitor Progress

Achieving system change requires continuous attention to patient and system-level metrics of success. Data dashboards have been an effective way to provide real-time system tracking in states like Rhode Island (http://www.preventoverdoseRI.org) and Vermont (http://www.healthvermont.gov/scorecard-opioids).

Delaware currently does not consistently collect or report outcomes data or use sufficient metrics of care quality to assess change and to hold the system accountable to its goal of addressing substance use disorders. Additionally, since individuals with opioid use disorder often interact with medical, social service and criminal justice systems, there is a need to link data across agencies to measure patterns of risk, resource use, and need across systems.

Recommendation 4A: The Department of Health and Social Services should develop a dashboard that collects and publicizes statewide data on treatment capacity, utilization, and quality indicators for populations served by public payers in the state.

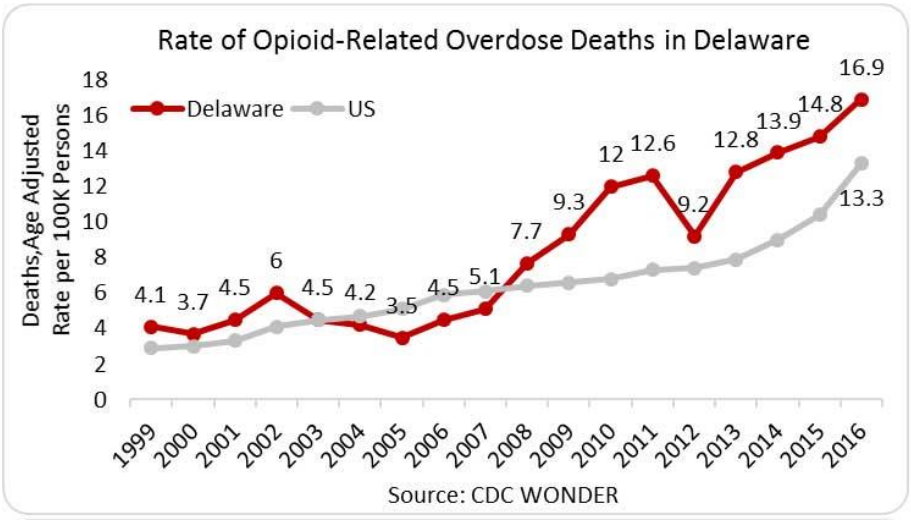
Recommendation 4B: Following the example of Massachusetts,[9] the Department of Health and Social Services should oversee a linkage project that brings together multi-agency data for purposes of understanding effectiveness of system and opportunities for further improvement.

Recommendation 4C: The Department of Health and Social Services should evaluate program and policy changes and rapidly disseminate findings for the purposes of continuous quality improvement.

The implementation of these recommendations will require collaboration across multiple government agencies and with the provider and patient community. Collectively, these recommendations can provide a new foundation for improving the care of individuals with opioid use disorder in Delaware and ultimately reducing overdoses and associated harms.

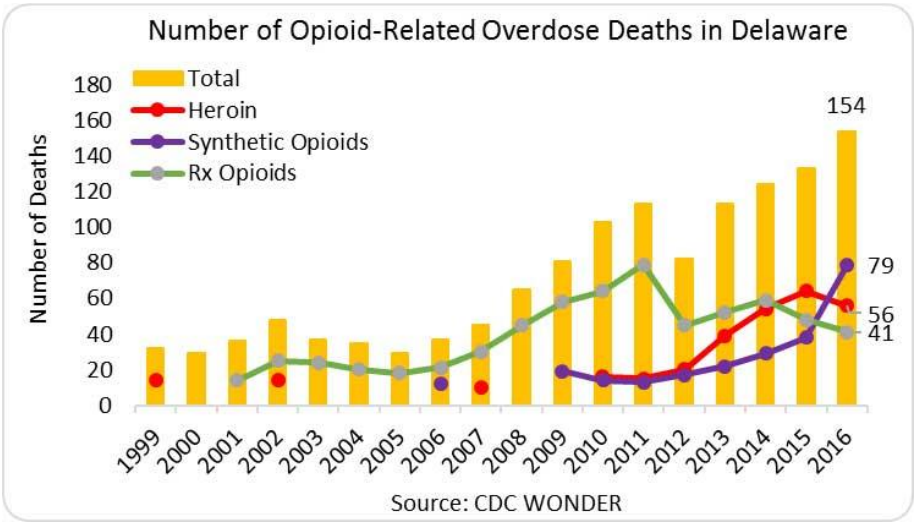
BACKGROUND ON THE DELAWARE OPIOID EPIDEMIC

Delaware is in the midst of an unprecedented public health crisis. In 2016, Delaware lost over 300 lives to overdose, 154 of which were due to opioids. Delaware ranks ninth in the country in its overdose death rate, with the 2016 overdose death rate of 30.8 per 100,000 persons representing a 40% percent increase from the previous year.[10] These numbers only convey a part of the impact that the crisis has had on families and communities statewide.



Source: National Institute of Drug Abuse (https://www.drugabuse.gov/drugs-abuse/opioids/)

Although recent prevalence data on opioid use disorder are unavailable statewide, there are indicators that both prescription pain reliever and illicit opioid misuse is much higher in Delaware than the national average. National survey data estimate that more than 1% of persons in Delaware aged 12 and over had used heroin at some point in 2015, triple the national average of 0.33%.[11] Through the Port of Wilmington, Delaware is connected to the illicit markets for high-purity heroin that supply the Philadelphia and Baltimore areas.[12] Despite recent improvements in safer opioid prescribing, Delaware also continues to have the highest rate of all states in the country of prescribing high dosage and long-acting opioid pain relievers.[13]



Source: National Institute of Drug Abuse (https://www.drugabuse.gov/drugs-abuse/opioids/)

Delaware's opioid problem has become apparent through its impact on a variety of populations. The Delaware Monitoring Initiative (DMI) reports snapshots of data from the medical examiner, emergency medical services, the Department of Health, and criminal justice. For example, DMI data from early 2017 indicates that 86% of all overdose deaths involved multiple substances, with cannabis and fentanyl the most frequently detected substances. In addition, most emergency medical calls (80%) were to residential locations.

As is true in other states, the majority of individuals receiving medical attention and treatment were males aged 20-45.[14] Though most naloxone administration was to white individuals, most men arrested related to opioids were African American. The overrepresentation of African Americans in criminal justice has been extensively documented,[15] and has been identified in other states as related to opioid use. This disparity is evident in places such as New Castle County, where 60% of the Delaware population resides, which accounts for 72% of all overdose deaths, but only 47% of all opioid arrests. The opioid crisis also has implications for maternal and child health – the number of substance exposed infants has risen rapidly in recent years.[16]

Latest reports by the Division of Substance Abuse and Mental Health confirm that heroin use is the most commonly reported substance among individuals admitted to treatment, the prevalence of which has doubled from 2011 to 2016.[17] The state of Delaware contains a wide network of mental health and substance use providers, and substance use treatment services range from outpatient to inpatient programs to recovery housing and many other recovery supports.[18] The state has eight opioid treatment programs listed in National Directory Data[19] and 122 physicians that are waivered and listed on SAMHSA as buprenorphine treatment providers.[20] However, the treatment provider availability in the state may not be fully captured by these data sources.

REPORT WRITING PROCESS

This report synthesizes recommendations for transforming the opioid use disorder treatment system in Delaware. A team of researchers and clinicians from the Johns Hopkins Bloomberg School of Public Health was engaged by Department of Health and Social Services (DHSS) Secretary Walker in April of 2017 to provide informal consultation and to meet with key staff within DHSS. Following these conversations, the Hopkins team entered into a technical assistance agreement with DHSS to provide expert recommendations focused on improving access and quality of care for individuals with opioid use disorder. The scope of the technical assistance work included issues related to specialty care and office-based treatment, payment and delivery system reform, and the interface between criminal justice, medical system, social services, and other service sectors that commonly serve populations with opioid use disorder.

To carry out this work, members of the Hopkins team made multiple visits to Delaware, meeting with leadership within DHSS; the Divisions of Substance Abuse and Mental Health (DSAMH), Public Health, and Medicaid. Elsewhere in government, the team spoke with the Department of Corrections, the Division of Family Services, and Emergency Medical Services, and the State Insurance Commission. The team also met with members from the service provider community (e.g., representatives from major behavioral health organizations and the provider and patient advocacy community). The deliverable of this technical assistance work is this report, which was made available on http://dhss.delaware.gov/dhss/pubs.html.

Although this report provides a comprehensive set of recommendations related to opioid use disorder treatment, it *does not* provide recommendations related to opioid use disorder prevention (e.g., safe prescribing of opioid pain relievers), or steps to increase access to naloxone for opioid overdose reversal or advancing other harm reduction services (e.g., syringe services programs) in the state. These are important issues for the state to undertake, and we believe such efforts would enhance the reach and effectiveness of the treatment system initiatives outlined in this report.

VISION FOR TREATMENT SYSTEM TRANSFORMATION

We based the recommendations in this report on five principles for a patient-centered treatment system that support the improved health and wellbeing of the people of Delaware. These principles hold that treatment should be:

- *Accessible:* All individuals in need of treatment should have rapid access to evidence-based treatment. Initiation into treatment services should be available through the medical, social services, and criminal justice system. There should be no wrong door for entering treatment.

- *Evidence-Based:* Services available through public payers should be based on scientific evidence of effectiveness. The gold standard of treatment for opioid use disorder is medications (especially buprenorphine and methadone) in conjunction with counseling. Individuals should be placed in a level of care that is most appropriate to their clinical need, with most patients able to receive effective care in outpatient settings.

- *Individualized:* Wherever possible, services should be tailored to meet individual needs and preferences to maximize the potential for success. This includes providing services customized to the unique clinical needs of patients, that reflect patients' cultural and identity-related preferences, and that recognize the history of recurrent trauma and stigma that many patients have experienced.

- *Comprehensive:* Services should cover the full continuum of care, ranging from crisis intervention and post-overdose response to long-term services to support individuals in recovery. Services should be matched to individuals based on need, rather than on administrative requirements or health insurance regulations.

- *Accountable:* Delaware residents should be able to hold their public officials accountable for making available high-quality and accessible services across the state. Information on steps taken to ensure that services are expanded and improved should be made transparent through public reporting.

FINDINGS AND RECOMMENDATIONS

Strategy 1: Increase the Capacity of the Treatment System

Opioid use disorder is a chronic, relapsing condition that can be effectively treated using medication in combination with counseling and other psychosocial support. When attempting to stop using, people with long-term opioid use experience an intense withdrawal syndrome consisting of severe physical discomfort and craving. Medications for addiction treatment (MAT, hereafter simply called "medication treatments") is essential in helping to manage these symptoms, reduce the effect of any illicit opioids subsequently taken, prevent cravings and ultimately lead to recovery (see Box 1).

Based on the clinical evidence, treatment with medication in conjunction with counseling should be the standard of care in Delaware. The state has a clear imperative to support treatment that meets the standard of care, and to educate consumers about the value of medications. The state should also play an active role in discouraging patients from seeking treatment where there is a poor evidence base for effectiveness.

This section provides recommendations intended to increase the availability of medication treatments, along with other resources like counseling, housing support, and employment support. It anticpates a central role for "Centers of Excellence," as major points of intake and specialty treatment provision linked to a wider array of resources to match individual need and support recovery.

Box 1. What is Evidence-Based Treatment for Opioid Use Disorder?

The standard of care for opioid use disorder is psychosocial counseling paired with medication treatment, which is superior to treatment without medication. [1-6] There are currently three medications approved by the Food and Drug Administration: methadone, buprenorphine (e.g., Suboxone, Zubsolv), and naltrexone (e.g., Vivitrol). Medication treatments result in both personal and public health benefits. The largest body of evidence relates to buprenorphine and methadone. To the individual receiving these treatments, medications have been shown to reduce the risk of overdose, reduce HIV and hepatitis C virus (HCV) infections, increase employment, and increase quality of life.[1-6,21] To the broader public, buprenorphine and methadone reduce criminal offending.[22,23,24] In one study, every $1 spent on methadone treatment was estimated to result in $4 of savings because of reductions in health and criminal justice spending.[25]

Methadone and buprenorphine are pharmacologically opioids, but when appropriately dosed, they do not induce euphoria or sedation. Both medications have established effectiveness. Methadone must be dispensed through federally-registered opioid treatment programs, which are specialty opioid use disorder treatment facilities. Buprenorphine, by contrast, can be prescribed by physicians, nurse practitioners, and physicians' assistants in their regular offices after completing an intensive training and receiving a waiver from the federal government. Although buprenorphine treatment is clinically similar to the treatment of many other medical conditions, many providers are reluctant to begin prescribing buprenorphine because they feel that they lack the support and skills.[26] Naltrexone is an opioid antagonist, meaning that it blocks the effects of opioids but does not help prevent withdrawal. It is typically administered as a long-acting injection. Individuals starting naltrexone must be fully withdrawn from opioids which can be difficult, limiting the population who can receive it.

Long-term medication treatment is usually necessary. Medically supervised withdrawal (detoxification) is a short-term intervention that consists of supporting a person through withdrawal. While this may be appealing to some patients and providers, such treatment is linked with a very high risk of overdose.[27,28] Most patients return to using opioids because opioid use disorder is a chronic condition not typically responsive to detoxification alone without a transition to long-term medication treatment. Long-term use of medications is safe, allows patients to stabilize and engage in recovery, and is the current standard of care for opioid use disorder.

Beyond the core issue of opioid use disorder, patients in treatment frequently have other psychiatric, medical, and social support needs.[29,30,31,32,33] Settings that provide opioid use disorder treatment are uniquely positioned to offer integrated ancillary services such as embedded psychiatric and primary care, assistance with social services such as health insurance, housing assistance and job training. Further, case managers can support people through these steps often in conjunction with trained peer support services. Peers are individuals with opioid use disorder who are in long-term recovery and have received formal training in care navigation and coaching support. They can help stabilize and engage those initiating and continuing in treatment.[34,35]

Recommendation 1A: The Division of Substance Abuse and Mental Health should fully implement a Centers of Excellence program to provide a site for rapid intake and assessment, treatment with medication and counseling, peer mentorship services, and access to chronic disease management.

Rationale:
Patients often experience addiction treatment as fragmented, difficult to access, and short-term. This experience reflects the lack of a clearly articulated pathway that allows individuals experiencing a crisis to receive timely access to care, as well as the limited availability of linkages to continuing care to facilitate long-term treatment. The Department of Health and Social Services launched a Centers of Excellence initiative in 2018 that would create an integrated, patient-centered system of care that has three main elements: timely outreach to engage high-risk populations, comprehensive on-site services to people needing acute treatment, and linkage to resources outside of the Center of Excellence for continuing care and recovery support. This model has been deployed in several states, especially Rhode Island and Vermont (see Box 2).[36] The Centers of Excellence pilot initiated in 2018 is likely to create the foundation for future progress. The grant funding available in the SAMHSA State Targeted Response grant will jump-start the Centers of Excellence.

Box 2. Vermont Hub-and-spoke Model for Expanding Opioid Use Disorder Treatment Capacity

In 2013, five separate geographic regions were created each with a "hub" organized around an existing specialty facility. "Spoke" providers are community providers who have been trained to prescribe buprenorphine. Spoke providers are supported by one full-time equivalent registered nurse and one full-time equivalent master's-level licensed behavioral health provider per 100 patients. Staff at hubs assess patient medical and psychiatric needs and perform an intake to determine the most appropriate treatment placement (i.e., at the hub or with a spoke provider). After being stabilized on buprenorphine, patients can transfer from a hub site to a spoke provider. If a patient destabilizes and requires more intensive services, they can transfer back from their spoke provider back to a hub site. Hub site physicians provide ongoing consultation to

spoke providers. A process evaluation of the hub-and-spoke program in Vermont found that there was a 64% increase in physicians trained to prescribe buprenorphine and a 50% increase in patients receiving medication treatment per trained physician.

Beyond the current start-up phase, sustainability is a key consideration. Centers of Excellence will require new staffing and service delivery arrangements that make it possible to conduct outreach, provide timely care, and conduct case management. It is imperative that the Division develop a long-term financing model to support the Centers.

Centers of Excellence do not currently focus on increasing treatment for comorbid chronic diseases, yet individuals with opioid use disorder have high rates of psychiatric and medical comorbidity. As part of managing the symptoms of opioid use disorder, patients often need ongoing treatment for conditions like diabetes, chronic pain management, tobacco use disorder, depression and anxiety. Recent innovations in integrated care suggest that there are promising models to bring integrated chronic disease management onsite to specialty drug treatment programs.[37] The Medicaid Health Home option, for example, provides enhanced federal matching funding to provide services like case management and onsite physical health care services to psychiatric and drug and alcohol treatment facilities. This model has been implemented at opioid treatment programs in Vermont, Rhode Island, and Maryland, and has shown initial promise in effectively addressing complex needs of patients.[38] Adding Health Home services to the Centers of Excellence may be a strategy to more effectively co-locate primary care with treatment for opioid use disorder.

Centers of Excellence should transition stable patients as rapidly as is feasible to high quality outpatient providers in in the communities where patients live. To achieve this goal, Centers of Excellence should establish clear referral arrangements with community-based providers, including behavioral health providers and office-based buprenorphine prescribers.

Recommendation 1B: The Division of Substance Abuse and Mental Health should create a continually-refreshed inventory of all credentialed treatment providers that is accessible online in order to promote an improved consumer experience.

Rationale:
There is a lack of real-time, user-friendly information system to access treatment providers in the state, hindering the ability of people seeking help to find it and limiting people's understanding of what the treatment system looks like.The Division of Substance Abuse and Mental Health website has a PDF list of providers that was updated in November, 2016.[39] This document is out-of-date and provides little information about types of services delivered, insurance accepted by facilities, and acceptance of new patients. The federal treatment locator tool created by SAMHSA[40] has more comprehensive information for Delaware providers (e.g., modalities of treatment and insurance accepted) and a geo-mapping feature, but it is unclear whether it is up-to-date and does not indicate whether new patients are being accepted.

A more comprehensive set of online resources could encourage individuals to take time to navigate their treatment options before they initiate care. In the short-term, the goals should be to update the treatment directory, make it easily accessible and searchable, and ensure there is a plan to keep it current with information about treatment provider characteristics including location information. Moving forward, it is essential to improve the functionality of the information available online (e.g., to allow individuals to take "virtual tours" of treatment facilities, to comparison shop between treatment options). To improve treatment location and resources for

consumers, the state should work with an analytics partner to create a locator tool and, if possible, to provide frequently refreshed information on capacity.

Recommendation 1C: The Department of Health and Social Services should lead a campaign to increase the number of providers actively prescribing buprenorphine in the state.

Rationale:
Office-based providers that prescribe buprenorphine are a key element of the treatment system. Office-based care can be a good option for patients who may not require the structure of a specialty opioid treatment program facility or who may need simultaneous care for co-occurring medical conditions from a non-specialist. Indeed, office-based buprenorphine treatment can be effectively delivered in primary care settings, and managing opioid use disorder should be a core skill for Delaware primary care physicians. Under recent federal regulations, many office-based providers may now treat up to 275 patients at a time, but most do not serve patients at capacity.[41] Nurse practitioners and physician assistants may now obtain a waiver to prescribe buprenorphine. The number of providers who actively prescribe buprenorphine in Delaware is unknown, and the state does not maintain up-to-date records on the locations and characteristics of these individuals.

Buprenorphine treatment is not currently offered in community health centers in Delaware, despite opioid use disorder treatment needs of many patients receiving care in these settings. There are models of highly effective treatment based in community health centers.[42] The state may have the ability to influence office-based prescribing by placing requirements on health centers or offering incentives to increase buprenorphine prescribing. As community providers may not have experience treating opioid use disorder, provider peer mentoring programs pairing experienced buprenorphine providers with newly-trained providers can help build skills and confidence. These relationships can be built through the Centers of Excellence or sponsored by the Department of Health and Social Services and modeled from regional and national programs such as Project ECHO[43] or the Provider's Clinical Support System for Medication-Assisted Treatment.

Recommendation 1D: The Department of Health and Social Services should develop a plan to support housing and employment for individuals in recovery.

Rationale:
Long-term recovery is aided by a stable living environment and access to a broad range of services. Stakeholders mentioned the inadequate supply of housing options and employment instability as barriers to successful engagement in long-term treatment. There is a currently a limited continuum of recovery housing in Delaware, especially more intensive, supervised housing for individuals in early stages of recovery. Ensuring that these housing options are available should be a high priority.

The Department of Health and Social Services can also take steps to ensure that all individuals entering drug treatment programs are screened for housing and employment barriers and that programs provide case management or referrals to services. Where possible, housing and employment support programs should be co-located with treatment. When co-location is not possible, treatment providers should identify community programs that will work with people in opioid use disorder treatment in a non-judgmental and supportive manner. Other entitites in the state government, including the Attorney General, can ensure that housing and employment service organizations do not discriminate against with substance use disorder or their use of medication treatments. For example, under the law, individuals receiving medication should be

able to participate in all housing programs that are credentialed or funded by public resources. As evidenced by the successful track record of “housing first” programs,[44] there are important opportunities to provide housing and ultimately reduce harmful opioid use by removing absintence as a precondition for accessing housing.

Strategy 2: Engage High-Risk Populations in Treatment

The increased lethality of the opioid drug supply in Delaware, including the highly potent synthetic fentanyl, underscores the importance of engaging persons in treatment at key moments of contact with existing systems. For those with opioid use disorder, readily accessible opportunities to engage in care are critical to avoid overdose. Many persons at particularly high risk for overdose make frequent contact with the criminal justice system and emergency health services, which could be leveraged as opportunities to initiate and engage in care. Data from Connecticut[7] and Rhode Island[8] have shown the potential to save lives through focused efforts among the criminal justice system, first responders (i.e., police officers and emergency medical transport services), and hospital emergency departments. Other resources, including mobile treatment centers and peer-outreach workers can help engage those who do not otherwise interact with existing services.

At the present, there are significant gaps in access to care for high-risk populations in Delaware. These include:

- No significant capacity in jails and prisons to initiate treatment with medications or transition individuals to community-based treatment upon release
- First responders, including emergency medical services personnel and law enforcement, lack tools to link overdose survivors and others in need directly to treatment
- Emergency departments do not currently initiate treatment with buprenorphine for individuals with an identified treatment need.

Given the urgency of preventing overdose among highly vulnerable populations, it is vital to address these gaps as quickly as possible.

Recommendation 2A: The Department of Corrections should offer opioid use disorder treatment that includes all FDA-approved medications to all individuals in detention facilities.

Rationale:
Persons who are incarcerated have high rates of substance use disorders and the risk of overdose is very high in the days after release from detention. Ensuring access to medication treatments in detention in states such as Rhode Island has been shown to reduce overdose susceptibility (See Box 3).[8] Despite the protective effect of medication treatment, most individuals entering the Department of Corrections with opioid used disorders do not initiate treatment while incarcerated. Buprenorphine is only offered as a medically supervised withdrawal treatment in two out of four Department of Corrections facilities, despite evidence that buprenorphine is most effective as a long-term treatment.[45] There is a small naltrexone pilot, and there are no psychosocial treatments available outside of the Key/Crest programs that are limited in size.

Box 3. Rhode Island Department of Corrections Offers Comprehensive Medication Assisted Treatment in Detention Facilities and Linkage to Care

In November of 2016, the Rhode Island Department of Corrections launched a comprehensive medication treatment program for all inmates with identified opioid use disorder in its unified jail/prison facilities. Eligible inmates may be treated with any of the FDA-approved medications for opioid use disorder, including methadone, buprenorphine, or naltrexone. Inmates are able to continue their current medication if they were already engaged in treatment before

incarceration, or are able to initiate care upon incarceration or before release. Inmates enrolled in treatment while incarcerated are also referred to community Centers of Excellence upon release to encourage treatment retention. In its initial year, the program was funded with an additional $2 million appropriation requested by the Governor. As reported in a 2018 study published in *JAMA Psychiatry,*[8] the program was associated with a more than 60% decrease in overdose deaths among individuals leaving the state detention facility.

Recommendation 2B: Delaware should upgrade the three existing withdrawal management centers so that they are capable of helping individuals in the aftermath of overdose, initiating medication treatments, and linking persons with longer term treatment. These stabilization centers should have the capacity to both start and transfer persons to evidence-based treatment for opioid use disorder.

Rationale:
The aftermath of an overdose is a period of heightened vulnerability. Emergency medical service personnel frequently revive overdose patients with naloxone in the field, but patients often choose not to be transported to the hospital for further evaluation or intervention.[46] Even if patients are transported to the hospital, such an intensive level of care may not always be necessary[47] and may tie-up medical resources without providing opportunities for follow-up care for patients. Currently, law enforcement personnel who come in contact with persons who use opioids often do not know how where to transport or how best to engage persons who may benefit from treatment.

To provide a better site of care the state should develop "stabilization centers," locations where individuals can receive medical care and supervision in the aftermath of an overdose or in some other acute period. The three current withdrawal management (i.e., medically supervised withdrawal or detoxification) centers operating in the state could become proposed sites for stabilization centers, while taking on a more active role in initiating treatment. First responders such as emergency medical services, as well as law enforcement, could transport medically stable patients who either experienced an overdose or who may otherwise benefit from treatment to stabilization centers instead of emergency departments. At stabilization centers, individuals could receive necessary medical care, initiate treatment immediately, or be referred to services. Where patients are alert and cognizant, but are declining care after an overdose, emergency medical services should provide an opt-in program that would allow patients to consent to receive a follow-up from a trained peer mentor who can follow up with patients about treatment and/or connect them to any other needed services. Legislation that would create stabilization centers as part of a larger overdose system of care should therefore be considered a high priority in Delaware.

Box 4. Stabilization Centers in Other Jurisidications

In spring 2019, Baltimore will open the city's first stabilization center. A location where "individuals who are under the influence of drugs and/or alcohol [can] sober and receive short-term medical and social interventions." The stabilization center will be capable of taking admissions directly from emergency medical services. The stabilization center in Baltimore is currently being piloted before its official opening.[48] In Anne Arundel County, there is currently an operational 16-bed stabilization center that can handle intake from law enforcement, and where individuals can receive a psychiatric and medical evaluation. The Anne Arundel County facility is not yet authorized to accept intakes from emergency medical services.

The San Francisco Sobering Center opened in 2003 provides another stabilization center model. The center delivers medical services to acutely intoxicated individuals, provides referral and case management services, and offers hot meals and beds. It currently serves as a discharge point for the San Francisco General Hospital and also a place where law enforcement can bring intoxicated persons.[49]

Recommendation 2C: The Department of Health and Social Services should set standards for hospital provision of substance use disorder treatment, including the capacity to start buprenorphine in the emergency department and use peers to engage and link individuals to needed services in the case of opioid use disorder or overdose.

Rationale:
Patients with opioid use disorder frequently come into contact with hospital services after surviving an overdose or due to other factors related to drug use (e.g., skin and soft tissue infections, endocarditis) and other chronic conditions. Project Engage at Christiana Hospital[50] is an innovative model to link hospitalized patients with opioid use disorder treatment after discharge, but there is no current statewide strategy in emergency department and inpatient hospital settings to initiate treatment and link patients with medication treatment upon discharge.

Delaware has demonstrated a strong track record around its trauma system of care.[51] Analogous to the trauma centers, the state can create and publicize standards for opioid use disorder care and a rating system to identify the capacity of hospitals to manage opioid use disorder (See Box 5). Hospitals should also be evaluated based on their ability to provide continuing treatment through their affiliated outpatient practices or linkages to community providers. The levels of care could include being able to deliver assessment for opioid use disorder, initiate buprenorphine in the emergency department, and refer to continuing care at a Center of Excellence in the immediate 24 hours after discharge.

Box 5. Levels of Care for Rhode Island Emergency Departments and Hospitals for Treating Overdose and Opioid Use Disorder

As part of its effort to ensure that all individuals would receive appropriate care in hospitals, Rhode Island has embarked on an effort to certify all hospitals based on their capacity to treat opioid use disorder and overdose, creating common foundation and standard for treatment in the state. Based on an evaluation for compliance with the statute and capability of treatment, each facility is certified as Level 1 (highest), Level 2, or Level 3 (base).[52]

Level 3 represents a common foundation for all facilities that demonstrate a solid commitment to this healthcare problem by creating the required infrastructure and subject matter expertise to appropriately treat patients. *e.g., dispenses naloxone to patients at risk*

Level 2 represents an organization that has actively integrated subject matter expertise and infrastructure and has made the commitment to this higher and more complex level of care. (*e.g., has capacity for opioid use disorder assessment and treatment through specialty addiction services)*

Level 1 represents an organization which has made the commitment to establish itself as a Center of Excellence or another comparable arrangement and has the requisite capacity to address appropriately the healthcare needs of the most complex patients with opioid use disorder and overdose. *e.g., initiates patients on medication treatment and arranges transition to community care.*

Recommendation 2D: The Department of Health and Social Services should strengthen linkage to care through its helpline and expand outreach services for persons who may not otherwise come in direct contact with care.

Rationale:
Many people with opioid use disorder and their families desire treatment or are in a state of crisis but do not know where to turn. Especially vulnerable persons without a regular source of care or who have co-occurring psychiatric illness and social challenges may be especially reluctant or unable to access treatment. The "Help is Here" helpline has been widely promoted throughout the state and is fielding a high volume of calls. The helpline capacity should be expanded to provide individualized referrals based on real-time capacity and specific needs of clients and to provide and track warm handoffs to treatment providers. The helpline could be additionally supported by peer mentors that are able to meet persons and families in need and manage their cases. This can support better linkage to treatment at Centers of Excellence and other services.

There are very few treatment options for persons with mobility challenges (e.g., persons with disabilities) or who do not want to engage in a structured treatment program. Mobile treatment units, such as the Baltimore Mobile Buprenorphine Treatment Van (Box 6),[53] offering flexible low-threshold buprenorphine treatment have the potential to engage these populations. Further, mobile treatment units can expand entry into medication treatment to rural or remote areas. Peer mentors can play an essential role in supporting mobile health units and reaching these populations.

Box 6. Baltimore Mobile Buprenorphine Treatment Van for Justice-Involved Patients

The Behavioral Health Leadership Institute, a non-for profit dedicated to addressing gaps in behavioral health care in Baltimore City, has developed a pilot mobile treatment program in partnership with the Baltimore Division of Pretrial Detention and Services of the Department of Public Safety and Correctional Services. Through this program – Project Connection at Re-Entry[54] – the Institute operates a mobile van staffed with a clinical team with expertise in treatment of opioid use disorders, including physicians, nurses, and peer outreach workers. This team conducts initiation and treatment for opioid use disorder with buprenorphine as well as evaluation and referral to other needed substance use, mental health, and primary care services. Once stabilized, patients are transitioned to an integrated primary care treatment clinic or similar program for continued treatment. The purpose of the program is to offer high-quality, accessible, flexible and individualized treatment to individuals with complex substance use and/or mental health disorders and who are justice-involved. To increase access, engagement and successful outcomes, the model builds on the principles of harm reduction and motivation in a low-threshold environment to support successful engagement and long-term retention in care. All staff are trained in trauma-informed care and are sensitive to the multiple needs of this population.

Strategy 3: Create Incentives for Quality Care

The current contracting and payment methodologies used by public payers in Delaware could more strongly provide incentives for providers to deliver high-quality care. The largest payers in the public system are the Division of Mental Health and Substance Abuse Services and Medicaid. The Division directly contracts with providers and pays providers based on a fee-for-service schedule. Medicaid fee-for-service rates for substance use disorder follow the rate setting applied by the Division. Because of its role in rate setting, the Division can exert a substantial influence on revenue available to providers in the state, and in particular whether there is sufficient rates to attract the array of skilled providers needed along the continuum of substance use care and to ensure competition in the provider market.

Medicaid Managed Care Organizations (MCOs) are paid a capitated per-member-per-month rate to cover all services for MCO enrollees. The MCOs contract with behavioral health providers and set their own rates or payment methodologies. The Medicaid program can indirectly influence the behavior of the MCOs by rewarding or penalizing MCOs for meeting performance targets. Medicaid is embarking on program-wide efforts to increase the use of quality measurement and to encourage MCOs to engage in risk-based contracting. Ensuring that these efforts are extended to substance use treatment, and are accompanied by robust measurement and accountability is critical to improving the quality of care for these populations.

Recommendation 3A: The Division of Substance Abuse and Mental Health should review current rates to ensure that there is adequate and consistent reimbursement for high quality care and create a framework for measuring and rewarding value.

Rationale:
The Division of Substance Abuse and Mental Health currently defines billable codes and sets the rates that it will pay providers for services for the populations who receive vouchers from the Division. Medicaid follows the same rates set by the Division for addiction services for its fee-for-service populations. Providers have raised concerns about the accuracy of the rate-setting methodology applied by the Division, noting that it may not accurately reflect the cost structure for labor and other services in Delaware. We recommend that the Division undertake a review of their rates to ensure that they cover the full continuum of services and treatments (e.g., case management, peer services, full day programs) and that the rates accurately reflect provider costs in Delaware.

Beyond fee-for service, the Division should begin to add performance incentives into its current contracting arrangements. One target for these performance incentives can be the Centers of Excellence. However, long-term performance incentives should also be applied to care rendered at other continuing care sites beyond Centers of Excellence (such as outpatient counseling programs that contract with the Centers). The Division ran a successful initiative from 2001 to 2007 that conditioned a portion of provider payment on meeting performance targets linked to their own historical performance (giving providers incentives for doing better and penalizing them for doing worse). Although the program was successful in its goals, it was not sustained across transitions in leadership in the Division.

As a first step toward implementing a quality strategy, we recommend that the state adopt a set of quality performance metrics (see Recommendation 4A) that accurately reflect care processes that providers can influence, are not “gameable” (i.e., readily manipulated by providers), and are clinically meaningful for patient recovery. This could include the HEDIS measures for drug and

alcohol treatment as well as measures that may be more tailored to opioid use disorder, such as timely access to medication treatments for all patients.[54] These measures can be used to establish performance targets for bonus payments/penalties for behavioral health providers by placing a specific amount of revenue "at risk" contingent on meeting these goals. It is important that the Division monitor for fidelity in data collection of these elements and also ensure that the implementation of quality benchmarks does not cause providers to give less attention to performance areas not targeted for bonuses.

Recommendation 3B: Medicaid should ensure that current value based payment initiatives being applied through Managed Care Organizations (MCOs) are extended to opioid use disorder treatment

Rationale:

Bundled payments have been shown to be an effective tool for reducing readmissions for other conditions like heart failure and pneumonia,[55] but have not been extensively used for substance use disorder. To encourage more risk-based contracting, Medicaid could work with the Division to ensure that Centers of Excellence are set-up for accepting value-based payment models from MCOs for their enrollees.

Box 6: Value-Based Payment Models for Opioid Use Disorder Treatment

The literature suggests that value-based payment models in behavioral healthcare are associated with increased access, continuity, satisfaction, efficiency, engagement, and treatment fidelity.[56] In our review of value-based payment models for addressing opioid use disorders, we found that the most common type of value-based payment has been the bundled payment, which has been introduced in the context of the Medicaid health home model in several states, including Rhode Island, Vermont, and Maryland. In general, these bundles include a treatment program, home health coordinator, case manager and pharmacist. A 2017 study on the Vermont health home model found substantial gains in opioid use disorder treatment capacity, physicians licensed to prescribe buprenorphine, the number of opioid patients serviced per licensed physician, and smooth transfer between its hub and spoke components when needed.[37]

Other, non-bundling performance based financing include a California Medicaid-based program of incentives for physicians to receive training, obtain waivers for buprenorphine prescribing, and increase prescribing.[57] Another example is a Baltimore-based model of pay-for-performance in which clinic counselors could earn cash bonuses based on patient therapy attendance rates. Evidence suggests this program had positive effects on treatment utilization and retention.[58] Finally, broader value-based models, such as the Alternative Quality Contract (AQC) in Massachusetts (run by Blue Cross Blue Shield) can also incorporate behavioral health. The AQC was launched in 2009 and is a capitation-based payment model that ties payments to quality along with defining the rate of budget growth. Results from the first several years of the AQC suggest overall lower spending growth and greater quality improvements relative to comparable populations.[59] To date, there are no AQC performance measures in the area of addiction treatment. Recent evidence demonstrated no impact of the AQC on medication treatment for addiction among those with opioid-use disorders.[60]

Recommendation 3C: The Department of Health and Social Services, in partnership with other state agencies, should develop a compliance strategy that includes credentialing, inspections, and enforcement of parity laws.

The Division of Substance Abuse and Mental Health is responsible for ensuring that all drug and alcohol treatment programs meet standards for safety. With enabling legislation, the Division could gain expanded regulatory authority to enable it to ensure that all treatment providers in the state meet standards for providing evidence-based care. This might include prohibiting programs from excluding individuals who are receiving evidence-based treatment with medications. The Division might also gain extended credentialing authority over sober living homes and other quasi-treatment providers, which would enable greater oversight of services delivered in these environments.

The state should strengthen all-payer data collection for drug and alcohol treatment in order to ensure that regardless of whether services are reimbursed by public payers, they are reported in a common format with comparable data elements. Finally, the Division should work in partnership with the Attorney General and the State Insurance Commissioner to conduct a thorough review of plans sold in the commercial insurance market to ensure compliance with the provisions of the federal Mental Health and Addiction Parity Equity Act. This includes, but is not limited to, ensuring that all plans cover treatment with methadone, that plans do not use medical necessity as a basis to discriminate against individuals with substance use disorders, and that plans maintain adequate networks of providers in the state of Delaware to provide consumers with reasonable options in each of the Delaware counties. Legislation under consideration in 2018 to strengthen standards for parity and to enforce existing law could meaningfully advance the goal of improved access.

Strategy 4: Use Data to Guide Reform and Monitor Progress

Achieving system change requires continuous attention to patient and system-level metrics of success. Data dashboards have been an effective way to provide real-time system tracking in states like Rhode Island (http://www.preventoverdoseRI.org) and Vermont (http://www.healthvermont.gov/scorecard-opioids).

However, Delaware does not consistently report outcomes data and does not collect sufficient metrics of care quality or health outcomes to assess change and to hold the system accountable to its goal of addressing opioid use disorder. Concerns have been raised that the data collected by the Division of Substance Abuse and Mental Health are incomplete, and that many treatment facilities do not sufficiently contribute data to the Division. Additionally, since individuals with opioid use disorder often interact with medical, social service, and criminal justice systems, there is a need to link data across agencies to measure patterns of risk, resource use, and need across systems.

Recommendation 4A: The Department of Health and Social Services should develop a dashboard that collects and publicizes statewide data on treatment capacity, utilization, and quality indicators for populations served by public payers in the state.

Rationale:
Publicizing statewide treatment utilization and quality indicators would increase transparency and accountability for the public treatment system. Data dashboards have been effectively used in other states. For example, the Rhode Island dashboard (preventoverdoseRI.org) provides frequently updated feeds on state goals such as decreasing overdose and increasing utilization of medication treatments. There are no routinely collected and publicized statewide measures on quantity, quality or outcomes of treatment for opioid use disorders in Delaware. This lack of data transparency reflects gaps in the current data infrastructure, with insufficient monitoring and oversight on the collection of patient-level outcomes by treatment providers.

A range of measures could be used to capture outcomes related to treatment access, quality, and population health improvement (Box 7). These measures represent a baseline, and should be expanded upon to more completely capture quality of care and consumer experience. One set of measures should be available for statewide tracking. These measures could include the number of individuals receiving treatment at a point in time, the number of individuals receiving methadone or buprenorphine, the number of individuals engaged in treatment for a period beyond 30 days, the number of individuals who overdose and are subsequently linked to treatment, and the number of babies born with neonatal abstinence syndrome to mothers not engaged in medication treatment.

Additional measures can be used for patient-level tracking. These measures can be reported by treatment providers and can be used to generate patient-level summary indicators across the variety of settings and programs where patients receive services. The state should have the capacity to generate at the client level process measures such as receipt of follow-up care after an emergency department visit. Ideally, the state should also require providers to collect uniform patient-reported outcomes to facilitate tracking of patient progress in treatment and ultimate remission of opioid use disorder symptoms. The state should ideally adopt a data system that allows for real-time tracking of patients across the system as this can also allow DSAMH to monitor capacity in its facilities.

Box 7. Measures of Quality Improvement and Access for Individuals in Treatment for Opioid Use Disorder

Quality measurement for opioid use disorder is currently limited, which has prompted national efforts to improve measurement. The National Committee for Quality Assurance (NCQA) has promulgated three Healthcare Effectiveness Data and Information Set (HEDIS) focused on identification, treatment initiation and engagement appropriate for opioid use disorder that can be calculated using claims based on the Washington Circle measures and various health insurers have created their own measures (e.g., Optum). Finally, there are important patient reported outcomes that can provide further information on remission of symptoms, health-related quality of life, and social determinants of health.

Examples of HEDIS Measures
Initiation and Engagement of Alcohol and Other Drug Abuse or Dependence Treatment (IET)
Identification of Alcohol and Other Drug Services (IAD)[61]
Follow-Up After Emergency Department Visit for Alcohol and Other Drug Abuse or Dependence (FUA)

Examples of OPTUM measures
Use of any medications for addiction treatment
Use of medications for addiction treatment after an overdose
Prescriptions of opioids following a diagnosis of opioid use disorder[62]

Patient Reported Measures
Addiction severity index
Health-related quality of life[63]
Social determinants of health (e.g., stable housing and employment)

Recommendation 4B: Following the example of Massachusetts,[10] the Department of Health and Social Services should oversee a linkage project that brings together multi-agency data for purposes of understanding effectiveness of system and opportunities for further improvement.

Rationale:
Individuals with opioid use disorders typically access multiple service systems, but there is limited ability to understand patterns of risk, resource use, and need across systems or to share information across these systems. In Delaware, there is already the Drug Monitoring Initiative Report project underway to link criminal justice, forensic, behavioral health treatment, and emergency medical services. However, these linkages have not been fully realized, and could benefit from improvements in sharing protocols and the creation of a data warehouse to allow linkage to occur on a more ongoing basis. Delaware may want to consider data linkage programs that allow for the deidentified person-linked databases across multiple service systems (e.g., Chapter 55 in Massachusetts).[10] These surveillance activities would enhance the ability to target resources to affected groups across medical, social services, and criminal justice systems.

Recommendation 4C: The Department of Health and Social Services should evaluate program and policy changes and rapidly disseminate findings for the purposes of continuous quality improvement.

Rationale:

Improvement in the opioid use disorder treatment system requires the capacity to make decisions based on an ongoing basis using evidence collected from program and policy change. As the state embarks on redesign of different aspects of the treatment system, it is important that there exist data to rigorously evaluate the rollout of the Centers of Excellence, new payment models, peers and outreach programs, or other initiatives. Evaluation must be considered upfront so that there is the ability to collect baseline data and wherever possible to identify comparison sites that can be used to provide a counterfactual for the changes that occur in sites that adopt program or policy changes. Rigorous evaluation can generate new evidence to help Delaware and other states figure out what works and is critical for allocating limited resources in order to get the greatest return on public investment in treatment.

CONCLUSION

A major crisis requires major action. This report sets out a series of strategies, based on evidence, to improve health and save lives in the midst of the opioid epidemic. To follow through on these recommendations, we recommend that the state develop a high level implementation plan, assigning responsibility to specific individuals and agencies, with regular reports on progress. Not all of these recommendations will be easy to accomplish, but the reshaping of the system of care in Delaware will yield results to justify the effort. The benefits will be measured not only in lives saved, but also in families held together, economic growth, and communities revitalized.

APPENDIX: THE BEHAVIORAL HEALTH CONSORTIUM

Our report findings complements the findings of the Behavioral Health Consortium chaired by Lieutenant Governor Bethany Hall-Long which lays out a three year vision for improving systems and services. The final report from that committee can be found at this link: https://bit.ly/2uKax7S. Whereas the Consortium was broadly focused on recommendations for improving services for people with behavioral health conditions, our report is more specifically focused on opioid use disorder treatment. The Consortium had the opportunity to convene a number of public meetings. Summaries of the testimony at Consortium events was shared with us and helped to shape our understanding of challenges and opportunities in Delaware.

The Consortium recommendations align closely with our own. Related to health insurance regulation, the Consortium has strongly recommended greater attention to increasing coverage of evidence-based treatments included medications for OUD. The Consortium also supports strategies to increase treatment options for incarcerated individuals (including access to medications) and strategies to expand pre-arrest diversion. The Consortium had a strong emphasis on vulnerable and underserved populations, and considered a variety of approaches to ensure better care is available to groups such as pregnant women. Finally, the Consortium had a strong emphasis on increasing opportunities to link existing data sources and to bring more data and evaluation into the public domain.

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